



# Utah Water Supply Outlook Report

May 1, 2024



**Upper Provo River and Slate Gorge, near Trial Lake, Utah**

Photo by Jordan Clayton

# STATE OF UTAH GENERAL OUTLOOK

May 1, 2024

## SUMMARY

This **snowpack** season has been like the mellow younger sibling of last year's. Both winters provided well above-normal snowpack totals for the state. In fact, Utah hasn't experience two consecutive winters this far above normal since 2005-2006! Both last year and this year our snowpack peaked in early April after 3 consecutive months of above-normal accumulation. While we lacked the record-breaking snow totals from last winter, this winter was also similar in that ALL of Utah's major basins peaked at above-normal snowpack levels, so the outstanding conditions were felt statewide. And then April happened, wherein the state dried out both years, resulting in below-normal accumulation, snowmelt, and a reduced optimism in our runoff forecasts. Is this the new norm? Time will tell...

This year's peak was on April 2<sup>nd</sup>, at 18.8" snow water equivalent (SWE), or 131% of normal. As of May 1<sup>st</sup>, Utah's snowpack had dropped to roughly half that total, at 9.3" SWE, or 112% of normal<sup>1</sup>. This year's peak snowpack ranked 18<sup>th</sup> since 1981 when the SNOTEL network in Utah expanded beyond a handful of sites. *(For reference, last year ranked highest at 30.0" SWE, followed by 1983, 1982, and 1984, respectively. The winter of 2015 ranked lowest at 10.22", with 2018 also quite close to the bottom at 10.25" SWE).*

April **precipitation** in Utah was well below-normal at 60%, which brings the water-year-to-date precipitation to 109% of normal. As of May 1<sup>st</sup>, all of Utah's major watersheds were 90% of normal precipitation or above for the 2024 water year, with the northern Utah basins faring the best.

Utah's SNOTEL sites have **soil moisture** sensors at 2", 8", and 20" depths. Each sensor location also has an estimated saturation point, based on soil characteristics and past sensor behavior. As snowmelt progresses and water makes its way into the ground, we can combine the data from these three sensors at each SNOTEL site and then amalgamate all of Utah's sites' data together to produce a singular, statewide value for soil moisture percent of saturation that can be compared with previous years. When we look at May 1<sup>st</sup> conditions through that lens, our statewide soil moisture is at 83% of saturation, which is quite close to a record maximum. As noted elsewhere, high soil moisture levels promote efficient runoff, leading to a larger proportion of snow water reaching downstream reservoirs.

Speaking of reservoirs, Utah's **reservoir storage** is currently at 87% of capacity, up 30% from this time last year. Eighty-seven percent! That is the fullest our reservoir system has been since June of 2020. As noted last month, with a couple exceptions we anticipate that most of Utah's reservoirs will fill soon, if they haven't already. That said, who knows what the future will bring. The last time Utah's storage system was this full, we had three consecutive years of poor snowpack conditions and dry soils, leading to the rather depleted storage levels we had entering the 2023 water year. We encourage Utahns to continue to conserve water to help keep as much water in our reservoirs as possible moving forward, to provide a buffer against possible below-normal water supply conditions next year and beyond.

As was the case last year, NRCS **streamflow forecasts** for snowmelt runoff volume have come down a bit from the April 1 to May 1 predictions due to the below normal precipitation received in Utah during April. Please also note the following statement from Karl Wetlaufer, a Hydrologist with the NRCS National Water and Climate Center and forecaster for the Upper Colorado River Basin, "many streamflow points observed well above normal April flow so some of the volumes may be coming down river channels earlier than commonly observed." As such, we encourage readers to consider both the updated April through July forecasts as well as the May to July versions included in this report. A final complication is that these forecasts are issued based on snowpack and accumulated

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<sup>1</sup> These statewide values from our on-ground SNOTEL network are similar to [Airborne Snow Observatory](#) (ASO) results comparing April 14<sup>th</sup> and April 30<sup>th</sup> flights over the Uinta headwaters where the mean SWE dropped from 8.6" to 4.2", with the largest decreases between around 7500 to 9500 ft elevation.

precipitation as of May 1<sup>st</sup> and do not take into account the significant storm activity Utah has experienced in early May.

Utah's snowmelt runoff forecasts for April through July flow volume range from 160 to 35% of average. There is a strong geographic pattern wherein Utah's northern and northwestern forecast points (Bear, Weber, and Provo basins in particular) are for above to well-above average flow, compared with close to average forecasts for the Duchesne and San Pitch basins, below average forecasts for the Eastern Uintas and south-central Utah, and below to well-below average forecasts for the Sevier basin and the southwestern and southeastern corners of the state. Many May through July forecasts rank lower than their April through July counterparts because of the above-normal streamflows already observed at many of Utah's forecasts points, as described above.

Finally, we encourage folks to check out the NOAA Colorado Basin River Forecast Center's "[Peak Flow Forecast](#)" map which combines current conditions with projected streamflow levels, expressed in percentiles. Their map should prove useful to those wishing to predict peak flow magnitude and timing as well as flood risk. By contrast, NRCS water supply forecasts do not inform about flood potential but instead provide an estimate of the overall volume of water that will pass by a given streamgauge during the April through July period (or whatever duration is listed).

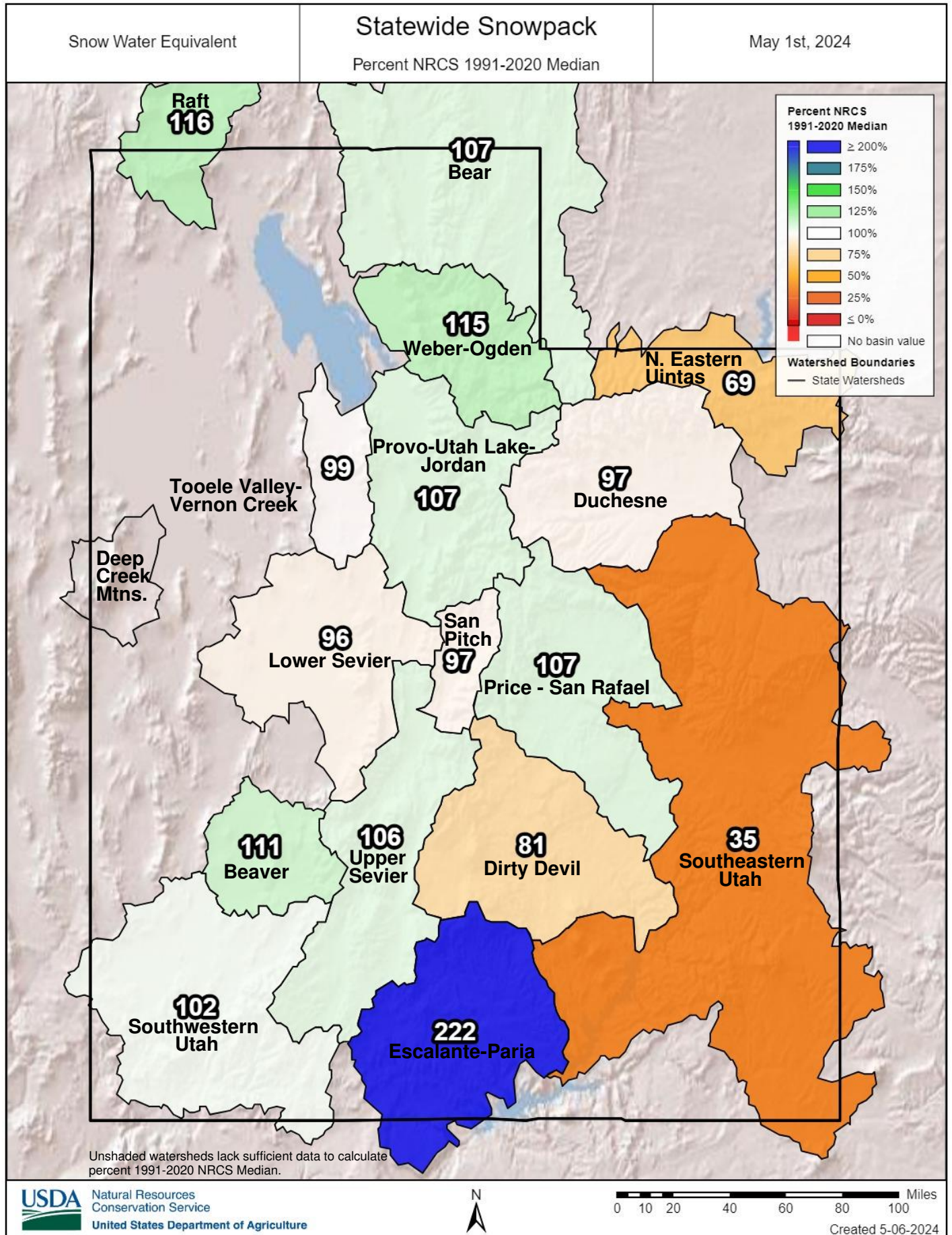
**Surface Water Supply Indices (SWSI)** for Utah basins combine our current reservoir levels with the additional volume of water anticipated for each watershed based on these May 1 streamflow forecasts. Fifteen of Utah's basins have SWSI values above the 50<sup>th</sup> percentile, suggesting that those basins will have above-normal surface water supplies this summer. The Virgin and Blacks Fork watersheds also have SWSI values that are close to normal. The only basin projected to have well below-normal water supply conditions is the Lower Sevier, at the 29<sup>th</sup> percentile. Please refer to the SWSI table provided in this report for further details.

Snow water equivalent and precipitation in the **Great Salt Lake (GSL)** basin are 108% and 115% of normal, respectively. Soil moisture is above normal at 84% of saturation, and the basin's reservoir storage is at 88% of capacity. As noted in last month's report, the small amount of available reservoir capacity in GSL basin reservoirs is likely to lead to significant GSL inflow. Our GSL inflow forecast for May through July ranges from 245 thousand acre-feet (kaf) to 855 kaf, with the most probable value closer to 550 kaf (110% of average, 180% of median). Similarly, our predictions for lake level rise from May until peak lake stage ranges from 0.0 to 0.87 feet, with a 50<sup>th</sup> exceedance probability (most probable) rise of around 0.4 ft. On May 1<sup>st</sup> the south arm of the GSL was at 4194.9 ft elevation, so our expectation is that the lake will peak at a little over 4195 ft stage this year, plus or minus roughly a half of a foot. The GSL started the 2024 water year at 4192.1, so it has already risen almost three feet since October, which is welcome news! Please see our April 1 Water Supply Outlook Report regarding the significant uncertainty in both our GSL inflow and lake level rise forecasts. We remind our readers that our inclusion of GSL inflow forecasts and predicted lake level rise is meant to provide rough guidance for Utah's water managers in light of the high level of interest in the lake's condition and numerous actions to restore lake levels.

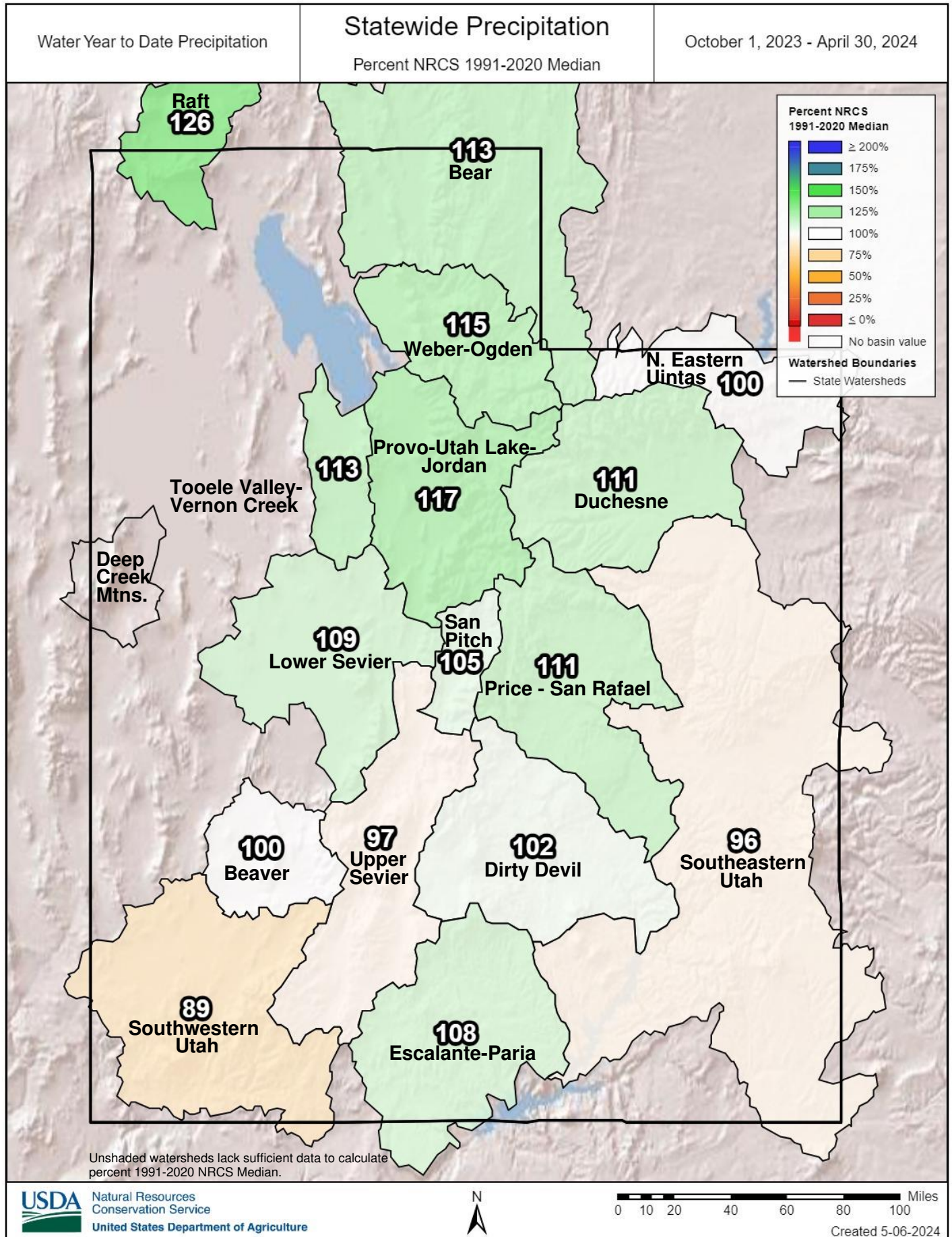
Finally, we are excited to announce that we are now hosting on our [homepage](#) a new link called: "**How is your favorite Utah basin doing?**". These are basin pages for all of Utah's major watersheds which are meant to serve as landing pages for anyone interested in a certain area, so that they can find out ALL of their basin's conditions instead of navigating back-and-forth from our homepage for the different graphs and maps. As new products are developed by the Snow Program and made available, we will update these basin pages as well so that these can continue to be used as a one-stop-shop for snowpack, precipitation, soil moisture, runoff, and other information for a given watershed. Here is a [direct link to the new basin pages](#). We hope they are useful!

This is the last Water Supply Outlook Report of this water year. However, Utah's water availability conditions will continue to be published year-round in our monthly Climate and Water Reports.

# Utah (statewide) Snowpack



# Utah (statewide) Precipitation



## May 1, 2024 | Surface Water Supply Index (SWSI)

Basin or Region	Reservoir Storage <sup>1</sup> (KAF) <sup>2</sup>	May-July Forecast (KAF) <sup>2</sup>	Forecast + Storage (KAF) <sup>2</sup>	SWSI <sup>3</sup>	Percentile <sup>4</sup> (%)	Similar Years
Bear	983.9	99.0	1082.9	2.5	80	[2000, 2018]
Woodruff Narrows	52.0	86.0	138.0	0.42	55	[2006, 2020]
Little Bear	12.6	28.0	40.6	0.38	55	[2008, 2010]
Ogden	107.5	84.0	191.5	1.94	73	[1982, 2017]
Weber	390.9	230.0	620.9	1.2	64	[2006, 2017]
Provo	1293.1	169.5	1462.6	2.28	77	[1999, 2009]
Western Uintas	199.5	49.0	248.5	1.57	69	[2017, 2019]
Eastern Uintas	54.8	74.9	129.7	-0.65	42	[2006, 2015]
Blacks Fork	26.7	75.0	101.7	-0.2	48	[2008, 2015]
Smiths Fork	10.5	22.0	32.5	0.99	62	[1985, 2014]
Price	51.4	36.0	87.4	2.69	82	[1995, 2019]
Joes Valley	48.8	46.0	94.8	1.2	64	[2008, 2017]
Ferron Creek	11.5	30.0	41.5	0.09	51	[1991, 2008]
Moab	2.2	2.2	4.4	0.0	50	[2006, 2008]
Upper Sevier	115.6	18.5	134.1	1.02	62	[1986, 2001]
San Pitch	14.2	13.7	27.9	0.83	60	[2010, 2019]
Lower Sevier	117.3	27.0	144.3	-1.76	29	[2009, 2010]
Beaver River	23.2	18.8	42.0	1.02	62	[1981, 1987]
Virgin River	40.9	26.0	66.9	-0.13	48	[2008, 2020]

<sup>1</sup> End of Month Reservoir Storage; <sup>2</sup> KAF, Thousand Acre-Feet; <sup>3</sup> SWSI, Surface Water Supply Index; <sup>4</sup> Threshold for coloring: >75% Green, <25% Red

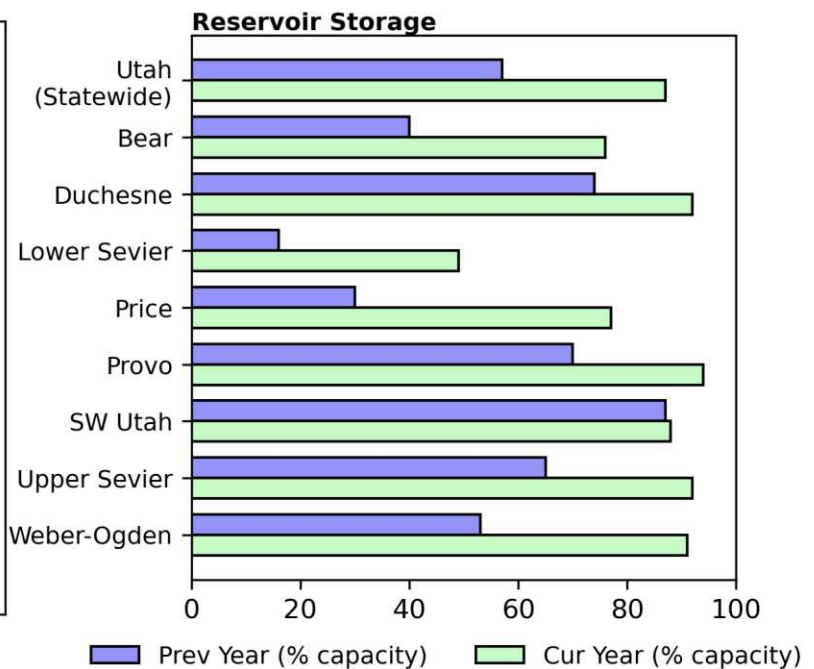
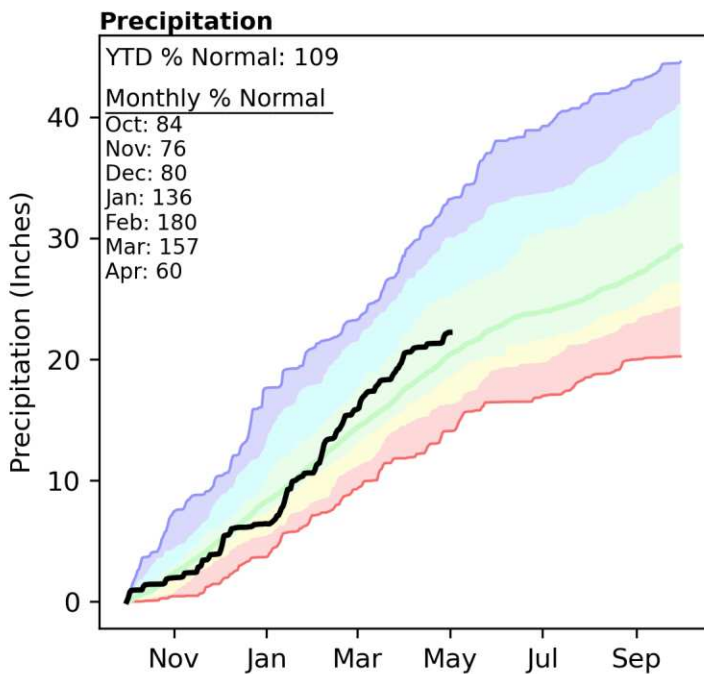
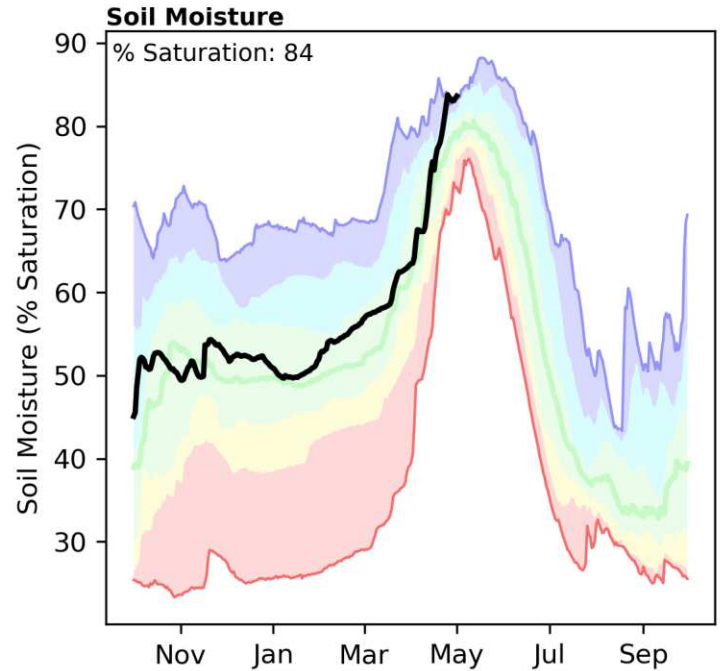
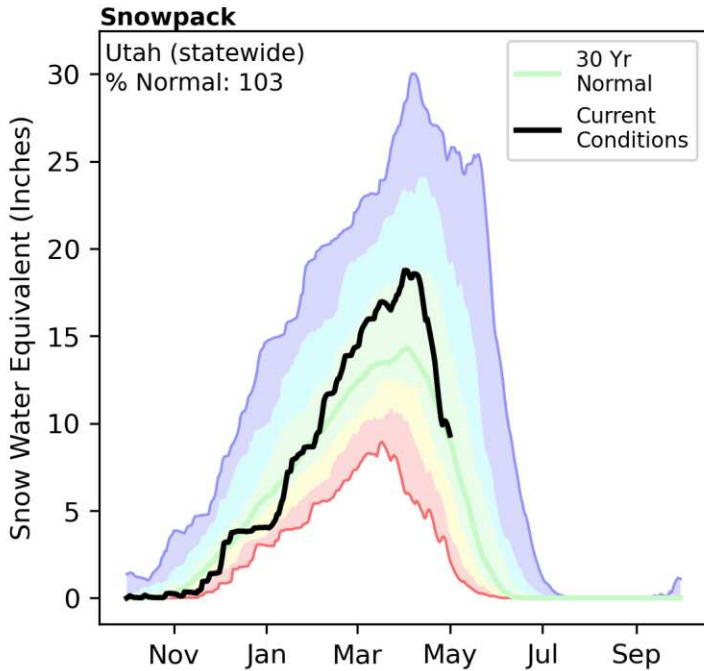
### What is a Surface Water Supply Index?

The Surface Water Supply Index (SWSI) is a predictive indicator of total surface water availability within a watershed for the spring and summer water use seasons. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow which are based on current snowpack and other hydrologic variables. SWSI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry) with a value of zero (0) indicating median water supply as compared to historical analysis. SWSI's are calculated in this fashion to be consistent with other hydroclimatic indicators such as the Palmer Drought Index and the Precipitation index. See Appendix A for details on forecast points and reservoirs used in SWSI calculations.

The Utah Snow Survey has also chosen to display the SWSI value as well as a PERCENT CHANCE OF NON-EXCEEDANCE. While this is a cumbersome name, it has a simple application. It can be best thought of as a scale of 1 to 99 with 1 being the drought of record (driest possible conditions) and 99 being the flood of record (wettest possible conditions) and a value of 50 representing average conditions. This rating scale is a percentile rating as well, for example a SWSI of 75% means that this years water supply is greater than 75% of all historical events and that only 25% of the time has it been exceeded. Conversely a SWSI of 10% means that 90% of historical events have been greater than this one and that only 10% have had less total water supply. This scale is comparable between basins: a SWSI of 50% means the same relative ranking on watershed A as it does on watershed B, which may not be strictly true of the +4 to -4 scale.

# Utah (statewide) | May 1, 2024

Snowpack in Utah (statewide) is about normal at 103% of median, compared to 253% at this time last year. Precipitation in April was well below normal at 60%, which brings the seasonal accumulation (October-April) to 109% of median. Soil moisture is at 84% saturation compared to 81% saturation last year. Statewide, reservoir storage is 87% of capacity, compared to 57% last year<sup>1</sup>. Forecast streamflow volumes (50% exceedence, May-July) range from 69% to 216% of normal.

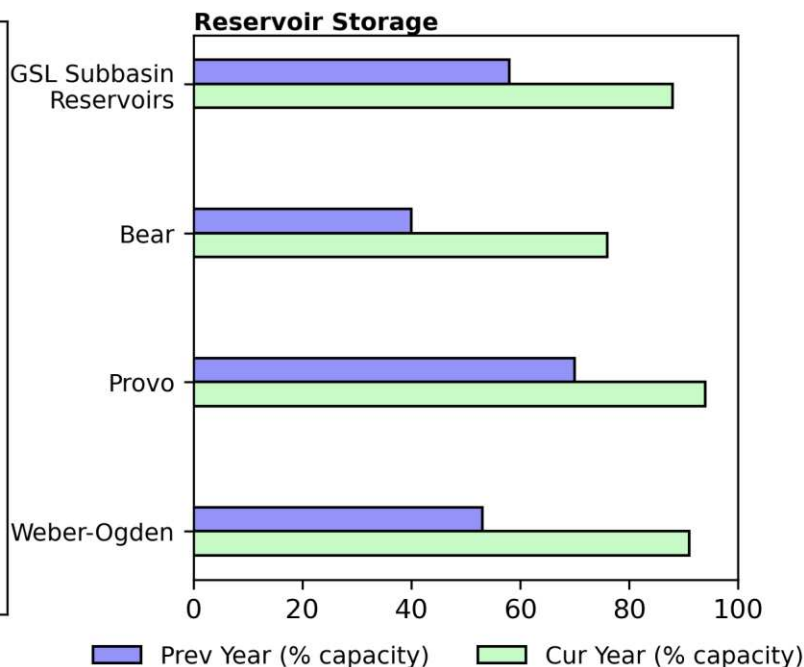
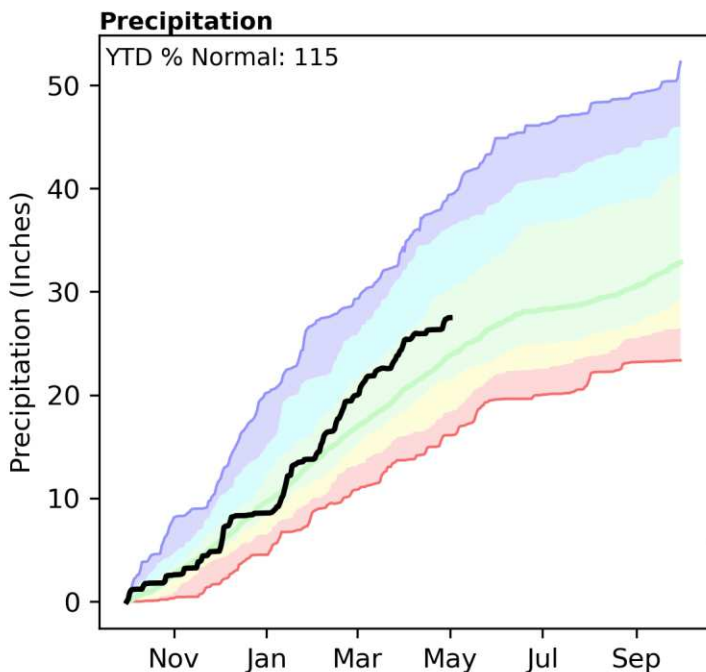
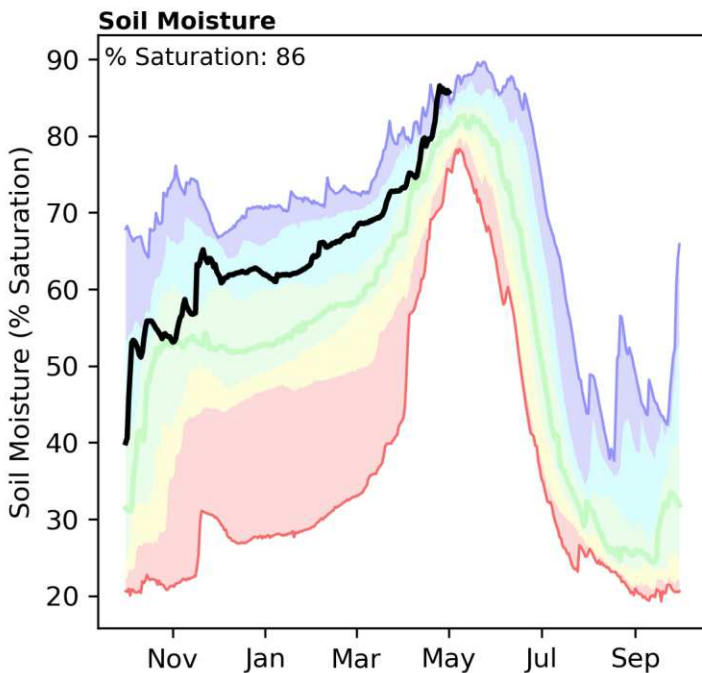
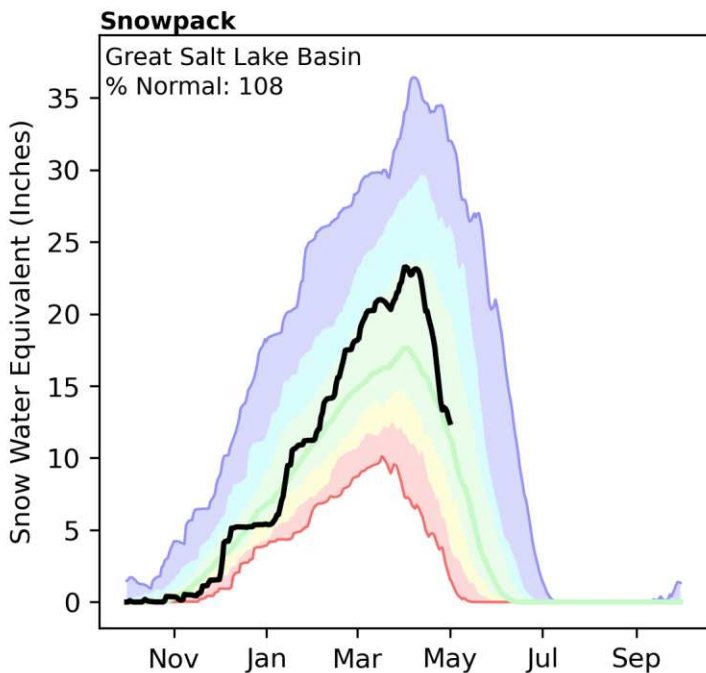


Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.  
For more information visit: [30 year normal calculation description](#)

<sup>1</sup>Statewide reservoir percentages exclude Lake Powell and Flaming Gorge Reservoirs.

# Great Salt Lake Basin | May 1, 2024

Snowpack in the Great Salt Lake (GSL) Basin<sup>1</sup> is about normal at 108% of median, compared to 260% at this time last year. Precipitation in April was well below normal at 64%, which brings the seasonal accumulation (October-April) to 115% of median. Soil moisture is at 86% saturation compared to 77% saturation last year. Reservoir storage in GSL subbasins is 88% of capacity, compared to 58% last year. The forecast inflow volume (50% exceedence, May-July) for the GSL is 550 thousand acre-feet (110% of average), resulting in a projected lake level (stage) increase (from May 1 to peak) of 0.4 feet.

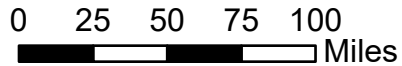
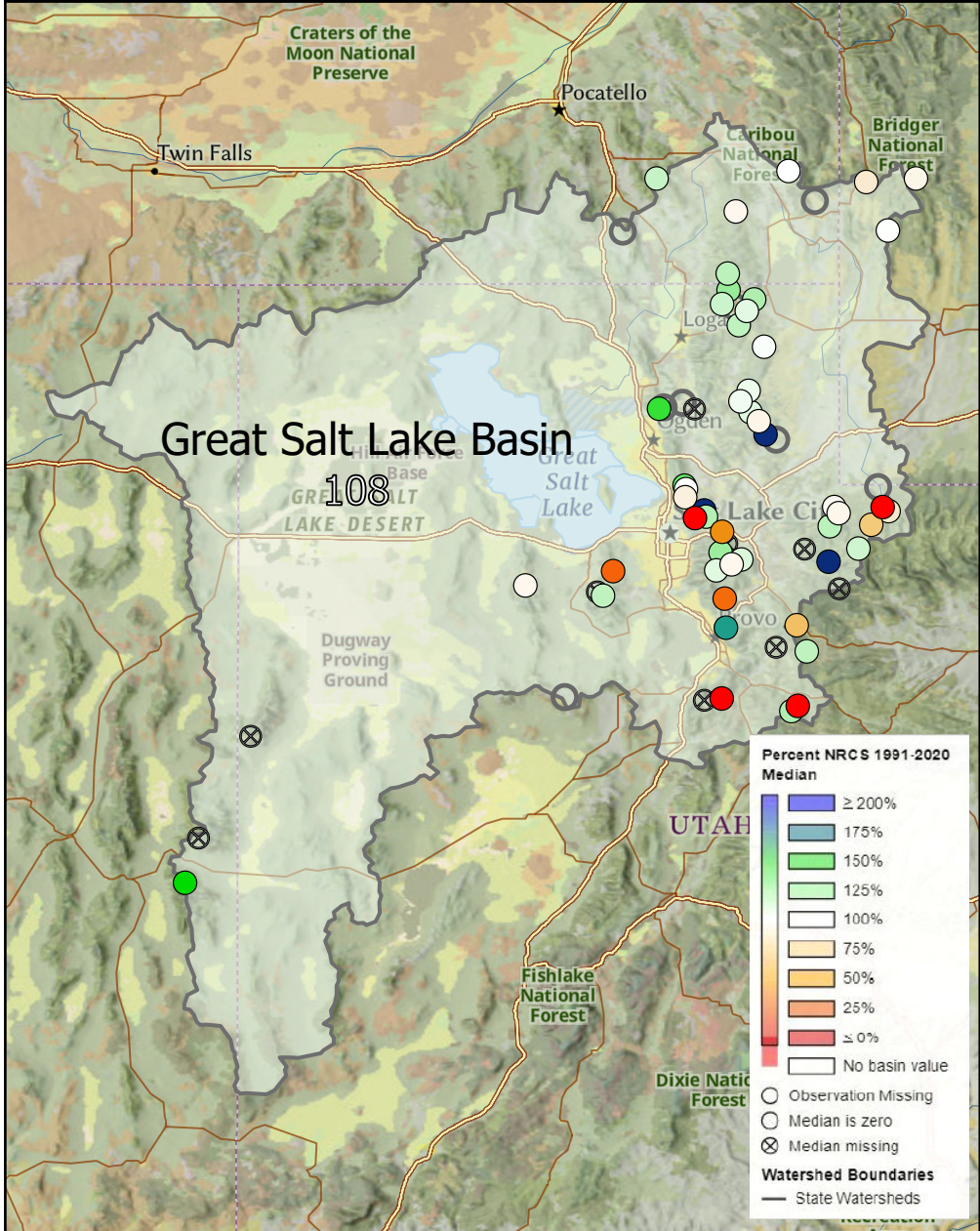


Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles. For more information visit: [30 year normal calculation description](#)

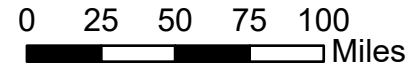
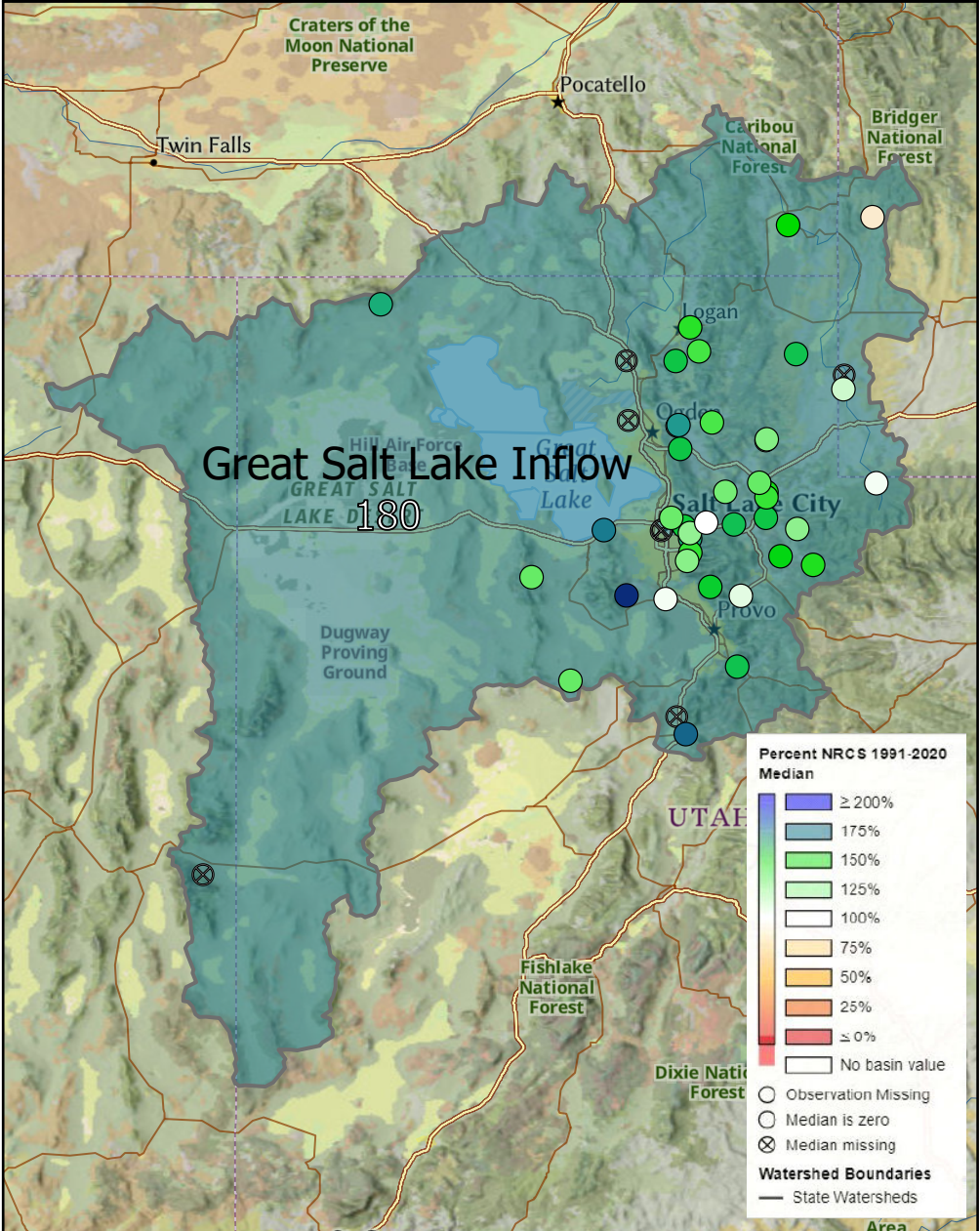
<sup>1</sup>Comprised of the Weber, Provo, and Bear River Watersheds. Other subbasins for the Great Salt Lake do not substantively contribute to its seasonal rise.



Snow Water Equivalent	<b>Snowpack</b> Percent NRCS 1991-2020 Median	May 1st, 2024
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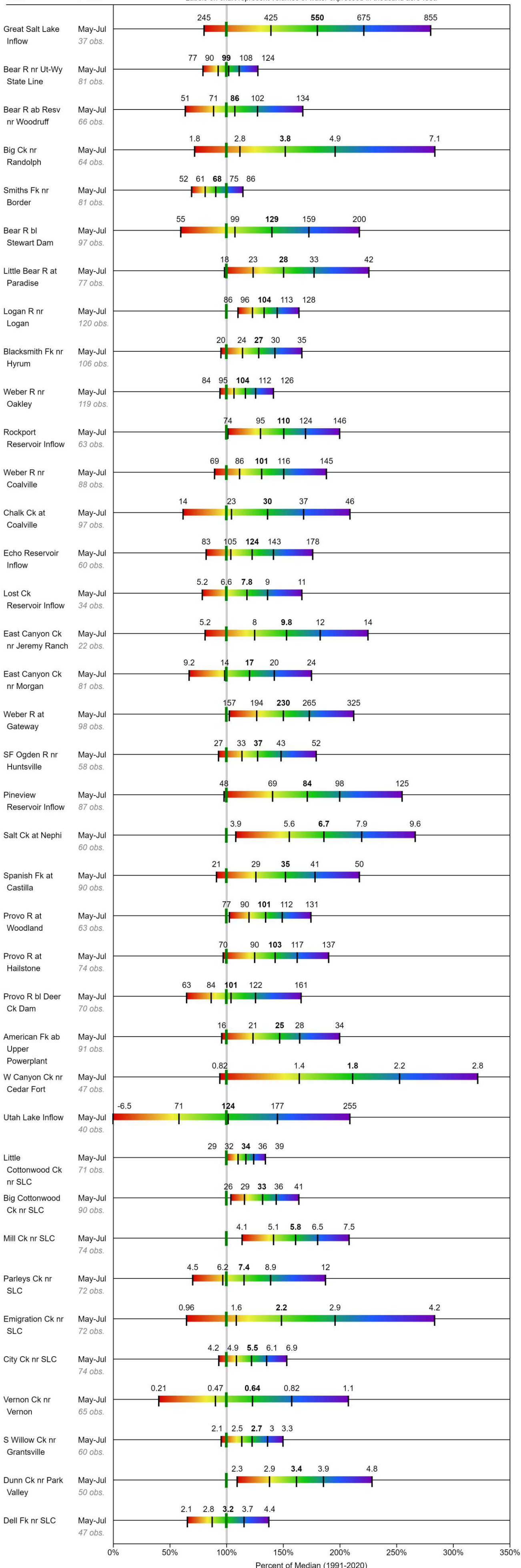
Forecast Volume 50% Exceedance Probability	<b>Water Supply Forecast</b> Percent NRCS 1991-2020 Median	Primary Period May 1st, 2024
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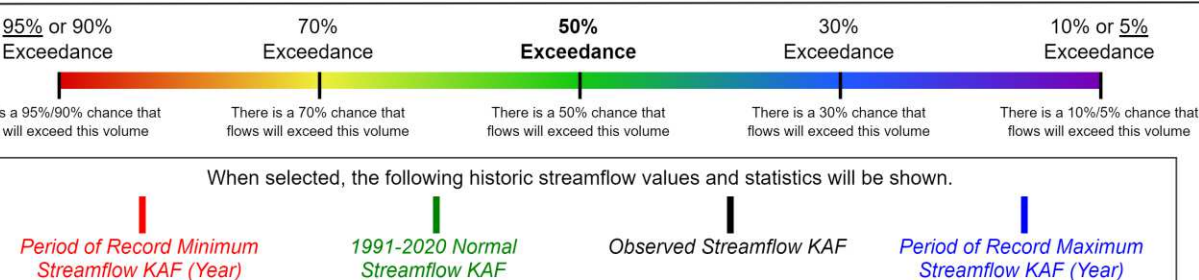
### GREAT SALT LAKE Water Supply Forecasts May 1, 2024

Forecast Exceedance Probabilities

<----- Drier ----- Future Conditions ----- Wetter ----->  
Labels on chart represent volumes of water expressed in thousand acre-feet.

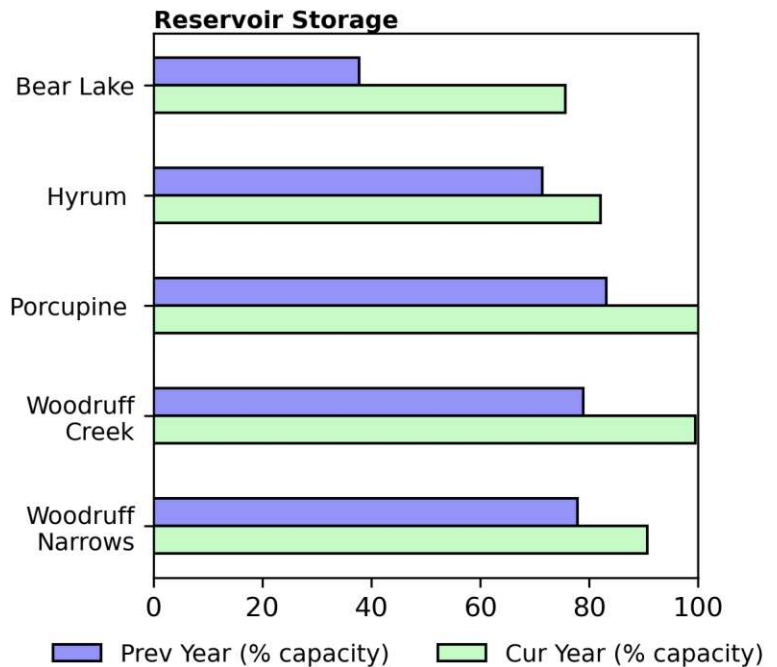
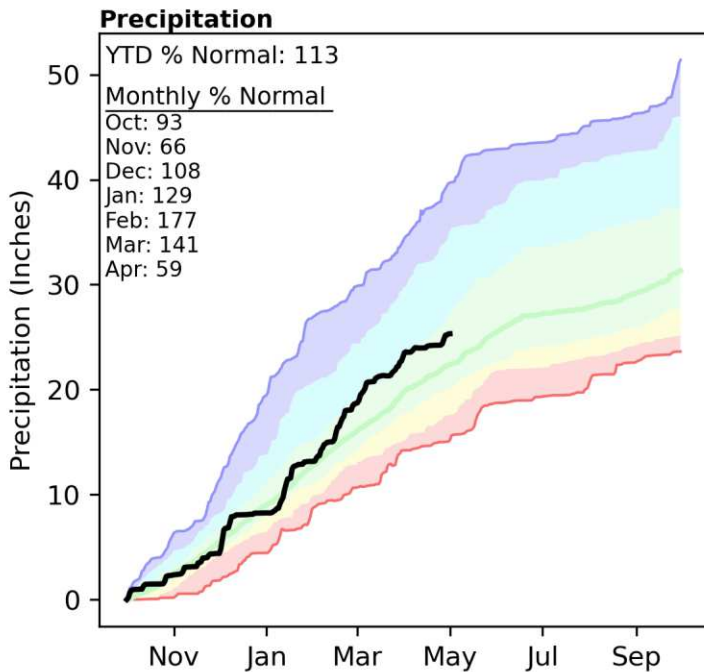
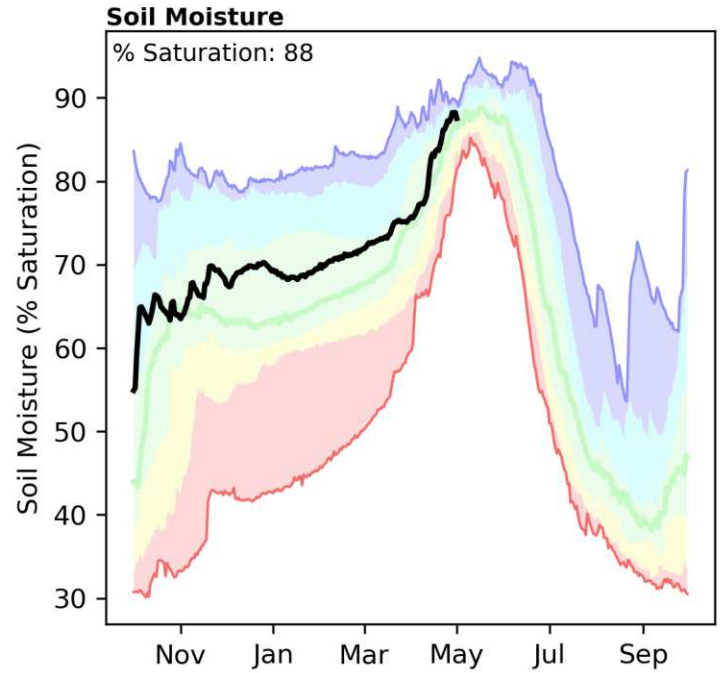
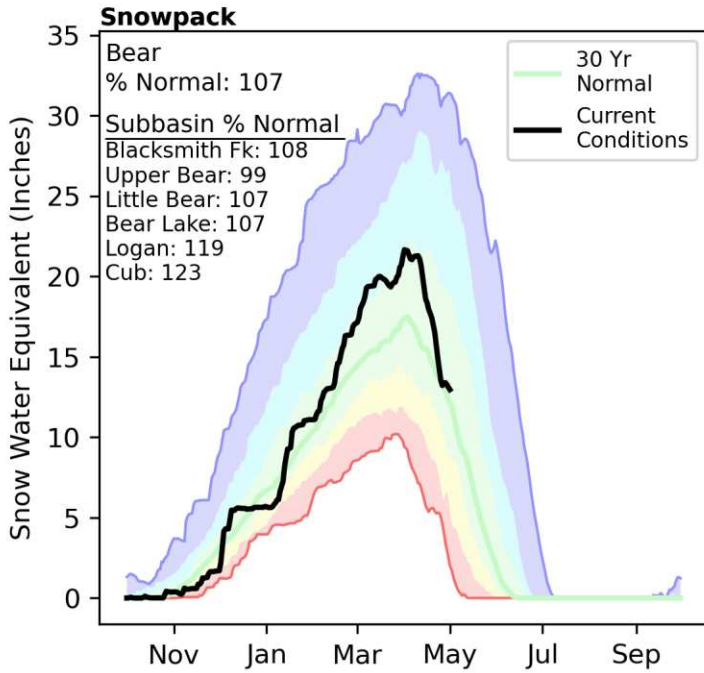


**Legend**



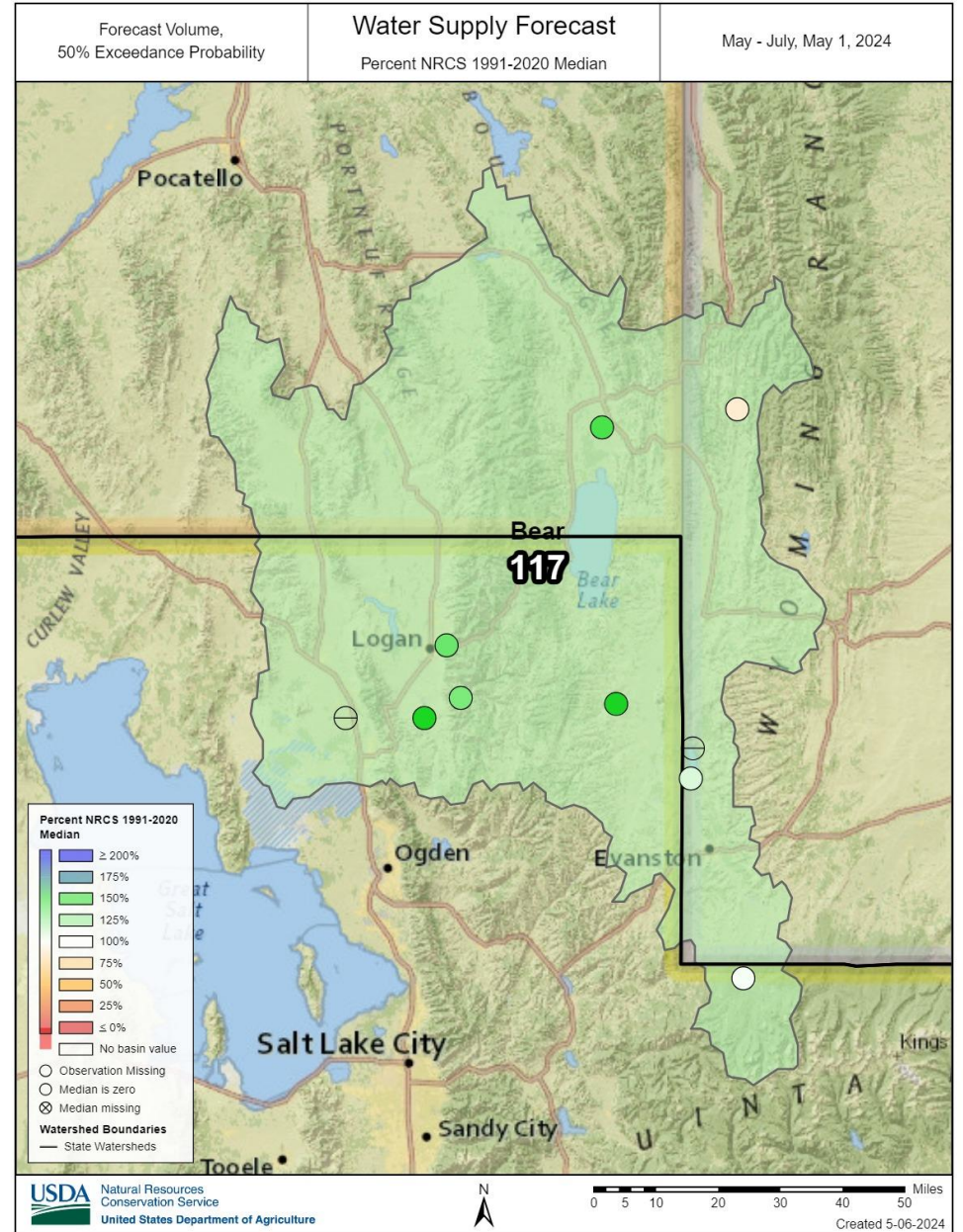
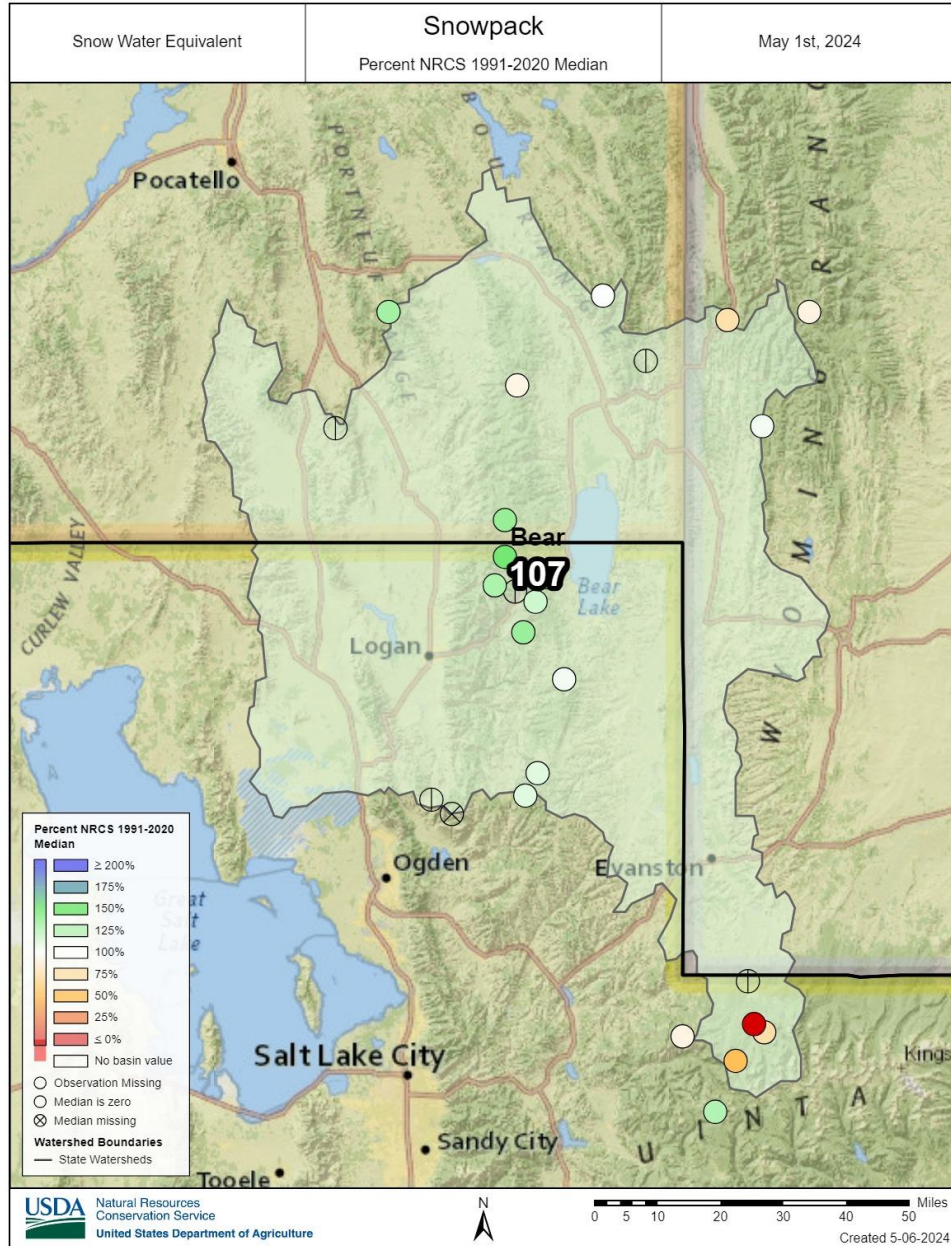
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

Snowpack in the Bear River Basin is about normal at 107% of median, compared to 216% at this time last year. Precipitation in April was well below normal at 59%, which brings the seasonal accumulation (October-April) to 113% of median. Soil moisture is at 88% saturation compared to 81% saturation last year. Reservoir storage is 76% of capacity, compared to 40% last year. Forecast streamflow volumes (50% exceedence, May-July) range from 91% to 152% of normal. The Surface Water Supply Index percentiles are 80% for the Bear, 55% for the Little Bear, and 55% for Woodruff Narrows.



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles. For more information visit: [30 year normal calculation description](#)

# Bear

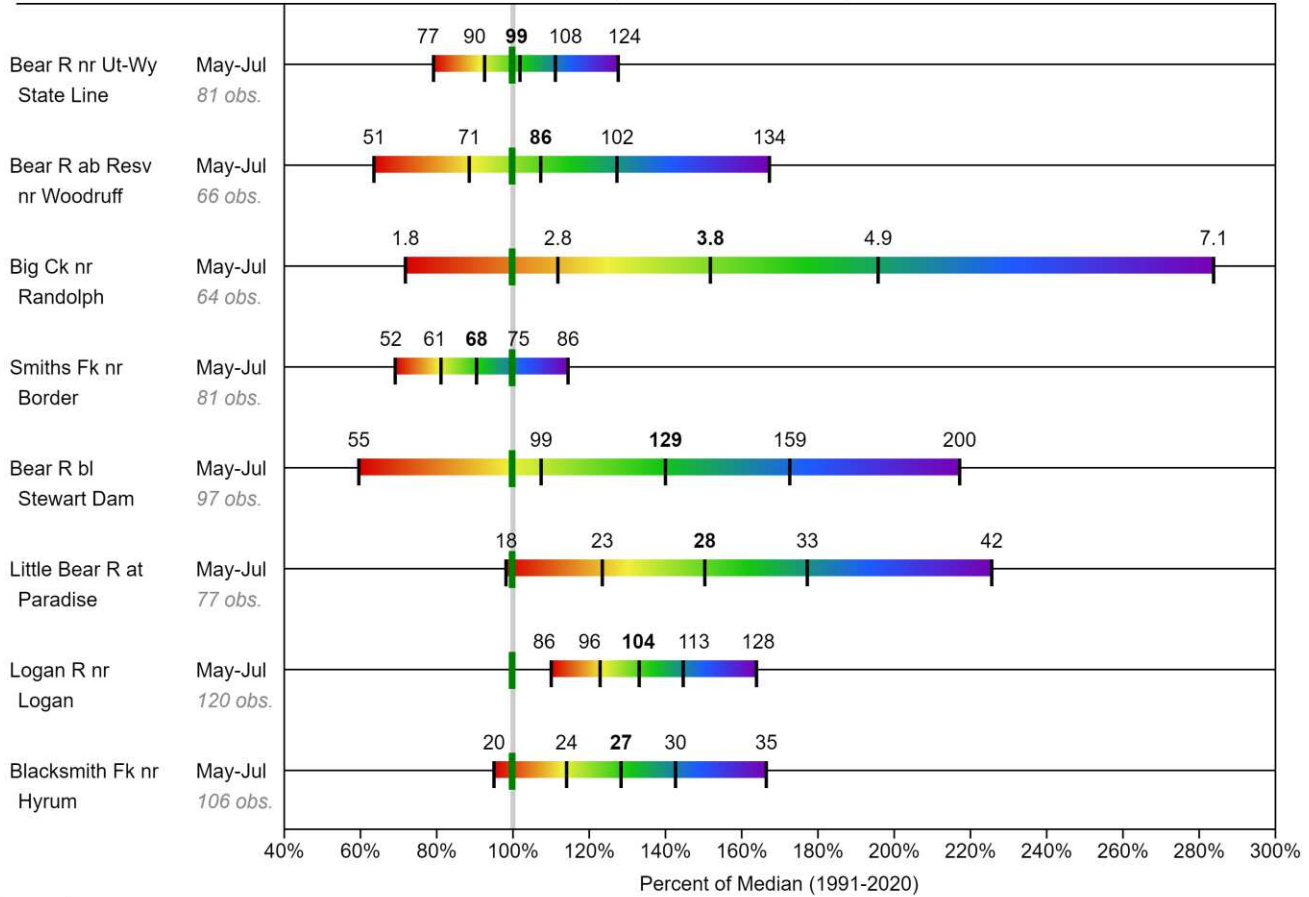


# Bear

## BEAR Water Supply Forecasts May 1, 2024

### Forecast Exceedance Probabilities

<----- Drier ----- Future Conditions ----- Wetter ----->  
Labels on chart represent volumes of water expressed in thousand acre-feet.



### Legend

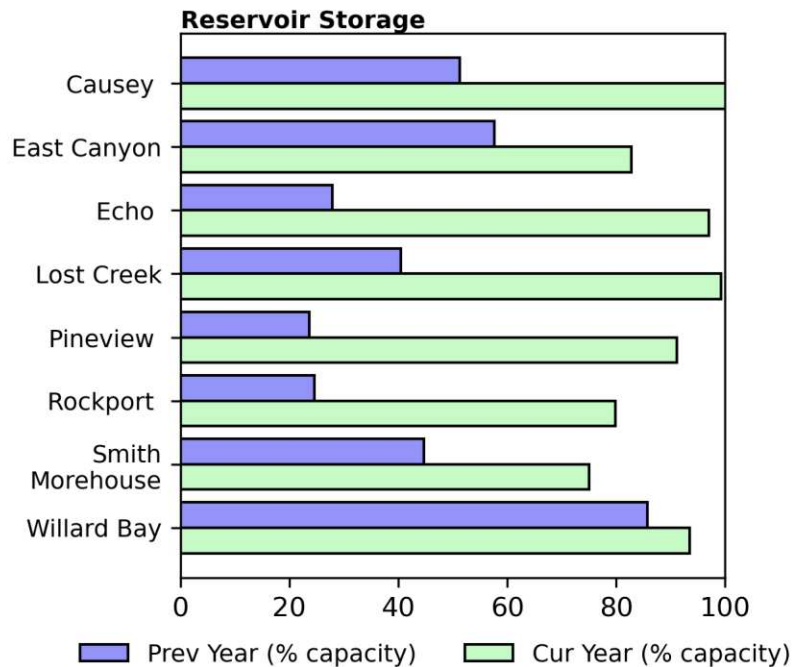
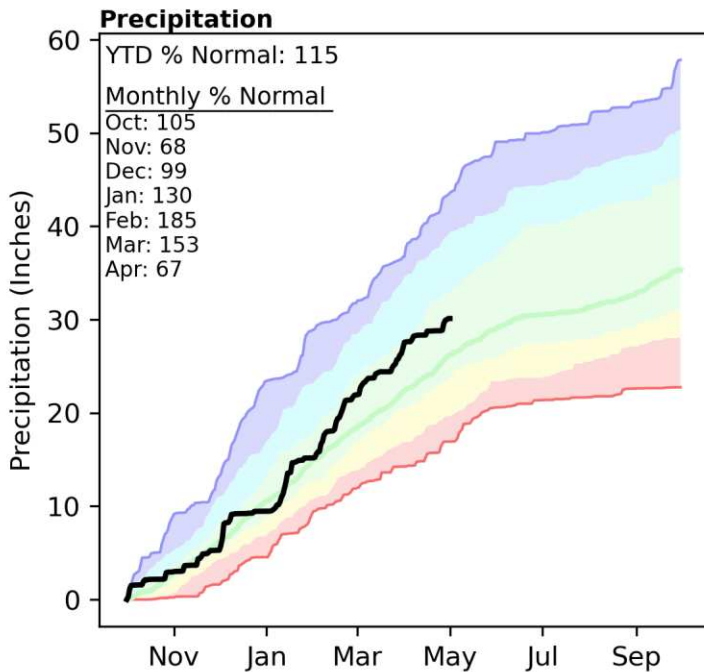
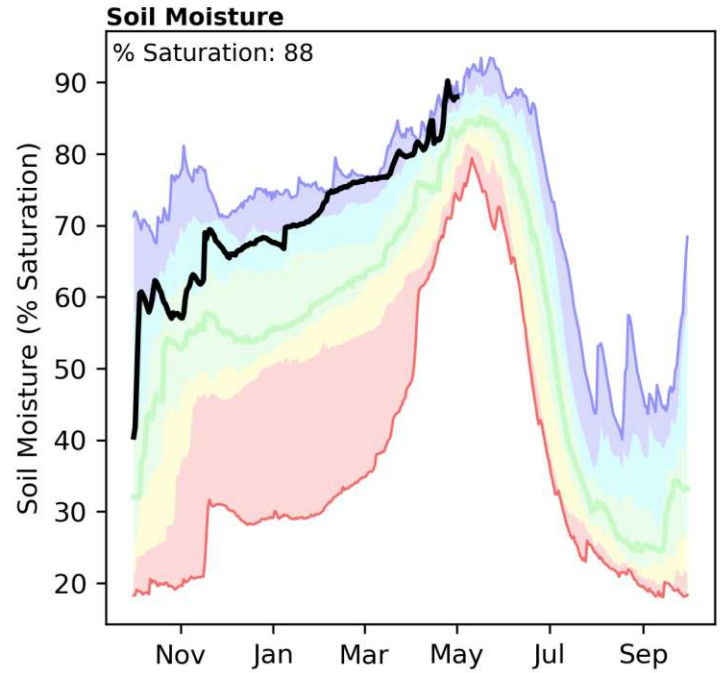
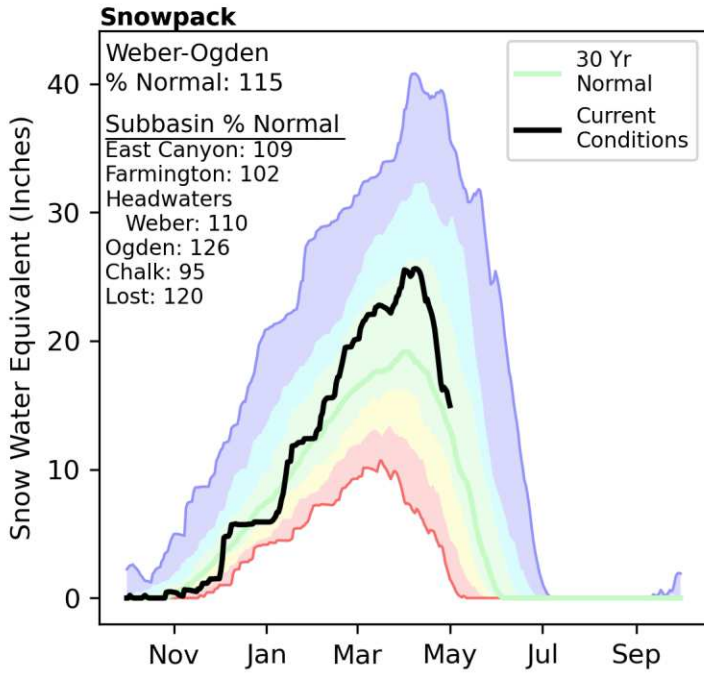


When selected, the following historic streamflow values and statistics will be shown.

█ *Period of Record Minimum Streamflow KAF (Year)*     
 █ *1991-2020 Normal Streamflow KAF*     
 █ *Observed Streamflow KAF*     
 █ *Period of Record Maximum Streamflow KAF (Year)*

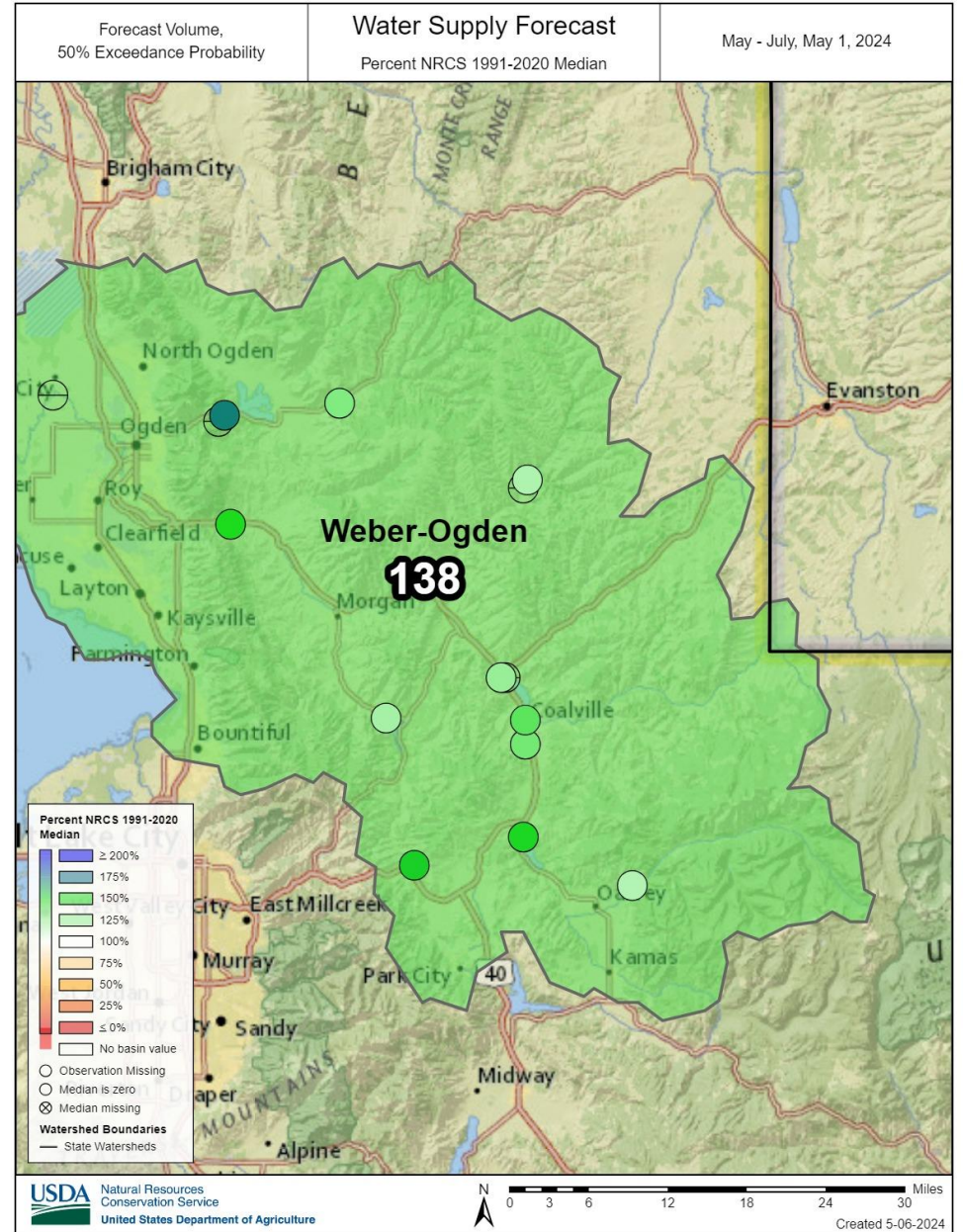
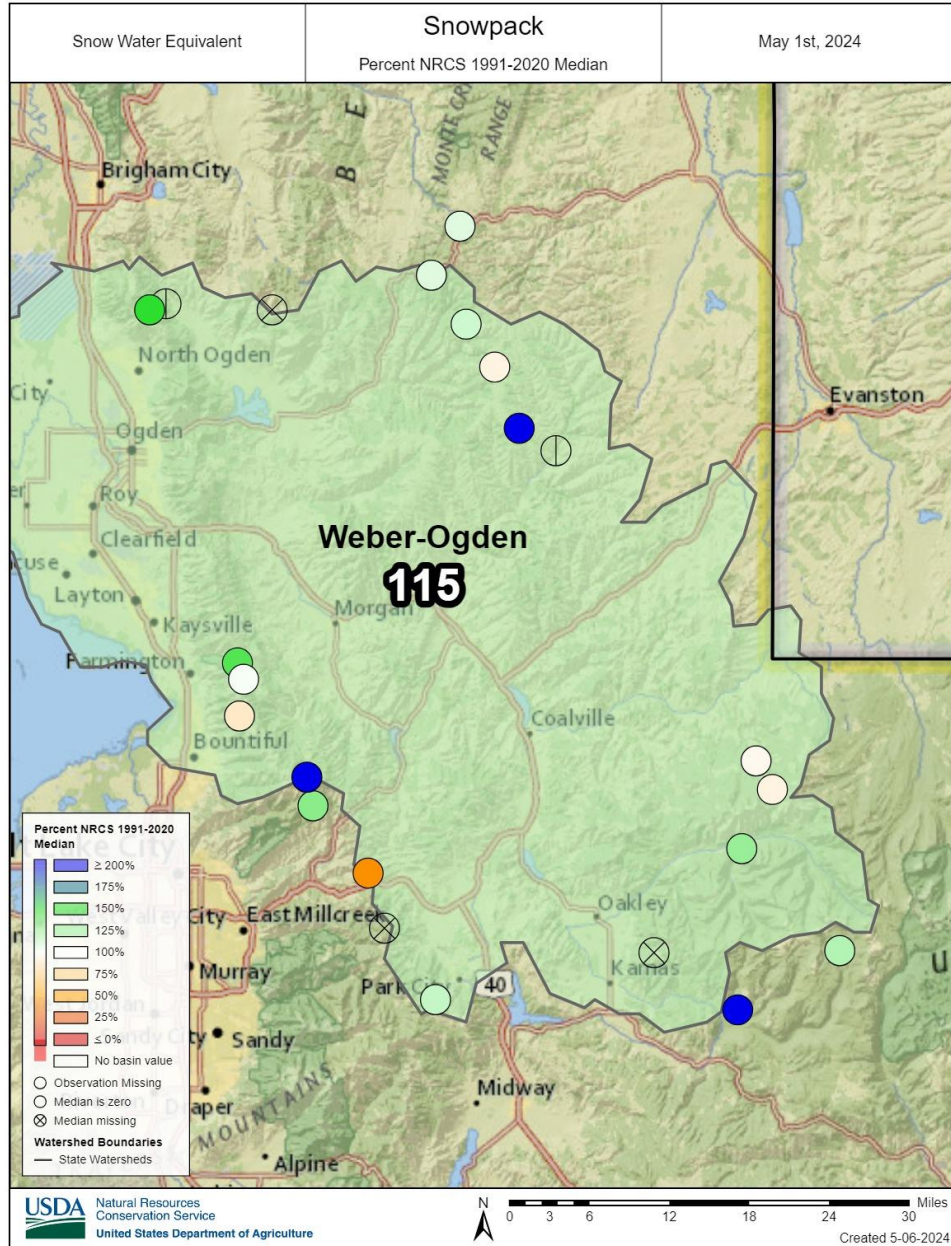
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

Snowpack in the Weber and Ogden River Basins is above normal at 115% of median, compared to 275% at this time last year. Precipitation in April was well below normal at 67%, which brings the seasonal accumulation (October-April) to 115% of median. Soil moisture is at 88% saturation compared to 82% saturation last year. Reservoir storage is 91% of capacity, compared to 53% last year. Forecast streamflow volumes (50% exceedence, May-July) range from 117% to 171% of normal. The Surface Water Supply Index percentiles are 64% for the Weber, and 73% for the Ogden.



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles. For more information visit: [30 year normal calculation description](#)

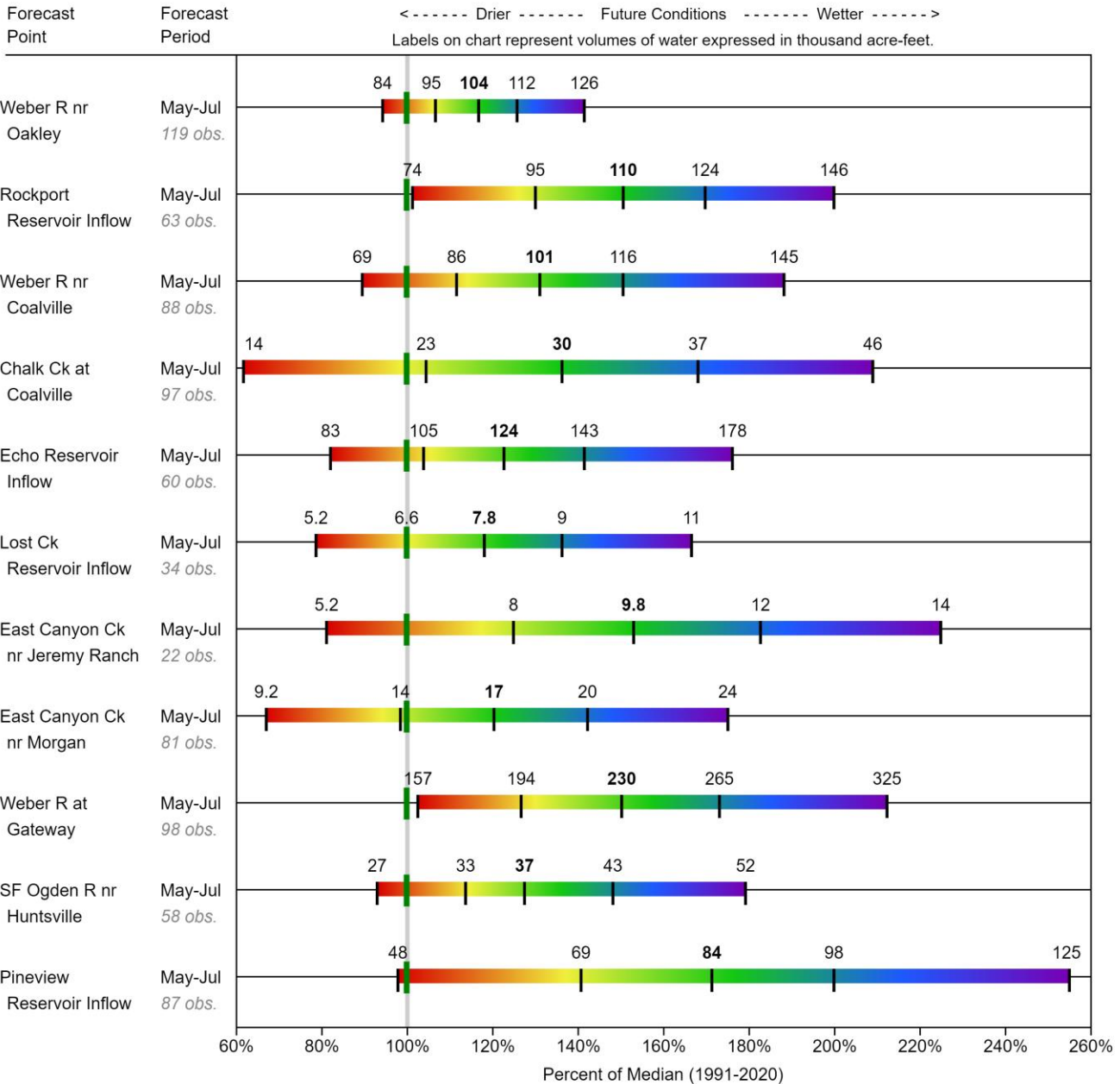
# Weber-Ogden



# Weber-Ogden

## WEBER-OGDEN Water Supply Forecasts May 1, 2024

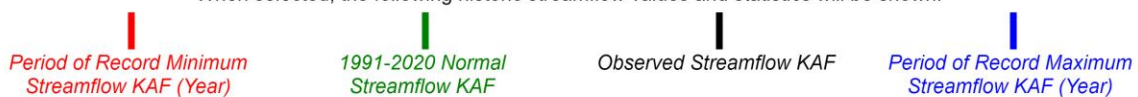
### Forecast Exceedance Probabilities



### Legend



When selected, the following historic streamflow values and statistics will be shown.

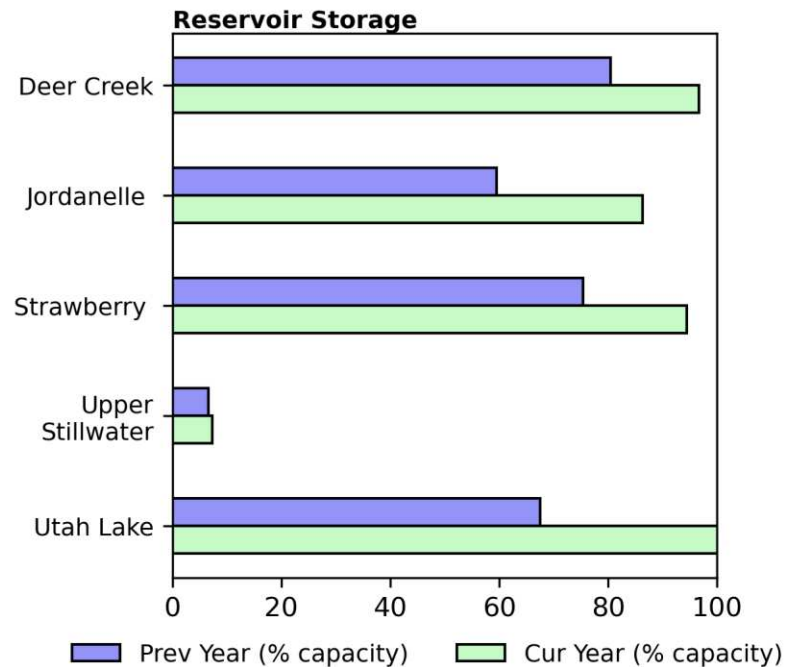
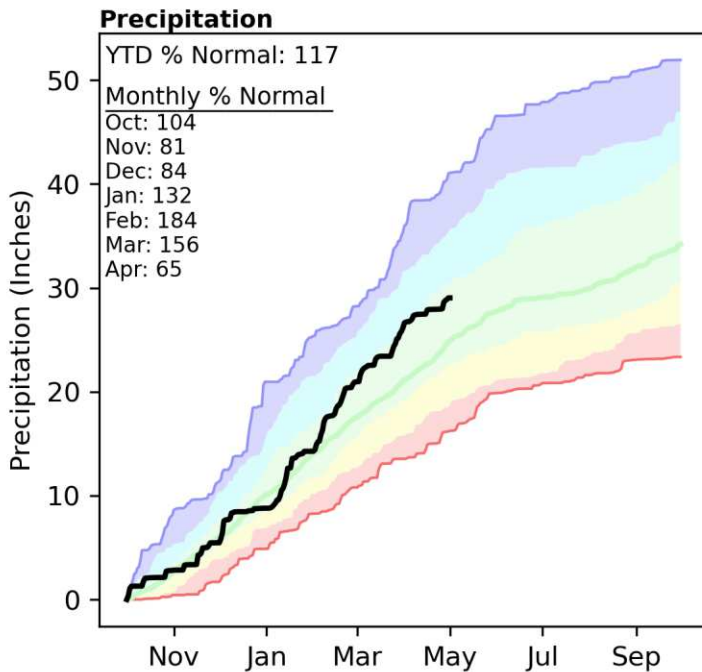
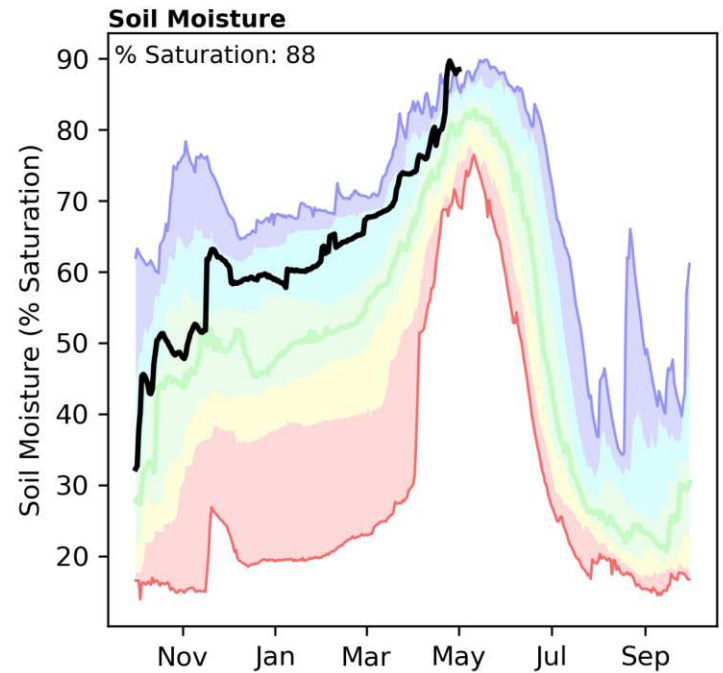
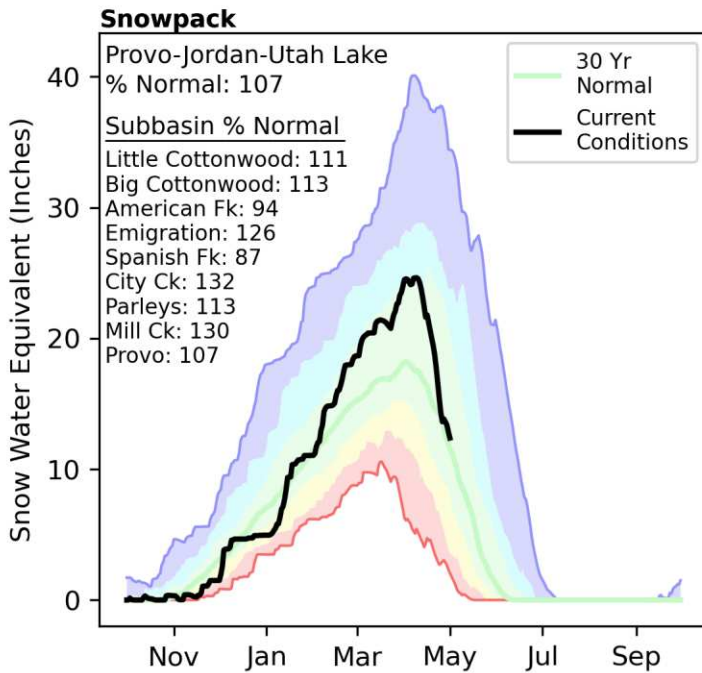


Some forecasts may be for volumes that are regulated or influenced by diversions and water management.



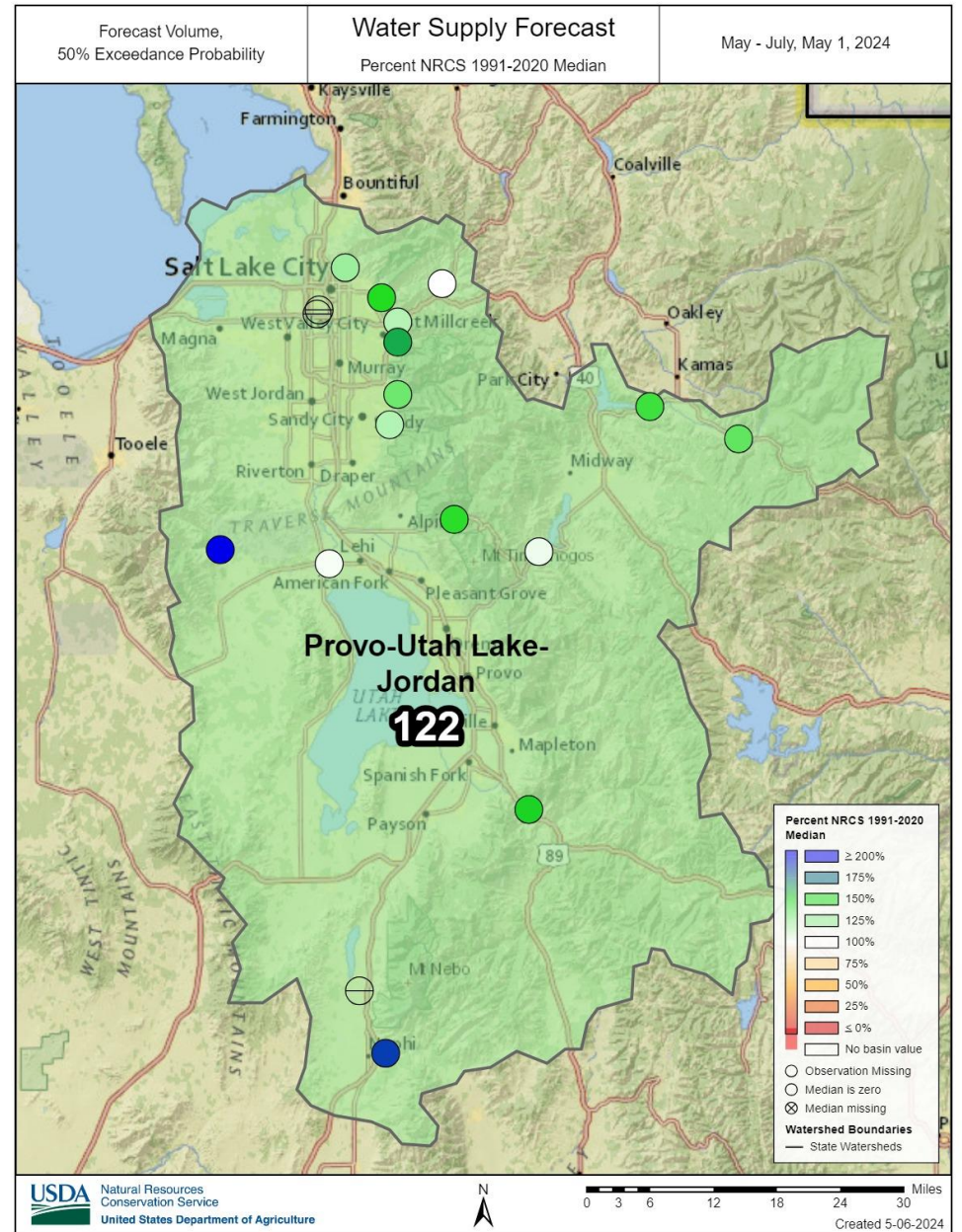
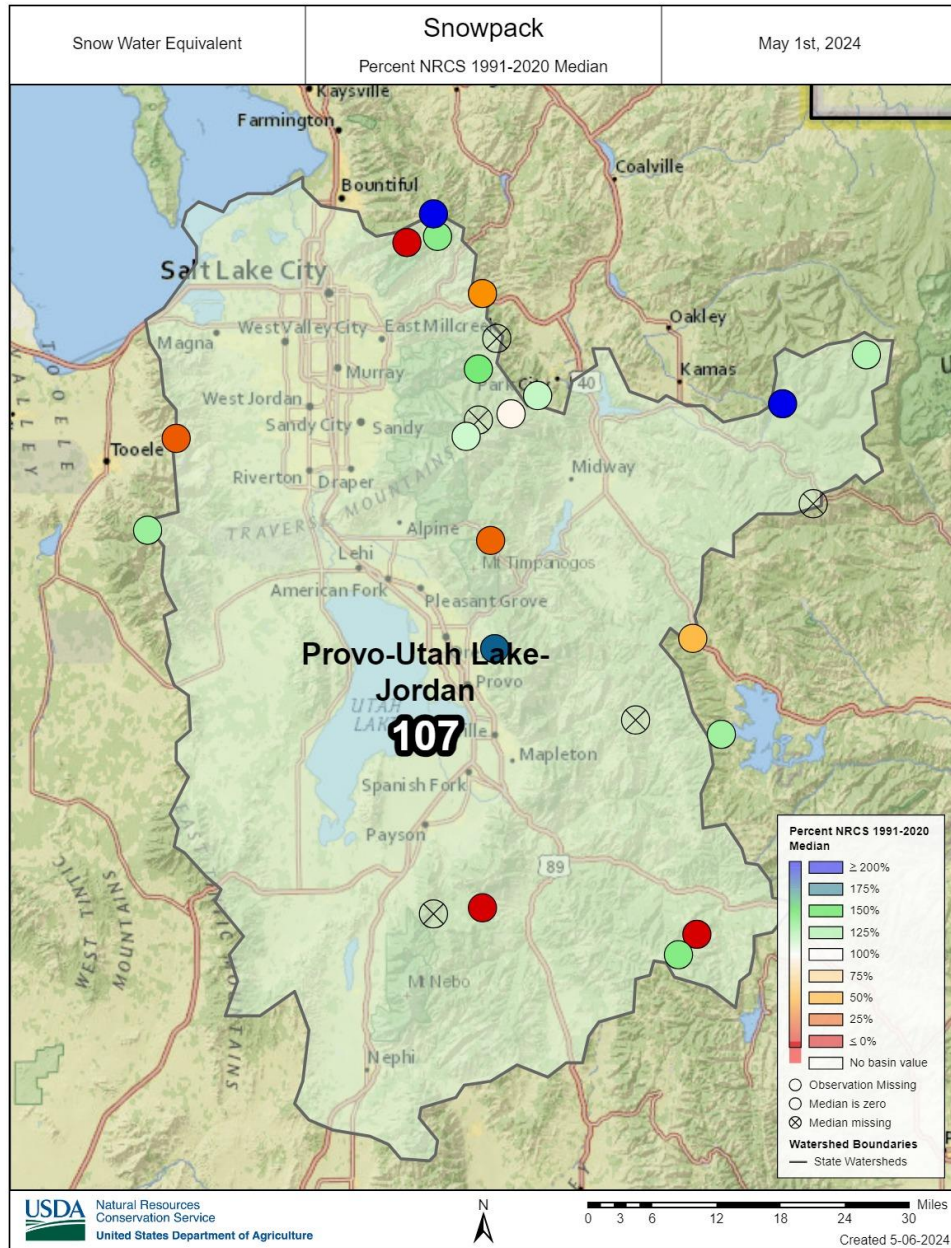
# Provo-Jordan-Utah Lake | May 1, 2024

Snowpack in the Provo and Jordan River Basins is about normal at 107% of median, compared to 285% at this time last year. Precipitation in April was well below normal at 65%, which brings the seasonal accumulation (October-April) to 117% of median. Soil moisture is at 88% saturation compared to 76% saturation last year. Reservoir storage is 94% of capacity, compared to 70% last year. Forecast streamflow volumes (50% exceedence, May-July) range from 100% to 211% of normal. The Surface Water Supply Index percentile is 77% for the Provo.



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.  
For more information visit: [30 year normal calculation description](#)

# Provo-Utah Lake-Jordan

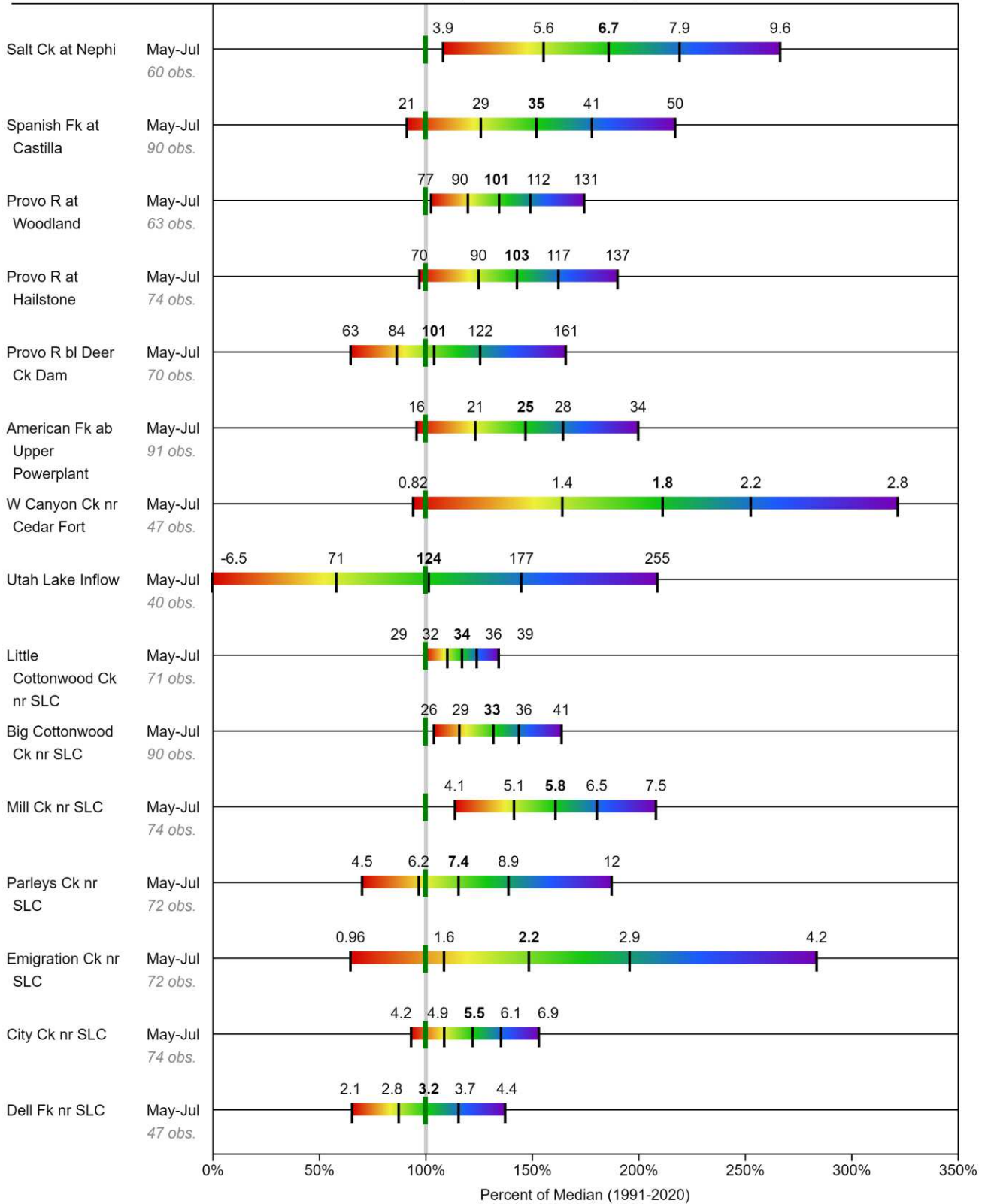


# Provo-Utah Lake-Jordan

## PROVO-UTAH LAKE-JORDAN Water Supply Forecasts May 1, 2024

Forecast Exceedance Probabilities

<----- Drier ----- Future Conditions ----- Wetter ----->  
Labels on chart represent volumes of water expressed in thousand acre-feet.



### Legend



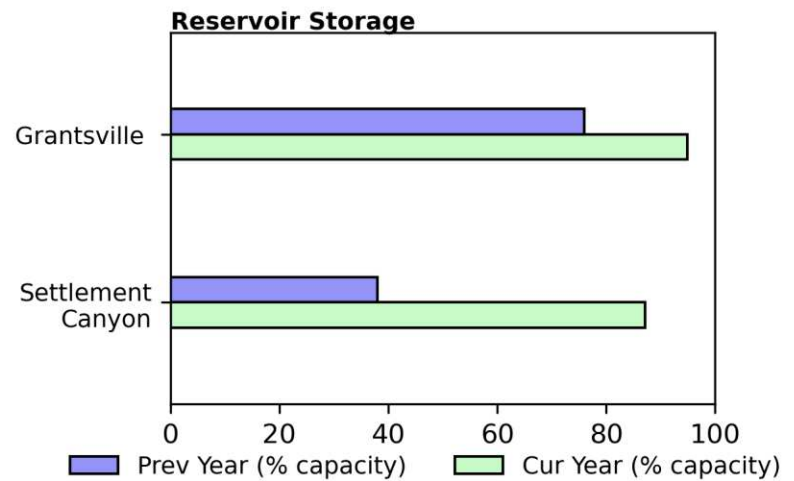
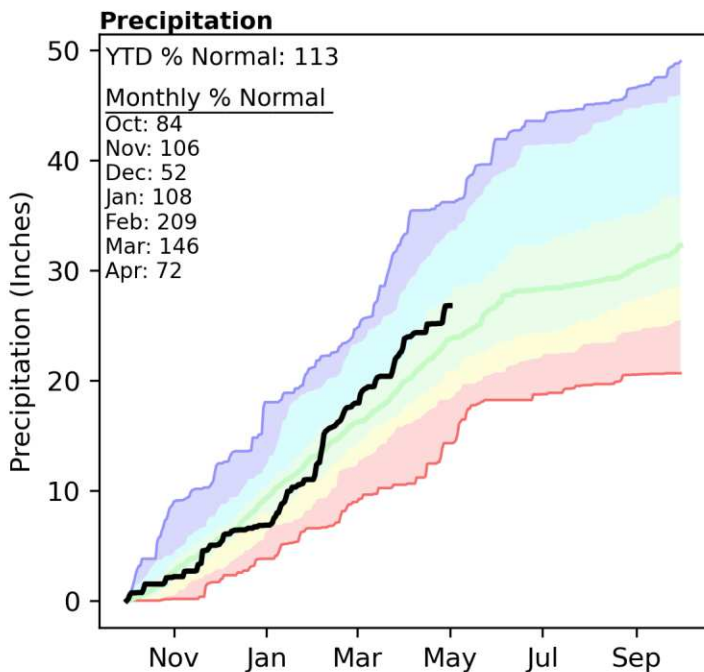
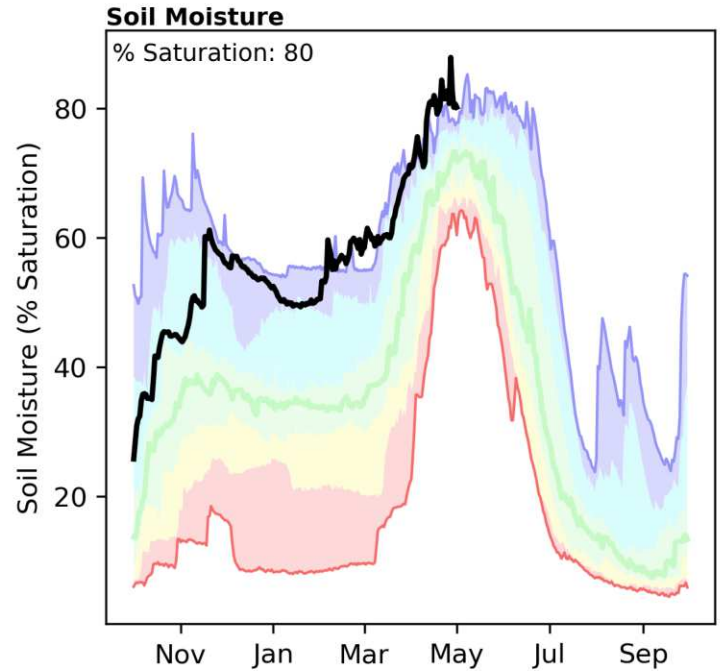
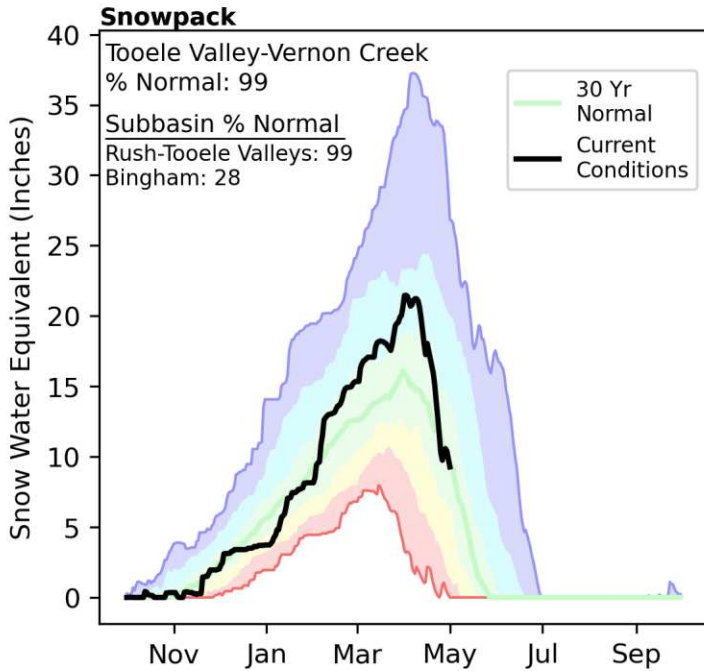
When selected, the following historic streamflow values and statistics will be shown.



Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

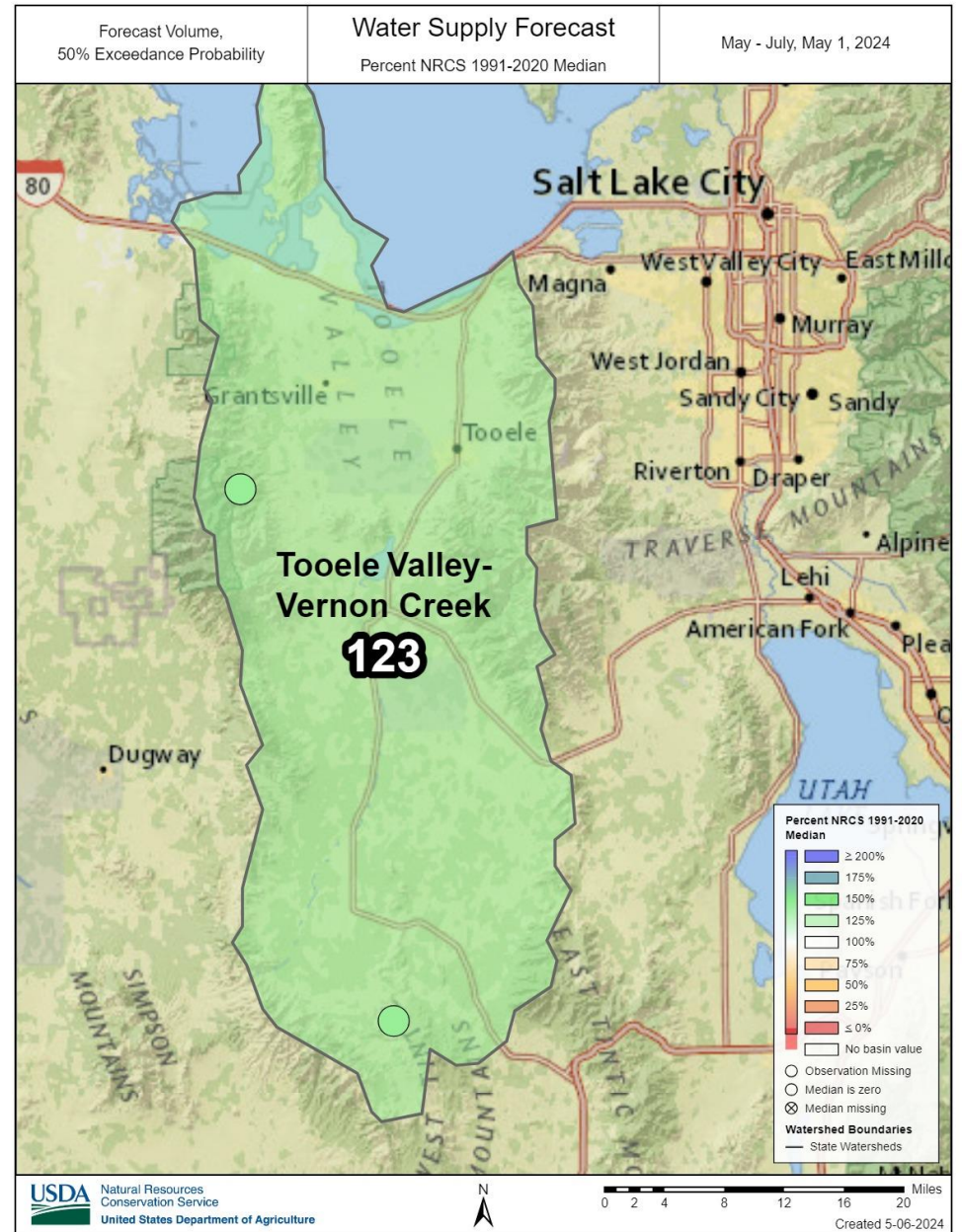
# Tooele Valley-Vernon Creek | May 1, 2024

Snowpack in the Tooele Valley and West Desert Region is about normal at 99% of median, compared to 285% at this time last year. Precipitation in April was below normal at 72%, which brings the seasonal accumulation (October-April) to 113% of median. Soil moisture is at 80% saturation compared to 70% saturation last year. Reservoir storage is 93% of capacity, compared to 67% last year. Forecast streamflow volumes (50% exceedence, May-July) range from 123% to 162% of normal.



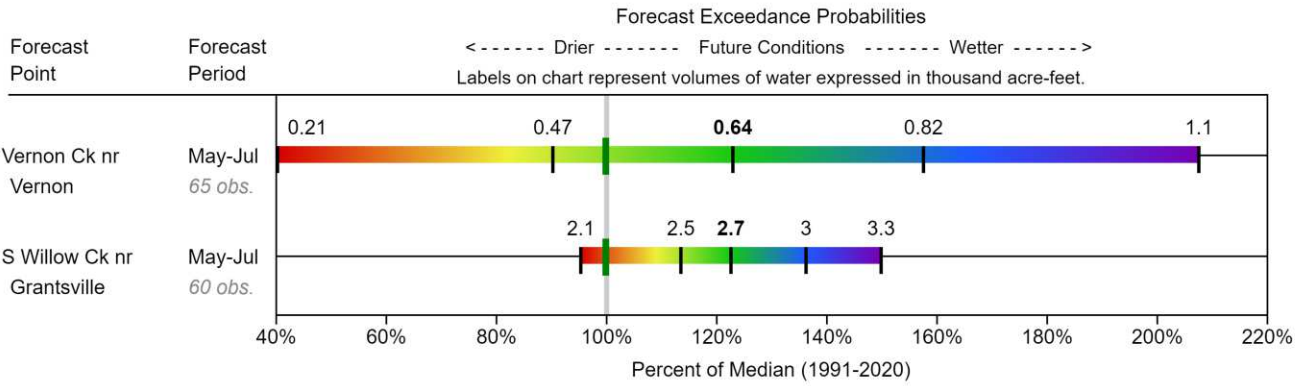
Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.  
 For more information visit: [30 year normal calculation description](#)

# Tooele Valley-Vernon Creek

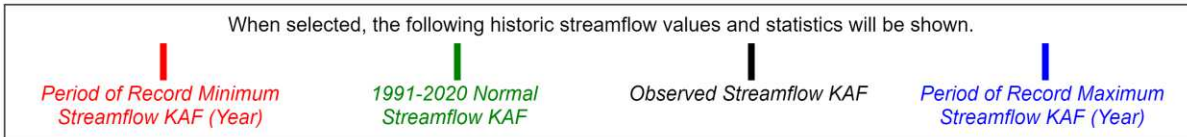


# Tooele Valley-Vernon Creek

## TOOELE VALLEY-VERNON CREEK Water Supply Forecasts May 1, 2024



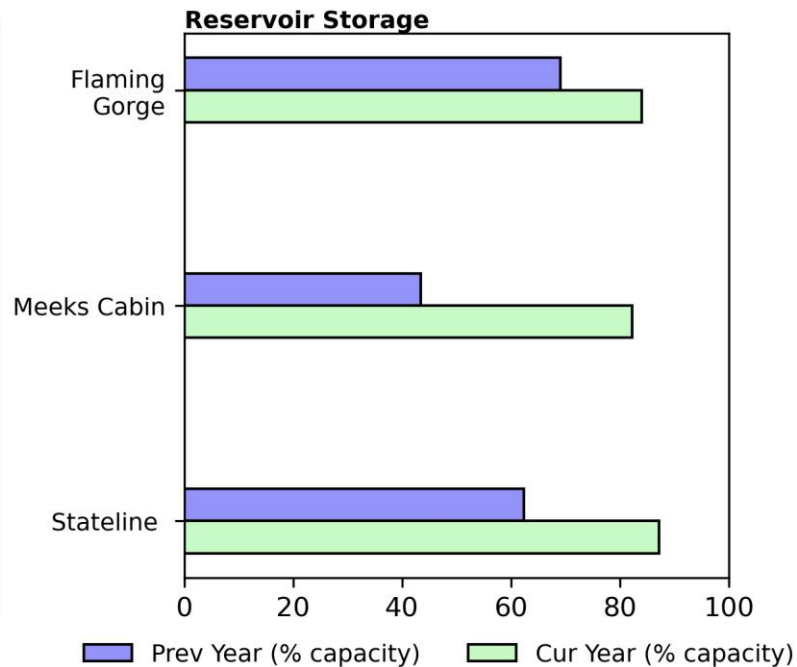
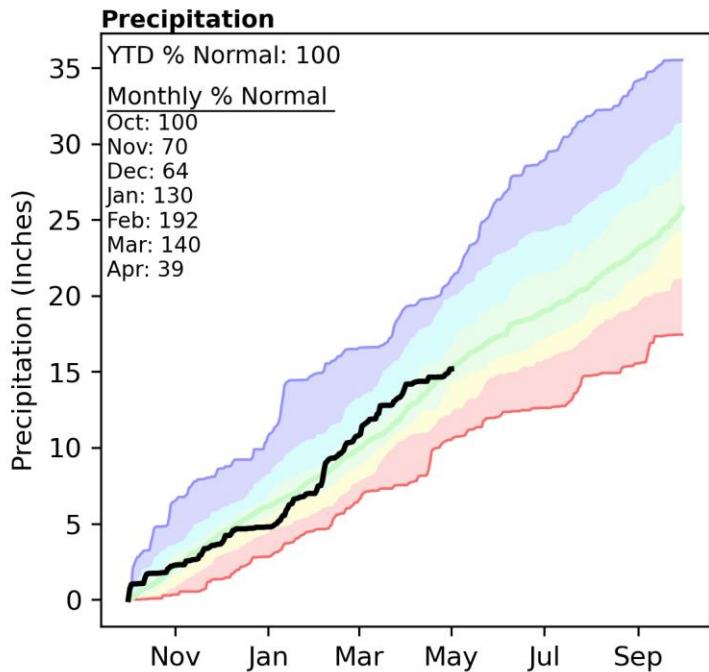
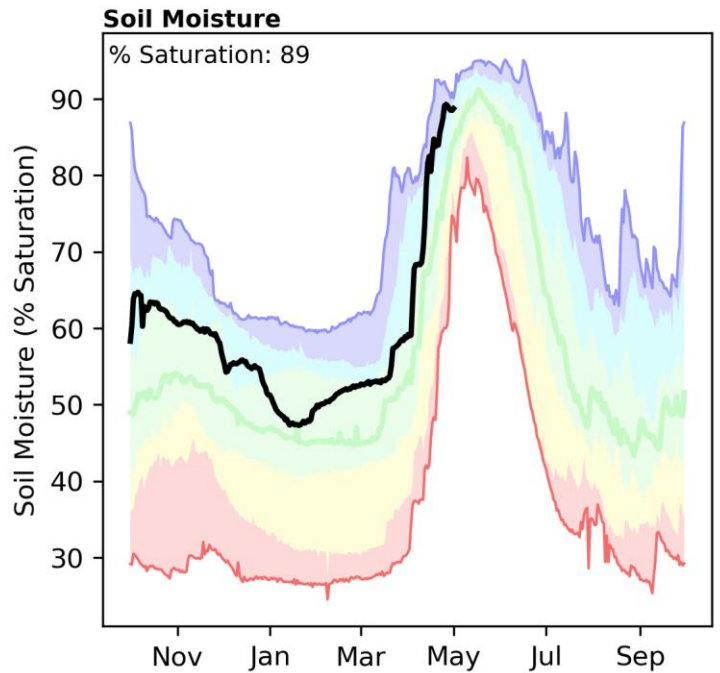
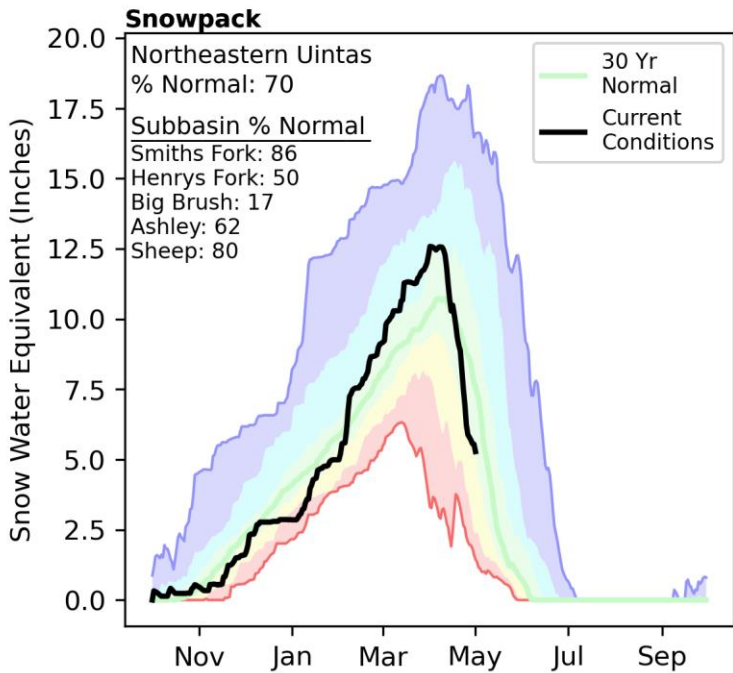
### Legend



Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

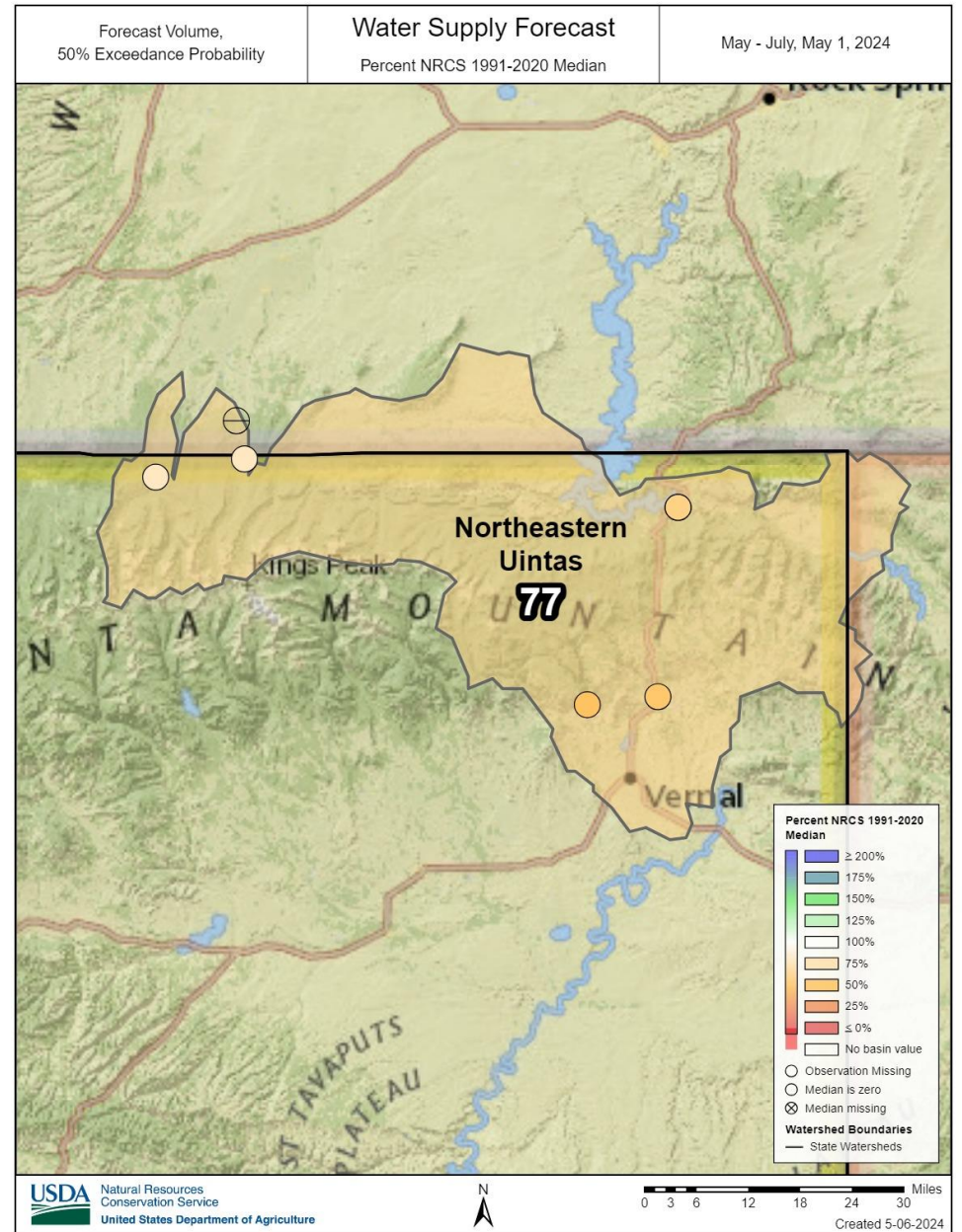
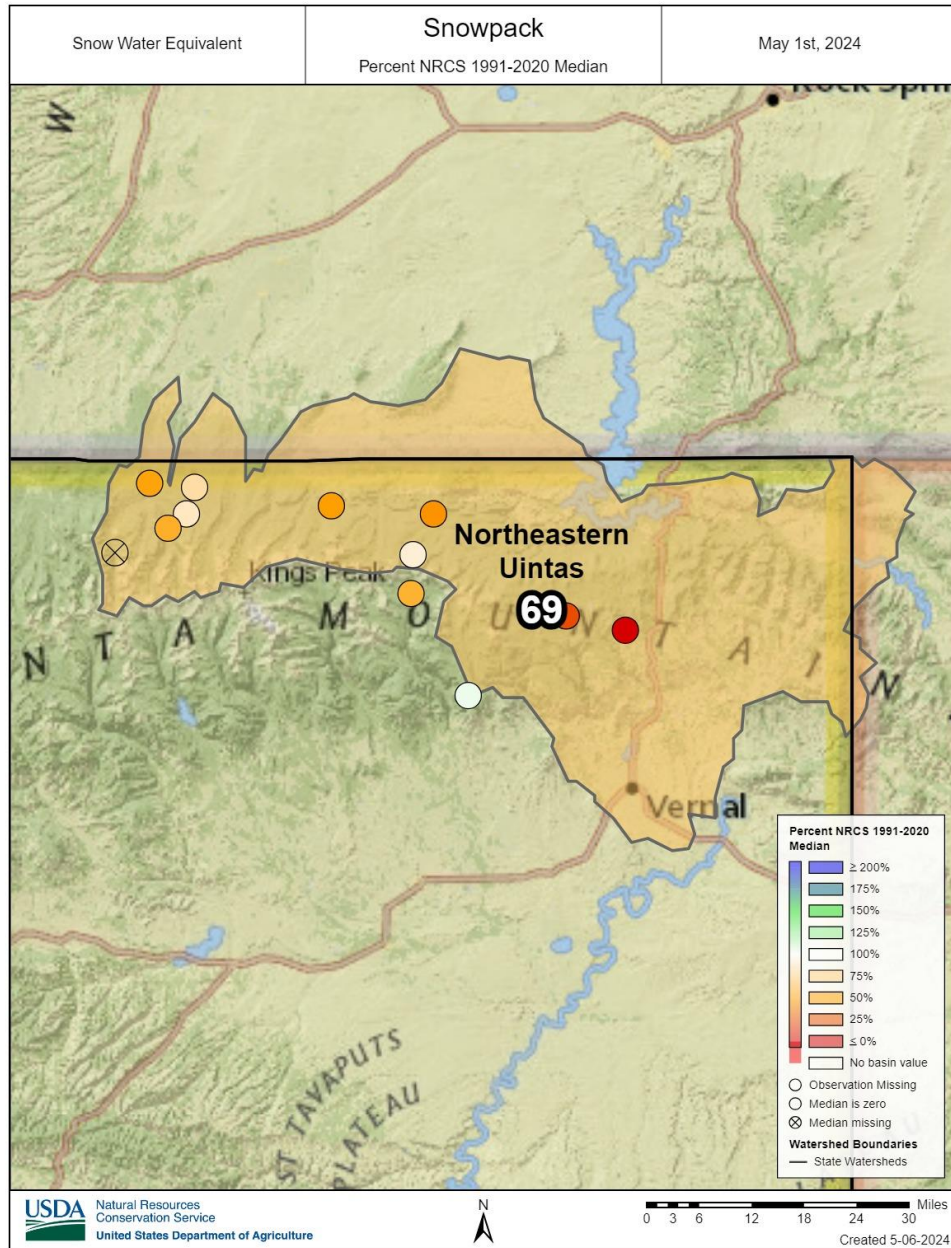
# Northeastern Uintas | May 1, 2024

Snowpack in the Northeastern Uintas is well below normal at 70% of median, compared to 201% at this time last year. Precipitation in April was well below normal at 39%, which brings the seasonal accumulation (October-April) to 100% of median. Soil moisture is at 89% saturation compared to 89% saturation last year. Reservoir storage is 84% of capacity, compared to 68% last year. Forecast streamflow volumes (50% exceedence, May-July) range from 69% to 88% of normal. The Surface Water Supply Index percentiles are 48% for the Blacks Fork, and 62% for the Smiths Fork.



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles. For more information visit: [30 year normal calculation description](#)

# Northeastern Uintas



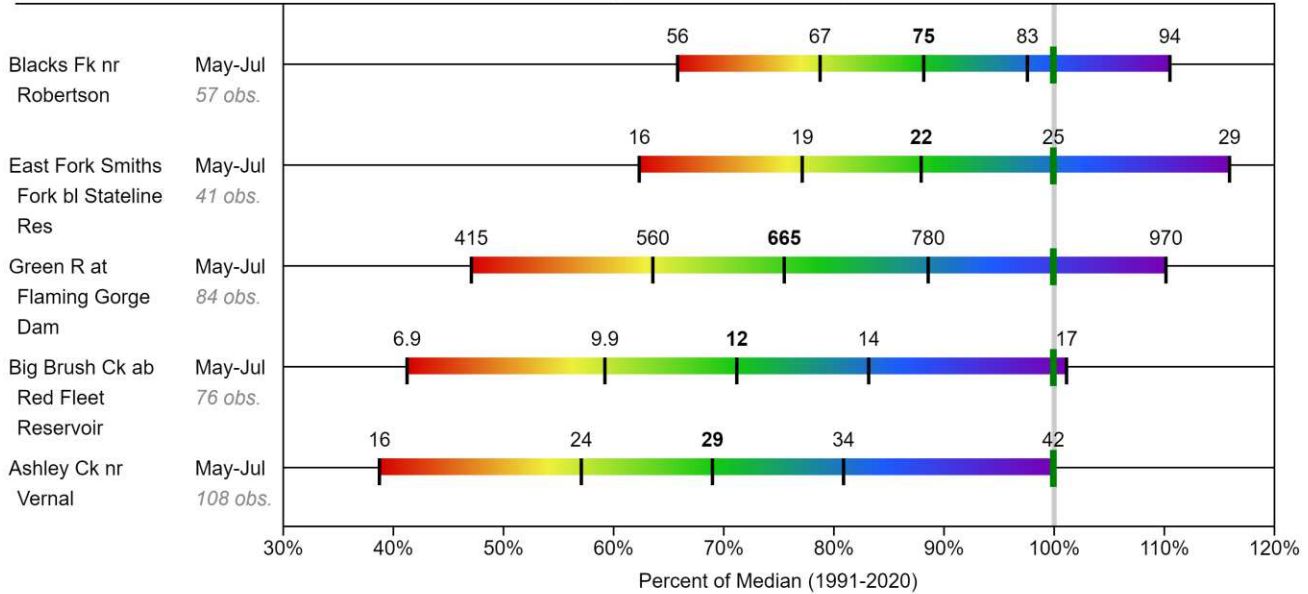


# Northeastern Uintas

## NORTHEASTERN UINTAS Water Supply Forecasts May 1, 2024

### Forecast Exceedance Probabilities

<----- Drier ----- Future Conditions ----- Wetter ----->  
Labels on chart represent volumes of water expressed in thousand acre-feet.



### Legend

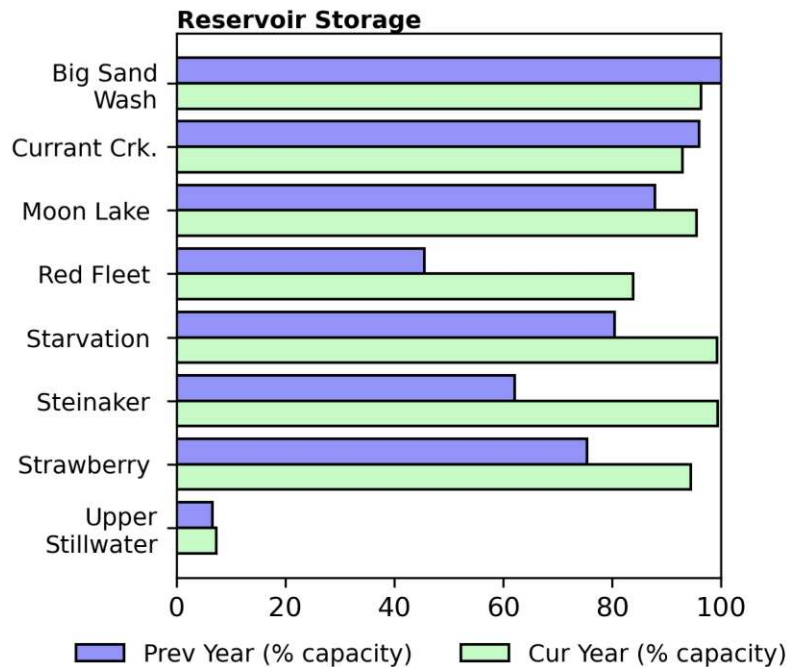
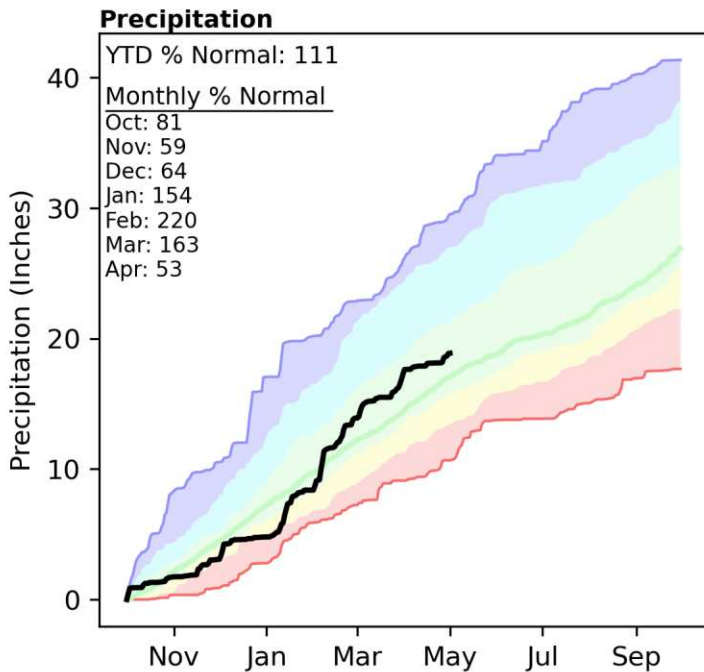
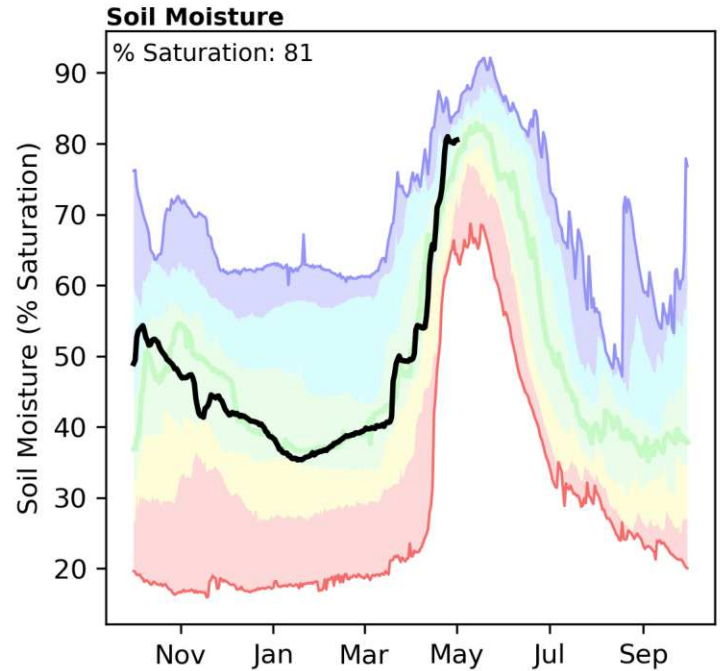
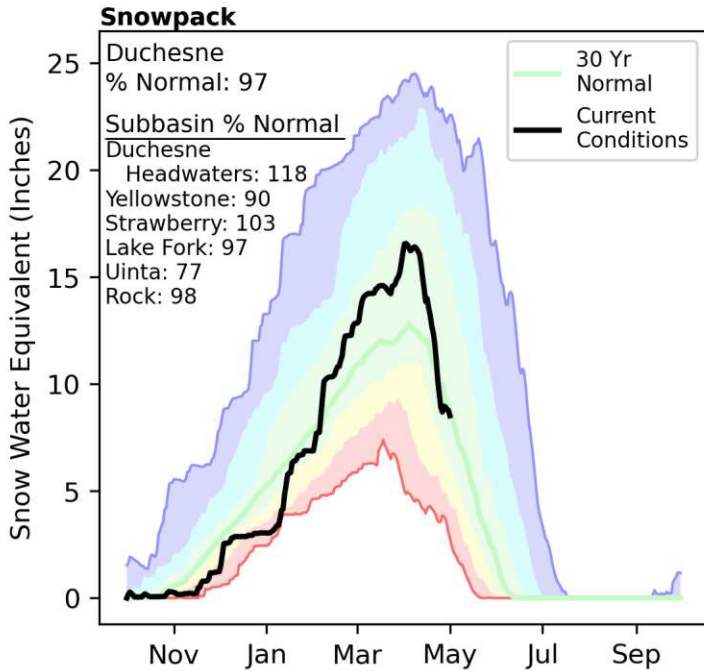


When selected, the following historic streamflow values and statistics will be shown.



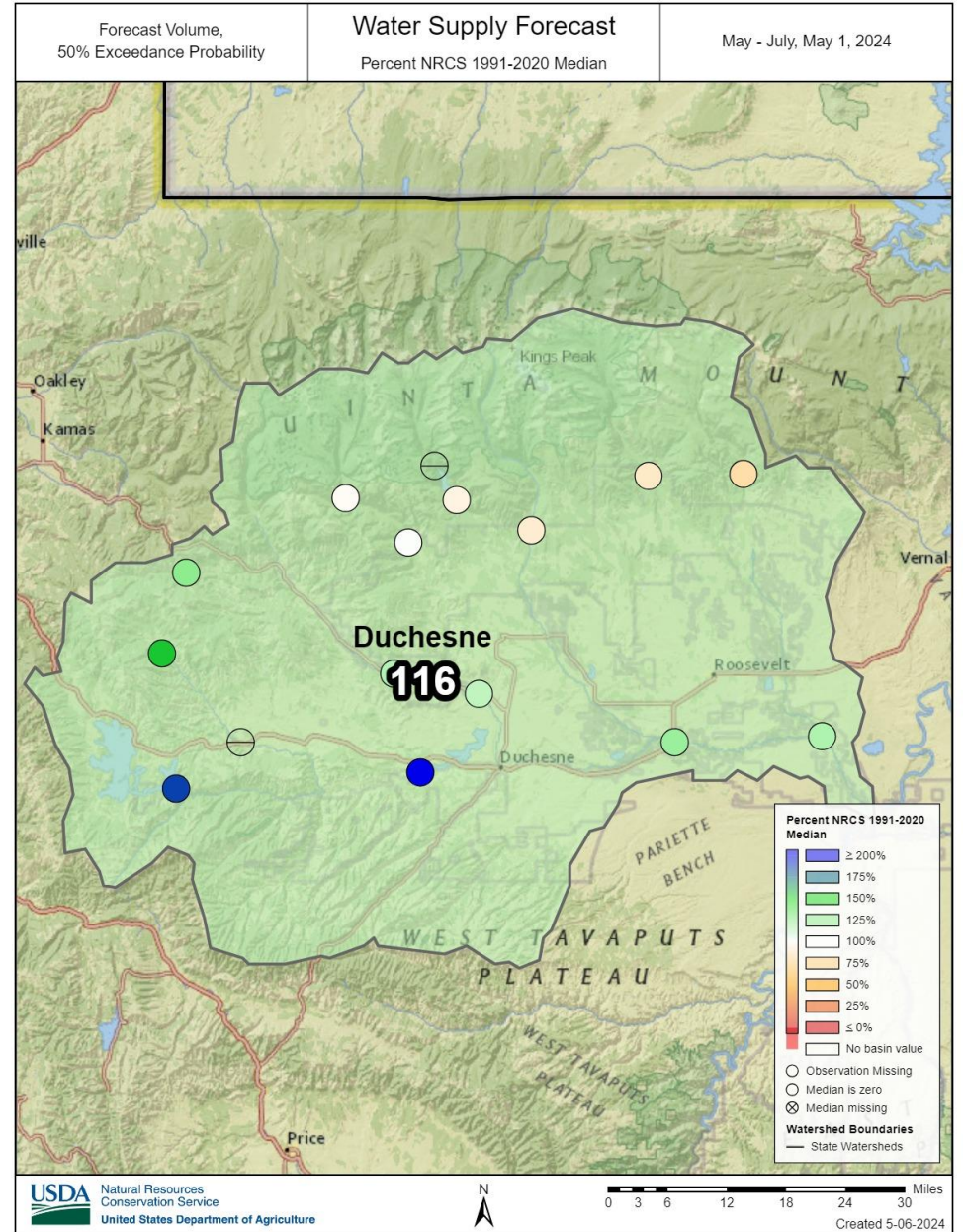
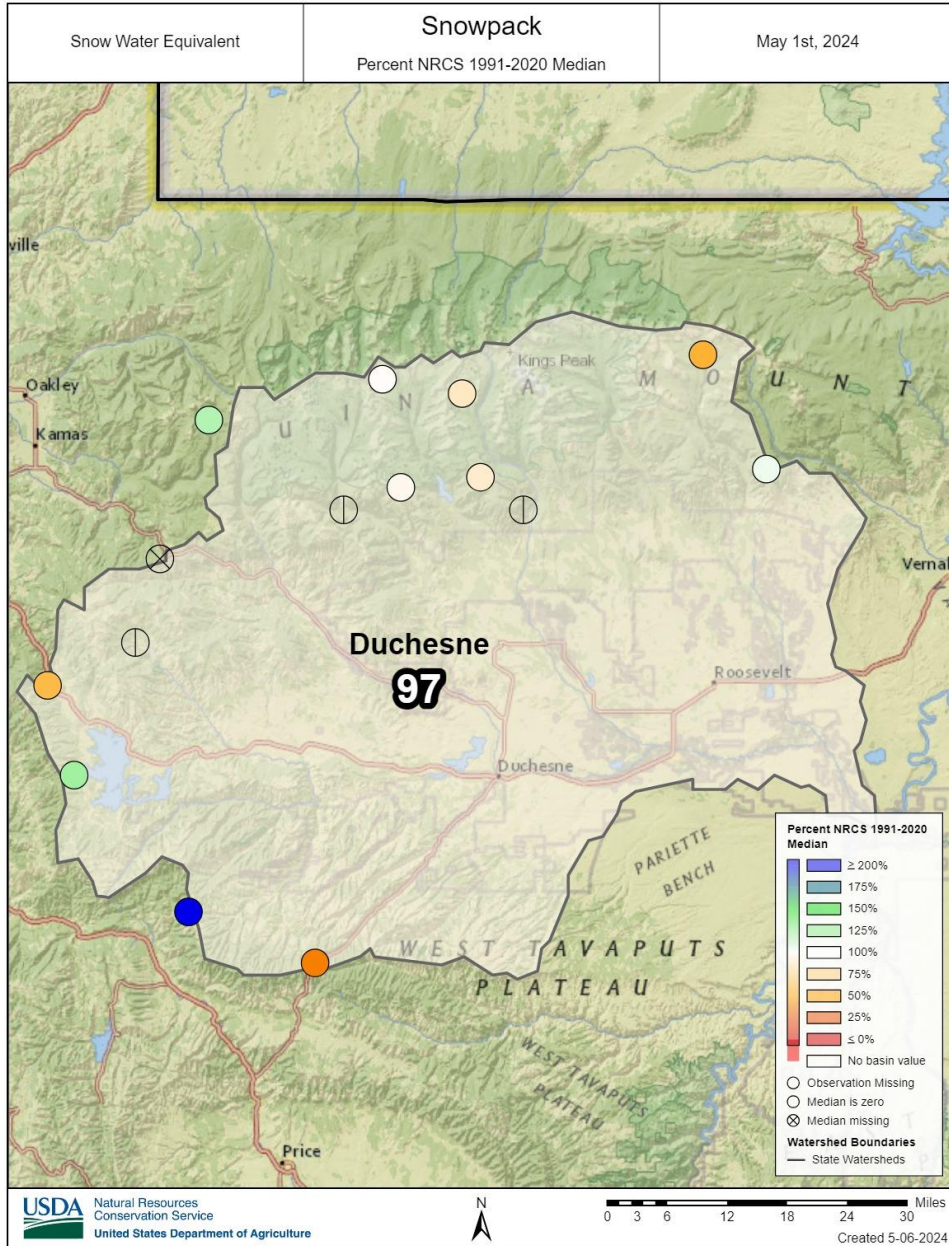
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

Snowpack in the Duchesne River Basin is about normal at 97% of median, compared to 222% at this time last year. Precipitation in April was well below normal at 53%, which brings the seasonal accumulation (October-April) to 111% of median. Soil moisture is at 81% saturation compared to 79% saturation last year. Reservoir storage is 92% of capacity, compared to 74% last year. Forecast streamflow volumes (50% exceedence, May-July) range from 83% to 216% of normal. The Surface Water Supply Index percentiles are 69% for the Western Uintas, and 42% for the Eastern Uintas.



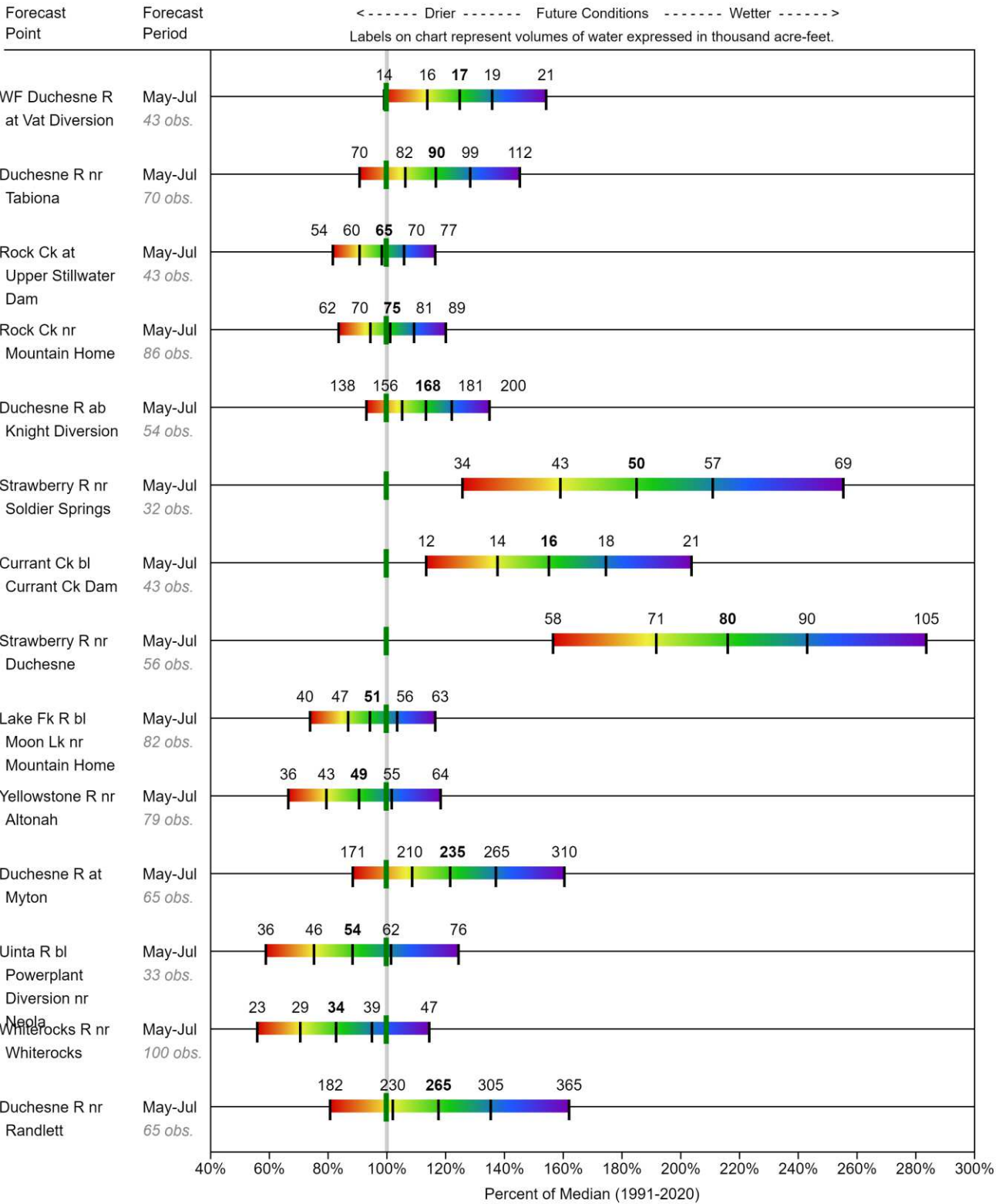
Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles. For more information visit: [30 year normal calculation description](#)

# Duchesne

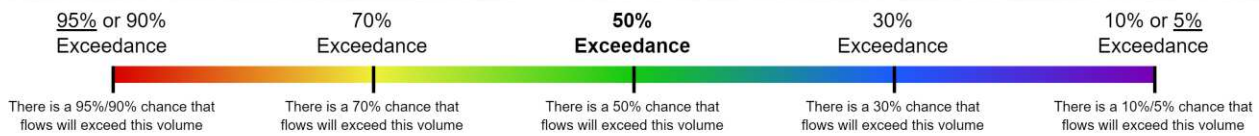


## DUCHESNE Water Supply Forecasts May 1, 2024

Forecast Exceedance Probabilities



### Legend



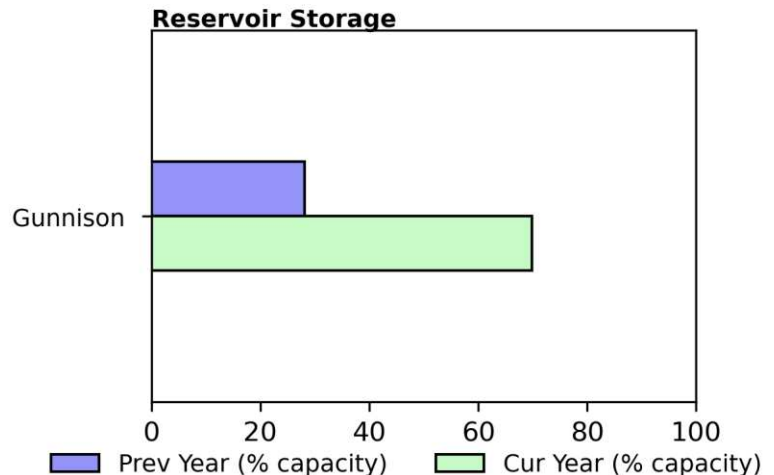
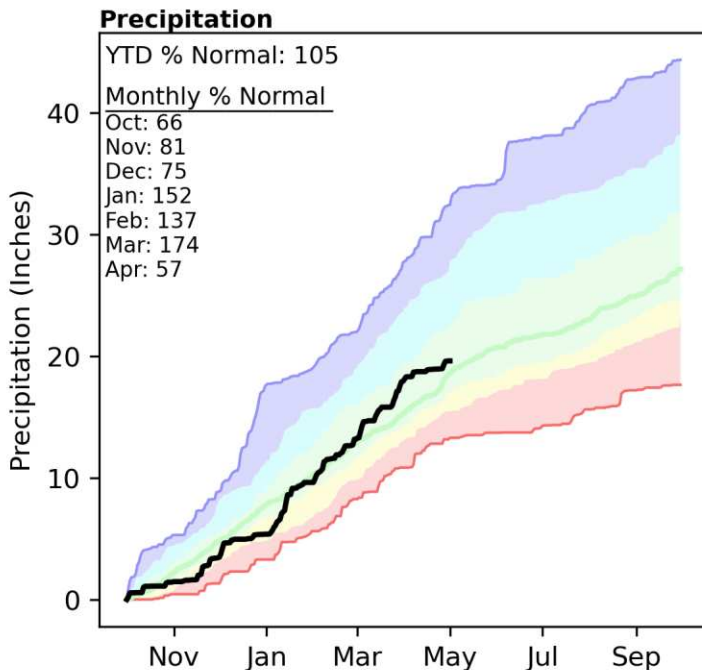
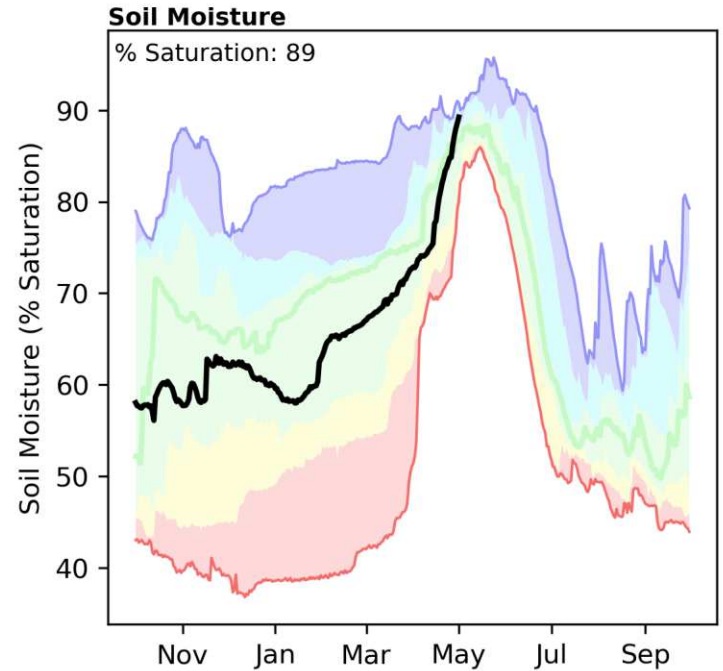
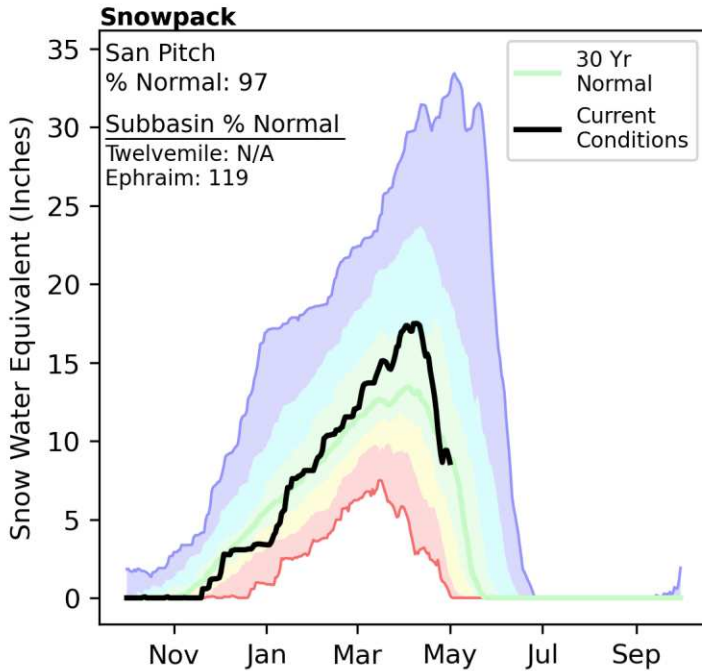
When selected, the following historic streamflow values and statistics will be shown.

Period of Record Minimum Streamflow KAF (Year)  
1991-2020 Normal Streamflow KAF  
Observed Streamflow KAF  
Period of Record Maximum Streamflow KAF (Year)

Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

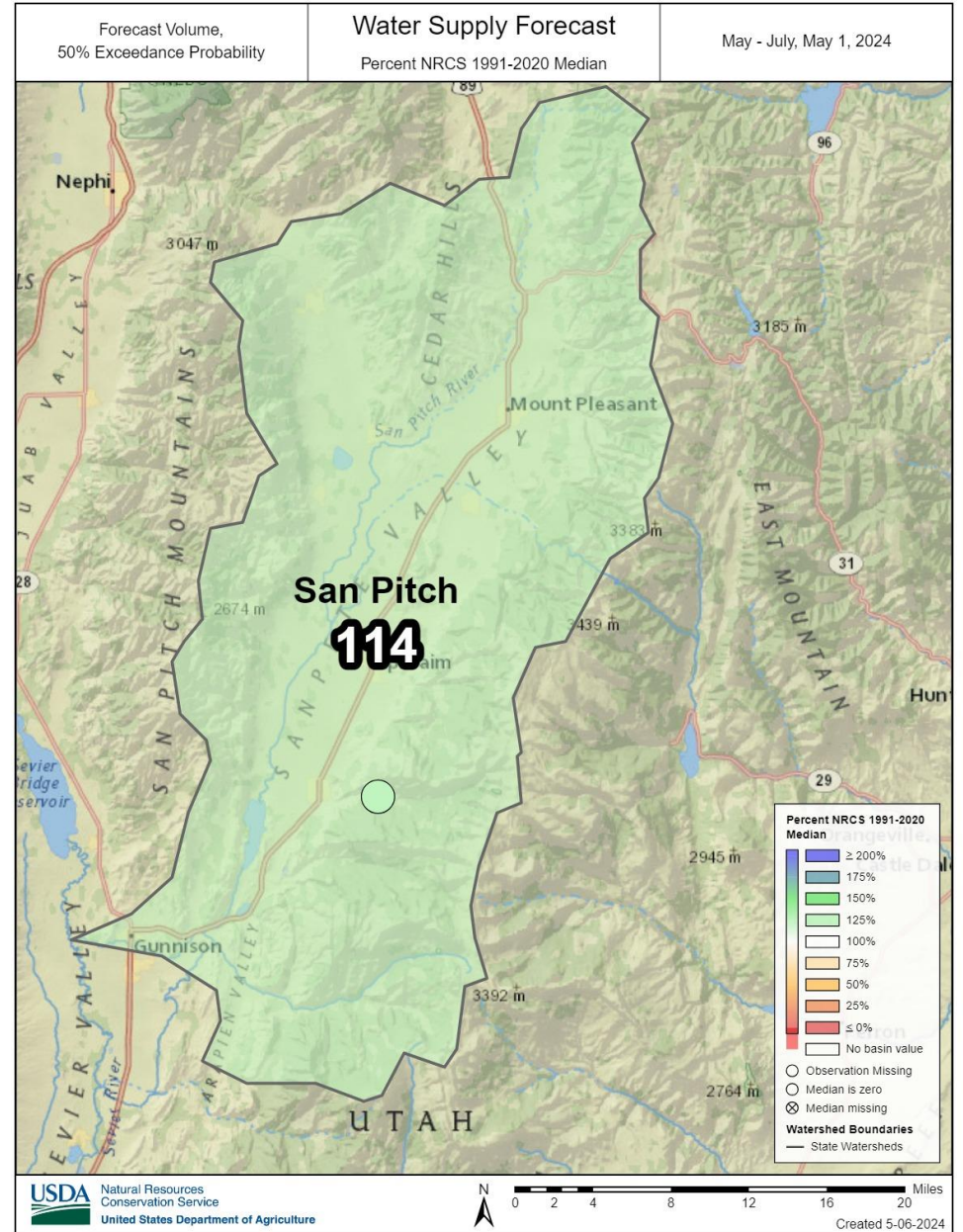
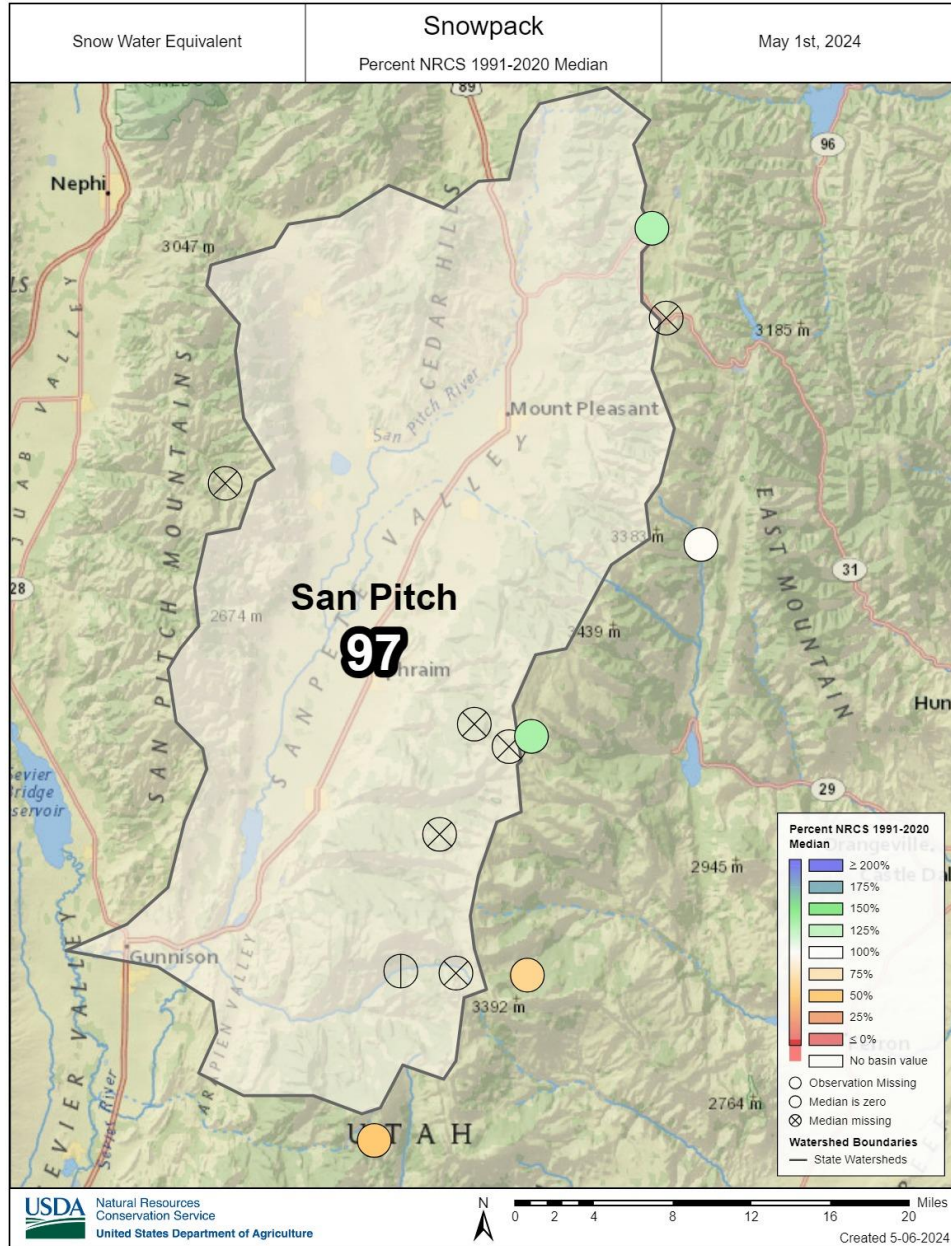
# San Pitch | May 1, 2024

Snowpack in the San Pitch River Basin is about normal at 97% of median, compared to 219% at this time last year. Precipitation in April was well below normal at 57%, which brings the seasonal accumulation (October-April) to 105% of median. Soil moisture is at 89% saturation compared to 81% saturation last year. Reservoir storage is 69% of capacity, compared to 28% last year. The forecast streamflow volume (50% exceedence, May-July) for Manti Creek is 114% of normal. The Surface Water Supply Index percentile is 60% for the San Pitch.



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.  
For more information visit: [30 year normal calculation description](#)

# San Pitch



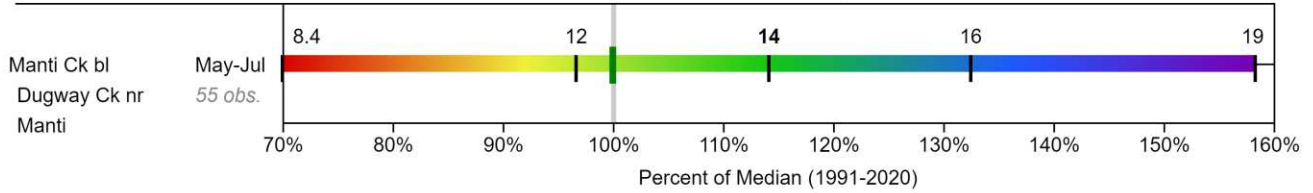
# San Pitch

## SAN PITCH Water Supply Forecasts May 1, 2024

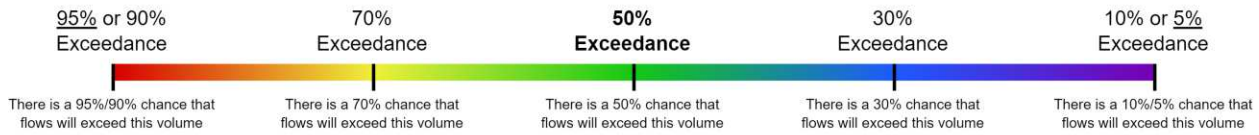
### Forecast Exceedance Probabilities

<----- Drier ----- Future Conditions ----- Wetter ----->

Labels on chart represent volumes of water expressed in thousand acre-feet.



### Legend



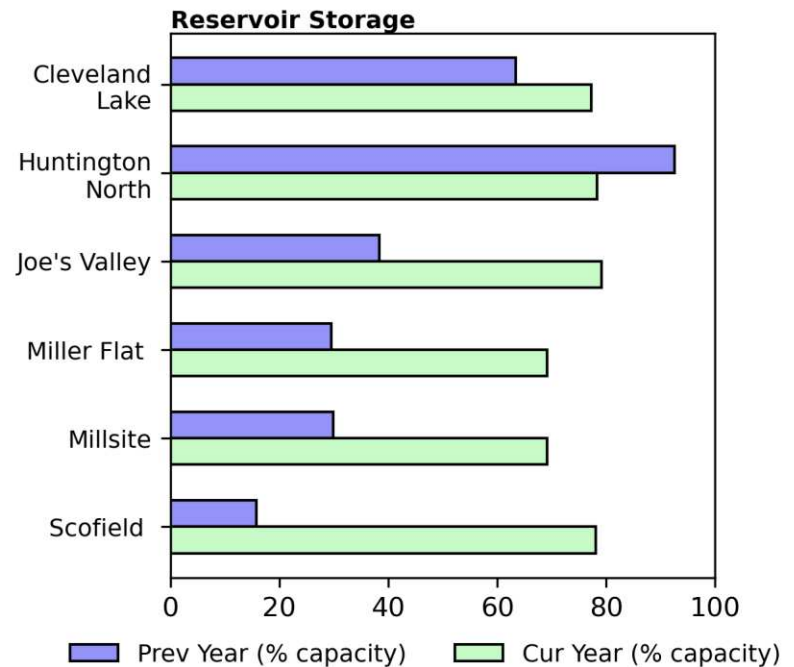
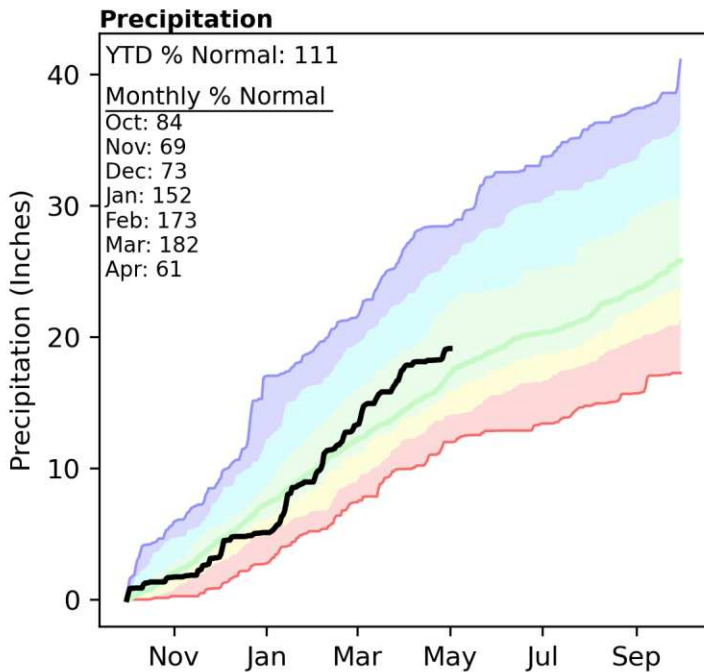
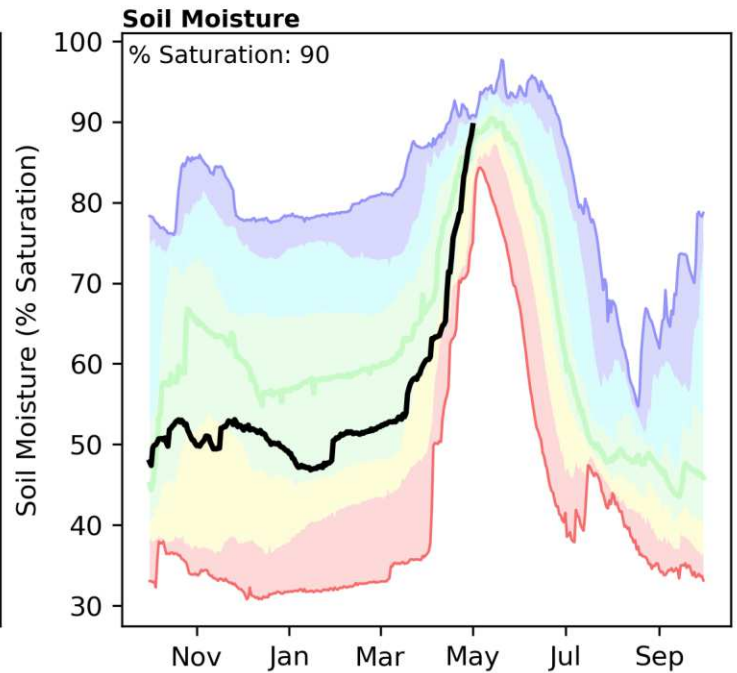
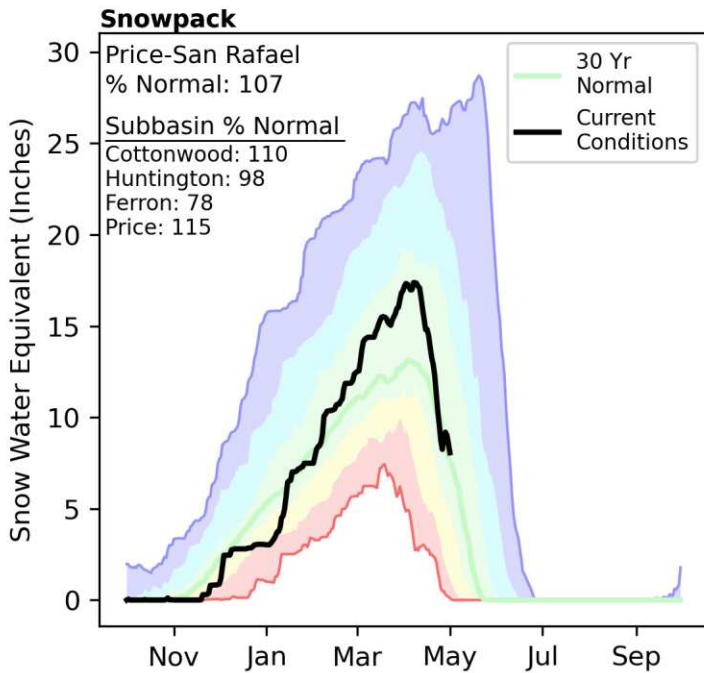
When selected, the following historic streamflow values and statistics will be shown.



Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

# Price-San Rafael | May 1, 2024

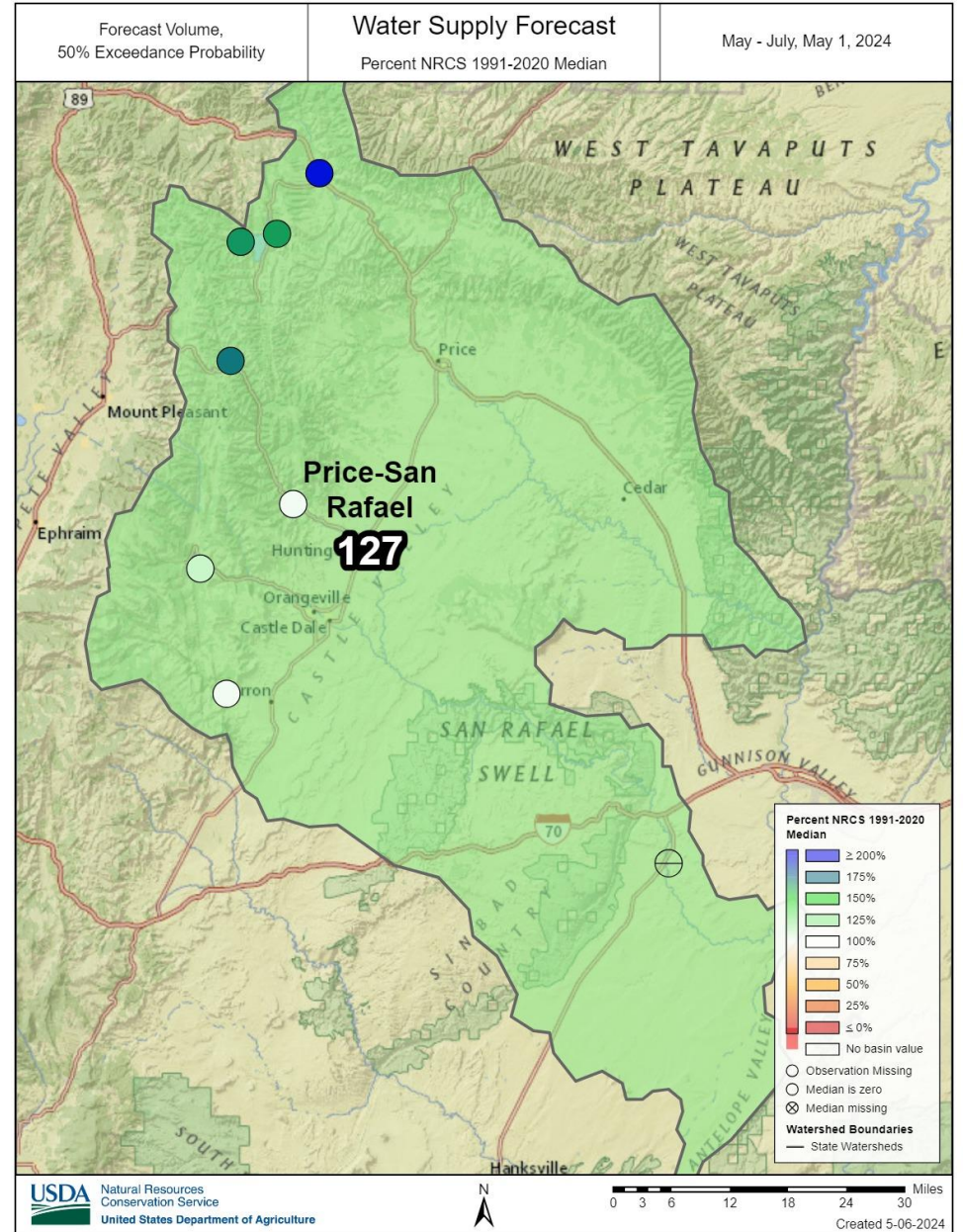
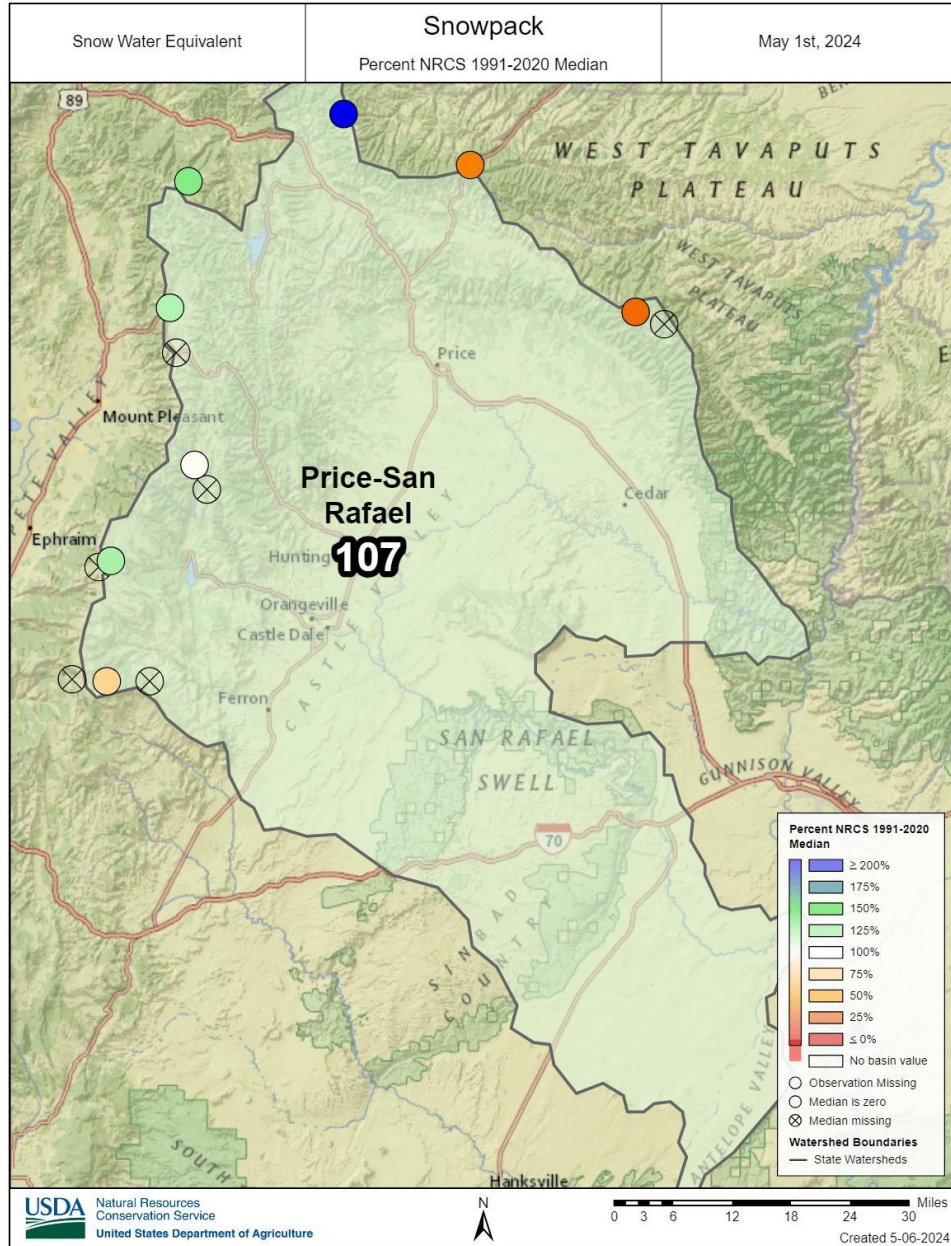
Snowpack in the Price and San Rafael River Basins is about normal at 107% of median, compared to 275% at this time last year. Precipitation in April was well below normal at 61%, which brings the seasonal accumulation (October-April) to 111% of median. Soil moisture is at 90% saturation compared to 75% saturation last year. Reservoir storage is 77% of capacity, compared to 30% last year. Forecast streamflow volumes (50% exceedence, May-July) range from 103% to 196% of normal. The Surface Water Supply Index percentiles are 82% for the Price, 64% for Joes Valley, and 51% for Ferron Creek.



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles. For more information visit: [30 year normal calculation description](#)



# Price San-Rafael

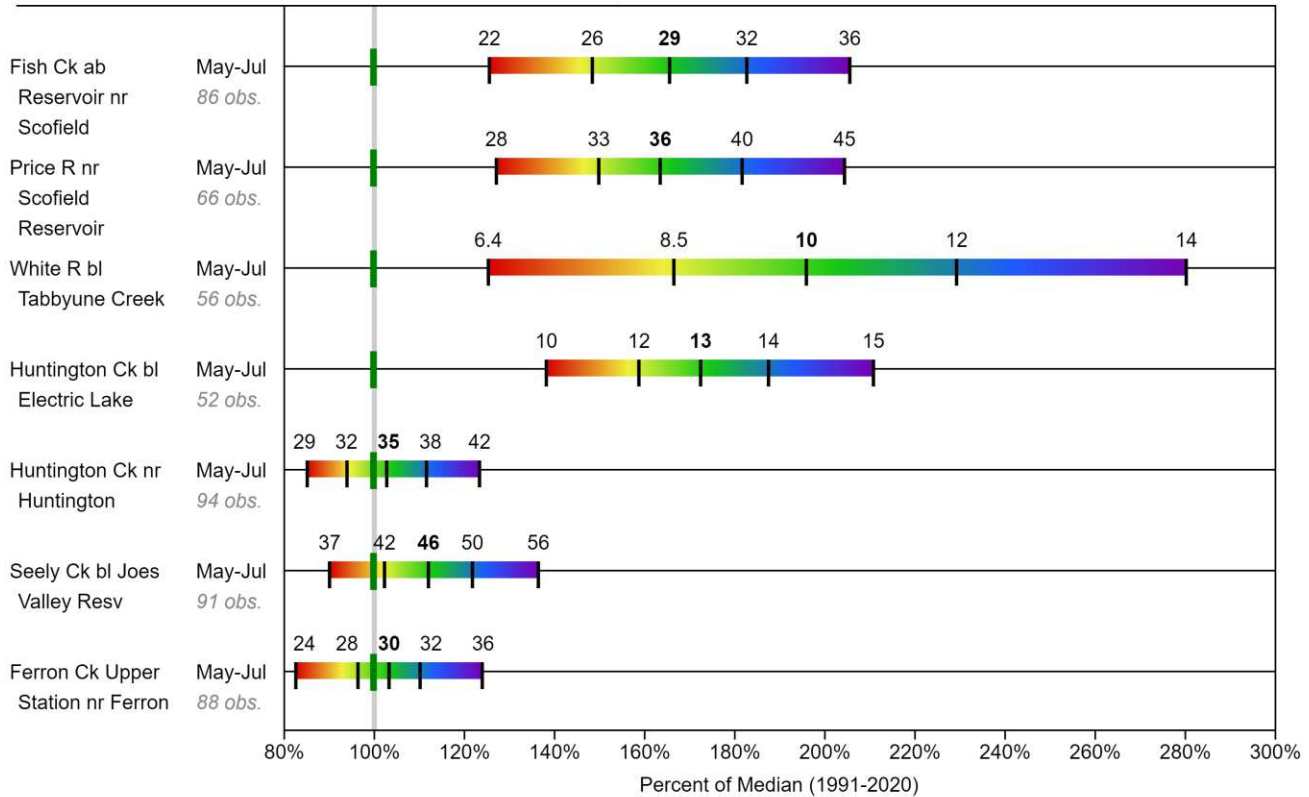


# Price-San Rafael

## PRICE-SAN RAFAEL Water Supply Forecasts May 1, 2024

### Forecast Exceedance Probabilities

<----- Drier ----- Future Conditions ----- Wetter ----->  
Labels on chart represent volumes of water expressed in thousand acre-feet.



### Legend



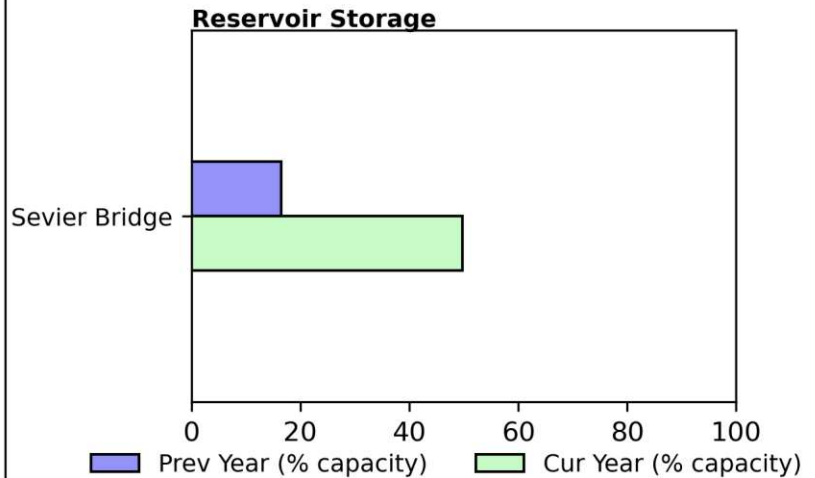
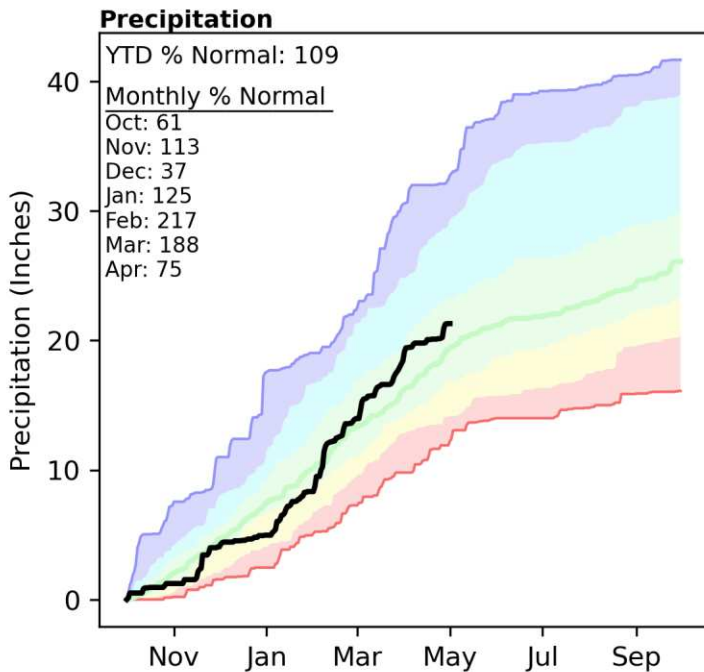
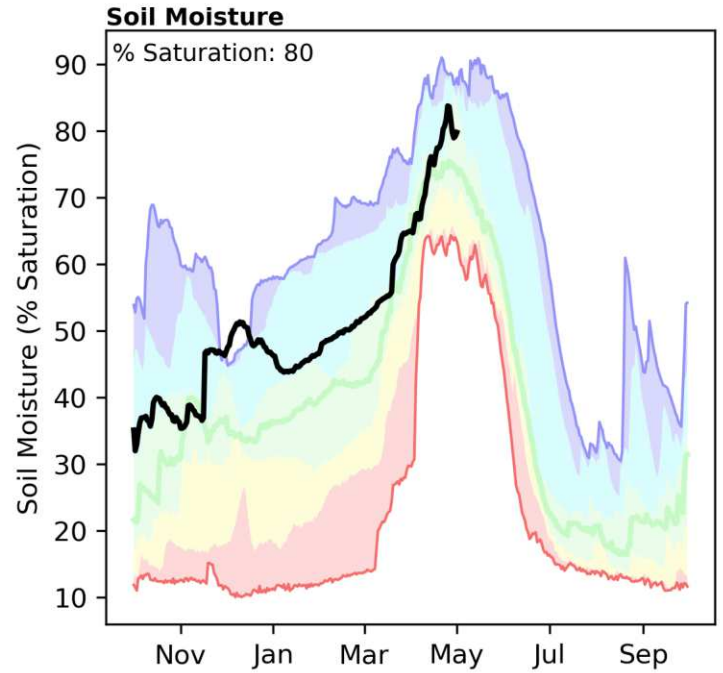
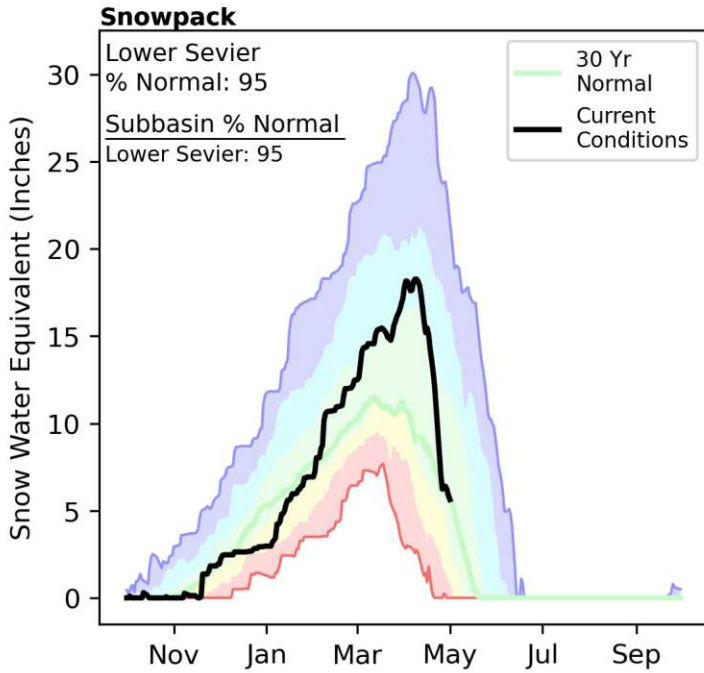
When selected, the following historic streamflow values and statistics will be shown.



Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

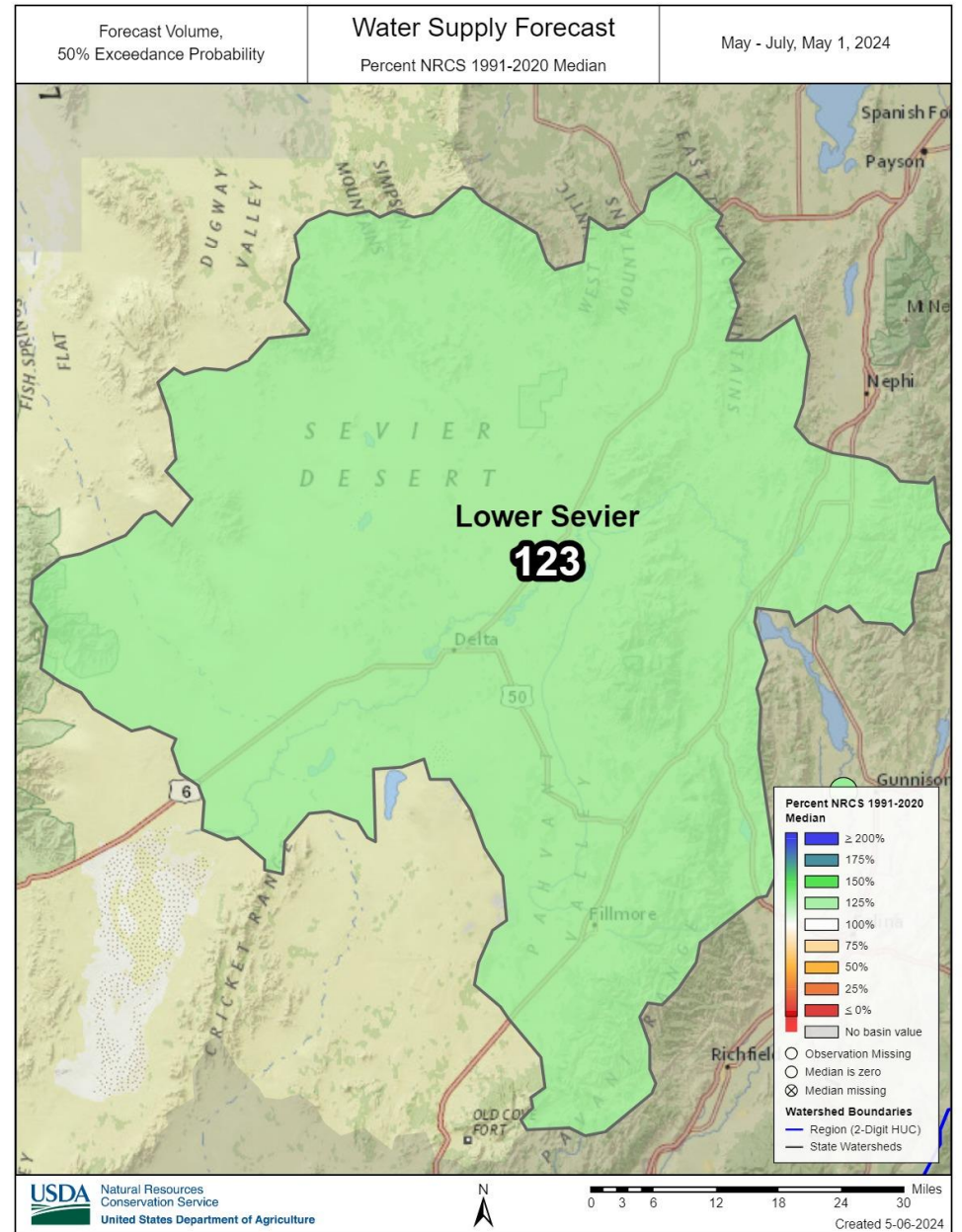
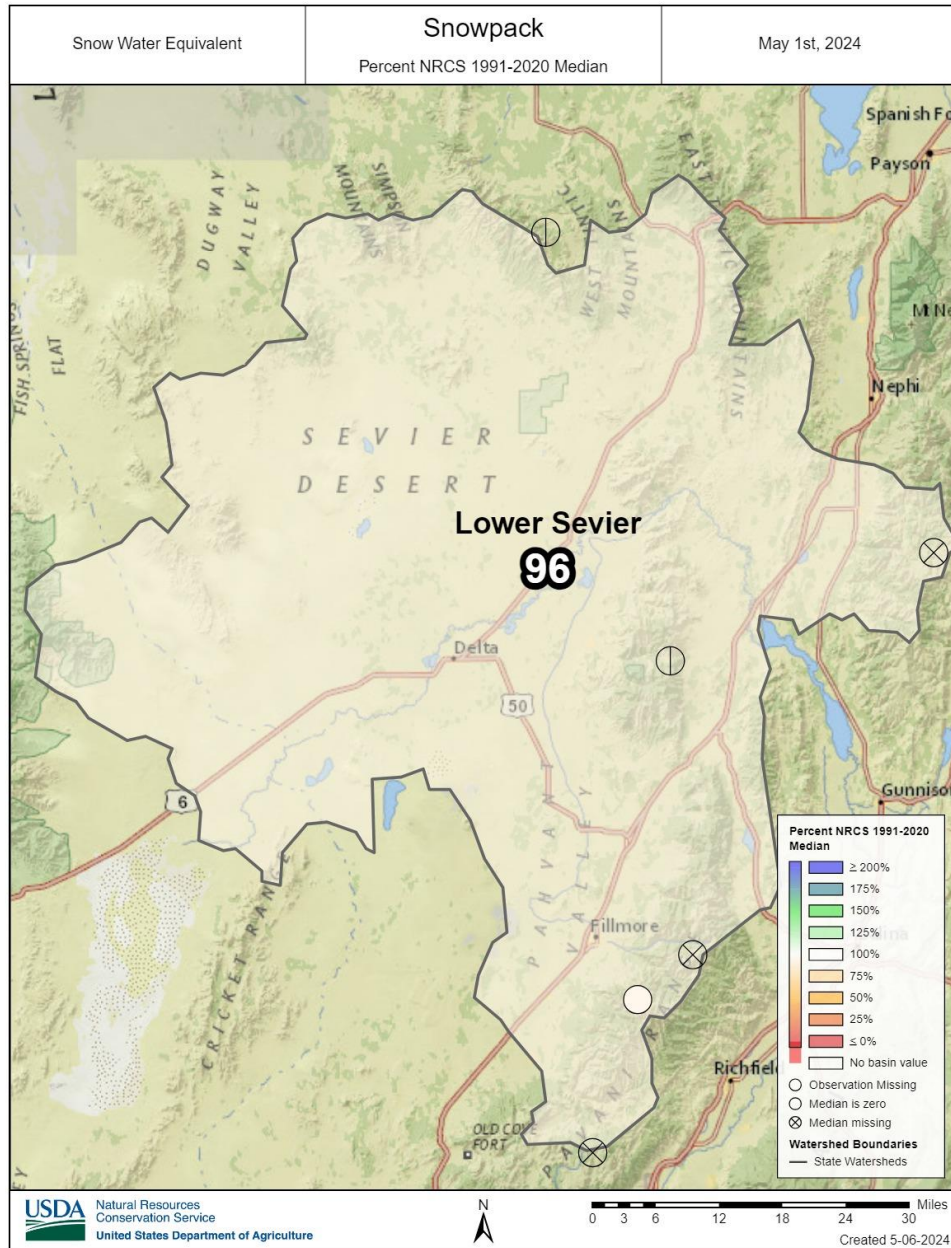
# Lower Sevier | May 1, 2024

Snowpack in the Lower Sevier River Basin is about normal at 95% of median, compared to 317% at this time last year. Precipitation in April was below normal at 75%, which brings the seasonal accumulation (October-April) to 109% of median. Soil moisture is at 80% saturation compared to 85% saturation last year. Reservoir storage is 49% of capacity, compared to 16% last year. Forecast streamflow volume (50% exceedence, May-July) for the Sevier River near Gunnison is 123% of normal. The Surface Water Supply Index percentile is 29% for the Lower Sevier.



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles. For more information visit: [30 year normal calculation description](#)

# Lower Sevier



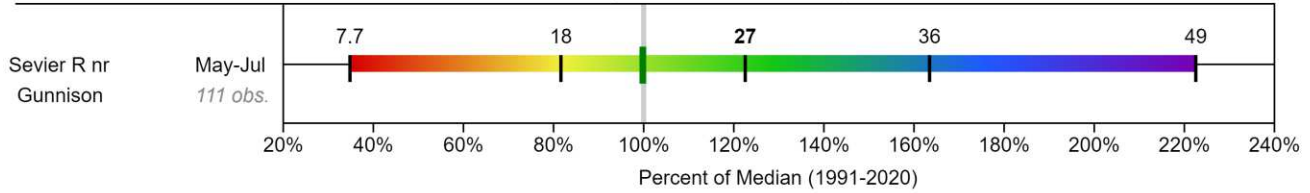
# Lower Sevier

## LOWER SEVIER Water Supply Forecasts May 1, 2024

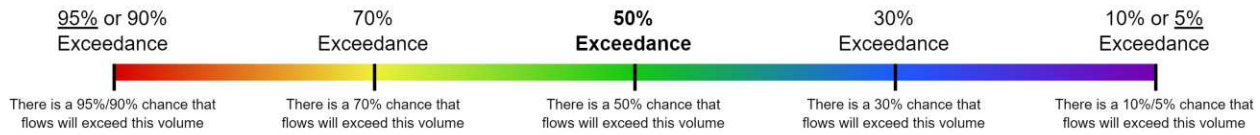
### Forecast Exceedance Probabilities

<----- Drier ----- Future Conditions ----- Wetter ----->

Labels on chart represent volumes of water expressed in thousand acre-feet.



### Legend



When selected, the following historic streamflow values and statistics will be shown.

*Period of Record Minimum Streamflow KAF (Year)*

*1991-2020 Normal Streamflow KAF*

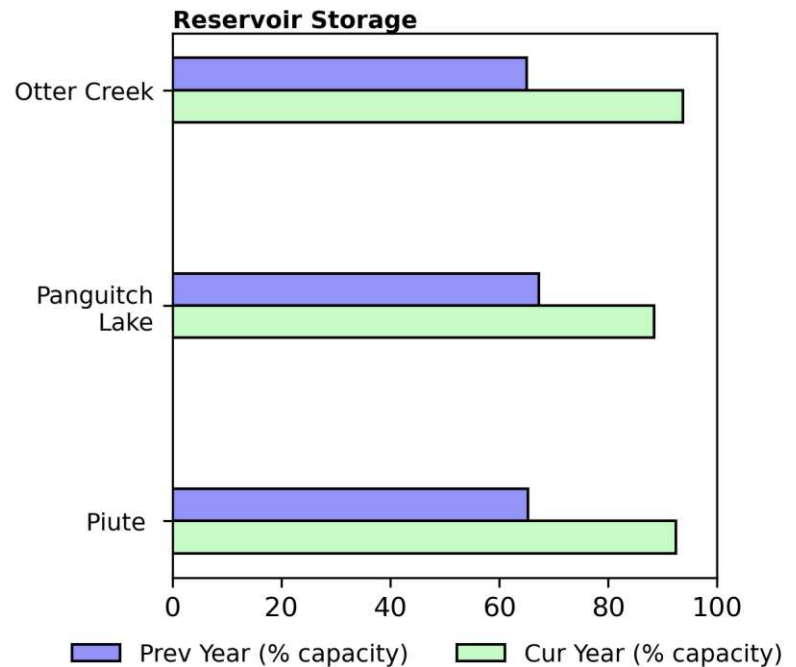
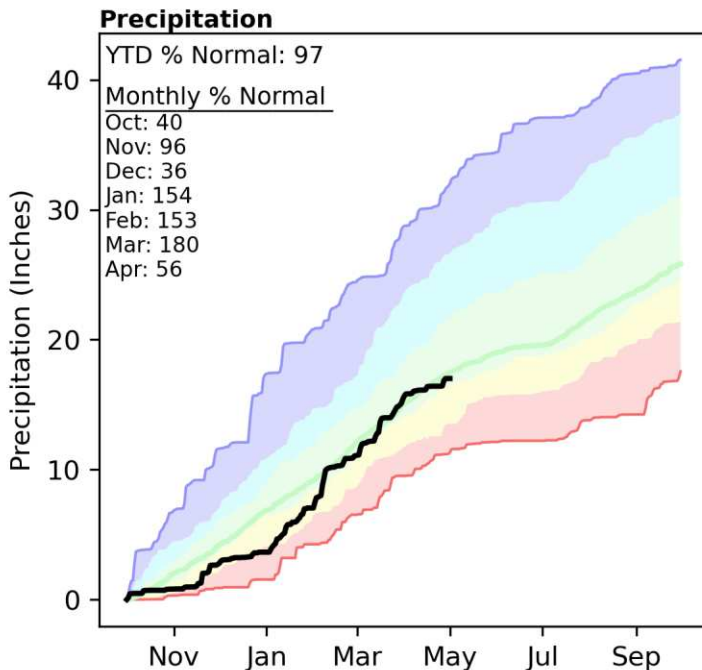
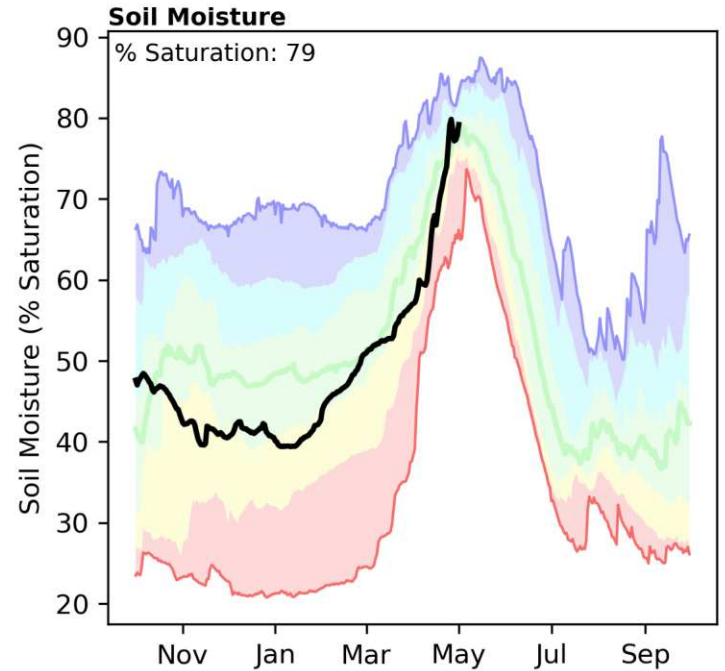
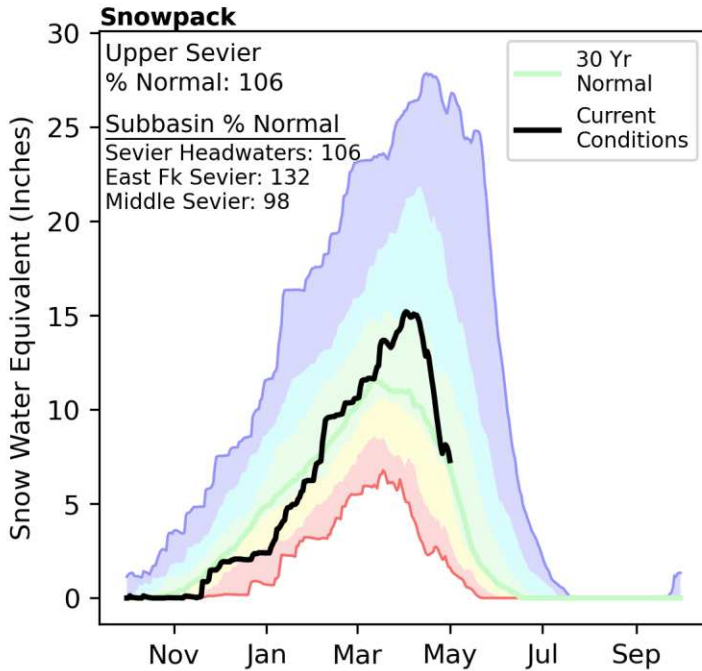
*Observed Streamflow KAF*

*Period of Record Maximum Streamflow KAF (Year)*

Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

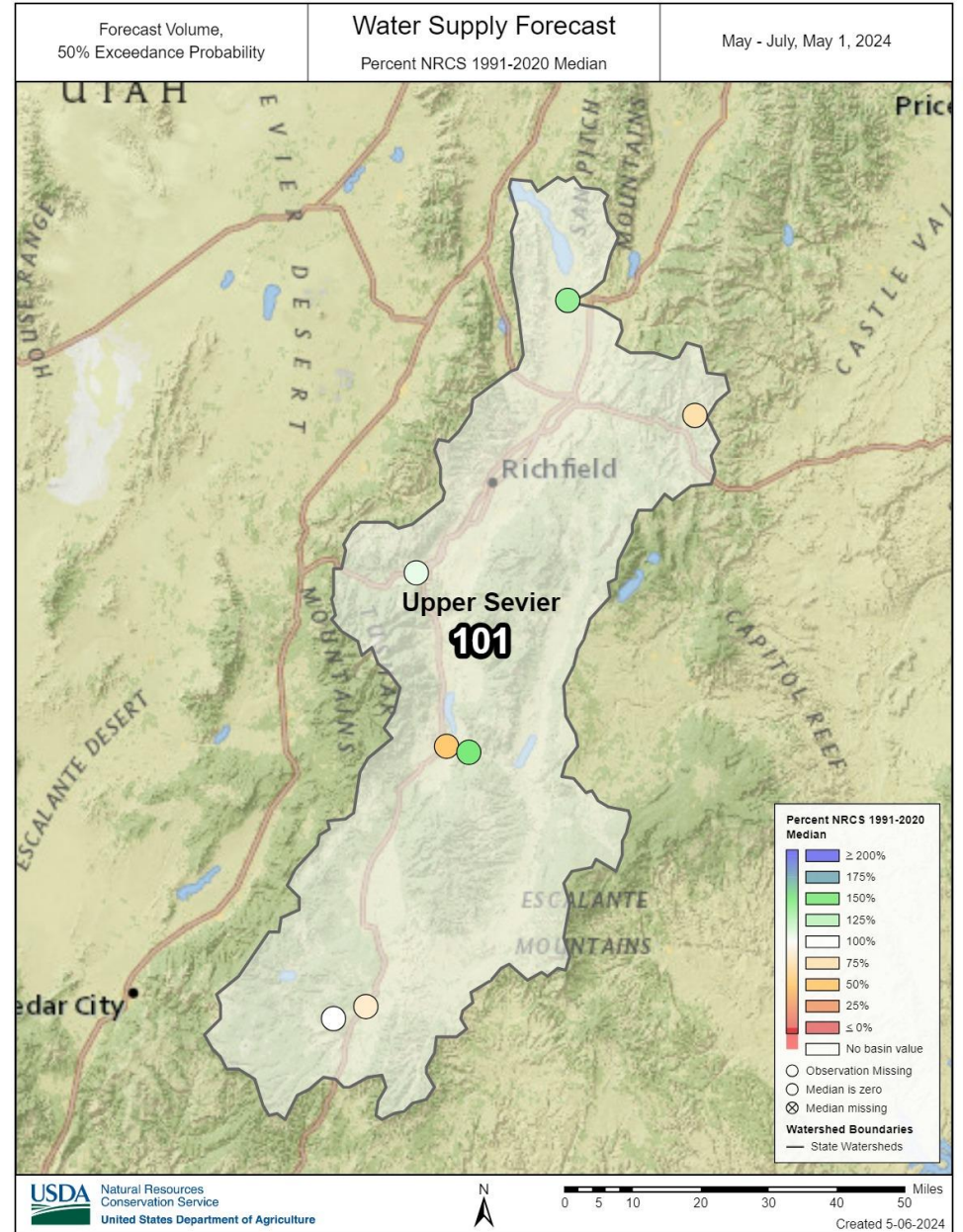
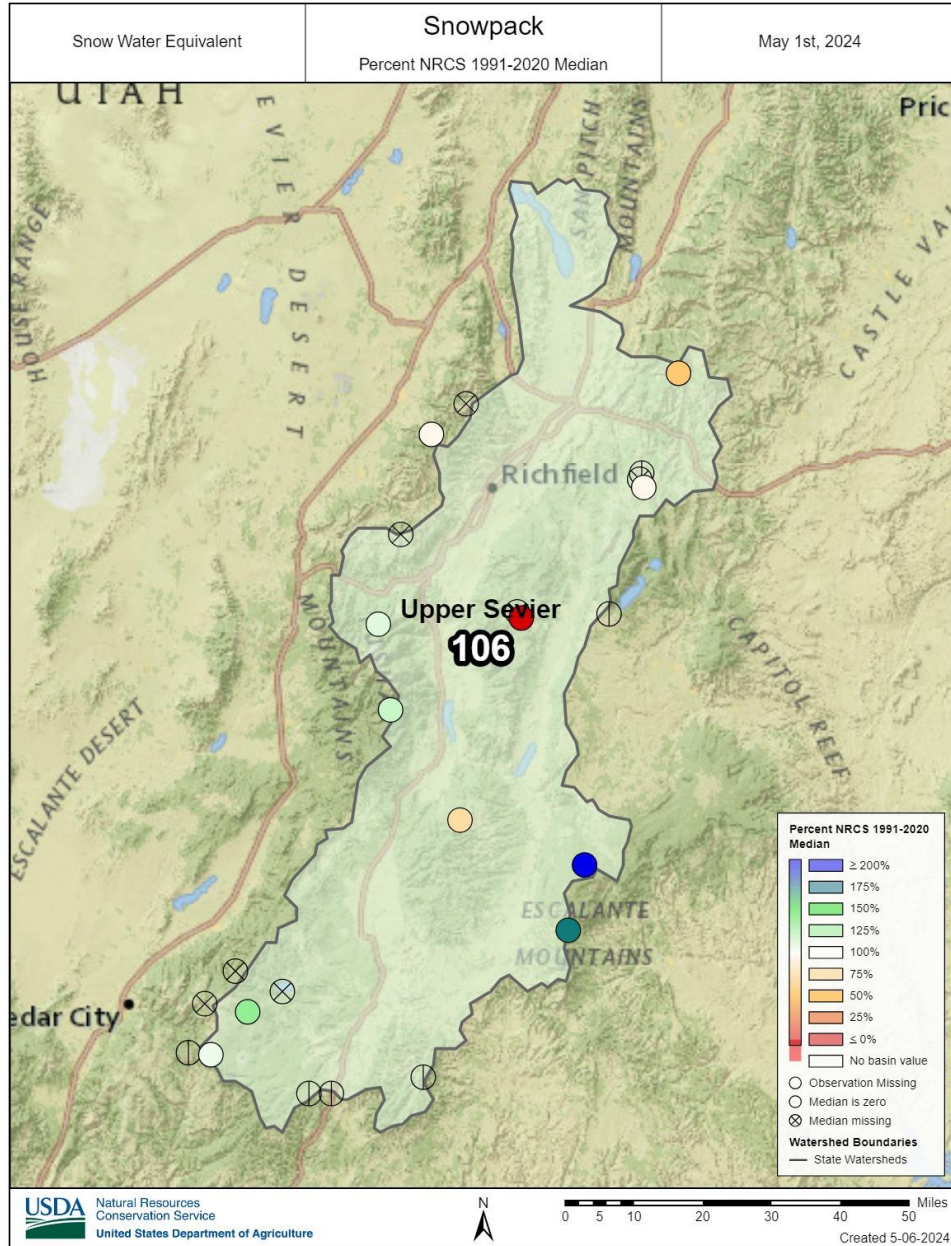
# Upper Sevier | May 1, 2024

Snowpack in the Upper Sevier River Basin is about normal at 106% of median, compared to 219% at this time last year. Precipitation in April was well below normal at 56%, which brings the seasonal accumulation (October-April) to 97% of median. Soil moisture is at 79% saturation compared to 83% saturation last year. Reservoir storage is 92% of capacity, compared to 65% last year. Forecast streamflow volumes (50% exceedence, May-July) range from 72% to 129% of normal. The Surface Water Supply Index percentile is 62% for the Upper Sevier.



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles. For more information visit: [30 year normal calculation description](#)

# Upper Sevier

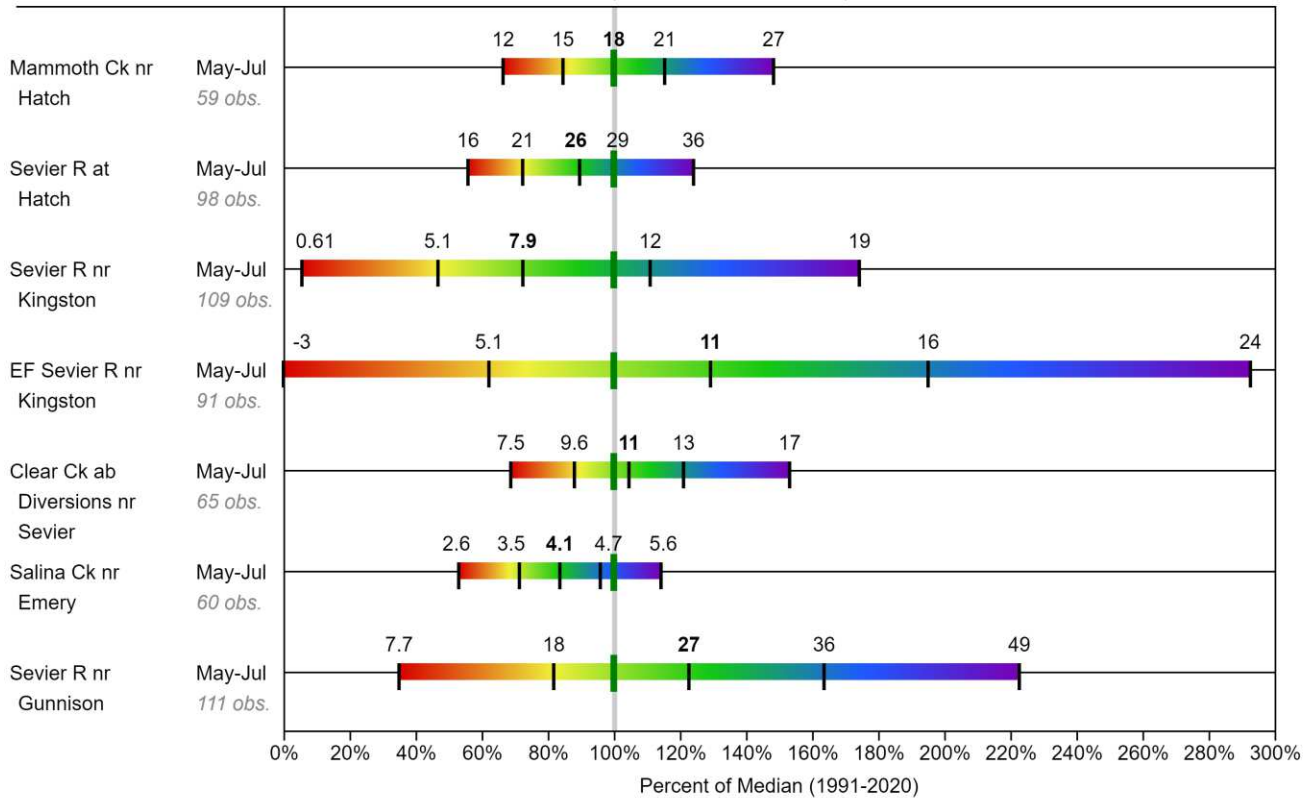


# Upper Sevier

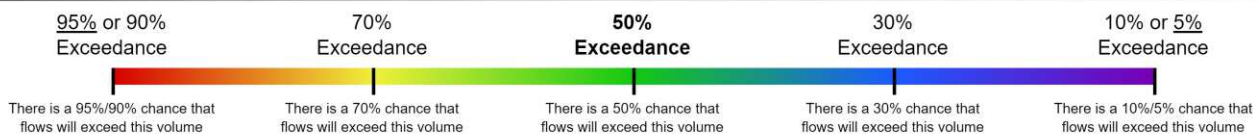
## UPPER SEVIER Water Supply Forecasts May 1, 2024

### Forecast Exceedance Probabilities

<----- Drier ----- Future Conditions ----- Wetter ----->  
Labels on chart represent volumes of water expressed in thousand acre-feet.



### Legend



When selected, the following historic streamflow values and statistics will be shown.

*Period of Record Minimum  
Streamflow KAF (Year)*

*1991-2020 Normal  
Streamflow KAF*

*Observed Streamflow KAF*

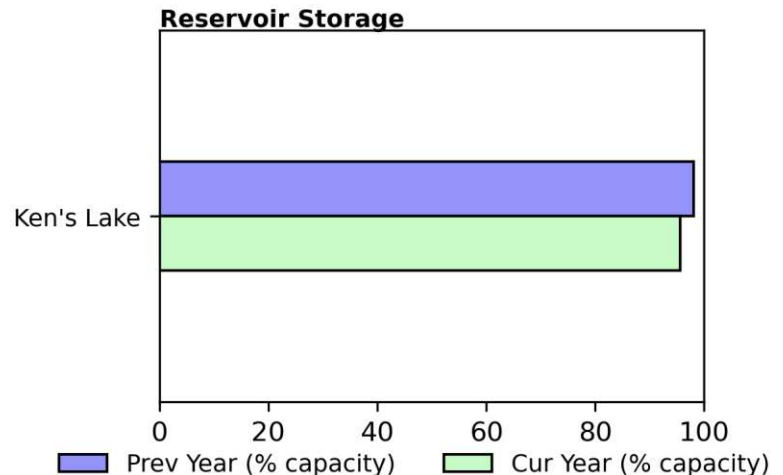
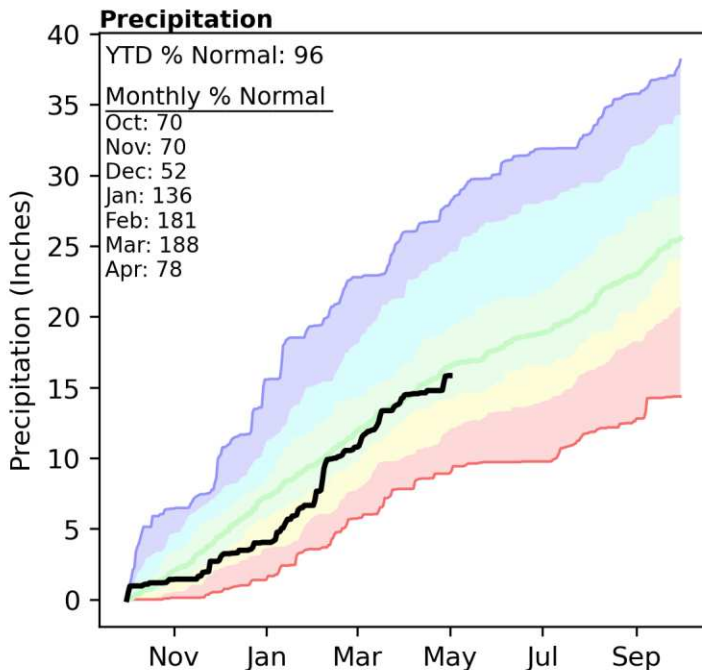
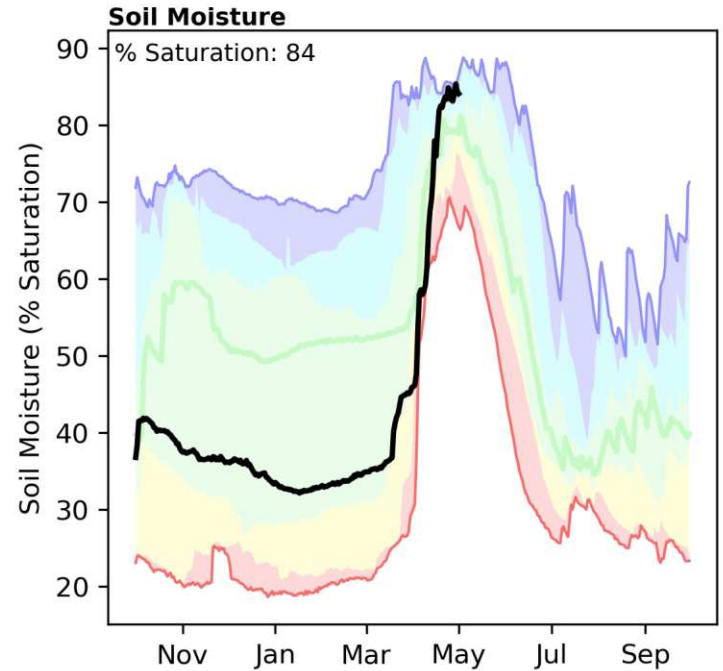
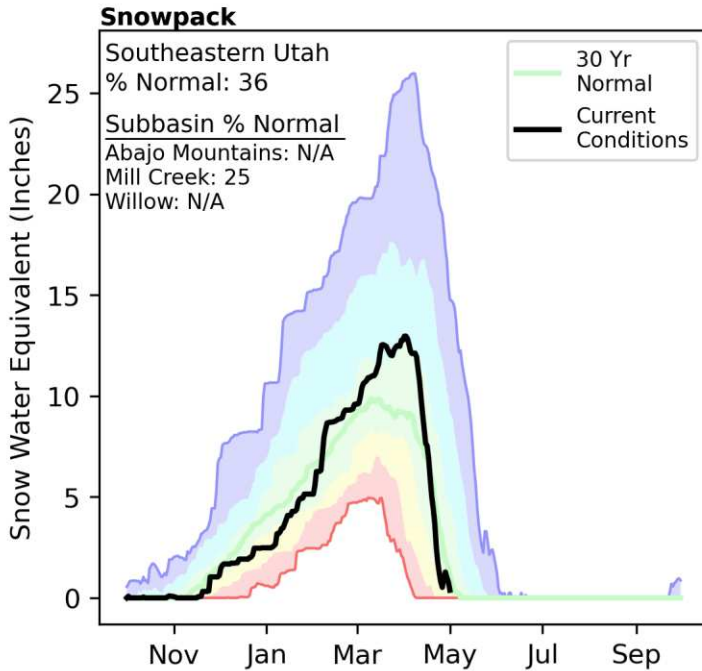
*Period of Record Maximum  
Streamflow KAF (Year)*

Some forecasts may be for volumes that are regulated or influenced by diversions and water management.



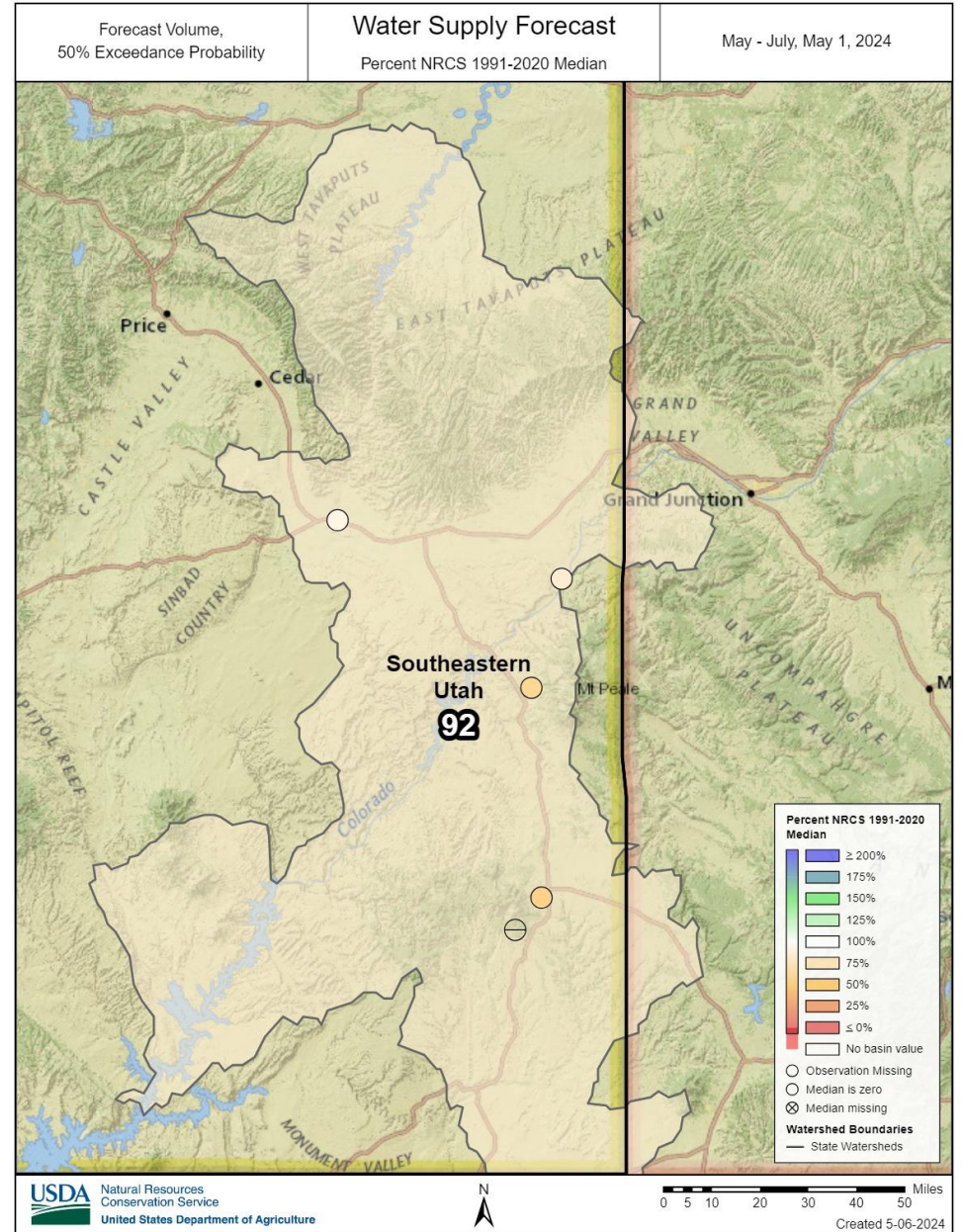
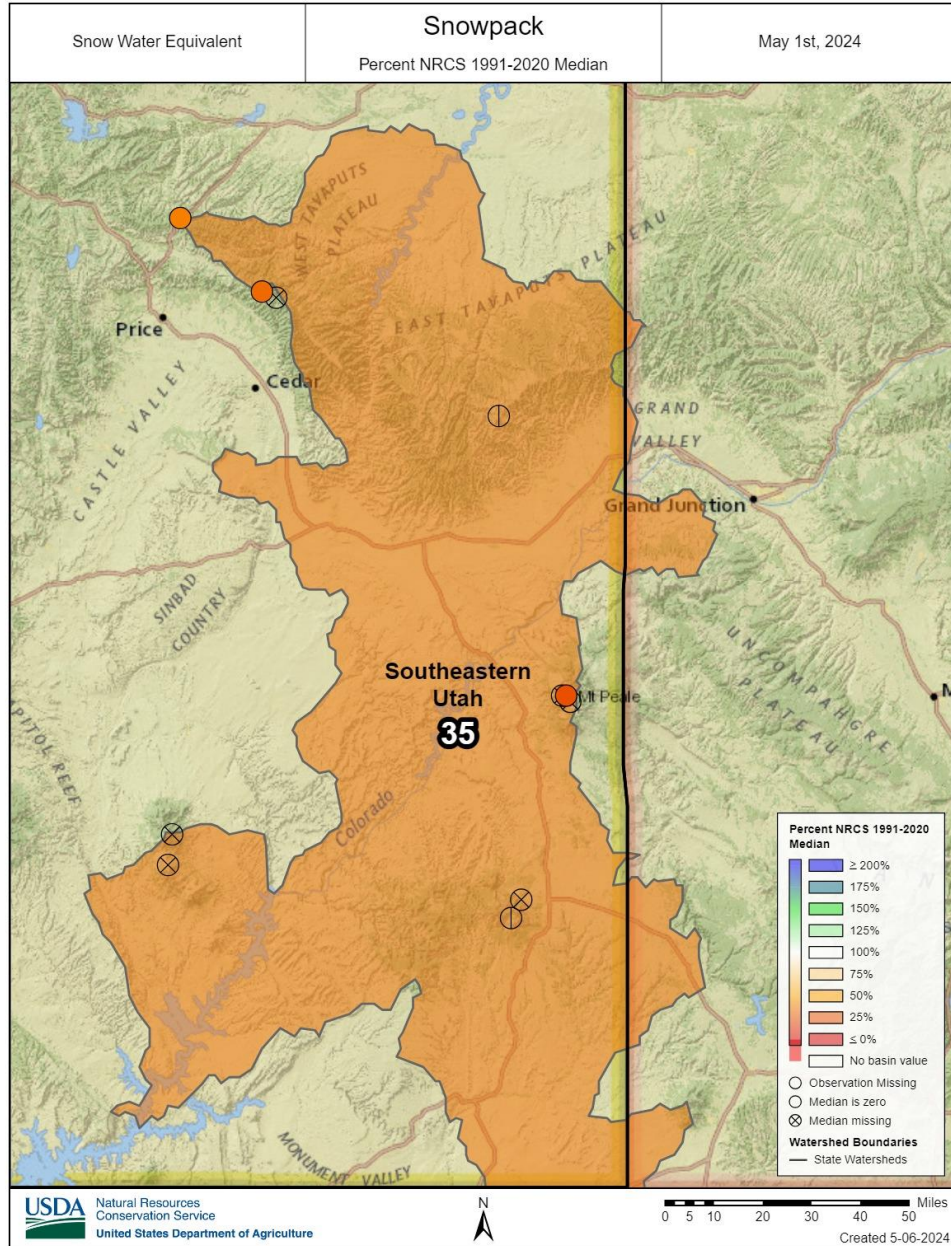
# Southeastern Utah | May 1, 2024

Snowpack in Southeastern Utah is well below normal at 36% of median, compared to 1282% at this time last year. Precipitation in April was below normal at 78%, which brings the seasonal accumulation (October-April) to 96% of median. Soil moisture is at 84% saturation compared to 82% saturation last year. Reservoir storage is 95% of capacity, compared to 98% last year. Forecast streamflow volumes (50% exceedence, May-July) range from 77% to 95% of normal. The Surface Water Supply Index percentile is 50% for Moab.



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.  
For more information visit: [30 year normal calculation description](#)

# Southeastern Utah

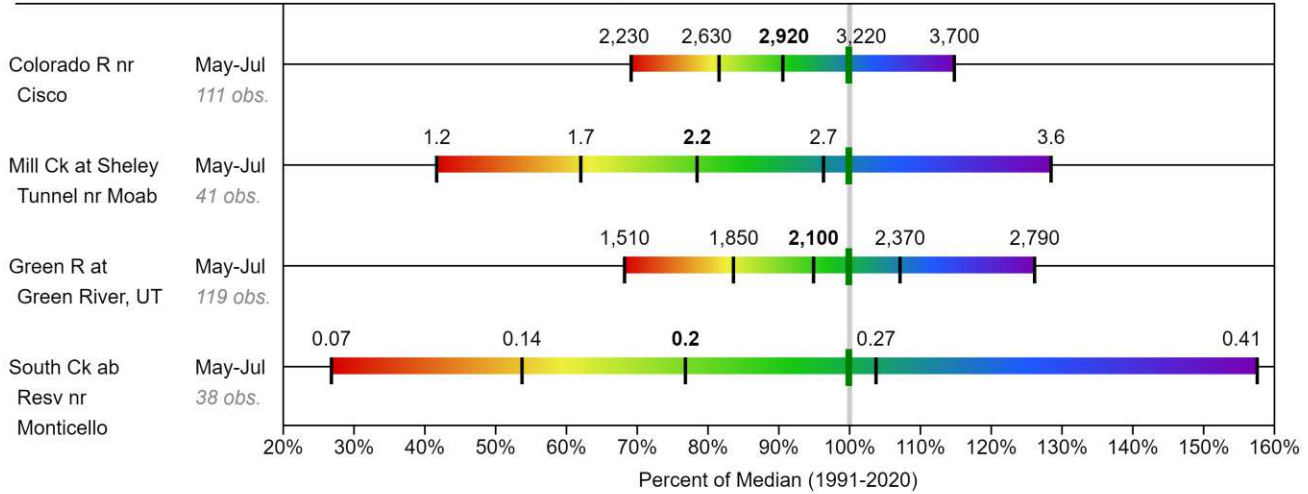


# Southeastern Utah

## SOUTHEASTERN UTAH Water Supply Forecasts May 1, 2024

### Forecast Exceedance Probabilities

<----- Drier ----- Future Conditions ----- Wetter ----->  
Labels on chart represent volumes of water expressed in thousand acre-feet.



### Legend



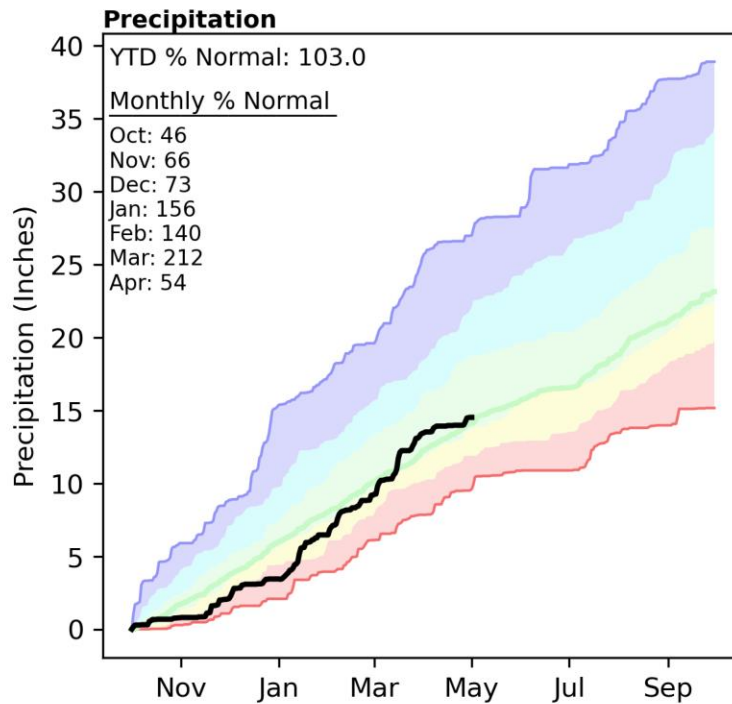
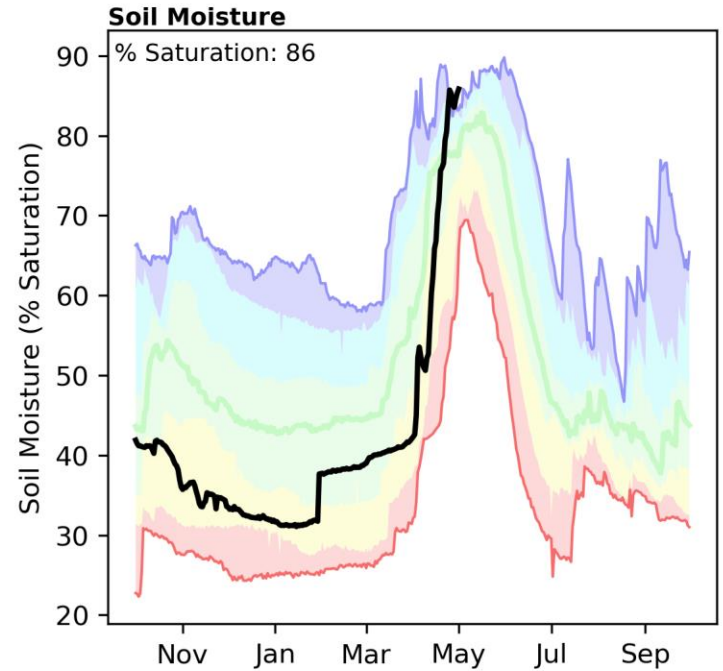
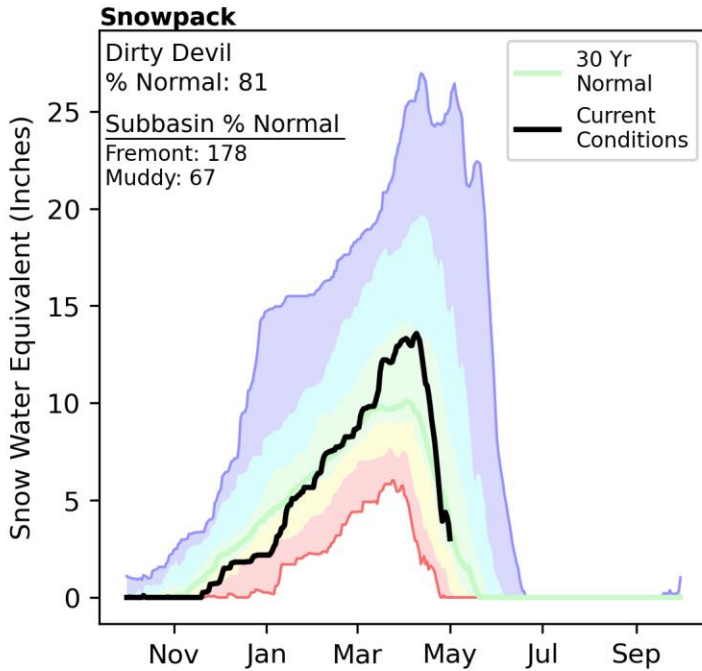
When selected, the following historic streamflow values and statistics will be shown.



Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

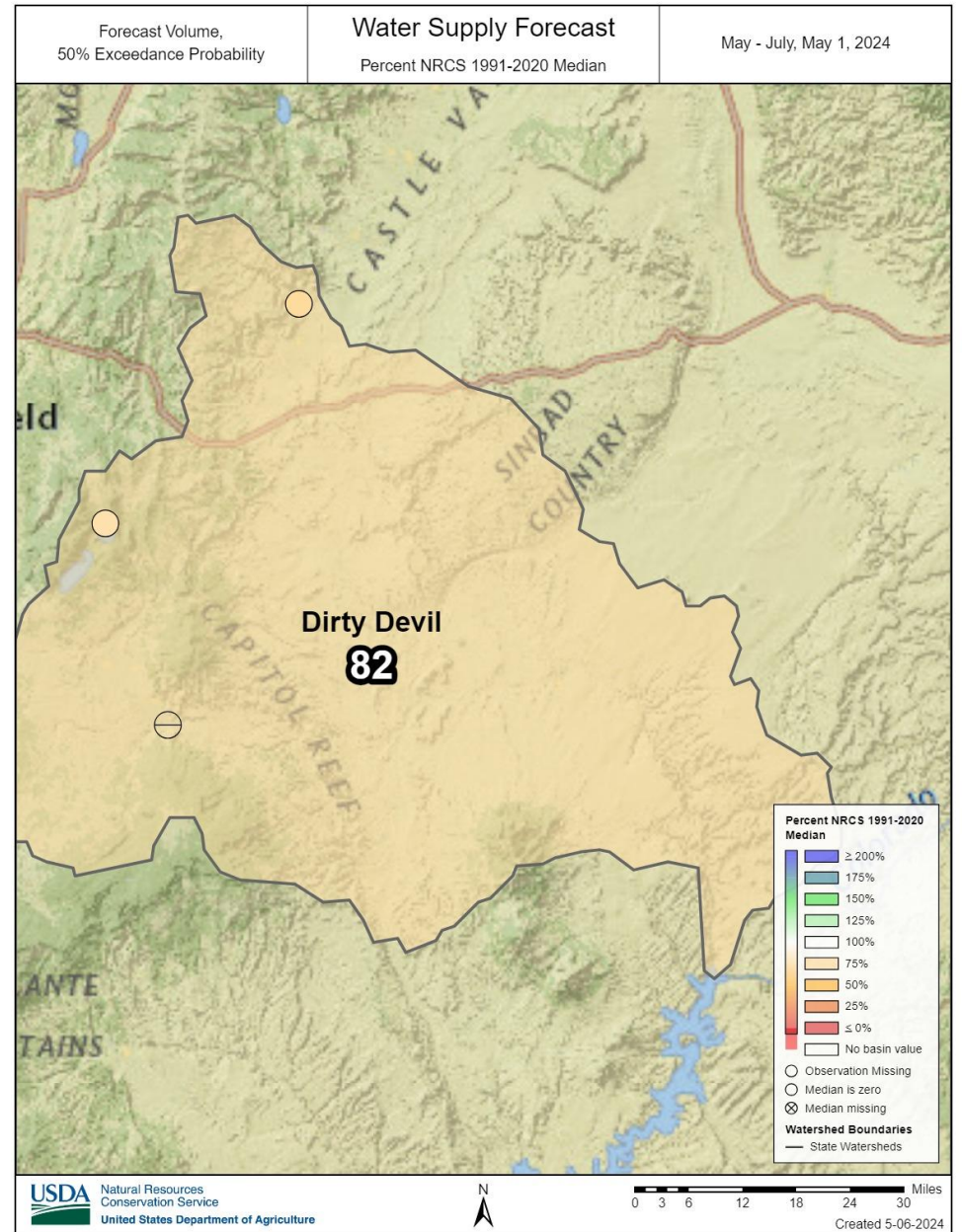
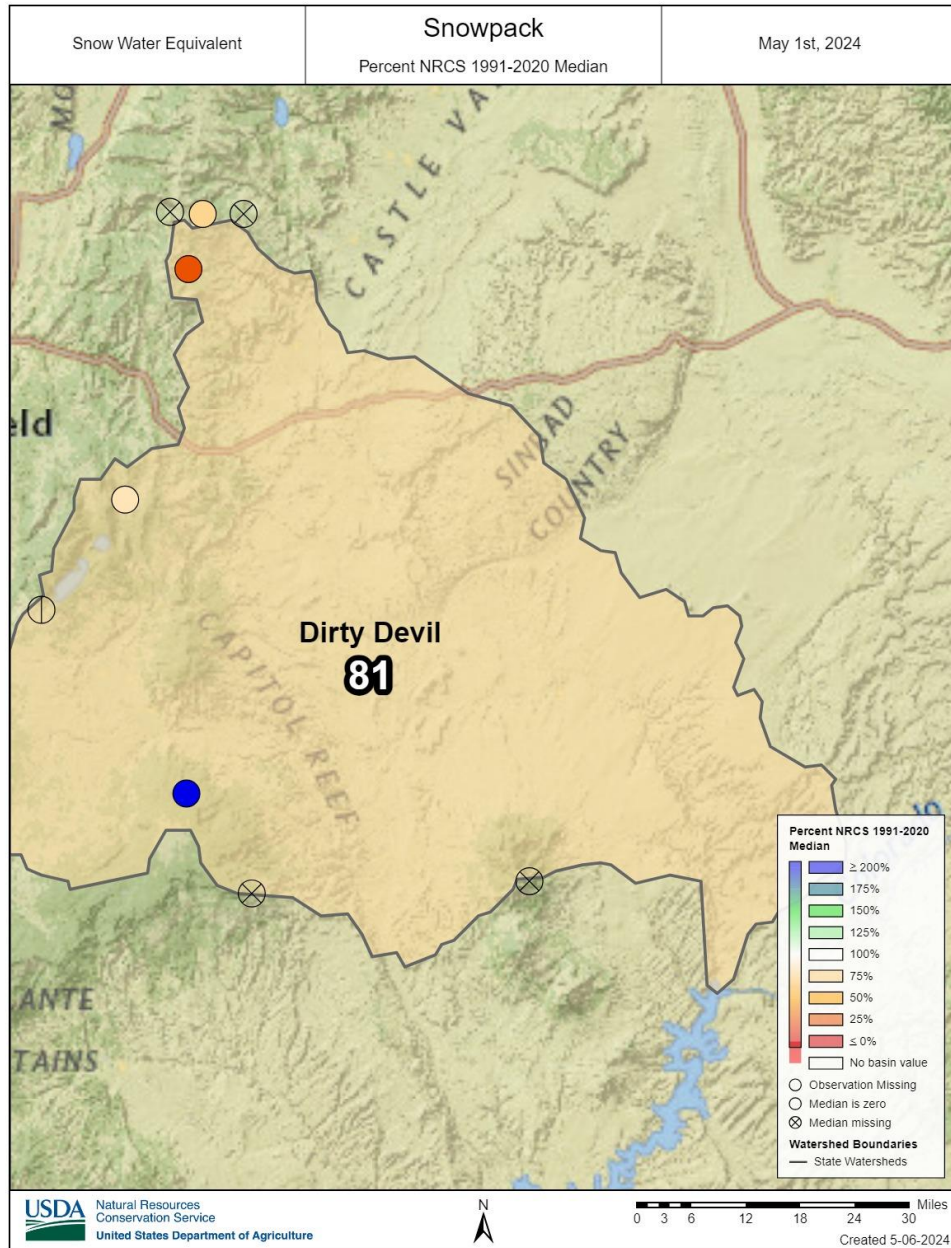
# Dirty Devil | May 1, 2024

Snowpack in the Dirty Devil River Basin is below normal at 81% of median, compared to 308% at this time last year. Precipitation in April was well below normal at 54%, which brings the seasonal accumulation (October-April) to 103% of median. Soil moisture is at 86% saturation compared to 70% saturation last year. Forecast streamflow volumes (50% exceedence, May-July) range from 81% to 84% of normal.



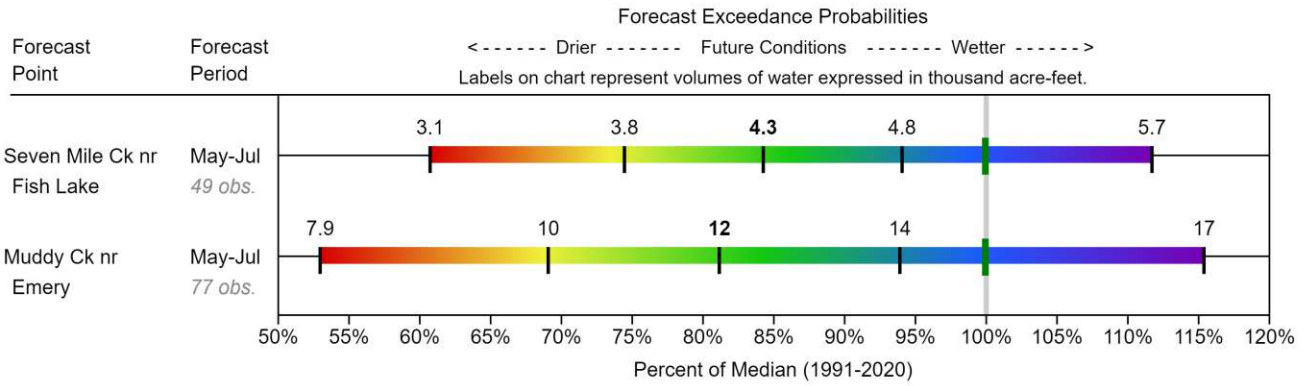
Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.  
For more information visit: [30 year normal calculation description](#)

# Dirty Devil

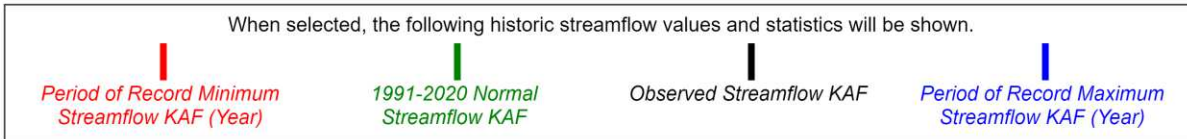


# Dirty Devil

## DIRTY DEVIL Water Supply Forecasts May 1, 2024

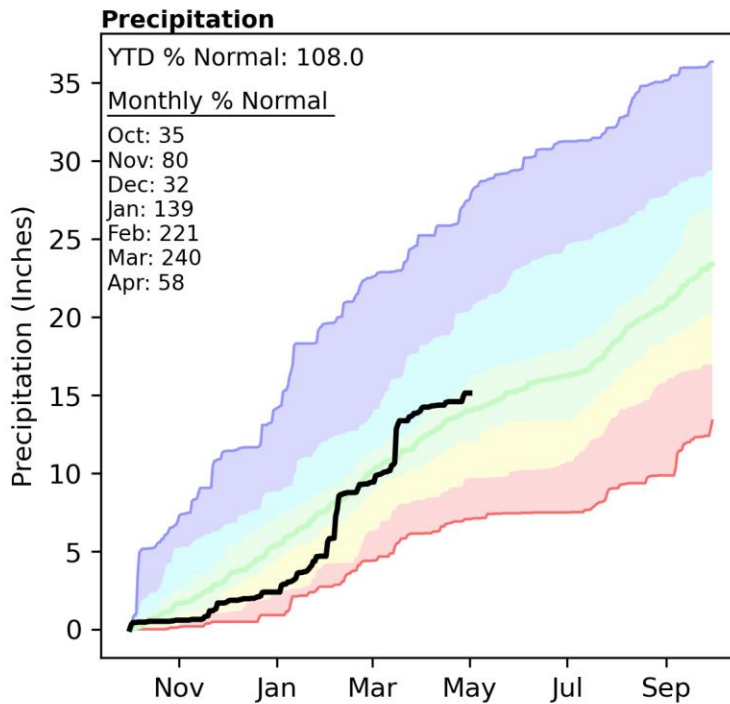
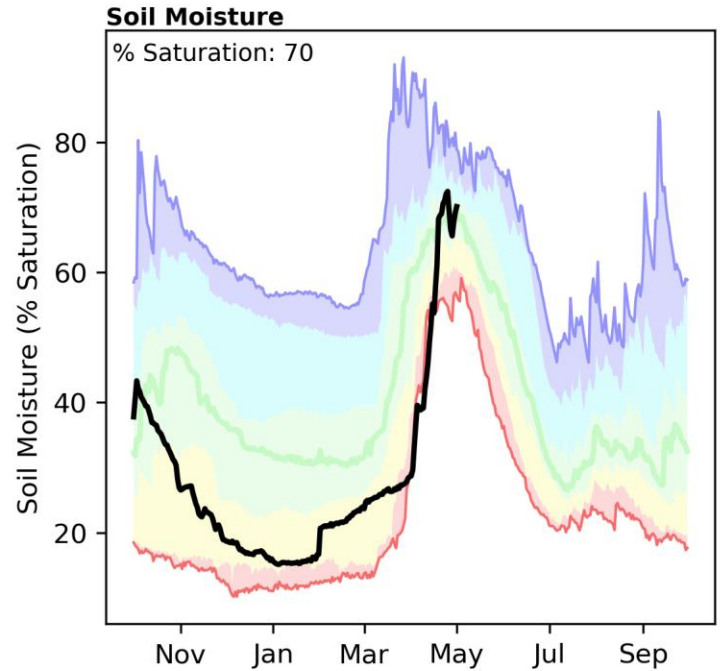
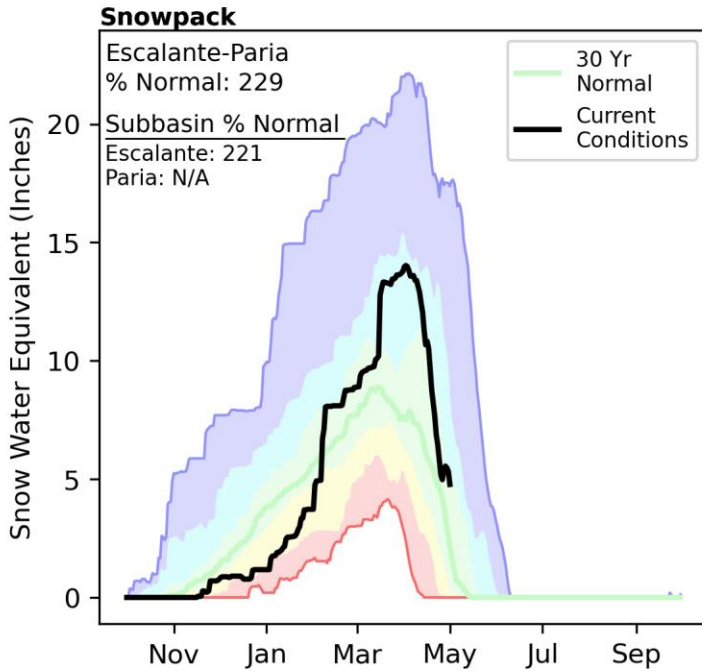


### Legend



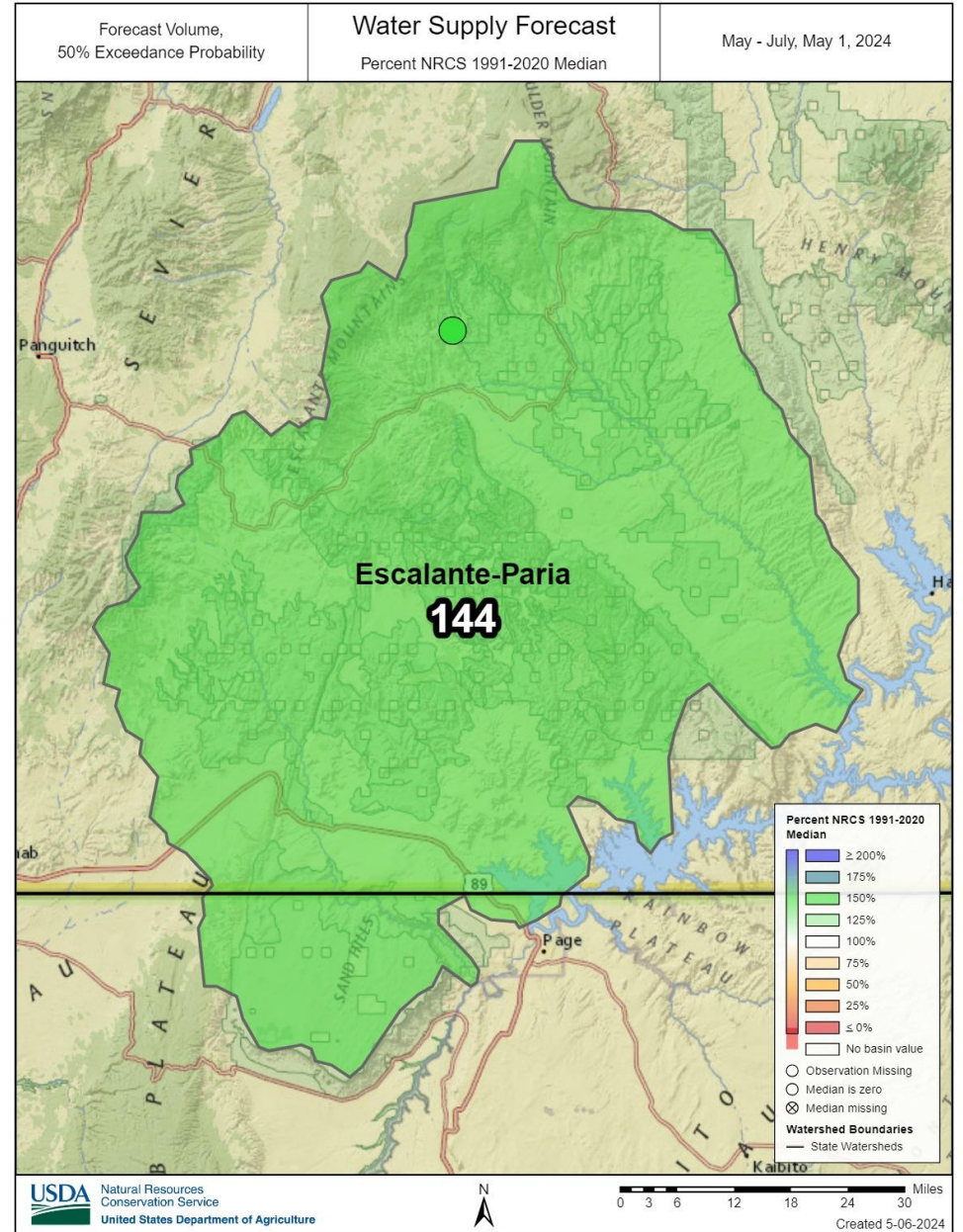
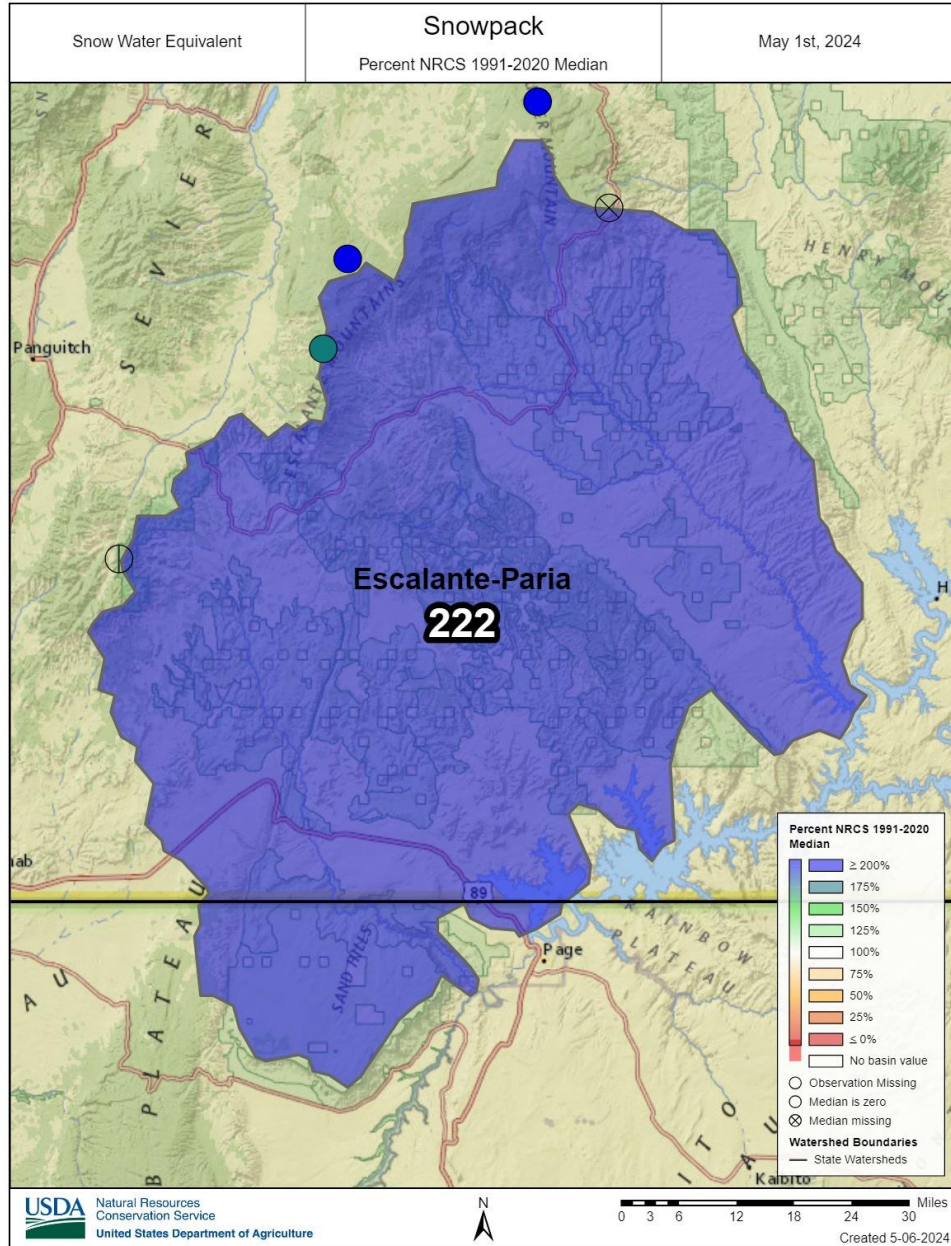
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

Snowpack in the Escalante and Paria River Basins is well above normal at 229% of median, compared to 414% at this time last year. Precipitation in April was well below normal at 58%, which brings the seasonal accumulation (October-April) to 108% of median. Soil moisture is at 70% saturation compared to 76% saturation last year. The forecast streamflow volume (50% exceedence, May-July) for Pine Creek is 144% of normal.



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.  
 For more information visit: [30 year normal calculation description](#)

# Escalante-Paria



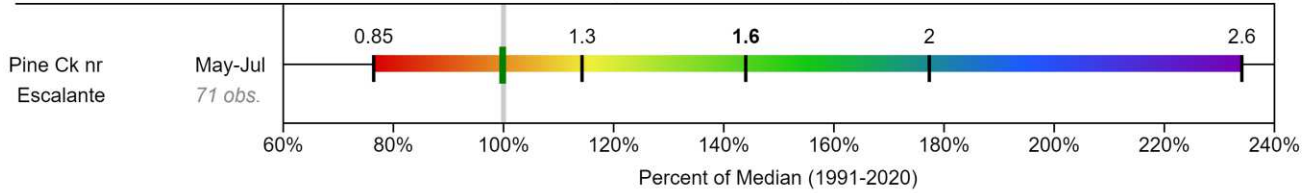


# Escalante-Paria

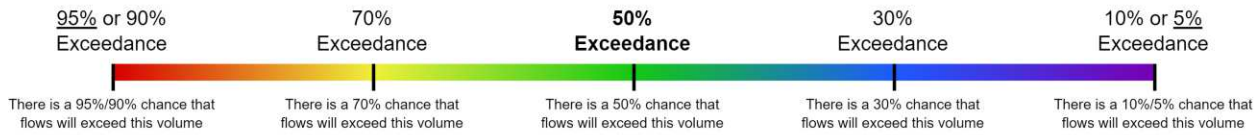
## ESCALANTE-PARIA Water Supply Forecasts May 1, 2024

### Forecast Exceedance Probabilities

<----- Drier ----- Future Conditions ----- Wetter ----->  
Labels on chart represent volumes of water expressed in thousand acre-feet.



### Legend

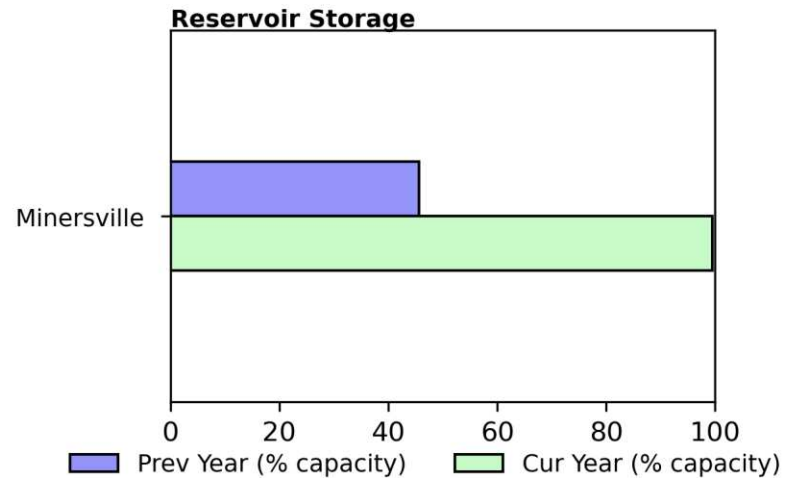
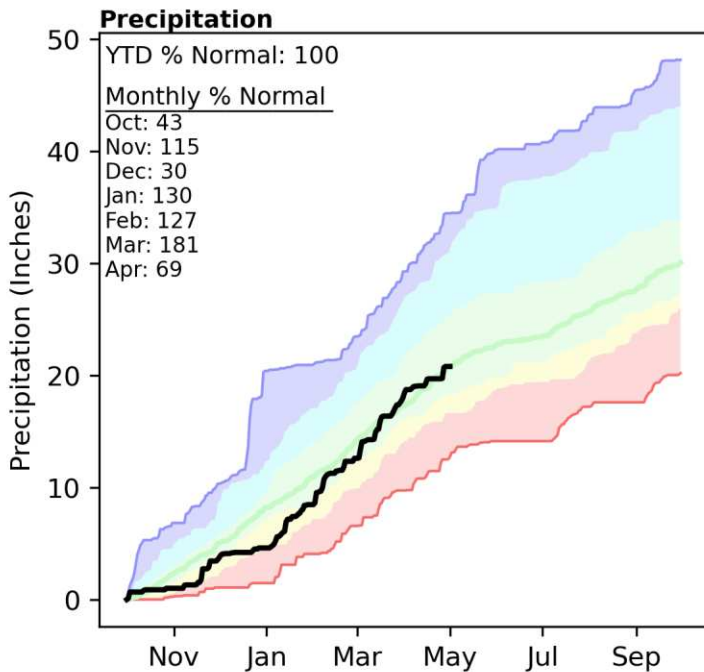
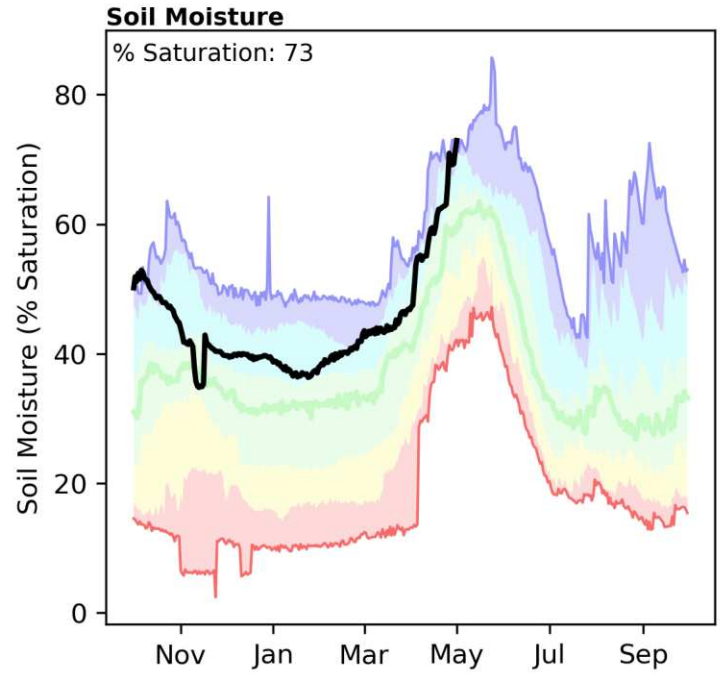
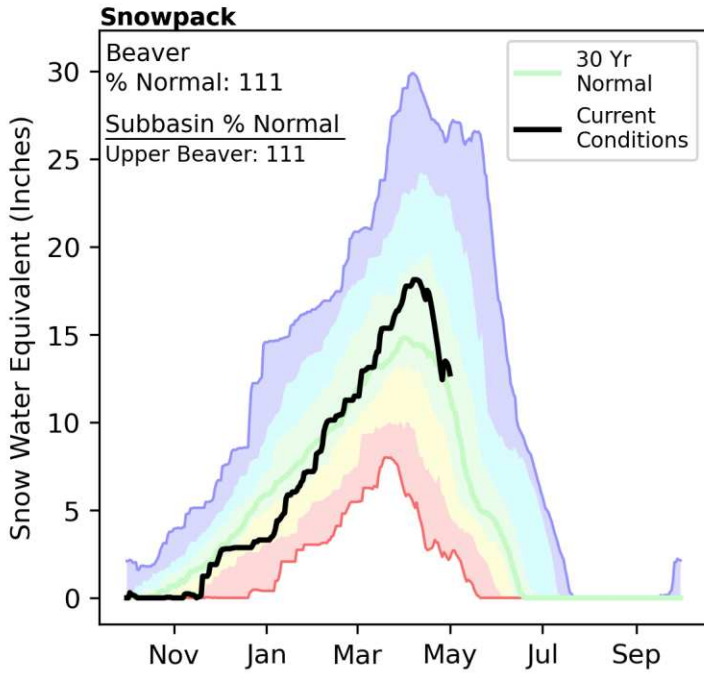


When selected, the following historic streamflow values and statistics will be shown.



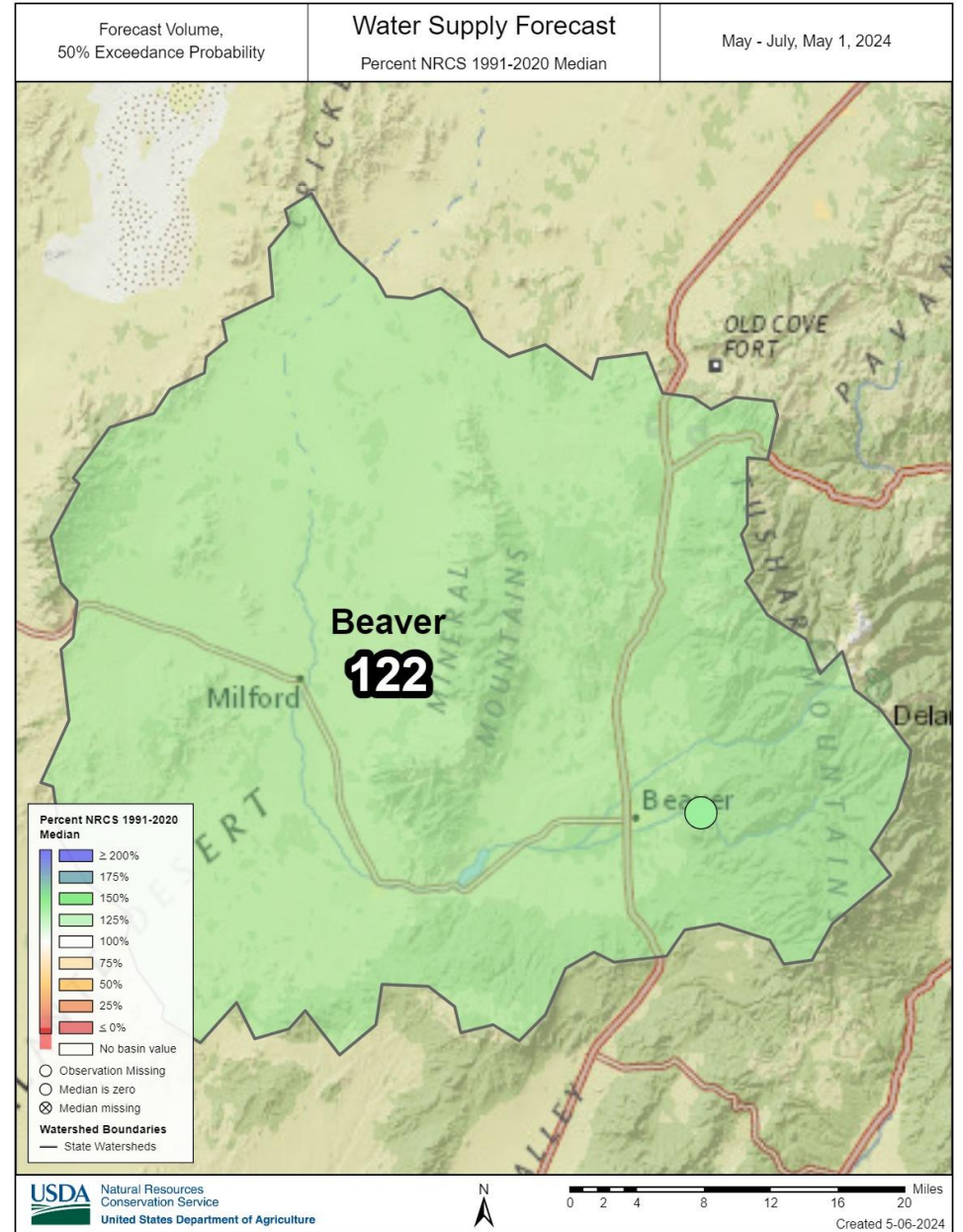
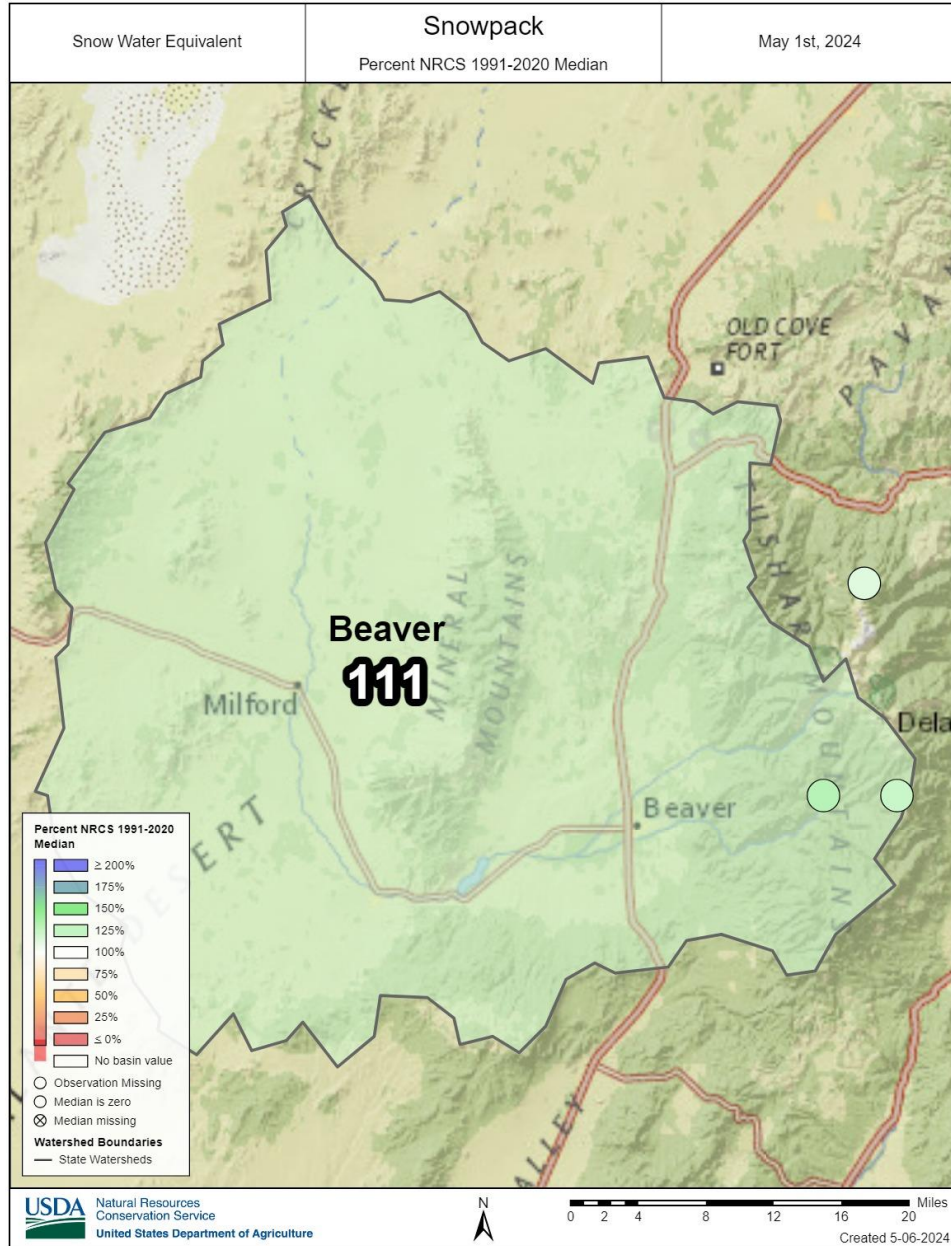
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

Snowpack in the Beaver River Basin is above normal at 111% of median, compared to 204% at this time last year. Precipitation in April was well below normal at 69%, which brings the seasonal accumulation (October-April) to 100% of median. Soil moisture is at 73% saturation compared to 70% saturation last year. Reservoir storage is 99% of capacity, compared to 45% last year. The forecast streamflow volume (50% exceedence, May-July) for the Beaver River is 122% of normal. The Surface Water Supply Index percentile is 62% for the Beaver River.

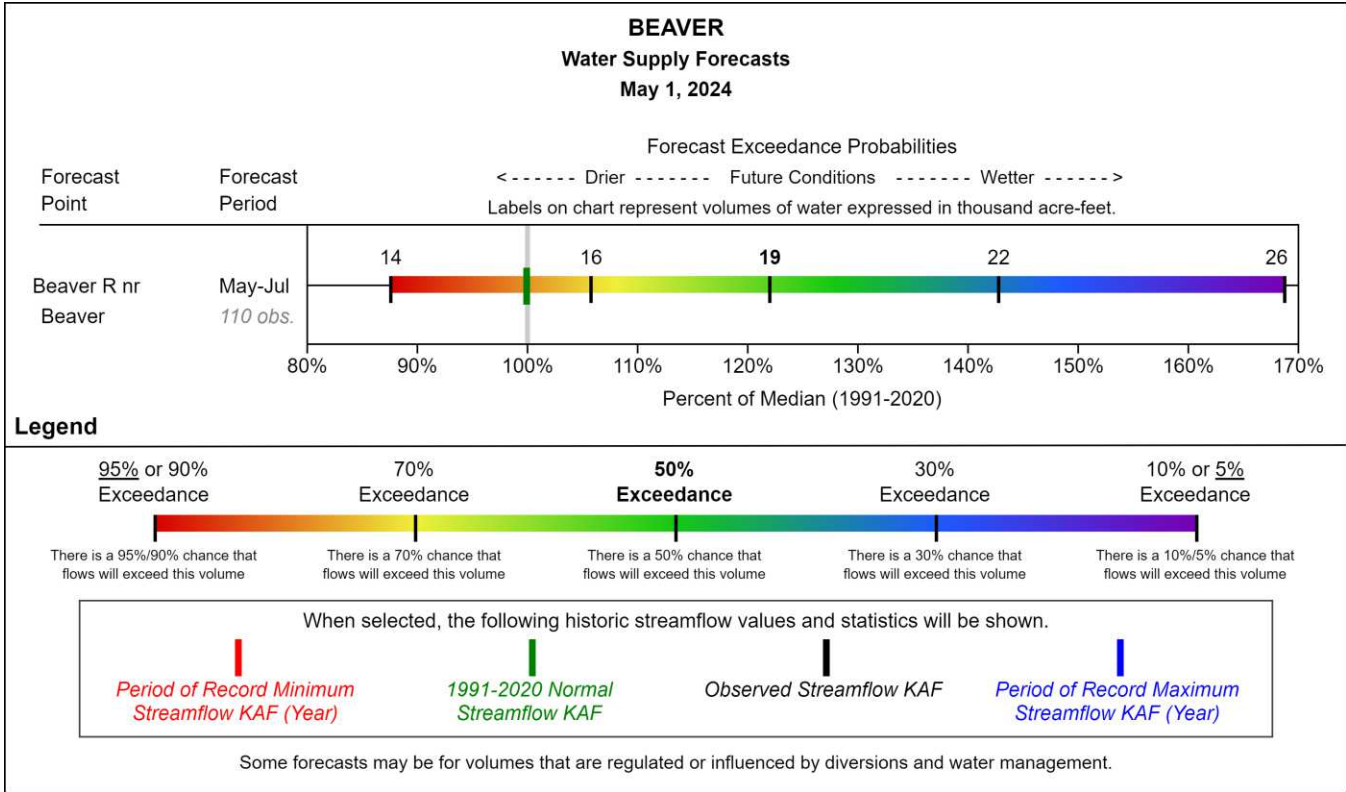


Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles. For more information visit: [30 year normal calculation description](#)

# Beaver

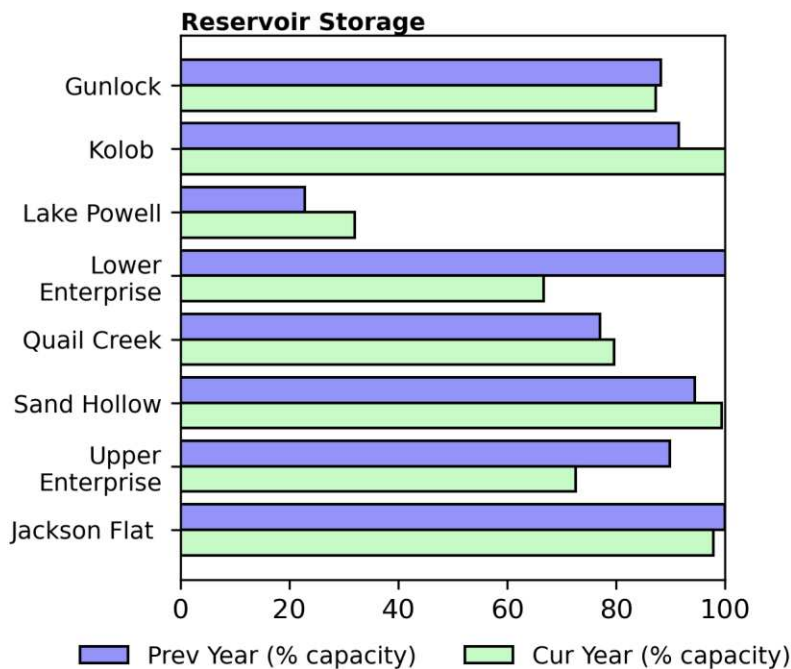
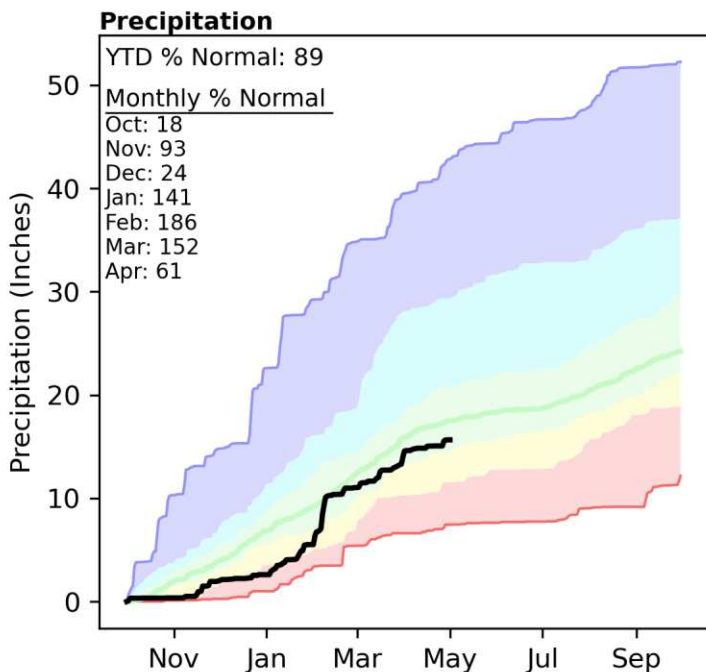
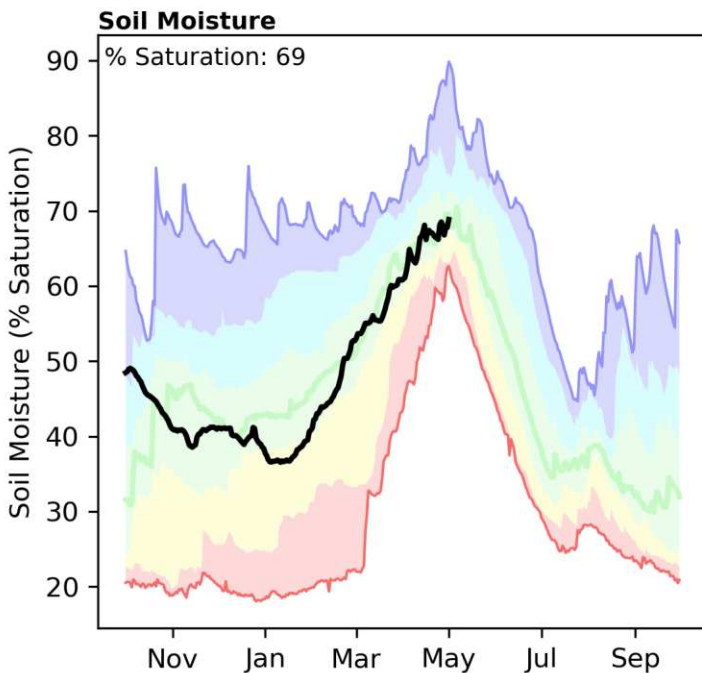
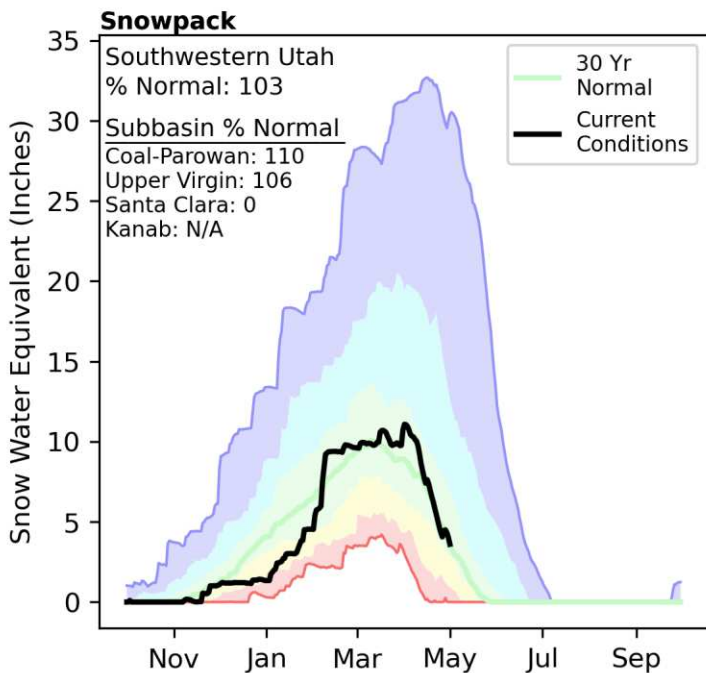


# Beaver



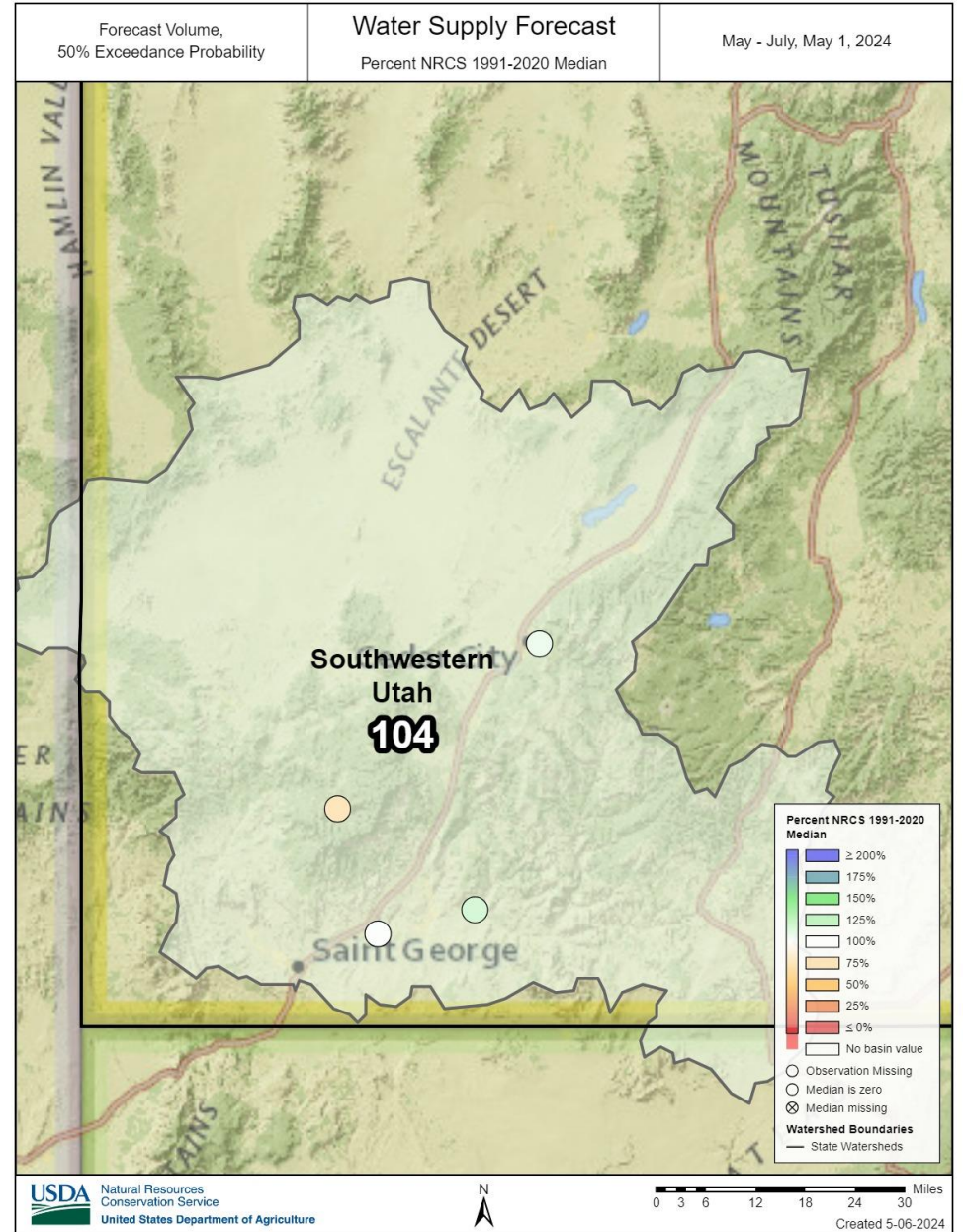
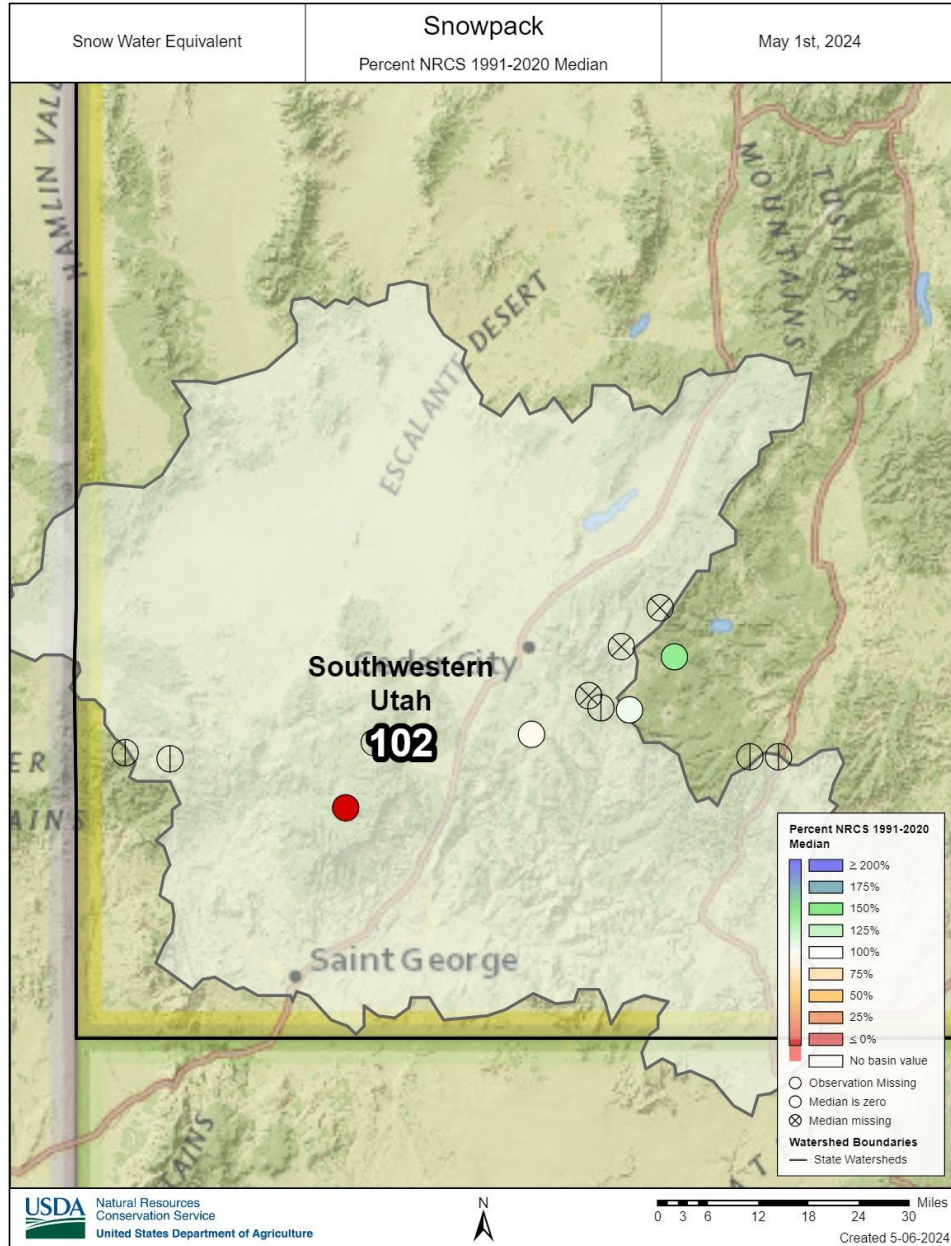
# Southwestern Utah | May 1, 2024

Snowpack in Southwestern Utah is about normal at 103% of median, compared to 331% at this time last year. Precipitation in April was well below normal at 61%, which brings the seasonal accumulation (October-April) to 89% of median. Soil moisture is at 69% saturation compared to 90% saturation last year. Reservoir storage is 32% of capacity, compared to 23% last year. Forecast streamflow volumes (50% exceedence, May-July) range from 87% to 109% of normal. The Surface Water Supply Index percentile is 48% for the Virgin River.



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.  
For more information visit: [30 year normal calculation description](#)

# Southwestern Utah

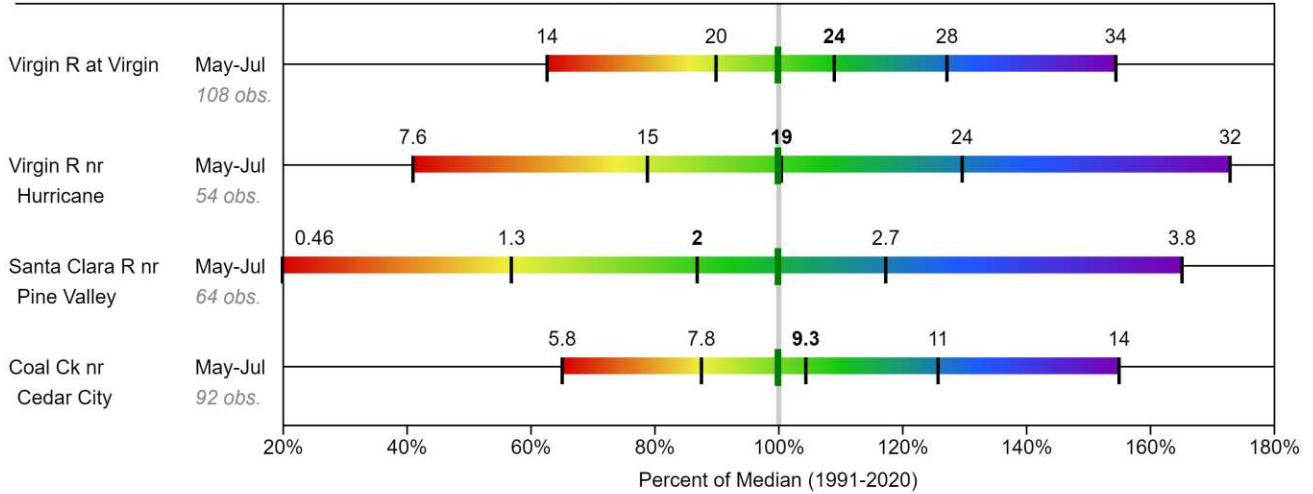


# Southwestern Utah

## SOUTHWESTERN UTAH Water Supply Forecasts May 1, 2024

### Forecast Exceedance Probabilities

<----- Drier ----- Future Conditions ----- Wetter ----->  
Labels on chart represent volumes of water expressed in thousand acre-feet.



### Legend



When selected, the following historic streamflow values and statistics will be shown.



Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

## May 1, 2024 | Utah Reservoir Summary

Watershed/Region	Current Storage (Basinwide KAF)	Reservoir Capacity (Basinwide KAF)	Last Yr % Capacity (Basinwide)	This Yr % Capacity (Basinwide)
Utah (Statewide)	4760	5469	57	87
Utah (Statewide) Incl. Flaming G. & Lk. Powell	15684	33540	33	46
Bear	1065	1389	40	76
Weber-Ogden	498	547	53	91
Northeastern Uintas	3242	3852	68	84
Tooele Valley	4	4	67	93
Duchesne	1282	1379	75	92
Provo	1293	1334	67	96
San Pitch	14	20	28	69
Price	122	158	30	77
Upper Sevier	252	382	35	66
Southeast UT	2	2	98	95
Beaver	23	23	45	99
Southwest Utah	109	122	88	89

Red (green) shading indicates >5% decrease (increase) in % capacity from this time last year.

Reservoir	Current Storage (KAF)	Reservoir Capacity (KAF)	Last Yr % Capacity	This Yr % Capacity
Bear Lake	983	1302	37	75
Big Sand Wash Reservoir	24	25	100	96
Causey Reservoir	7	7	51	100
Cleveland Lake	4	5	63	77
Currant Creek Reservoir	14	15	95	92
Deer Creek Reservoir	144	149	80	96
East Canyon Reservoir	40	49	57	82
Echo Reservoir	71	73	27	97
Flaming Gorge Reservoir	3150	3749	69	84
Grantsville Reservoir	3	3	76	94
Gunlock	9	10	88	87
Gunnison Reservoir	14	20	28	69
Huntington North Reservoir	3	4	92	78
Hyrum Reservoir	12	15	71	82
Jackson Flat Reservoir	3	4	100	97
Joes Valley Reservoir	48	61	38	79
Jordanelle Reservoir	271	314	59	86
Ken's Lake	2	2	98	95
Kolob Reservoir	5	5	91	100
Lake Powell	7773	24322	22	31
Lost Creek Reservoir	22	22	40	99
Lower Enterprise	1	2	107	66
Meeks Cabin Reservoir	26	32	43	82
Miller Flat Reservoir	3	5	29	69
Millsite	11	16	29	69
Minersville Reservoir	23	23	45	99
Moon Lake Reservoir	34	35	87	95
Otter Creek Reservoir	49	52	64	93
Panguitch Lake	19	22	67	88
Pineview Reservoir	100	110	23	91
Piute Reservoir	66	71	65	92
Porcupine Reservoir	13	11	83	116
Quail Creek	31	40	77	79
Red Fleet Reservoir	21	25	45	83
Rockport Reservoir	48	60	24	79
Sand Hollow Reservoir	49	50	94	99
Scofield Reservoir	51	65	15	78
Settlement Canyon Reservoir	0	1	38	87
Sevier Bridge Reservoir	117	236	16	49
Smith and Morehouse	6	8	44	75
Starvation Reservoir	162	164	80	99
Stateline Reservoir	10	12	62	87
Steinaker Reservoir	33	33	62	99
Strawberry Reservoir	1044	1105	75	94
Upper Enterprise	7	10	89	72
Upper Stillwater Reservoir	2	32	6	7
Utah Lake	877	870	67	100
Willard Bay	201	215	85	93
Woodruff Creek	3	4	78	99
Woodruff Narrows Reservoir	51	57	77	90

Red (green) shading indicates >5% decrease (increase) in % capacity from this time last year.





Weber R nr Oakley <sup>1</sup>	APR-JUL	99	120	135	155%	149	171	87
	MAY-JUL	74	95	110	151%	124	146	73
Lost Ck Reservoir Inflow <sup>1</sup>	APR-JUL	102	113	122	126%	130	144	97
	MAY-JUL	84	95	104	117%	112	126	89
East Canyon Ck nr Jeremy Ranch	APR-JUL	12.5	13.9	15.1	159%	16.3	18.3	9.5
	MAY-JUL	5.2	6.6	7.8	118%	9	11	6.6
Chalk Ck at Coalville	APR-JUL	12.3	15.1	17	179%	18.8	22	9.5
	MAY-JUL	5.2	8	9.8	153%	11.7	14.4	6.4
Weber R at Gateway <sup>1</sup>	APR-JUL	26	36	43	165%	50	59	26
	MAY-JUL	13.6	23	30	136%	37	46	22
Echo Reservoir Inflow <sup>1</sup>	APR-JUL	285	320	355	173%	390	450	205
	MAY-JUL	157	194	230	150%	265	325	153
SF Ogden R nr Huntsville <sup>1</sup>	APR-JUL	127	149	168	140%	187	220	120
	MAY-JUL	83	105	124	123%	143	178	101
Pineview Reservoir Inflow <sup>1</sup>	APR-JUL	55	61	65	159%	71	80	41
	MAY-JUL	27	33	37	128%	43	52	29
East Canyon Ck nr Morgan <sup>1</sup>	APR-JUL	114	135	150	190%	164	191	79
	MAY-JUL	48	69	84	171%	98	125	49
Weber R nr Coalville <sup>1</sup>	APR-JUL	22	26	29	161%	32	37	18
	MAY-JUL	9.2	13.5	16.5	120%	19.5	24	13.7
	APR-JUL	100	117	132	142%	147	176	93
	MAY-JUL	69	86	101	131%	116	145	77

1) 90% And 10% exceedance probabilities are actually 95% And 5%

2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

Forecast Exceedance Probabilities For Risk Assessment Chance that actual volume will exceed forecast
---

<b>Northeastern Uintas</b>	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Big Brush Ck ab Red Fleet Reservoir	APR-JUL	9	11.9	14	71%	16	19	19.7
	MAY-JUL	6.9	9.9	11.9	71%	13.9	16.9	16.7
Flaming Gorge Reservoir Inflow <sup>2</sup>	APR-JUL	545	690	795	80%	910	1100	990
	MAY-JUL	415	560	665	76%	780	970	880
Ashley Ck nr Vernal	APR-JUL	20	28	33	77%	38	45	43
	MAY-JUL	16.3	24	29	69%	34	42	42
Stateline Reservoir Inflow <sup>2</sup>	APR-JUL	17.6	21	24	92%	27	31	26
	MAY-JUL	15.6	19.3	22	88%	25	29	25
Blacks Fk nr Robertson	APR-JUL	63	74	82	90%	90	102	91
	MAY-JUL	56	67	75	88%	83	94	85

1) 90% And 10% exceedance probabilities are actually 95% And 5%

2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions



APR-JUL	41	49	54	96%	60	70	56
MAY-JUL	36	43	49	91%	55	64	54

1) 90% And 10% exceedance probabilities are actually 95% And 5%

2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

Forecast Exceedance Probabilities For Risk Assessment Chance that actual volume will exceed forecast
---

<b>Provo-Utah Lake-Jordan</b>	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
City Ck nr SLC	APR-JUL	5.5	6.2	6.8	128%	7.4	8.2	5.3
	MAY-JUL	4.2	4.9	5.5	122%	6.1	6.9	4.5
Mill Ck nr SLC	APR-JUL	5	6	6.7	156%	7.4	8.4	4.3
	MAY-JUL	4.1	5.1	5.8	161%	6.5	7.5	3.6
Parleys Ck nr SLC	APR-JUL	7.9	10.4	12.1	139%	13.8	16.2	8.7
	MAY-JUL	4.5	6.2	7.4	116%	8.9	12	6.4
Provo R bl Deer Ck Dam <sup>1</sup>	APR-JUL	95	116	133	118%	154	193	113
	MAY-JUL	63	84	101	104%	122	161	97
Little Cottonwood Ck nr SLC	APR-JUL	33	36	38	123%	40	43	31
	MAY-JUL	29	32	34	117%	36	39	29
W Canyon Ck nr Cedar Fort	APR-JUL	1.04	1.65	2.1	221%	2.4	3	0.95
	MAY-JUL	0.82	1.43	1.84	211%	2.2	2.8	0.87
Provo R at Woodland <sup>1</sup>	APR-JUL	94	107	118	139%	129	148	85
	MAY-JUL	77	90	101	135%	112	131	75
Spanish Fk at Castilla <sup>1</sup>	APR-JUL	44	52	58	193%	64	73	30
	MAY-JUL	21	29	35	152%	41	50	23
Utah Lake Inflow <sup>1</sup>	MAY-JUL	-6.5	71	124	102%	177	255	122
American Fk ab Upper Powerplant	APR-JUL	21	25	29	151%	32	38	19.2
	MAY-JUL	16.3	21	25	147%	28	34	17
Salt Ck at Nephi	APR-JUL	5.9	7.6	8.7	185%	9.9	11.6	4.7
	MAY-JUL	3.9	5.6	6.7	186%	7.9	9.6	3.6
Big Cottonwood Ck nr SLC	APR-JUL	32	35	39	134%	42	47	29
	MAY-JUL	26	29	33	132%	36	41	25
Provo R at Hailstone <sup>1</sup>	APR-JUL	93	113	126	152%	140	160	83
	MAY-JUL	70	90	103	143%	117	137	72
Dell Fk nr SLC	APR-JUL	4.3	5	5.4	150%	5.9	6.6	3.6
	MAY-JUL	2.1	2.8	3.2	100%	3.7	4.4	3.2
Emigration Ck nr SLC	APR-JUL	2.6	3.3	3.9	170%	4.6	5.9	2.3
	MAY-JUL	0.96	1.61	2.2	149%	2.9	4.2	1.48

1) 90% And 10% exceedance probabilities are actually 95% And 5%

2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

Forecast Exceedance Probabilities For Risk Assessment  
Chance that actual volume will exceed forecast

<b>Lower Sevier</b>	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Sevier R nr Gunnison								
	APR-JUL	26	36	45	150%	54	67	30
	MAY-JUL	7.7	18	27	123%	36	49	22

- 1) 90% And 10% exceedance probabilities are actually 95% And 5%  
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

Forecast Exceedance Probabilities For Risk Assessment  
Chance that actual volume will exceed forecast

<b>San Pitch</b>	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Manti Ck bl Dugway Ck nr Manti								
	APR-JUL	9.9	13.1	15.2	117%	17.4	20	13
	MAY-JUL	8.4	11.6	13.7	114%	15.9	19	12

- 1) 90% And 10% exceedance probabilities are actually 95% And 5%  
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

Forecast Exceedance Probabilities For Risk Assessment  
Chance that actual volume will exceed forecast

<b>Price-San Rafael</b>	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Price R nr Scofield Reservoir <sup>2</sup>								
	APR-JUL	39	44	47	181%	51	56	26
	MAY-JUL	28	33	36	164%	40	45	22
Huntington Ck nr Huntington <sup>2</sup>								
	APR-JUL	34	37	40	111%	43	47	36
	MAY-JUL	29	32	35	103%	38	42	34
Ferron Ck (Upper Station) nr Ferron								
	APR-JUL	27	31	33	103%	35	39	32
	MAY-JUL	24	28	30	103%	32	36	29
Joes Valley Reservoir Inflow <sup>2</sup>								
	APR-JUL	41	46	50	114%	54	60	44
	MAY-JUL	37	42	46	112%	50	56	41
White R bl Tabbyune Creek								
	APR-JUL	12.6	14.7	16.2	225%	17.9	20	7.2
	MAY-JUL	6.4	8.5	10	196%	11.7	14.3	5.1
Fish Ck ab Reservoir nr Scofield <sup>2</sup>								
	APR-JUL	27	31	34	172%	37	41	19.8
	MAY-JUL	22	26	29	166%	32	36	17.5
Electric Lake Inflow <sup>2</sup>								
	APR-JUL	11.8	13.3	14.3	172%	15.4	17.1	8.3
	MAY-JUL	10.1	11.6	12.6	173%	13.7	15.4	7.3

- 1) 90% And 10% exceedance probabilities are actually 95% And 5%  
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

Forecast Exceedance Probabilities For Risk Assessment  
Chance that actual volume will exceed forecast

<b>Upper Sevier</b>	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
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Salina Ck nr Emery	APR-JUL	3.6	4.5	5.1	91%	5.7	6.6	5.6
	MAY-JUL	2.6	3.5	4.1	84%	4.7	5.6	4.9
Sevier R at Hatch	APR-JUL	25	30	35	103%	38	45	34
	MAY-JUL	16.2	21	26	90%	29	36	29
Sevier R nr Gunnison	APR-JUL	26	36	45	150%	54	67	30
	MAY-JUL	7.7	18	27	123%	36	49	22
EF Sevier R nr Kingston <sup>1</sup>	APR-JUL	1.04	9.1	14.6	109%	20	28	13.4
	MAY-JUL	-3	5.1	10.6	129%	16	24	8.2
Clear Ck ab Diversions nr Sevier	APR-JUL	12.6	14.7	16.5	121%	18.3	22	13.6
	MAY-JUL	7.5	9.6	11.4	105%	13.2	16.7	10.9
Mammoth Ck nr Hatch	APR-JUL	15.3	18.6	21	107%	24	30	19.7
	MAY-JUL	12.1	15.4	18.2	100%	21	27	18.2
Sevier R nr Kingston	APR-JUL	14.9	19.4	22	150%	26	33	14.7
	MAY-JUL	0.61	5.1	7.9	72%	12.1	19	10.9

1) 90% And 10% exceedance probabilities are actually 95% And 5%

2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

Forecast Exceedance Probabilities For Risk Assessment Chance that actual volume will exceed forecast
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<b>Southeastern Utah</b>	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Green R at Green River, UT <sup>2</sup>	APR-JUL	1950	2290	2540	97%	2810	3230	2610
	MAY-JUL	1510	1850	2100	95%	2370	2790	2210
Colorado R nr Cisco <sup>2</sup>	APR-JUL	2700	3100	3390	90%	3690	4170	3750
	MAY-JUL	2230	2630	2920	91%	3220	3700	3220
Mill Ck at Sheley Tunnel nr Moab	APR-JUL	1.94	2.5	3	91%	3.5	4.4	3.3
	MAY-JUL	1.17	1.74	2.2	79%	2.7	3.6	2.8
South Ck ab Resv nr Monticello	APR-JUL	0.18	0.24	0.3	73%	0.38	0.52	0.41
	MAY-JUL	0.07	0.14	0.2	77%	0.27	0.41	0.26

1) 90% And 10% exceedance probabilities are actually 95% And 5%

2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

Forecast Exceedance Probabilities For Risk Assessment Chance that actual volume will exceed forecast
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<b>Dirty Devil</b>	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Muddy Ck nr Emery	APR-JUL	9.3	11.7	13.5	83%	15.4	18.6	16.3
	MAY-JUL	7.9	10.3	12.1	81%	14	17.2	14.9
Seven Mile Ck nr Fish Lake	APR-JUL	4.1	4.8	5.3	87%	5.8	6.7	6.1
	MAY-JUL	3.1	3.8	4.3	84%	4.8	5.7	5.1

1) 90% And 10% exceedance probabilities are actually 95% And 5%

2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

Forecast Exceedance Probabilities For Risk Assessment  
Chance that actual volume will exceed forecast

<b>Beaver</b>	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Beaver R nr Beaver	APR-JUL	17.7	21	23	132%	26	30	17.4
	MAY-JUL	13.5	16.3	18.8	122%	22	26	15.4

- 1) 90% And 10% exceedance probabilities are actually 95% And 5%  
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

Forecast Exceedance Probabilities For Risk Assessment  
Chance that actual volume will exceed forecast

<b>Southwestern Utah</b>	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Santa Clara R nr Pine Valley	APR-JUL	1.75	2.6	3.3	103%	4	5.1	3.2
	MAY-JUL	0.46	1.31	2	87%	2.7	3.8	2.3
Coal Ck nr Cedar City	APR-JUL	10.8	12.8	14.3	114%	16.2	18.8	12.5
	MAY-JUL	5.8	7.8	9.3	104%	11.2	13.8	8.9
Virgin R at Virgin	APR-JUL	30	36	40	111%	44	50	36
	MAY-JUL	13.8	19.8	24	109%	28	34	22
Virgin R nr Hurricane	APR-JUL	22	29	33	106%	38	46	31
	MAY-JUL	7.6	14.6	18.6	101%	24	32	18.5

- 1) 90% And 10% exceedance probabilities are actually 95% And 5%  
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

Forecast Exceedance Probabilities For Risk Assessment  
Chance that actual volume will exceed forecast

<b>Escalante-Paria</b>	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Pine Ck nr Escalante	APR-JUL	1.19	1.61	1.94	119%	2.3	2.9	1.63
	MAY-JUL	0.85	1.27	1.6	144%	1.97	2.6	1.11

- 1) 90% And 10% exceedance probabilities are actually 95% And 5%  
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

Forecast Exceedance Probabilities For Risk Assessment  
Chance that actual volume will exceed forecast

<b>Great Salt Lake</b>	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Bear R bl Stewart Dam <sup>1</sup>	APR-JUL	107	151	180	157%	210	250	115
	APR-SEP	116	164	197	161%	230	275	122
	MAY-JUL	55	99	129	140%	159	200	92
	MAY-SEP	64	112	146	135%	179	225	108
Smiths Fk nr Border	APR-JUL	64	73	80	93%	87	98	86

	APR-SEP	75	84	92	92%	100	113	100
	MAY-JUL	52	61	68	91%	75	86	75
	MAY-SEP	63	72	80	89%	88	101	90
Parleys Ck nr SLC								
	APR-JUL	7.9	10.4	12.1	139%	13.8	16.2	8.7
	MAY-JUL	4.5	6.2	7.4	116%	8.9	12	6.4
Weber R at Gateway <sup>1</sup>								
	APR-JUL	285	320	355	173%	390	450	205
	MAY-JUL	157	194	230	150%	265	325	153
Provo R at Woodland <sup>1</sup>								
	APR-JUL	94	107	118	139%	129	148	85
	MAY-JUL	77	90	101	135%	112	131	75
American Fk ab Upper Powerplant								
	APR-JUL	21	25	29	151%	32	38	19.2
	MAY-JUL	16.3	21	25	147%	28	34	17
Pineview Reservoir Inflow <sup>1</sup>								
	APR-JUL	114	135	150	190%	164	191	79
	MAY-JUL	48	69	84	171%	98	125	49
Salt Ck at Nephi								
	APR-JUL	5.9	7.6	8.7	185%	9.9	11.6	4.7
	MAY-JUL	3.9	5.6	6.7	186%	7.9	9.6	3.6
Big Cottonwood Ck nr SLC								
	APR-JUL	32	35	39	134%	42	47	29
	MAY-JUL	26	29	33	132%	36	41	25
Provo R at Hailstone <sup>1</sup>								
	APR-JUL	93	113	126	152%	140	160	83
	MAY-JUL	70	90	103	143%	117	137	72
Big Ck nr Randolph								
	APR-JUL	2.8	3.8	4.8	150%	5.9	8.1	3.2
	MAY-JUL	1.8	2.8	3.8	152%	4.9	7.1	2.5
Dunn Ck nr Park Valley								
	APR-JUL	3.2	3.8	4.3	179%	4.8	5.7	2.4
	MAY-JUL	2.3	2.9	3.4	162%	3.9	4.8	2.1
East Canyon Ck nr Jeremy Ranch								
	APR-JUL	12.3	15.1	17	179%	18.8	22	9.5
	MAY-JUL	5.2	8	9.8	153%	11.7	14.4	6.4
S Willow Ck nr Grantsville								
	APR-JUL	2.9	3.3	3.5	140%	3.8	4.1	2.5
	MAY-JUL	2.1	2.5	2.7	123%	3	3.3	2.2
SF Ogden R nr Huntsville <sup>1</sup>								
	APR-JUL	55	61	65	159%	71	80	41
	MAY-JUL	27	33	37	128%	43	52	29
Echo Reservoir Inflow <sup>1</sup>								
	APR-JUL	127	149	168	140%	187	220	120
	MAY-JUL	83	105	124	123%	143	178	101
Vernon Ck nr Vernon								
	APR-JUL	0.4	0.66	0.83	112%	1.01	1.27	0.74
	MAY-JUL	0.21	0.47	0.64	123%	0.82	1.08	0.52
Dell Fk nr SLC								
	APR-JUL	4.3	5	5.4	150%	5.9	6.6	3.6
	MAY-JUL	2.1	2.8	3.2	100%	3.7	4.4	3.2
Little Bear at Paradise								
	APR-JUL	40	45	50	179%	55	64	28
	MAY-JUL	18.3	23	28	151%	33	42	18.6
Weber R nr Oakley <sup>1</sup>								
	APR-JUL	102	113	122	126%	130	144	97
	MAY-JUL	84	95	104	117%	112	126	89
Little Cottonwood Ck nr SLC								
	APR-JUL	33	36	38	123%	40	43	31
	MAY-JUL	29	32	34	117%	36	39	29
W Canyon Ck nr Cedar Fort								
	APR-JUL	1.04	1.65	2.1	221%	2.4	3	0.95
	MAY-JUL	0.82	1.43	1.84	211%	2.2	2.8	0.87



Chalk Ck at Coalville								
	APR-JUL	26	36	43	165%	50	59	26
	MAY-JUL	13.6	23	30	136%	37	46	22
Spanish Fk at Castilla <sup>1</sup>								
	APR-JUL	44	52	58	193%	64	73	30
	MAY-JUL	21	29	35	152%	41	50	23
Great Salt Lake Inflow								
	MAY-JUL	245	425	550	180%	675	855	305
East Canyon Ck nr Morgan <sup>1</sup>								
	APR-JUL	22	26	29	161%	32	37	18
	MAY-JUL	9.2	13.5	16.5	120%	19.5	24	13.7
Emigration Ck nr SLC								
	APR-JUL	2.6	3.3	3.9	170%	4.6	5.9	2.3
	MAY-JUL	0.96	1.61	2.2	149%	2.9	4.2	1.48
Rockport Reservoir Inflow <sup>1</sup>								
	APR-JUL	99	120	135	155%	149	171	87
	MAY-JUL	74	95	110	151%	124	146	73
Mill Ck nr SLC								
	APR-JUL	5	6	6.7	156%	7.4	8.4	4.3
	MAY-JUL	4.1	5.1	5.8	161%	6.5	7.5	3.6
City Ck nr SLC								
	APR-JUL	5.5	6.2	6.8	128%	7.4	8.2	5.3
	MAY-JUL	4.2	4.9	5.5	122%	6.1	6.9	4.5
Provo R bl Deer Ck Dam <sup>1</sup>								
	APR-JUL	95	116	133	118%	154	193	113
	MAY-JUL	63	84	101	104%	122	161	97
Bear R nr UT-WY State Line								
	APR-JUL	89	102	111	110%	120	136	101
	APR-SEP	99	113	122	107%	132	149	114
	MAY-JUL	77	90	99	102%	108	124	97
	MAY-SEP	87	101	110	102%	120	137	108
Lost Ck Reservoir Inflow <sup>1</sup>								
	APR-JUL	12.5	13.9	15.1	159%	16.3	18.3	9.5
	MAY-JUL	5.2	6.6	7.8	118%	9	11	6.6
Bear R ab Resv nr Woodruff								
	APR-JUL	86	106	121	132%	137	169	92
	APR-SEP	87	108	127	128%	146	171	99
	MAY-JUL	51	71	86	108%	102	134	80
	MAY-SEP	52	73	92	108%	111	136	85
Lehman Ck nr Baker								
Logan R nr Logan <sup>1</sup>								
	APR-JUL	109	119	127	140%	136	151	91
	MAY-JUL	86	96	104	133%	113	128	78
Blacksmith Fk nr Hyrum								
	APR-JUL	38	42	45	155%	48	53	29
	MAY-JUL	20	24	27	129%	30	35	21
Utah Lake Inflow <sup>1</sup>								
	MAY-JUL	-6.5	71	124	102%	177	255	122
Weber R nr Coalville <sup>1</sup>								
	APR-JUL	100	117	132	142%	147	176	93
	MAY-JUL	69	86	101	131%	116	145	77

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Forecast Exceedance Probabilities For Risk Assessment Chance that actual volume will exceed forecast
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	APR-JUL	7.9	10.4	12.1	139%	13.8	16.2	8.7
	MAY-JUL	4.5	6.2	7.4	116%	8.9	12	6.4
Colorado R nr Cisco <sup>2</sup>								
	APR-JUL	2700	3100	3390	90%	3690	4170	3750
	MAY-JUL	2230	2630	2920	91%	3220	3700	3220
Mammoth Ck nr Hatch								
	APR-JUL	15.3	18.6	21	107%	24	30	19.7
	MAY-JUL	12.1	15.4	18.2	100%	21	27	18.2
Coal Ck nr Cedar City								
	APR-JUL	10.8	12.8	14.3	114%	16.2	18.8	12.5
	MAY-JUL	5.8	7.8	9.3	104%	11.2	13.8	8.9
Strawberry R nr Duchesne <sup>2</sup>								
	APR-JUL	88	100	109	206%	119	135	53
	MAY-JUL	58	71	80	216%	90	105	37
Dunn Ck nr Park Valley								
	APR-JUL	3.2	3.8	4.3	179%	4.8	5.7	2.4
	MAY-JUL	2.3	2.9	3.4	162%	3.9	4.8	2.1
SF Ogden R nr Huntsville <sup>1</sup>								
	APR-JUL	55	61	65	159%	71	80	41
	MAY-JUL	27	33	37	128%	43	52	29
Virgin R at Virgin								
	APR-JUL	30	36	40	111%	44	50	36
	MAY-JUL	13.8	19.8	24	109%	28	34	22
Beaver R nr Beaver								
	APR-JUL	17.7	21	23	132%	26	30	17.4
	MAY-JUL	13.5	16.3	18.8	122%	22	26	15.4
Little Bear at Paradise								
	APR-JUL	40	45	50	179%	55	64	28
	MAY-JUL	18.3	23	28	151%	33	42	18.6
Upper Stillwater Reservoir Inflow <sup>2</sup>								
	APR-JUL	63	69	74	109%	78	85	68
	MAY-JUL	54	60	65	98%	70	77	66
Sevier R nr Gunnison								
	APR-JUL	26	36	45	150%	54	67	30
	MAY-JUL	7.7	18	27	123%	36	49	22
Joes Valley Reservoir Inflow <sup>2</sup>								
	APR-JUL	41	46	50	114%	54	60	44
	MAY-JUL	37	42	46	112%	50	56	41
East Canyon Ck nr Morgan <sup>1</sup>								
	APR-JUL	22	26	29	161%	32	37	18
	MAY-JUL	9.2	13.5	16.5	120%	19.5	24	13.7
Virgin R nr Hurricane								
	APR-JUL	22	29	33	106%	38	46	31
	MAY-JUL	7.6	14.6	18.6	101%	24	32	18.5
WF Duchesne R at VAT Diversion <sup>2</sup>								
	APR-JUL	14.7	16.7	18.2	126%	19.7	22	14.5
	MAY-JUL	13.5	15.5	17	125%	18.5	21	13.6
City Ck nr SLC								
	APR-JUL	5.5	6.2	6.8	128%	7.4	8.2	5.3
	MAY-JUL	4.2	4.9	5.5	122%	6.1	6.9	4.5
Provo R bl Deer Ck Dam <sup>1</sup>								
	APR-JUL	95	116	133	118%	154	193	113
	MAY-JUL	63	84	101	104%	122	161	97
Santa Clara R nr Pine Valley								
	APR-JUL	1.75	2.6	3.3	103%	4	5.1	3.2
	MAY-JUL	0.46	1.31	2	87%	2.7	3.8	2.3
Duchesne R nr Randlett <sup>2</sup>								
	APR-JUL	235	285	320	125%	360	420	255
	MAY-JUL	182	230	265	118%	305	365	225
Yellowstone R nr Altonah <sup>2</sup>								
	APR-JUL	41	49	54	96%	60	70	56
	MAY-JUL	36	43	49	91%	55	64	54

Muddy Ck nr Emery	APR-JUL	9.3	11.7	13.5	83%	15.4	18.6	16.3
	MAY-JUL	7.9	10.3	12.1	81%	14	17.2	14.9
Strawberry R nr Soldier Springs <sup>2</sup>	APR-JUL	52	61	68	189%	76	87	36
	MAY-JUL	34	43	50	185%	57	69	27
Weber R at Gateway <sup>1</sup>	APR-JUL	285	320	355	173%	390	450	205
	MAY-JUL	157	194	230	150%	265	325	153
Clear Ck ab Diversions nr Sevier	APR-JUL	12.6	14.7	16.5	121%	18.3	22	13.6
	MAY-JUL	7.5	9.6	11.4	105%	13.2	16.7	10.9
Provo R at Hailstone <sup>1</sup>	APR-JUL	93	113	126	152%	140	160	83
	MAY-JUL	70	90	103	143%	117	137	72
Uinta R bl Powerplant Diversion nr Neola	APR-JUL	40	50	58	91%	66	80	64
	MAY-JUL	36	46	54	89%	62	76	61
Duchesne R at Myton <sup>2</sup>	APR-JUL	225	265	290	135%	320	365	215
	MAY-JUL	171	210	235	122%	265	310	193
EF Sevier R nr Kingston <sup>1</sup>	APR-JUL	1.04	9.1	14.6	109%	20	28	13.4
	MAY-JUL	-3	5.1	10.6	129%	16	24	8.2
Dell Fk nr SLC	APR-JUL	4.3	5	5.4	150%	5.9	6.6	3.6
	MAY-JUL	2.1	2.8	3.2	100%	3.7	4.4	3.2
Little Cottonwood Ck nr SLC	APR-JUL	33	36	38	123%	40	43	31
	MAY-JUL	29	32	34	117%	36	39	29
Chalk Ck at Coalville	APR-JUL	26	36	43	165%	50	59	26
	MAY-JUL	13.6	23	30	136%	37	46	22
Spanish Fk at Castilla <sup>1</sup>	APR-JUL	44	52	58	193%	64	73	30
	MAY-JUL	21	29	35	152%	41	50	23
Ashley Ck nr Vernal	APR-JUL	20	28	33	77%	38	45	43
	MAY-JUL	16.3	24	29	69%	34	42	42
Emigration Ck nr SLC	APR-JUL	2.6	3.3	3.9	170%	4.6	5.9	2.3
	MAY-JUL	0.96	1.61	2.2	149%	2.9	4.2	1.48
Whiterocks R nr Whiterocks	APR-JUL	26	32	37	86%	42	50	43
	MAY-JUL	23	29	34	83%	39	47	41
Rockport Reservoir Inflow <sup>1</sup>	APR-JUL	99	120	135	155%	149	171	87
	MAY-JUL	74	95	110	151%	124	146	73
Weber R nr Oakley <sup>1</sup>	APR-JUL	102	113	122	126%	130	144	97
	MAY-JUL	84	95	104	117%	112	126	89
Weber R nr Coalville <sup>1</sup>	APR-JUL	100	117	132	142%	147	176	93
	MAY-JUL	69	86	101	131%	116	145	77
Electric Lake Inflow <sup>2</sup>	APR-JUL	11.8	13.3	14.3	172%	15.4	17.1	8.3
	MAY-JUL	10.1	11.6	12.6	173%	13.7	15.4	7.3
Salina Ck nr Emery	APR-JUL	3.6	4.5	5.1	91%	5.7	6.6	5.6
	MAY-JUL	2.6	3.5	4.1	84%	4.7	5.6	4.9
Huntington Ck nr Huntington <sup>2</sup>	APR-JUL	34	37	40	111%	43	47	36

	MAY-JUL	29	32	35	103%	38	42	34
Lake Fk R bl Moon Lk nr Mountain Home <sup>2</sup>	APR-JUL	46	52	57	100%	61	69	57
	MAY-JUL	40	47	51	94%	56	63	54
Provo R at Woodland <sup>1</sup>	APR-JUL	94	107	118	139%	129	148	85
	MAY-JUL	77	90	101	135%	112	131	75
Ferron Ck (Upper Station) nr Ferron	APR-JUL	27	31	33	103%	35	39	32
	MAY-JUL	24	28	30	103%	32	36	29
American Fk ab Upper Powerplant	APR-JUL	21	25	29	151%	32	38	19.2
	MAY-JUL	16.3	21	25	147%	28	34	17
Salt Ck at Nephi	APR-JUL	5.9	7.6	8.7	185%	9.9	11.6	4.7
	MAY-JUL	3.9	5.6	6.7	186%	7.9	9.6	3.6
Rock Ck nr Mountain Home <sup>2</sup>	APR-JUL	73	81	86	110%	91	100	78
	MAY-JUL	62	70	75	101%	81	89	74
Stateline Reservoir Inflow <sup>2</sup>	APR-JUL	17.6	21	24	92%	27	31	26
	MAY-JUL	15.6	19.3	22	88%	25	29	25
Big Cottonwood Ck nr SLC	APR-JUL	32	35	39	134%	42	47	29
	MAY-JUL	26	29	33	132%	36	41	25
Flaming Gorge Reservoir Inflow <sup>2</sup>	APR-JUL	545	690	795	80%	910	1100	990
	MAY-JUL	415	560	665	76%	780	970	880
East Canyon Ck nr Jeremy Ranch	APR-JUL	12.3	15.1	17	179%	18.8	22	9.5
	MAY-JUL	5.2	8	9.8	153%	11.7	14.4	6.4
S Willow Ck nr Grantsville	APR-JUL	2.9	3.3	3.5	140%	3.8	4.1	2.5
	MAY-JUL	2.1	2.5	2.7	123%	3	3.3	2.2
Echo Reservoir Inflow <sup>1</sup>	APR-JUL	127	149	168	140%	187	220	120
	MAY-JUL	83	105	124	123%	143	178	101
Sevier R nr Kingston	APR-JUL	14.9	19.4	22	150%	26	33	14.7
	MAY-JUL	0.61	5.1	7.9	72%	12.1	19	10.9
Price R nr Scofield Reservoir <sup>2</sup>	APR-JUL	39	44	47	181%	51	56	26
	MAY-JUL	28	33	36	164%	40	45	22
Mill Ck at Sheley Tunnel nr Moab	APR-JUL	1.94	2.5	3	91%	3.5	4.4	3.3
	MAY-JUL	1.17	1.74	2.2	79%	2.7	3.6	2.8
W Canyon Ck nr Cedar Fort	APR-JUL	1.04	1.65	2.1	221%	2.4	3	0.95
	MAY-JUL	0.82	1.43	1.84	211%	2.2	2.8	0.87
Fish Ck ab Reservoir nr Scofield <sup>2</sup>	APR-JUL	27	31	34	172%	37	41	19.8
	MAY-JUL	22	26	29	166%	32	36	17.5
Currant Ck Reservoir Inflow <sup>2</sup>	APR-JUL	15	17.5	19.3	162%	21	24	11.9
	MAY-JUL	11.7	14.2	16	155%	18	21	10.3
Bear R nr UT-WY State Line	APR-JUL	89	102	111	110%	120	136	101
	APR-SEP	99	113	122	107%	132	149	114
	MAY-JUL	77	90	99	102%	108	124	97
	MAY-SEP	87	101	110	102%	120	137	108
Manti Ck bl Dugway Ck nr Manti	APR-JUL	9.9	13.1	15.2	117%	17.4	20	13

Lost Ck Reservoir Inflow <sup>1</sup>	MAY-JUL	8.4	11.6	13.7	114%	15.9	19	12
	APR-JUL	12.5	13.9	15.1	159%	16.3	18.3	9.5
Logan R nr Logan <sup>1</sup>	MAY-JUL	5.2	6.6	7.8	118%	9	11	6.6
	APR-JUL	109	119	127	140%	136	151	91
Utah Lake Inflow <sup>1</sup>	MAY-JUL	86	96	104	133%	113	128	78
	MAY-JUL	-6.5	71	124	102%	177	255	122

1) 90% And 10% exceedance probabilities are actually 95% And 5%

2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

## Appendix A: Data used in SWSI Calculations

<b>Watershed/ Region</b>	<b>USGS Gauging Station(s)</b>	<b>Reservoir(s)</b>	<b>Start Date</b>
<b>Bear</b>	Bear R nr Ut-Wy State Line	Bear Lake	1981
<b>Woodruff Narrows</b>	Bear R ab Resv nr Woodruff	Woodruff Narrows Reservoir	1986
<b>Little Bear</b>	Little Bear R at Paradise	Hyrum Reservoir	1993
<b>Ogden</b>	Pineview Reservoir Inflow	Pineview Reservoir, Causey Reservoir	1981
<b>Weber</b>	Weber R at Gateway	East Canyon Reservoir, Echo Reservoir, Lost Creek Reservoir, Rockport Reservoir, Smith And Morehouse Reservoir, Willard Bay	1981
<b>Provo</b>	Provo R at Woodland, Spanish Fk at Castilla, W Canyon Ck nr Cedar Fort, Salt Ck at Nephi, American Fk ab Upper Powerplant	Utah Lake, Deer Creek Reservoir, Jordanelle Reservoir	1995
<b>Western Uintas</b>	Yellowstone R nr Altonah	Starvation Reservoir, Moon Lake Reservoir, Upper Stillwater Reservoir	1981
<b>Eastern Uintas</b>	Big Brush Ck ab Red Fleet Reservoir, Ashley Ck nr Vernal, Whiterocks R nr Whiterocks	Red Fleet Reservoir, Steinaker Reservoir	1981
<b>Blacks Fork</b>	Blacks Fk nr Robertson	Meeks Cabin Reservoir	1984
<b>Smiths Fork</b>	East Fork Smiths Fork bl Stateline Res	Stateline Reservoir	1984
<b>Price</b>	Fish Ck ab Reservoir nr Scofield	Scofield Reservoir	1981
<b>Joes Valley</b>	Seely Ck bl Joes Valley Resv	Joes Valley Reservoir	1981
<b>Ferron Creek</b>	Ferron Ck Upper Station nr Ferron	Millsite	1981
<b>Moab</b>	Mill Ck at Sheley Tunnel nr Moab	Ken's Lake	1988
<b>Upper Sevier</b>	Sevier R nr Kingston, EF Sevier R nr Kingston	Piute Reservoir, Otter Creek Reservoir	1981
<b>San Pitch</b>	Manti Ck bl Dugway Ck nr Manti	Gunnison Reservoir	1981
<b>Lower Sevier</b>	Sevier R nr Gunnison	Sevier Bridge Reservoir	1981
<b>Beaver River</b>	Beaver R nr Beaver	Minersville Reservoir	1981
<b>Virgin River</b>	Virgin R at Virgin, Santa Clara R nr Pine Valley	Quail Creek, Gunlock	1993

# Water Supply Outlook Reports and Federal - State - Private Cooperative Snow Surveys

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For more water supply and resource management information, contact: your local Natural Resources Conservation Service Office or:  
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## *How forecasts are made*

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snowcourses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in statistical and simulation models to prepare runoff forecasts. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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## **Utah Water Supply Outlook Report**

**Natural Resources Conservation Service  
Salt Lake City, UT**

