

Utah Water Supply Outlook Report

April 1, 2024



Gunlock Falls near St. George, Utah

Photo by Jordan Clayton

STATE OF UTAH GENERAL OUTLOOK

April 1, 2024

SUMMARY

Thank you, March! Utah's already above-normal **snowpack** was boosted further by receiving 150% of our typical amount of snow water equivalent (SWE) for the month of March, adding to the excellent snowpack accumulation we experienced in February. As of April 1st, Utah's statewide SWE percent of normal is at 132% of median. With warmer, drier conditions forecasted for Utah in mid April, it is possible that we will have reached our peak snowpack conditions around the same time as is normal for our state—around April 3rd or so, though the exact timing is not yet certain as of this writing.

Now that this winter's snowpack season is nearing its melt phase, we can reflect on the good fortune of receiving back-to-back outstanding snowpack years. In fact, the last time we had two consecutive winters with snow totals this far above normal was 2005 and 2006. Utah's Division of Water Resources recently posted the following on [social media](#), and we wanted to highlight their insight in this report: "The state's current SWE situation is no joke: The last two years combined are nearly three years' worth of SWE (snow water equivalent). ... The statewide three-year average is 48 inches, and the statewide total for the last two years is 47.1 inches, with more on the way!" And like last winter, the good news has been widespread and not limited to certain areas of the state. All of Utah's major basins will peak at above-normal snowpack levels for the second year in a row! As of April 1st, the Ben Lomond Peak SNOTEL site was in 1st place for Utah with 52" SWE, followed closely by the Atwater and Snowbird sites in Little Cottonwood Canyon.

March was a great month for Utah's water supply needs. We received 156% of normal **precipitation** for the month, bringing the water-year-to-date value to 117% of normal, up an additional 6% from the end of February.

Statewide **soil moisture** is at 63% of saturation, which is 101% of normal for this time of year. Saturation levels have increased from last month even as the percent of normal has gone down. This is simply a reflection of the above-normal snowpack conditions producing later-than-normal onset of our meltout. We remain encouraged by the generally moist soil ... conditions in Utah's mountains and the prospect for efficient delivery of snow water to downstream areas as a result.

Utah's **streamflow forecasts** for April to July snowmelt runoff volume have increased since last month, reflecting the above-normal snow accumulation during March. April 1 forecasts range from 96% to 280% of median (63% to 158% of average). Please note (again) that we recommend focusing on the forecast value itself or the percent of average when assessing these streamflow predictions (see discussion on pages 2-3 [here](#)). Please also consider the following insight from Karl Wetlaufer, a Hydrologist with NRCS' National Water and Climate Center who provided the Upper Colorado River Basin forecasts included herein: "As always, we encourage you to zoom into the granularity of the individual streamflow points that are of interest to you and consider the forecasts as the full suite of exceedance probabilities. As has been observed many times over the past 10 years, future weather beyond April 1st can cause observed streamflows to end up on both ends of the range of probable outcomes issued in our forecasts."

Utah's current statewide **reservoir storage** is at 78% of capacity, which is actually 4% lower than last month. This decrease is due to the need for some reservoir operators to make room to be able to accommodate this spring's runoff, leading to releases in storage. We expect almost all of Utah's reservoirs to fill this year, with the exception of a few of our largest water bodies.

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 April 1 streamflow forecasts. While the the SWSI for the Lower Sevier basin has increased from last month, it is still

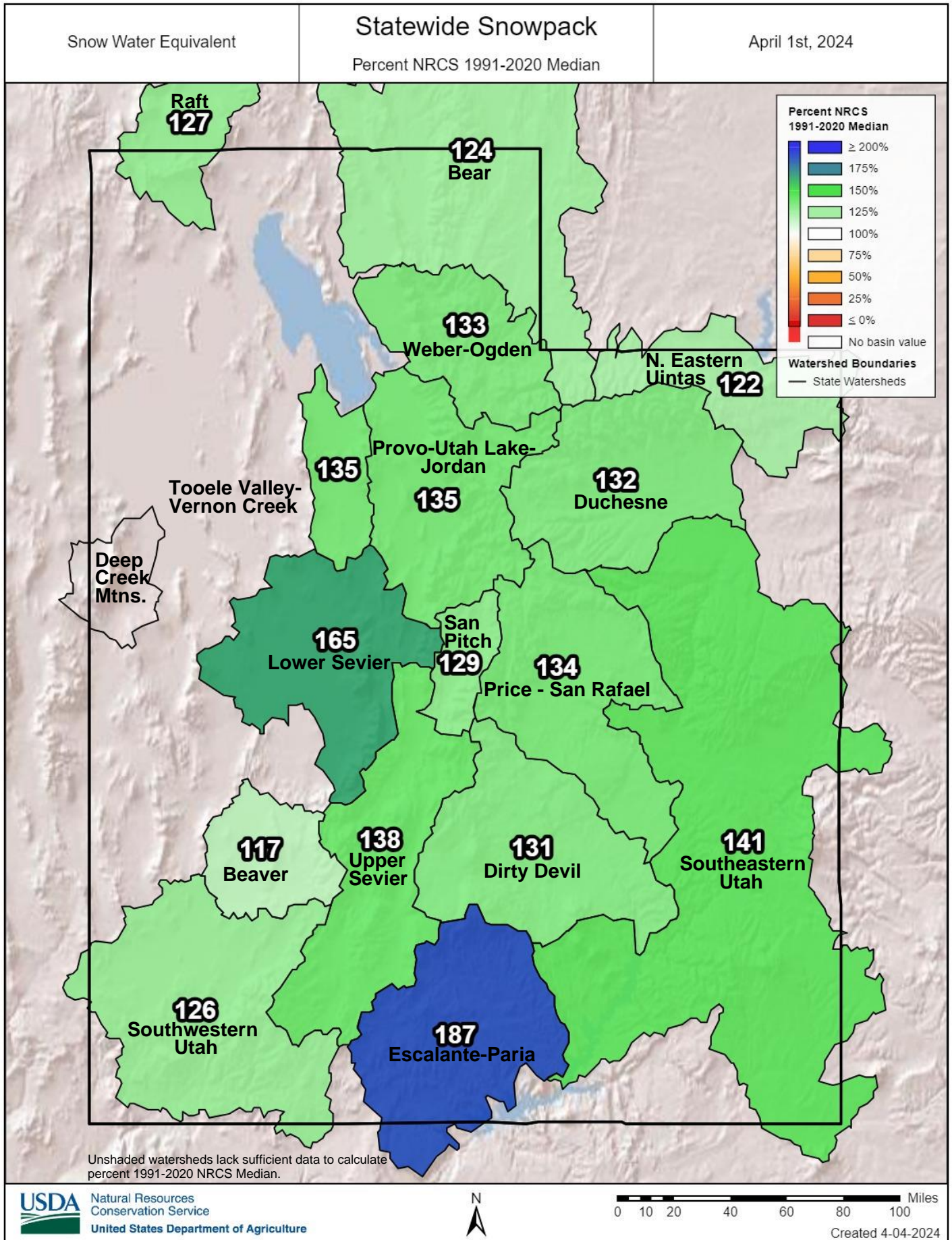
concerningly low. Elsewhere in the state, Utah's major watersheds are predicted to have somewhat above-normal surface water availability this summer (60th to 75th percentile range), with a few areas (Provo, Weber, Price, and Joes Valley drainages) predicted to have a well above-normal water supply.

As noted in previous reports this year, we have recently introduced basin-level conditions and inflow forecasts for the **Great Salt Lake** (GSL) in our monthly Water Supply Outlook Reports. Currently, SWE and precipitation in the GSL basin are 132% and 151% of normal, respectively. Soil moisture is above normal at 72% of saturation, and the basin's reservoir storage is at 81% of capacity. The relatively small amount of available reservoir capacity in GSL basin reservoirs will likely lead to significant surplus water that may make it to the GSL. Our GSL inflow forecast for April through July ranges from 600 thousand acre-feet (kaf) to 1420 kaf, with the most probable value closer to 1010 kaf (141% of average, 224% of median). Similarly, our predictions for lake level rise from April until peak lake stage ranges from 0.4 to 1.5 feet, with a 50th exceedance probability (most probable) rise of around 0.9 ft. On April 1st the south arm of the GSL was at 4194.3 ft elevation, so our expectation is that the lake will peak at just over 4195 ft stage this year, plus or minus roughly a half of a foot. See details in [last month's Water Supply Outlook Report](#) regarding the approach used to determine GSL rise values.

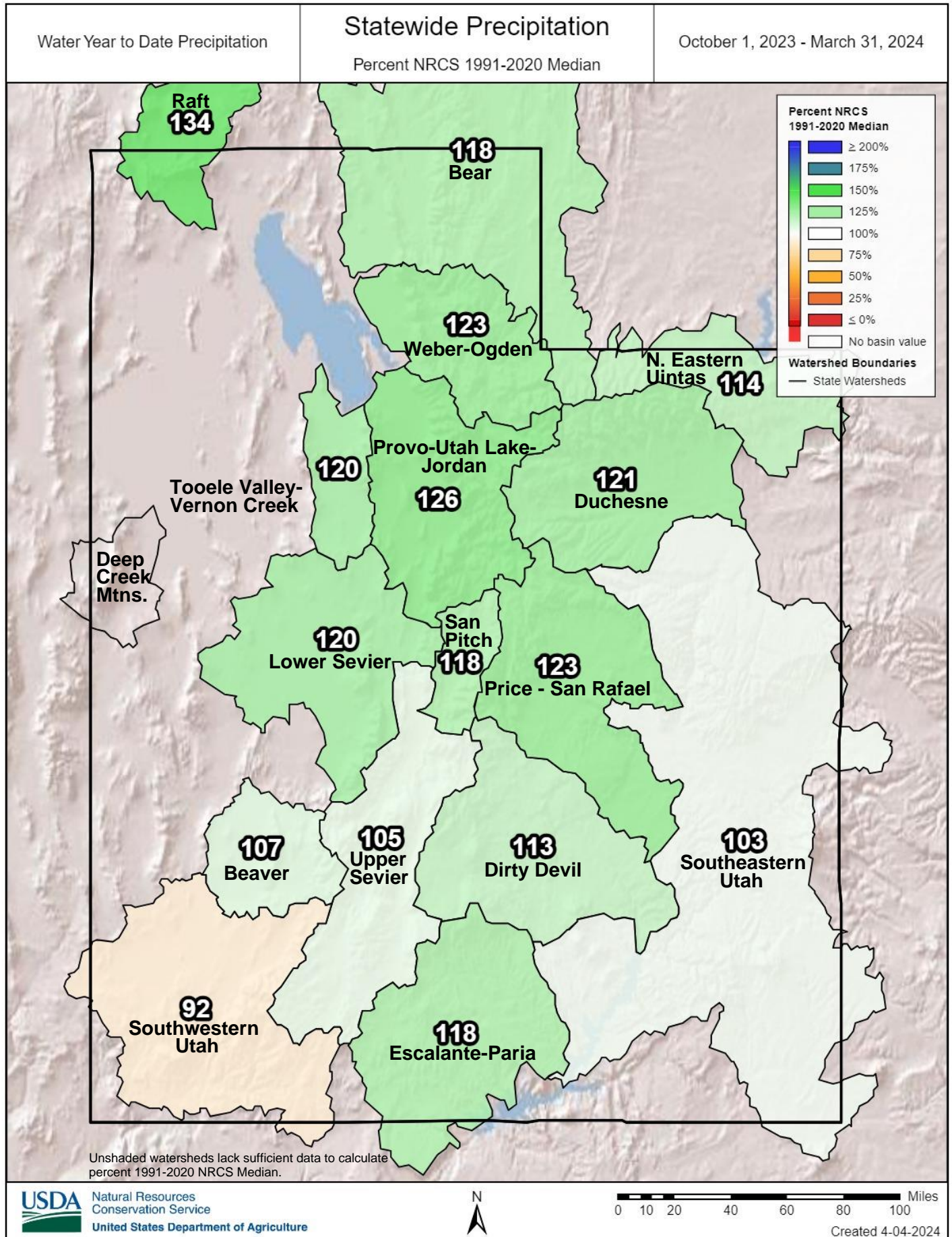
Please also recall the following challenges regarding GSL inflow and lake level rise forecasts. These were listed last month and are repeated here. We encourage Utah's water user community to evaluate the full range of probabilistic forecast possibilities and remember the *substantial* uncertainty associated with these estimates. (1) Unlike other forecast points in Utah, predicted flows into the GSL do not account for management actions upstream, such as withdrawals for diversions or storage in reservoirs. (2) Similarly, this year's forecasts are blind to the small remaining reservoir capacity in the GSL basin and the (high) potential for substantial excess water to make it to the lake after upstream reservoirs are filled. (3) We do not (yet) consider changes in storage for Willard Bay for our inflow forecast volumes (these will be included in next year's runoff forecast). (4) We do not consider complications in the lake's stage to volume relationship due to the existence (and recent changes in the condition) of the berm separating its south and north arms. (5) We do not explicitly include losses of water in the lake due to evaporation nor additions due to groundwater or direct precipitation onto the lake itself.

Our inclusion of GSL inflow forecasts and predicted lake level rise in this report 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.

Utah (statewide) Snowpack



Utah (statewide) Precipitation



April 1, 2024 | Surface Water Supply Index (SWSI)

Basin or Region	Reservoir Storage ¹ (KAF) ²	Apr-July Forecast (KAF) ²	Forecast + Storage (KAF) ²	SWSI ³	Percentile ⁴ (%)	Similar Years
Bear	922.7	122.0	1044.7	1.94	73	[1981, 1988]
Woodruff Narrows	48.8	124.0	172.8	1.25	65	[2016, 2019]
Little Bear	10.4	57.0	67.4	1.39	67	[1996, 2006]
Ogden	84.5	163.0	247.5	1.94	73	[2005, 2019]
Weber	362.9	385.0	747.9	2.31	78	[1985, 2006]
Provo	1268.8	251.3	1520.1	2.82	84	[1996, 2006]
Western Uintas	192.9	61.0	253.9	1.94	73	[2015, 2020]
Eastern Uintas	53.4	110.0	163.4	0.65	58	[2009, 2019]
Blacks Fork	19.6	90.0	109.6	1.19	64	[2014, 2015]
Smiths Fork	8.6	30.0	38.6	1.98	74	[1996, 2016]
Price	51.5	45.0	96.5	2.69	82	[1998, 2019]
Joes Valley	51.2	59.0	110.2	2.13	76	[1982, 2005]
Ferron Creek	11.1	38.0	49.1	1.02	62	[1996, 1999]
Moab	2.0	4.5	6.5	1.54	68	[1994, 1997]
Upper Sevier	117.9	36.3	154.2	1.02	62	[1981, 1986]
San Pitch	13.6	17.9	31.5	1.39	67	[1981, 1988]
Lower Sevier	108.5	45.0	153.5	-2.13	24	[1992, 2009]
Beaver River	22.5	22.0	44.5	0.83	60	[1981, 2006]
Virgin River	40.4	47.4	87.8	1.14	64	[1999, 2001]

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

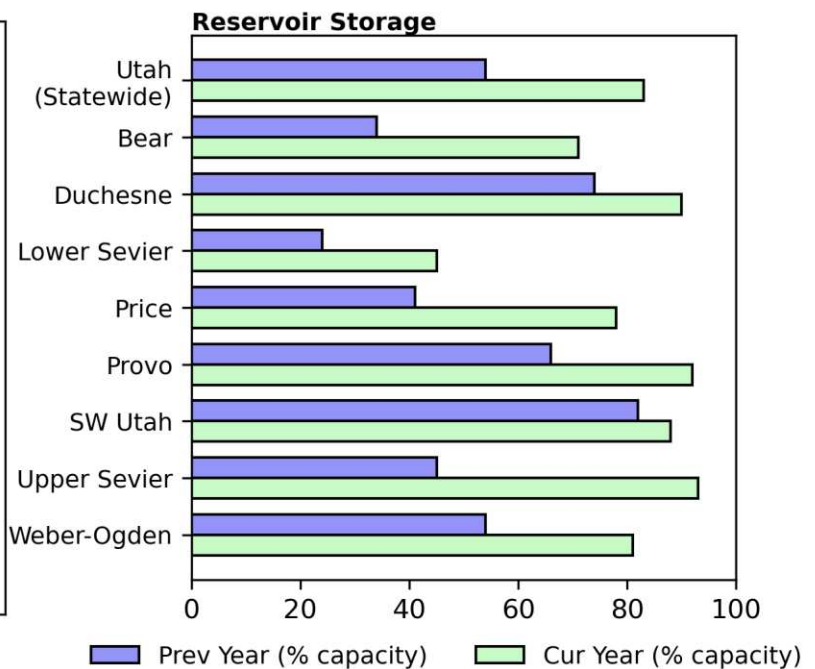
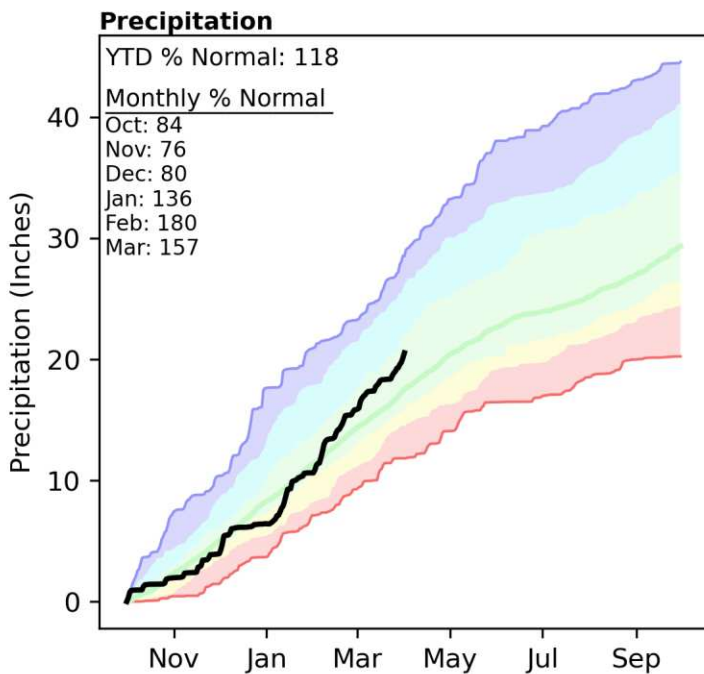
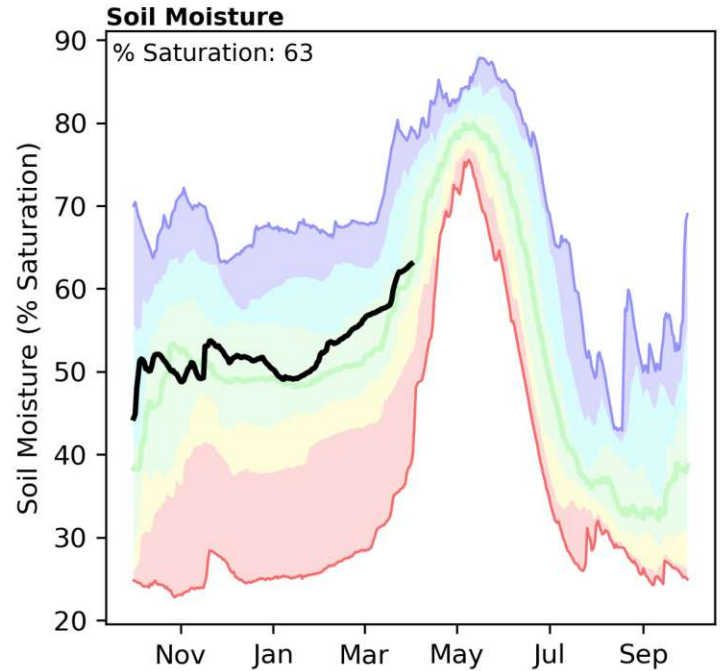
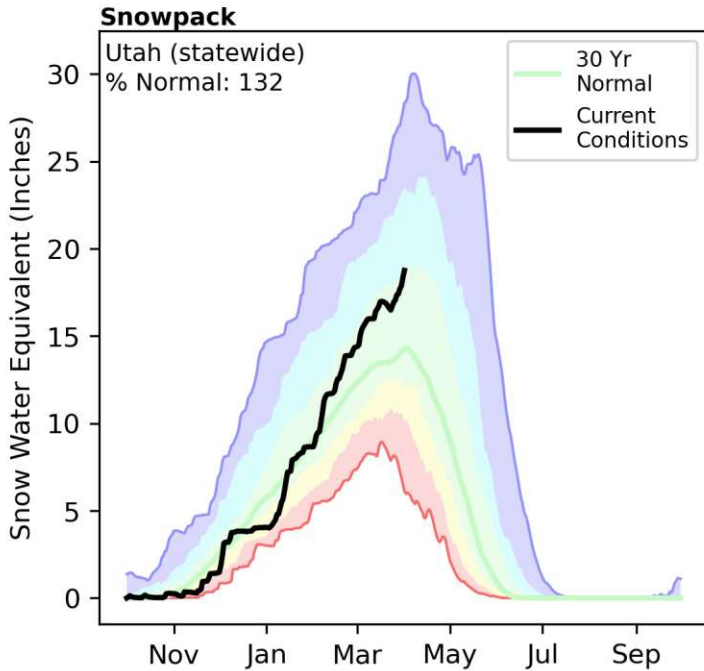
What is a Surface Water Supply Index?

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) | April 1, 2024

Snowpack in Utah (statewide) is well above normal at 132% of median, compared to 200% at this time last year. Precipitation in March was well above normal at 157%, which brings the seasonal accumulation (October-March) to 118% of median. Soil moisture is at 63% saturation compared to 61% saturation last year. Statewide, reservoir storage is 83% of capacity, compared to 54% last year¹. Forecast streamflow volumes (50% exceedence, April-July) range from 96% to 280% of normal.

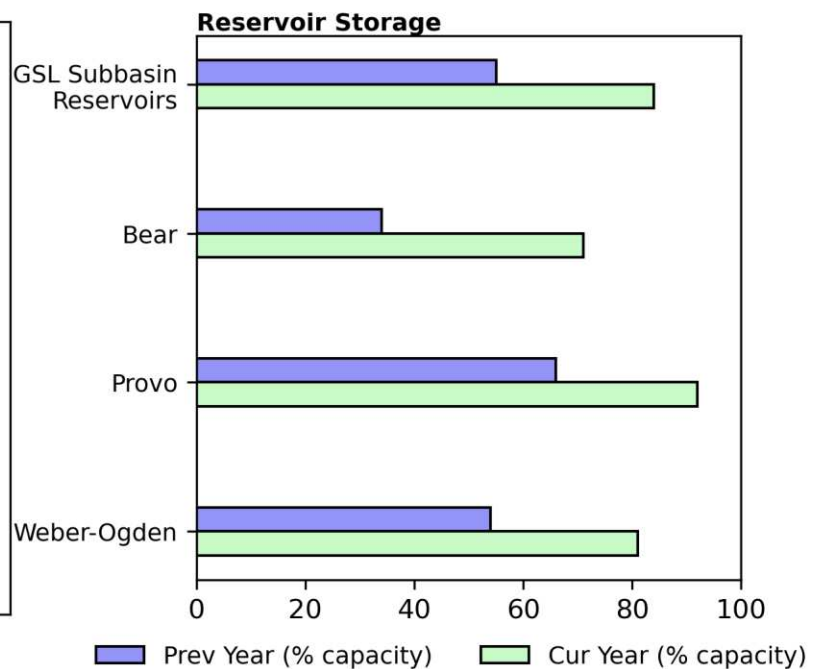
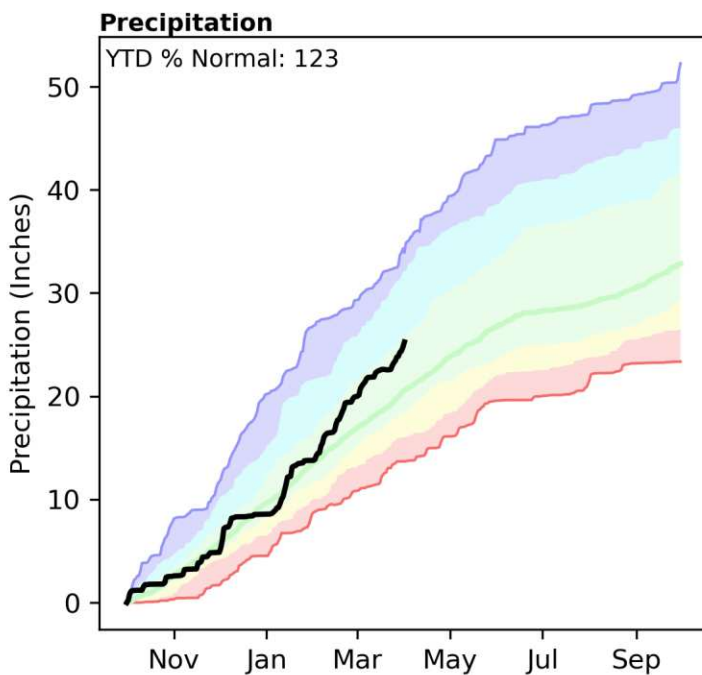
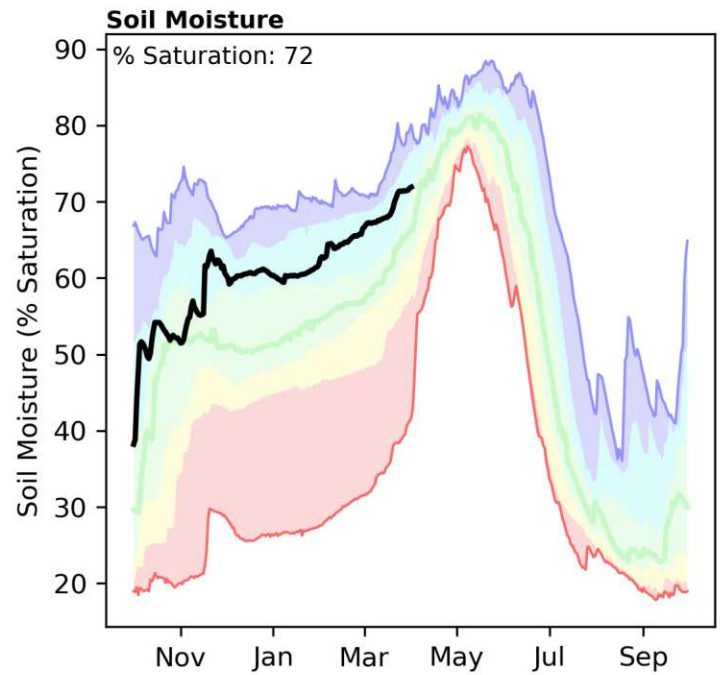
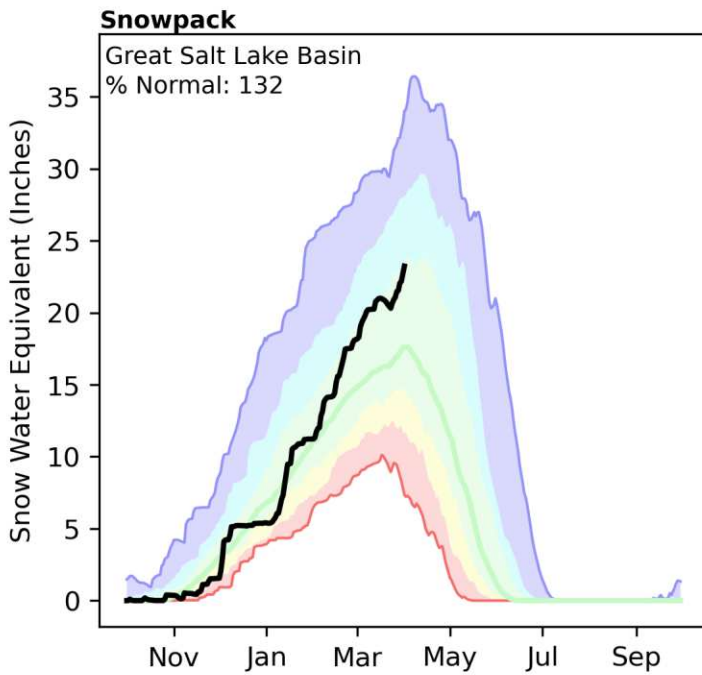


Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.
For more information visit: [30 year normal calculation description](#)

¹Statewide reservoir percentages exclude Lake Powell and Flaming Gorge Reservoirs.

Great Salt Lake Basin | April 1, 2024

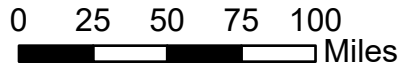
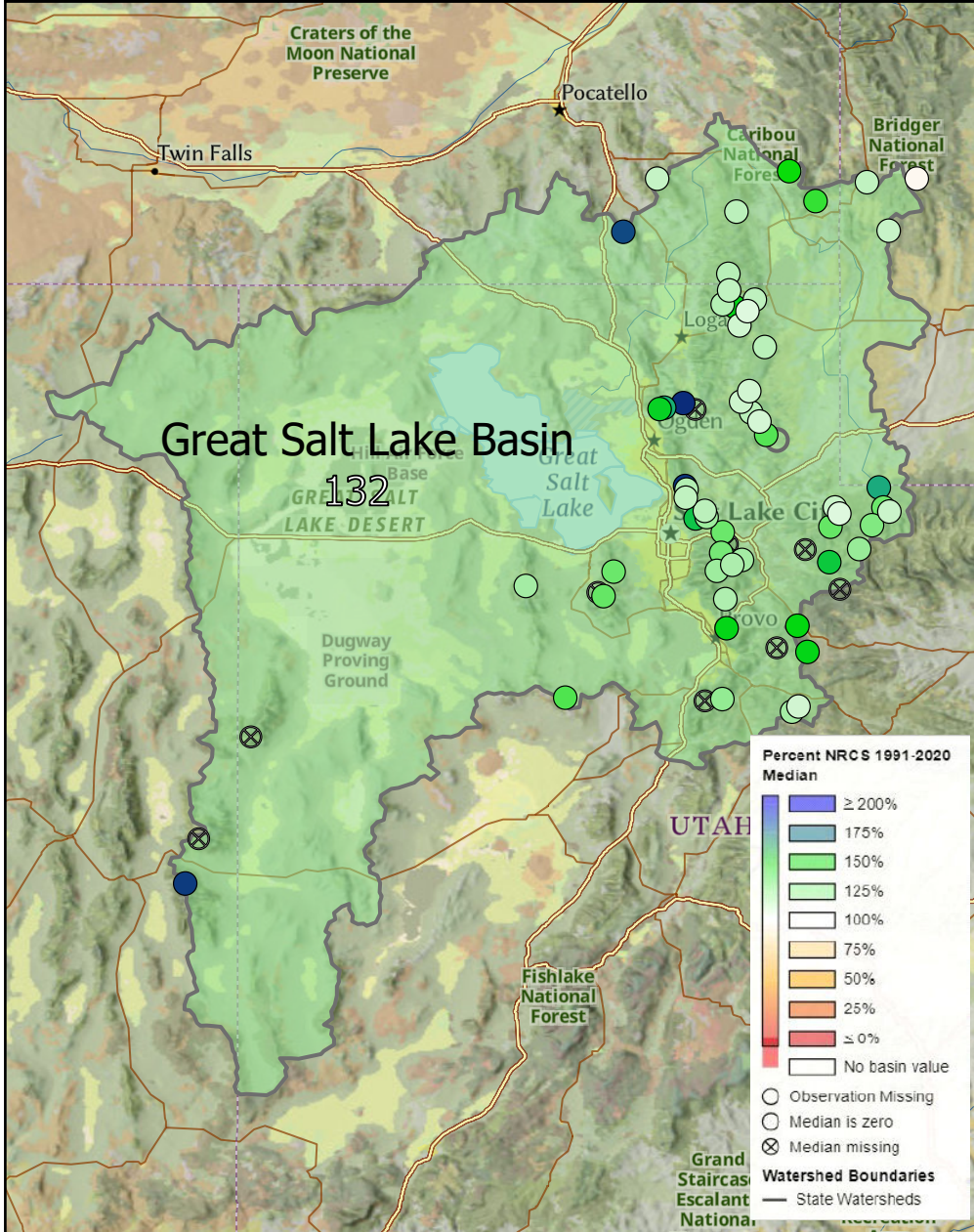
Snowpack in The Great Salt Lake (GSL) Basin¹ is well above normal at 132% of median, compared to 195% at this time last year. Precipitation in March was well above normal at 151%, which brings the seasonal accumulation (October-March) to 123% of median. Soil moisture is at 72% saturation compared to 63% saturation last year. Reservoir storage in GSL subbasins is 84% of capacity, compared to 55% last year. The forecast inflow volume (50% exceedence, April-July) for the GSL is 1050 thousand acre-feet (kaf) (224% of median) with predictions ranging from 600 kaf to 1420 kaf. The projected lake level (stage) increase is approximately 0.9 feet from April until peak stage, with predictions ranging from 0.4 to 1.5 feet.



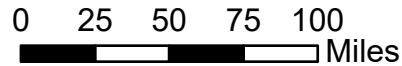
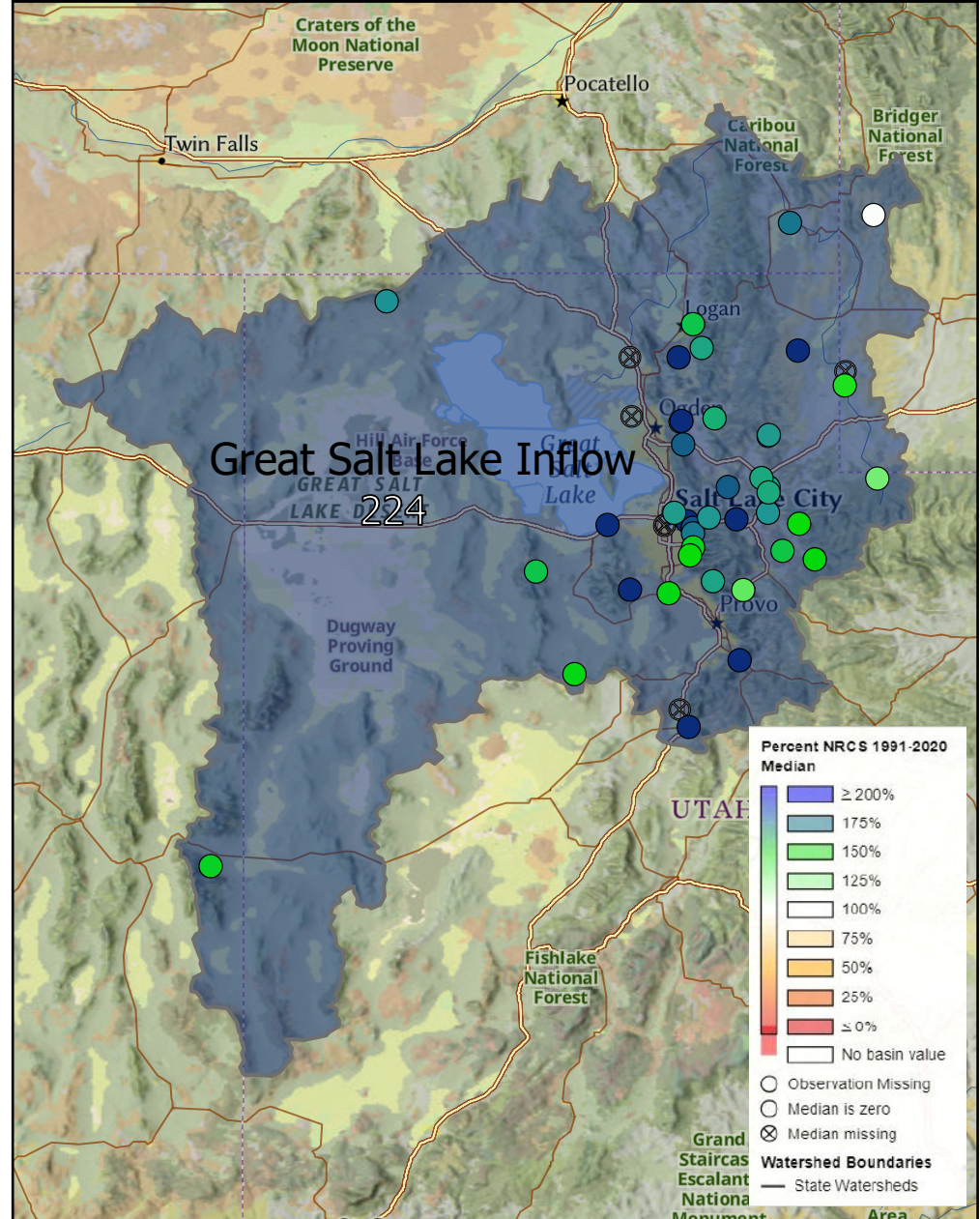
Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.
For more information visit: [30 year normal calculation description](#)

¹Comprised 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	Snowpack Percent NRCS 1991-2020 Median	April 1st, 2024
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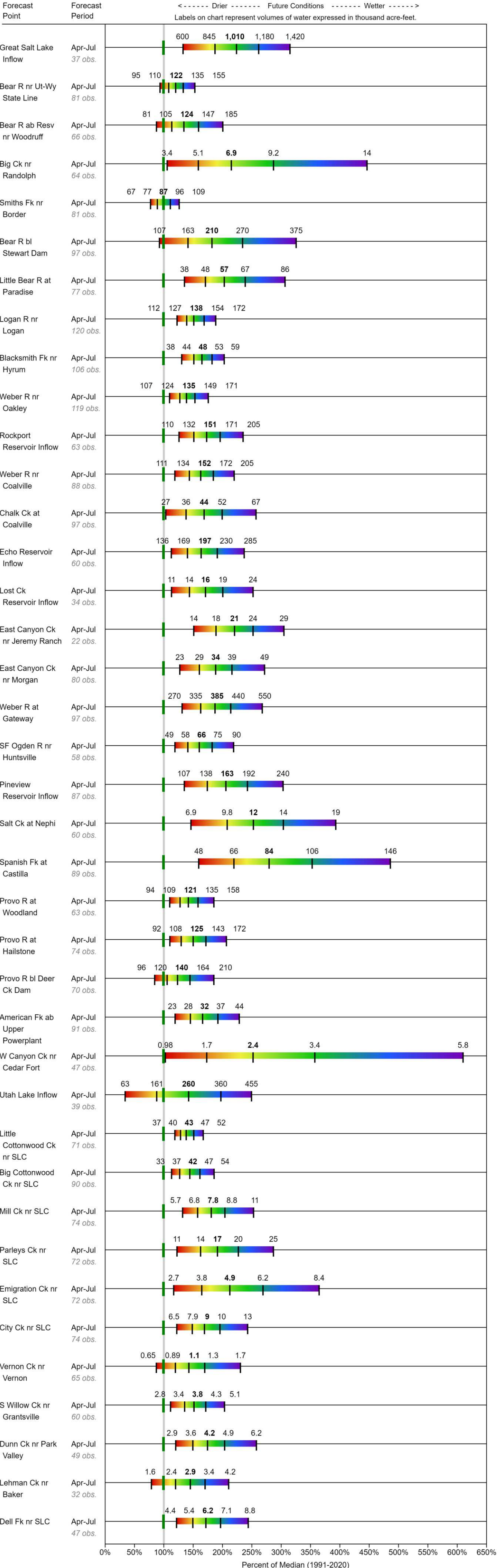
Forecast Volume 50% Exceedance Probability	Water Supply Forecast Percent NRCS 1991-2020 Median	Primary Period April 1st, 2024
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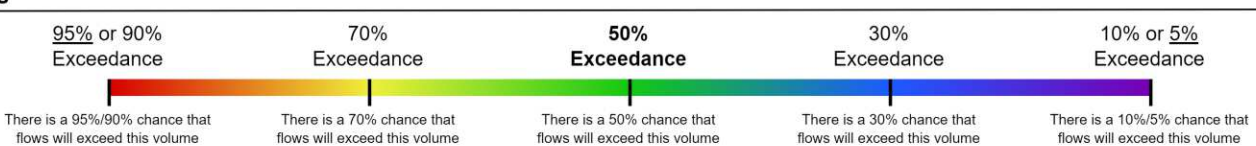
Great Salt Lake Basin

GREAT SALT LAKE Water Supply Forecasts April 1, 2024

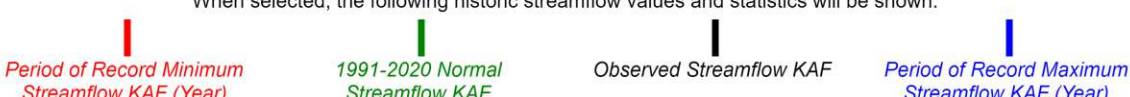
Forecast Exceedance Probabilities



Legend

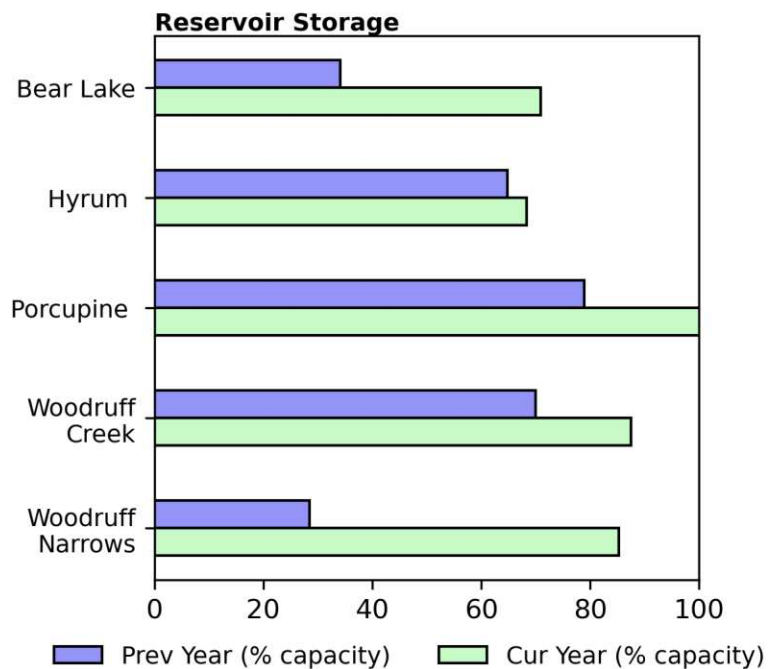
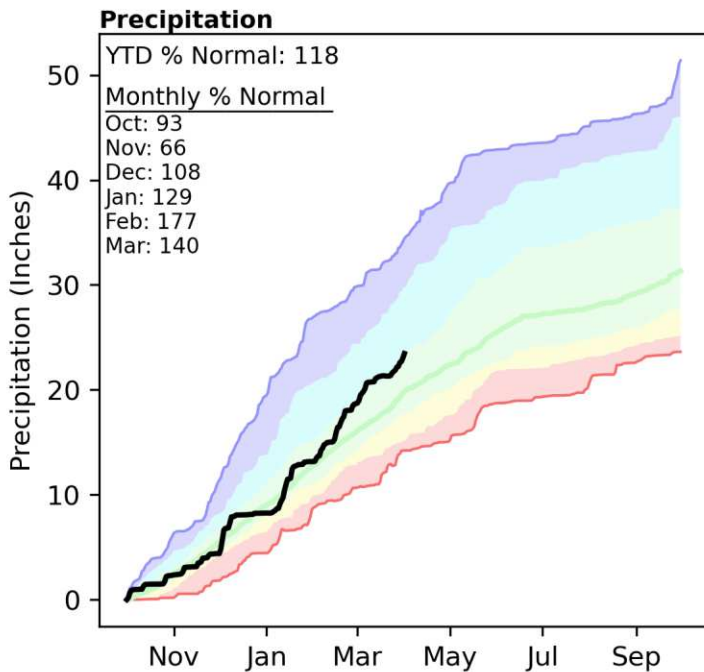
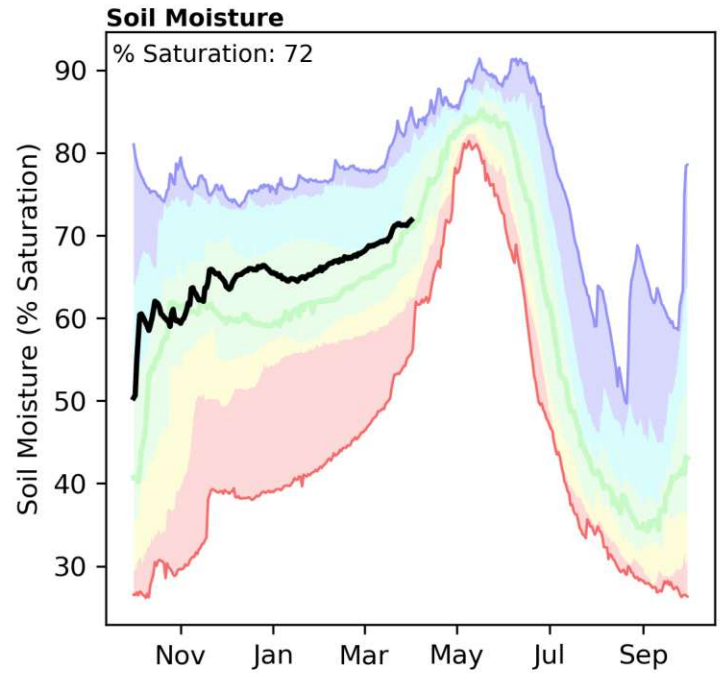
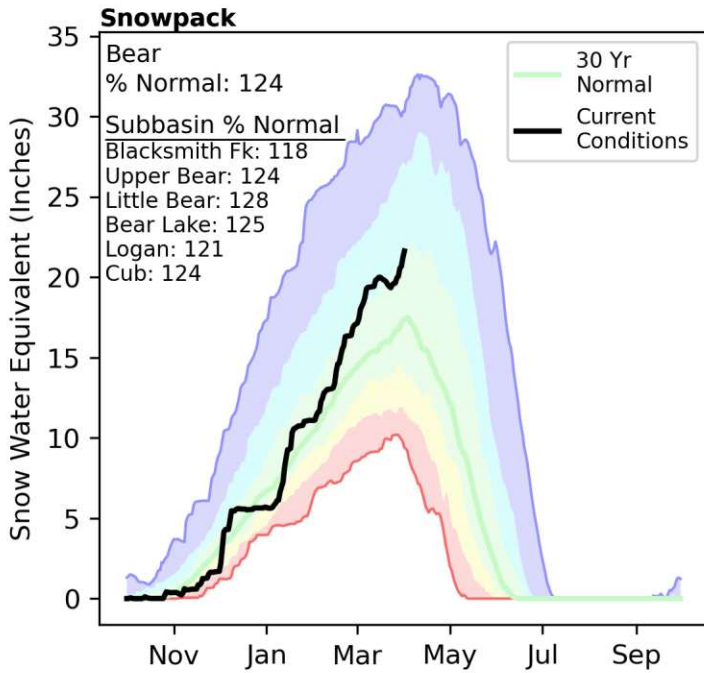


When selected, the following historic streamflow values and statistics will be shown.



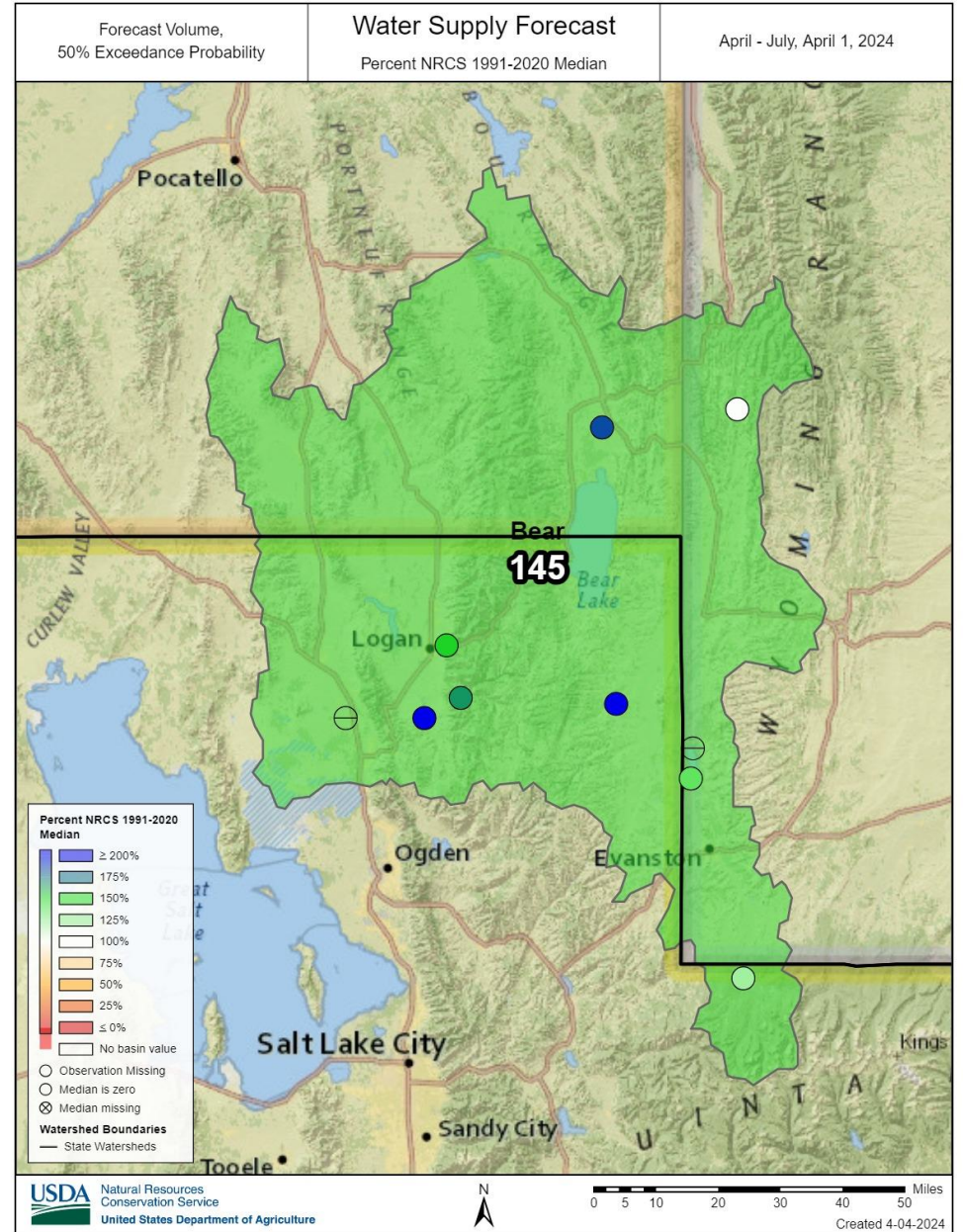
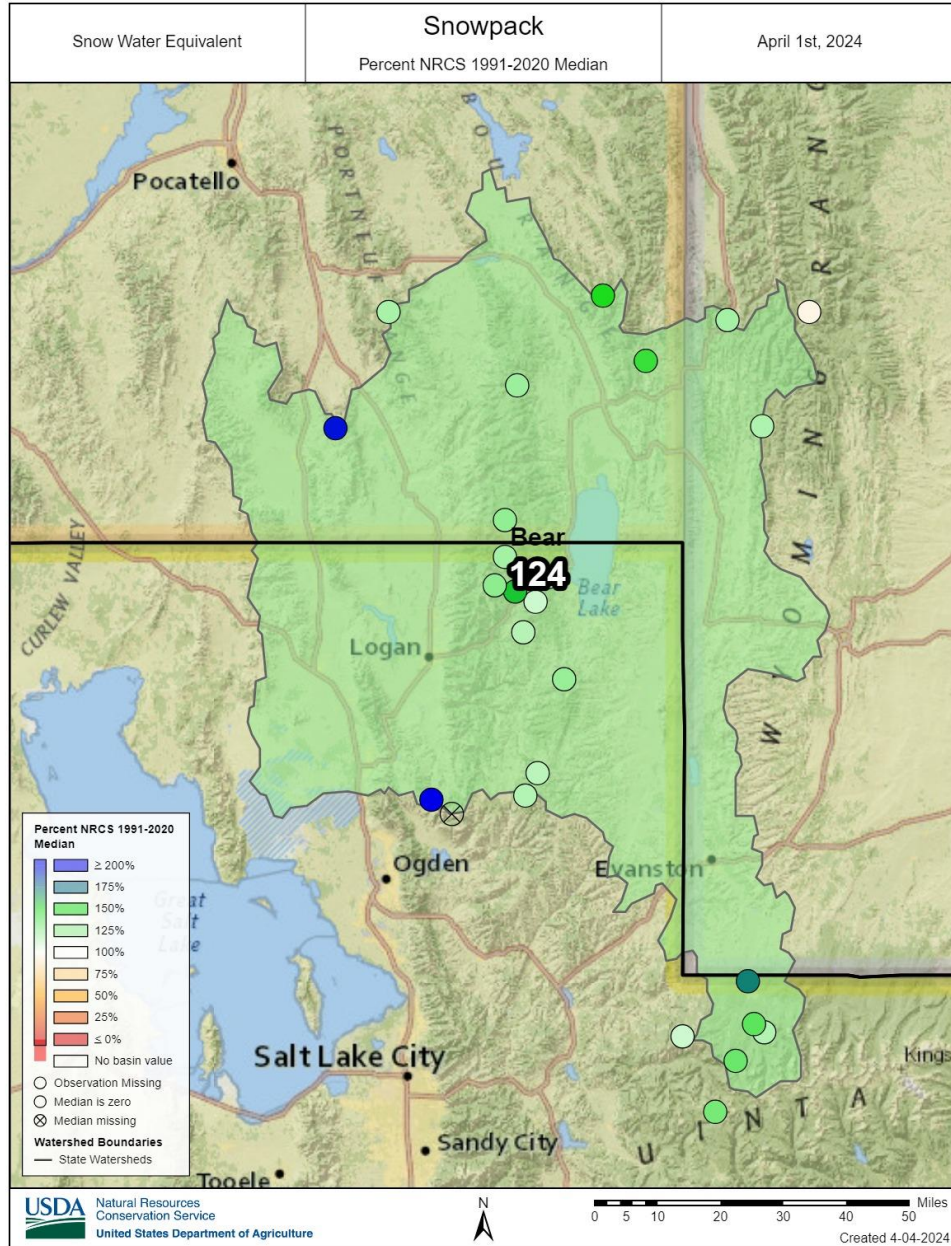
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

Snowpack in the Bear River Basin is above normal at 124% of median, compared to 164% at this time last year. Precipitation in March was well above normal at 140%, which brings the seasonal accumulation (October-March) to 118% of median. Soil moisture is at 72% saturation compared to 67% saturation last year. Reservoir storage is 71% of capacity, compared to 34% last year. Forecast streamflow volumes (50% exceedence, April-July) range from 101% to 216% of normal. The Surface Water Supply Index percentiles are 73% for the Bear, 67% for the Little Bear, and 65% for Woodruff Narrows.



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

Bear



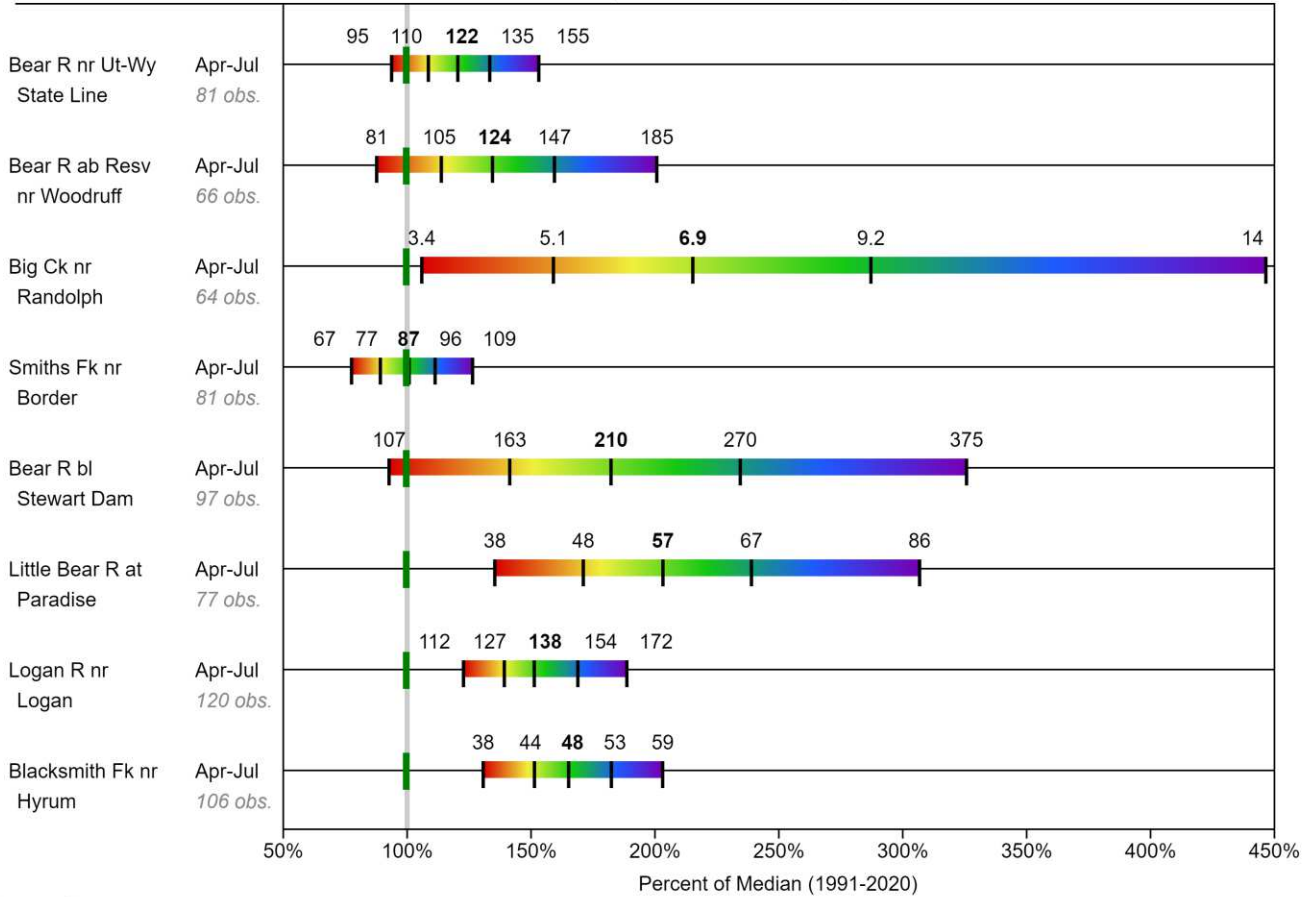
Bear

BEAR Water Supply Forecasts April 1, 2024

Forecast Exceedance Probabilities

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

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



Legend

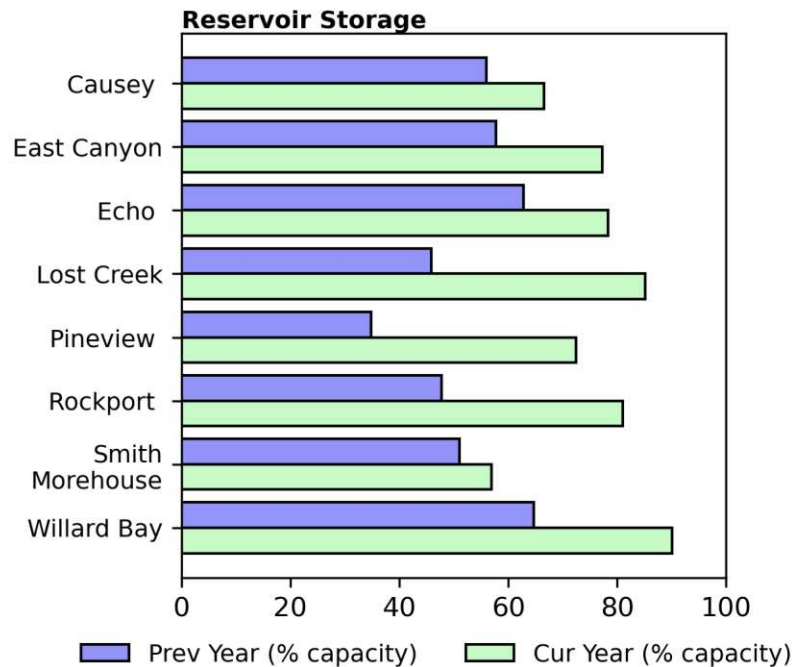
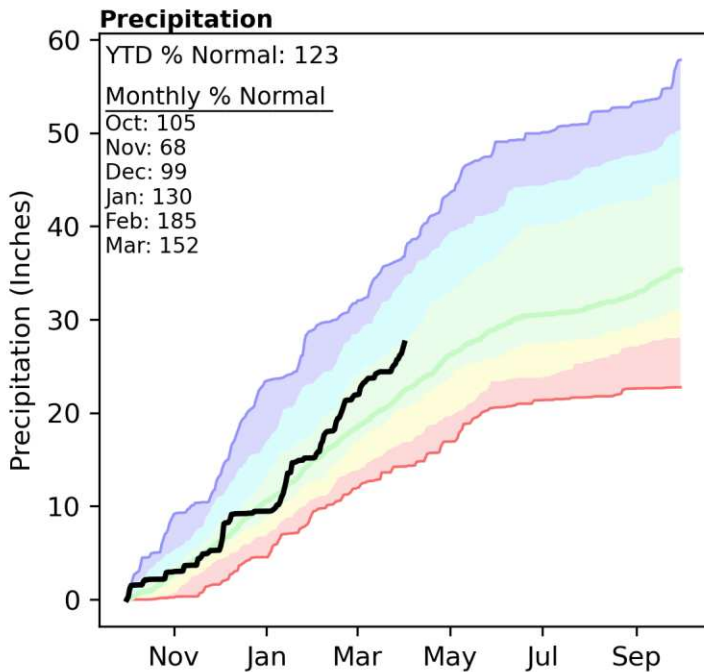
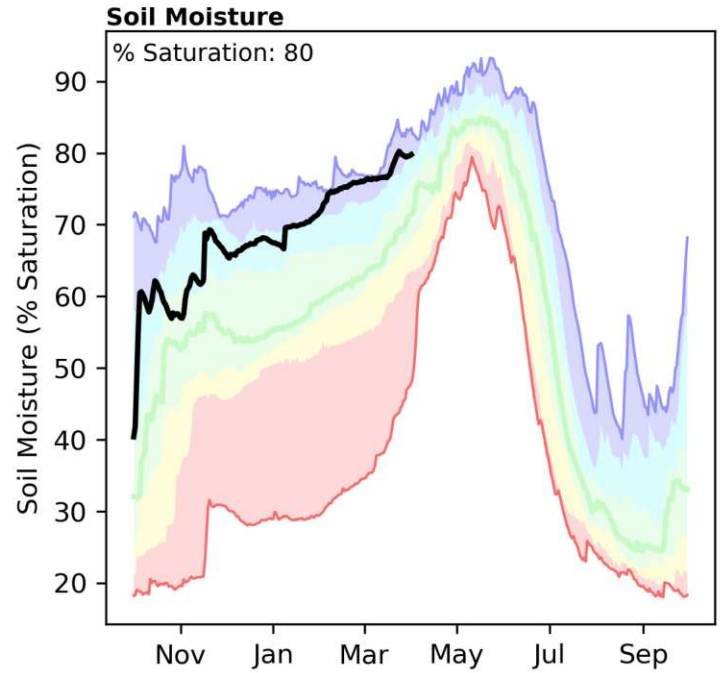
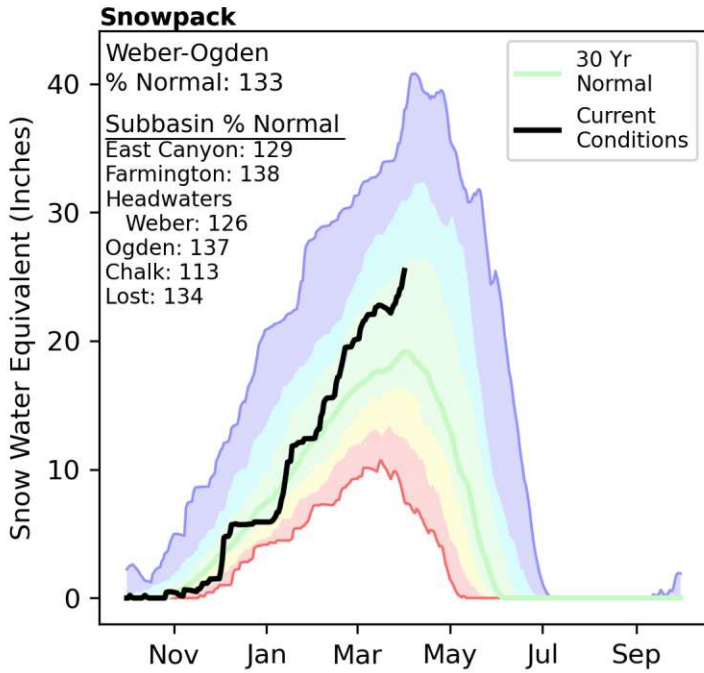


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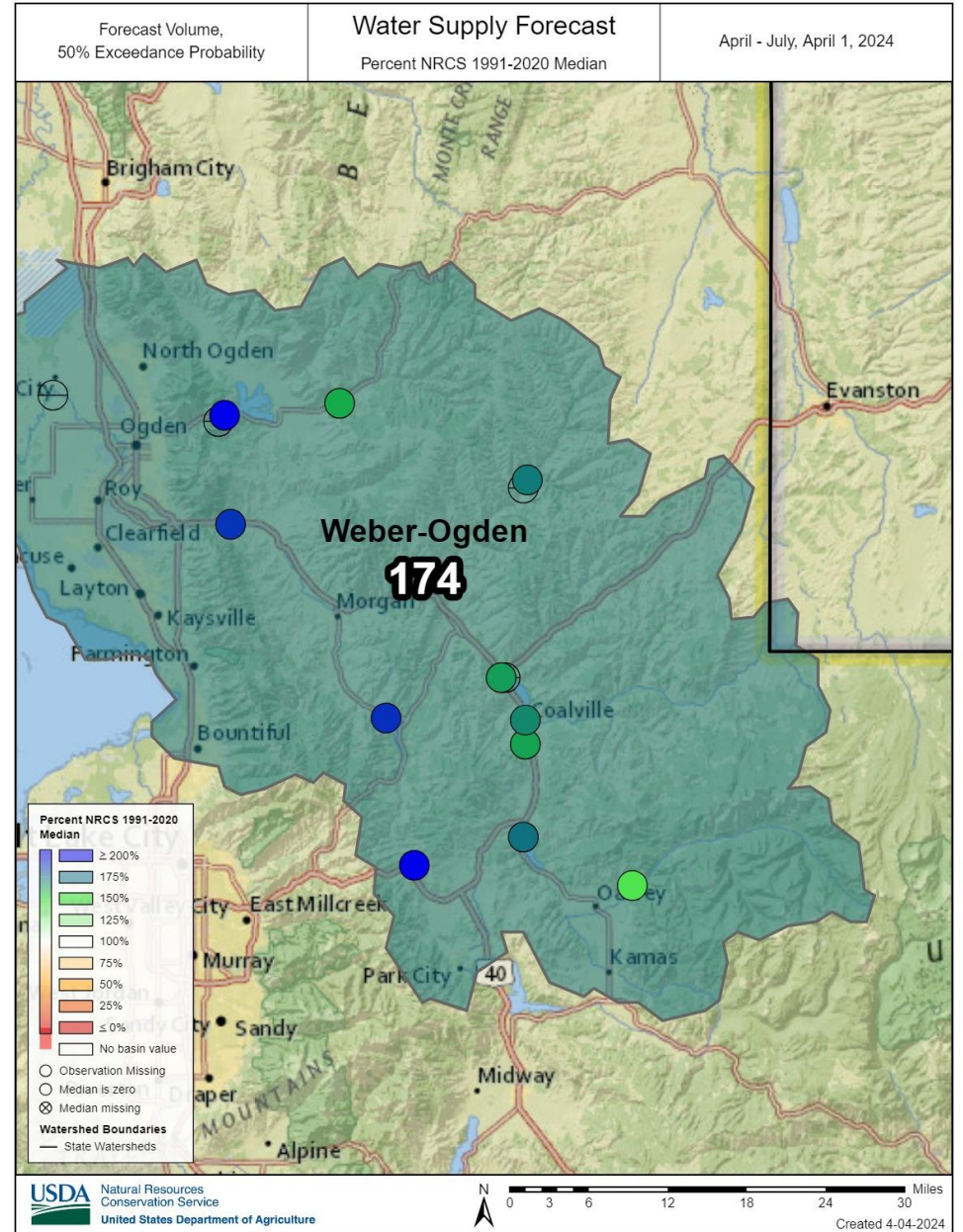
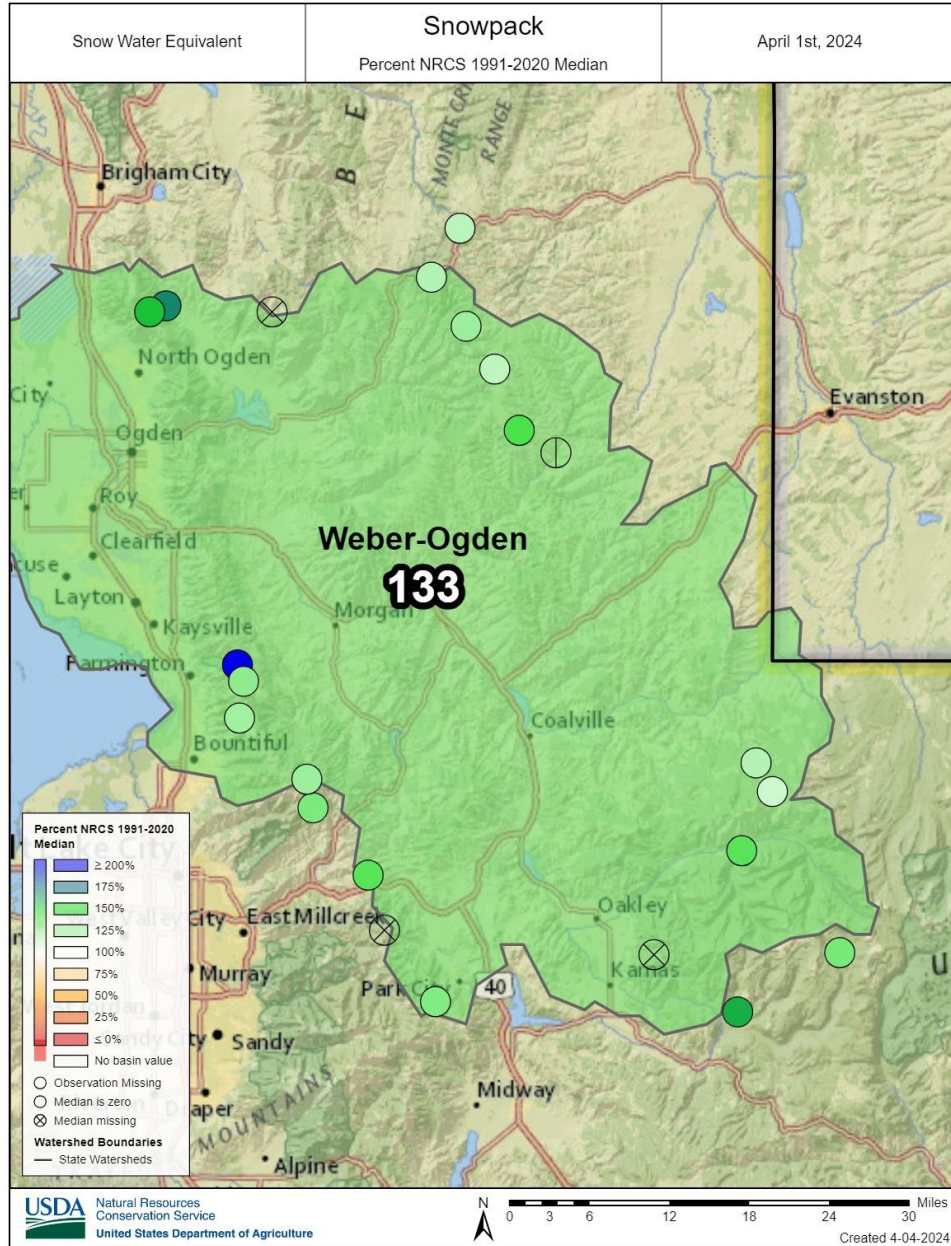
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

Snowpack in the Weber and Ogden River Basins is well above normal at 133% of median, compared to 198% at this time last year. Precipitation in March was well above normal at 152%, which brings the seasonal accumulation (October-March) to 123% of median. Soil moisture is at 80% saturation compared to 69% saturation last year. Reservoir storage is 81% of capacity, compared to 54% last year. Forecast streamflow volumes (50% exceedence, April-July) range from 139% to 221% of normal. The Surface Water Supply Index percentiles are 78% 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

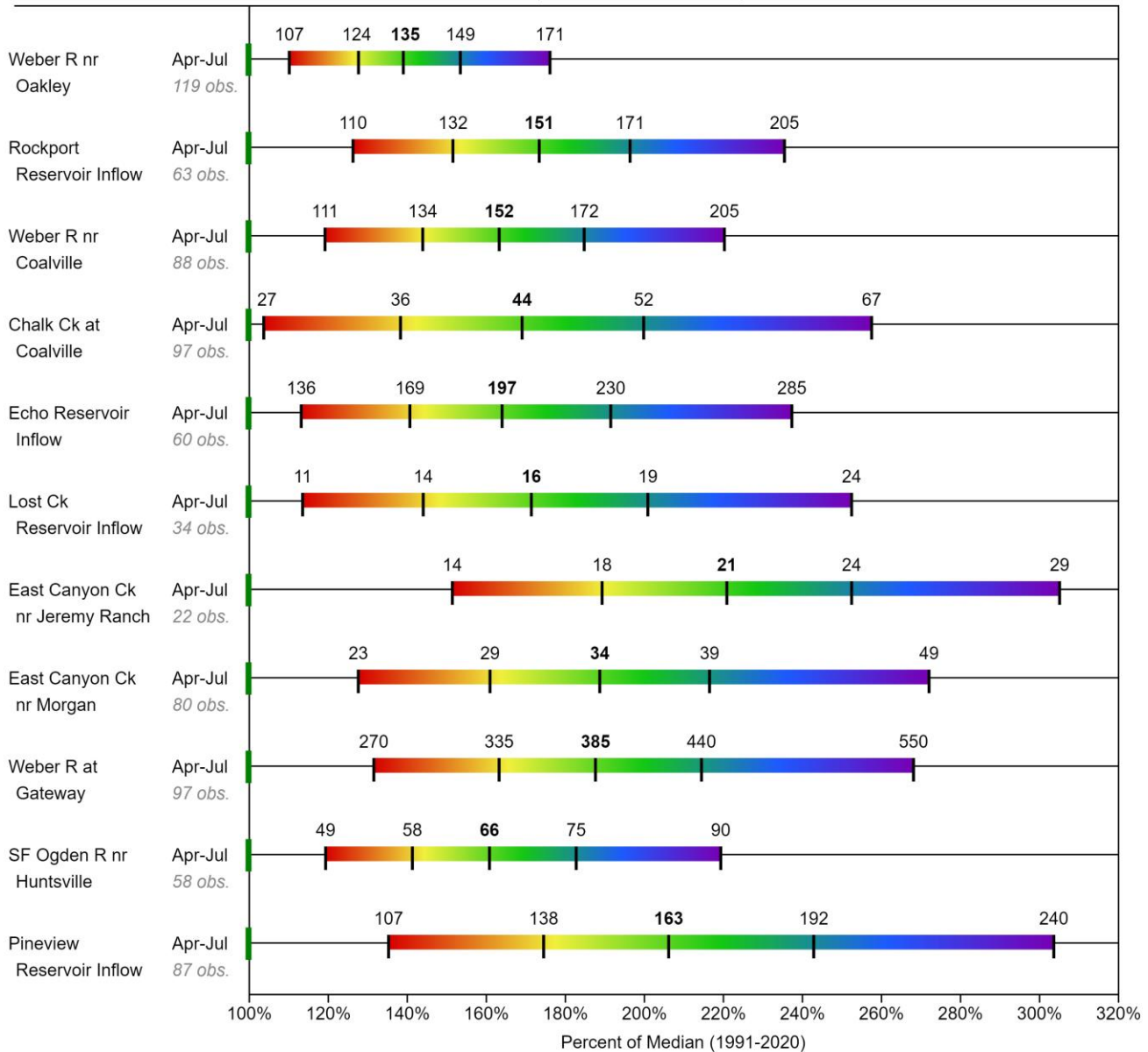


Weber-Ogden

WEBER-OGDEN Water Supply Forecasts April 1, 2024

Forecast Exceedance Probabilities

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



Legend



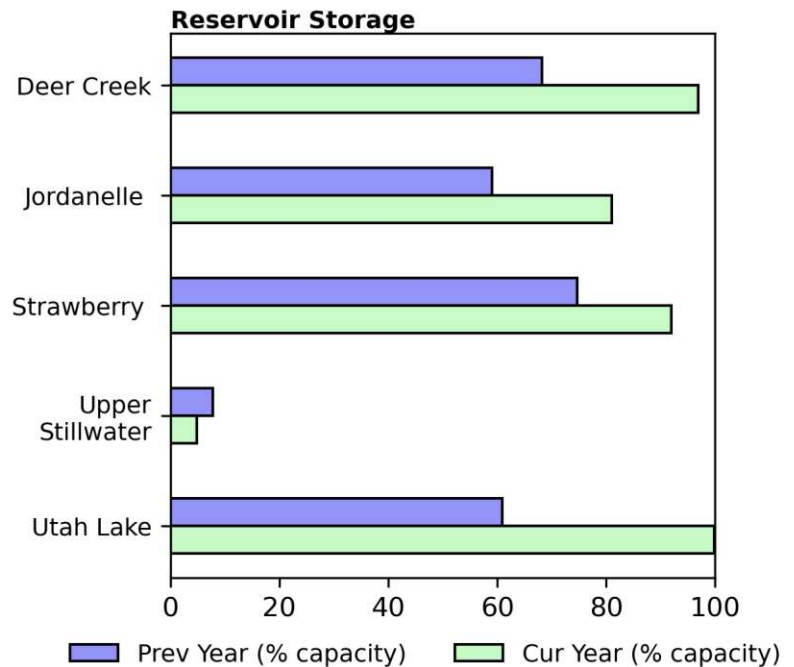
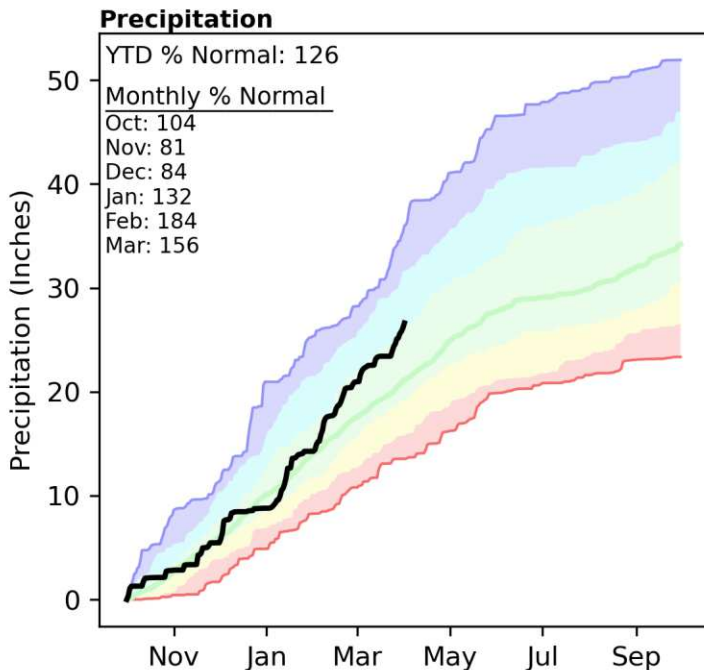
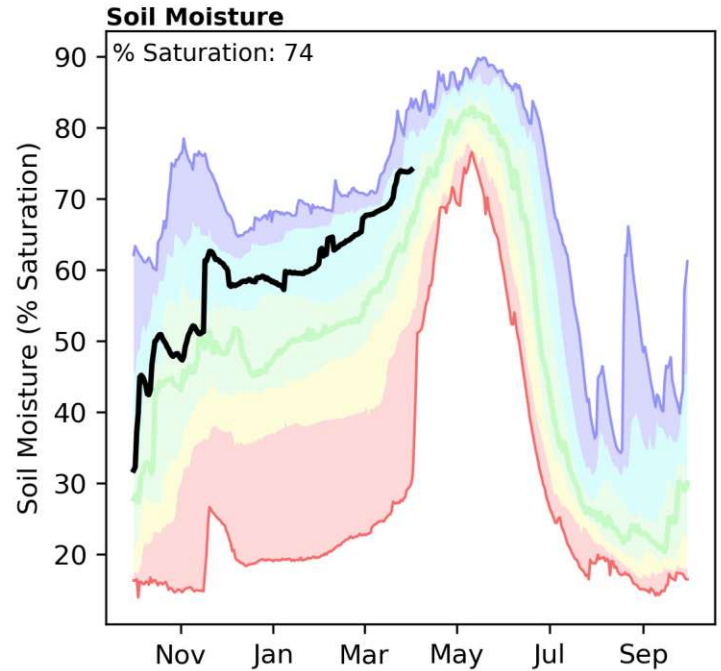
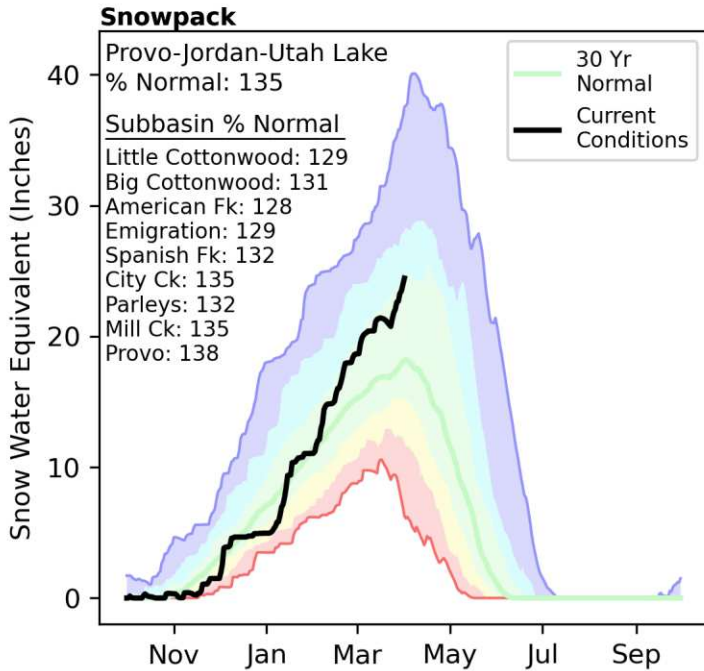
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Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

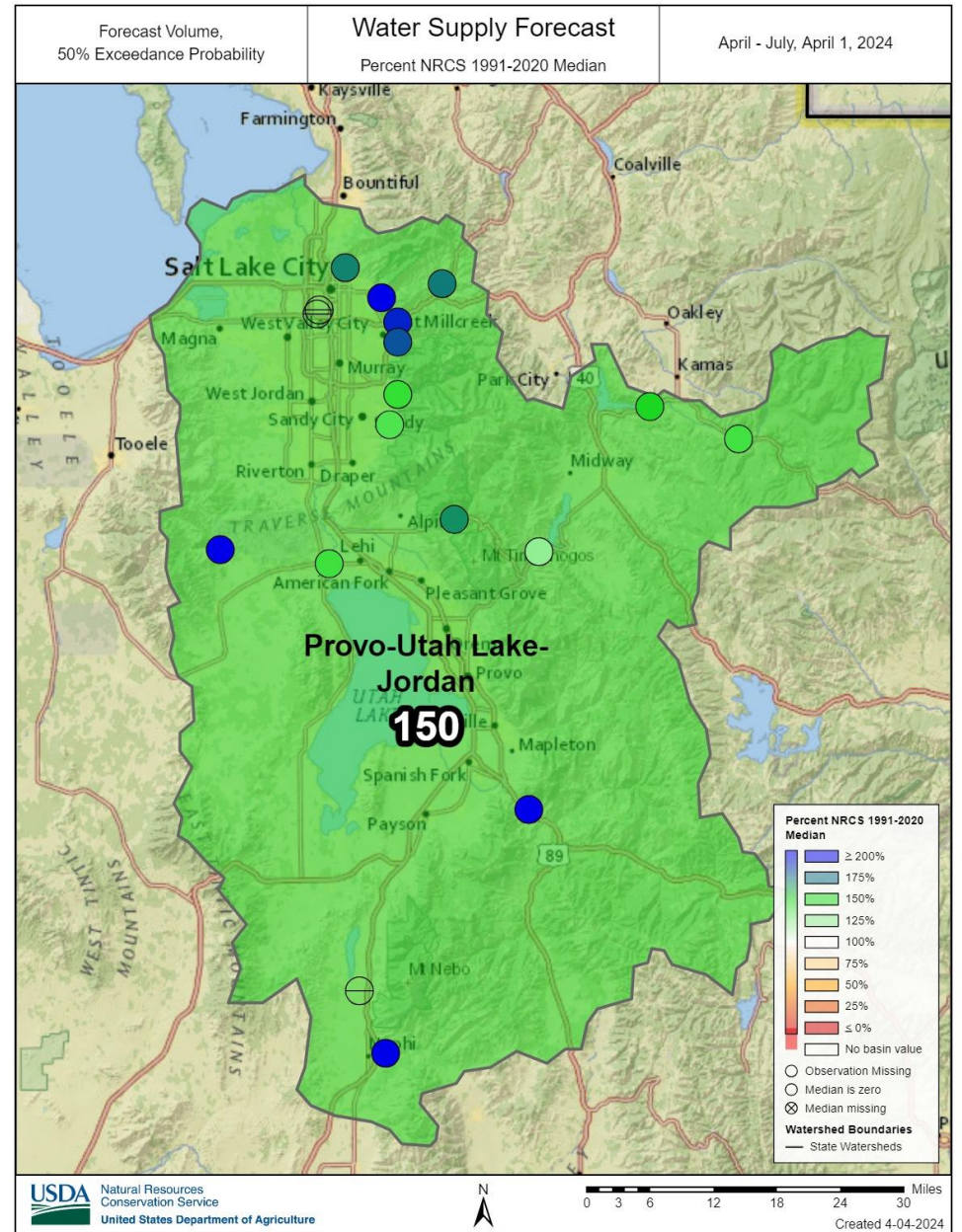
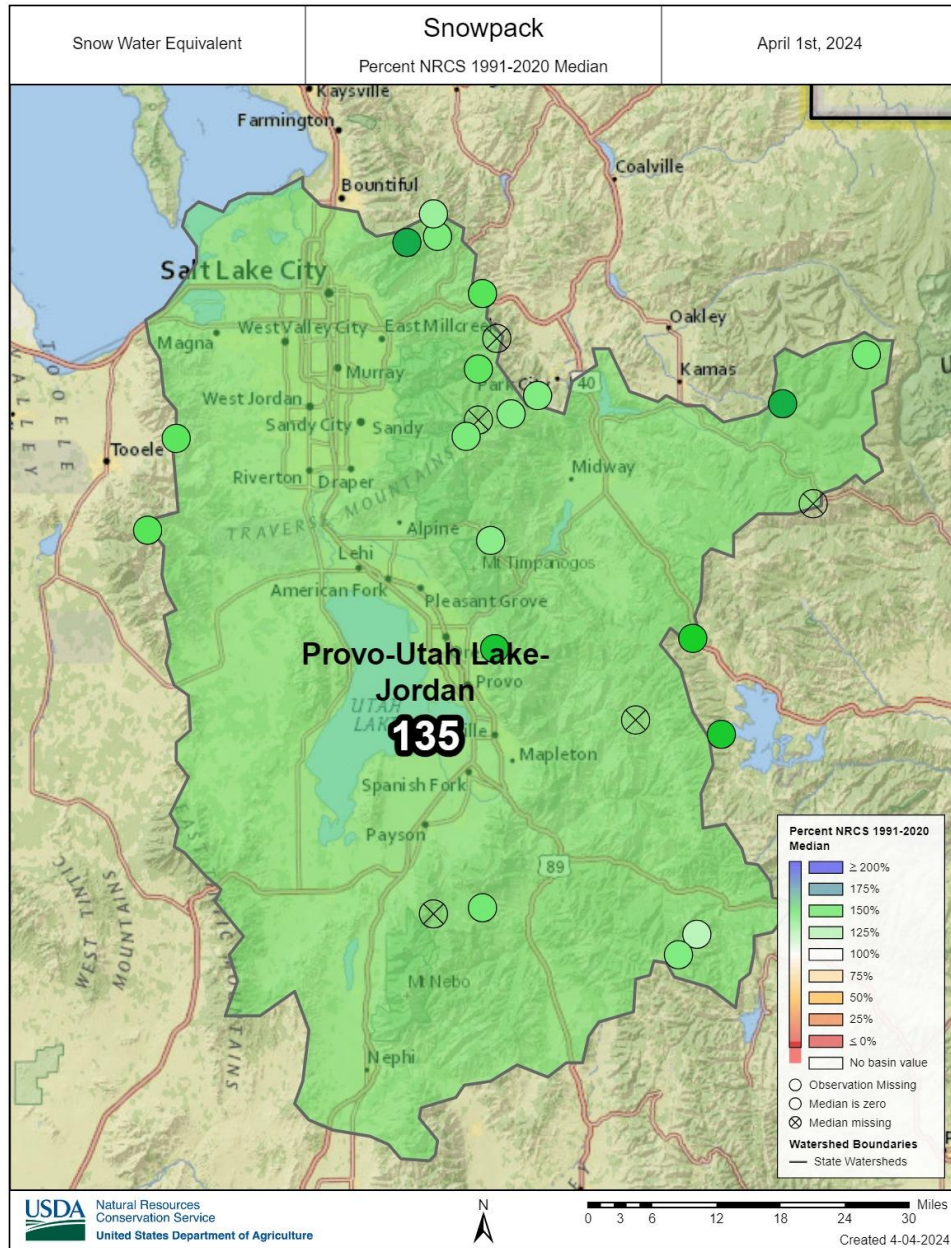
Provo-Jordan-Utah Lake | April 1, 2024

Snowpack in the Provo and Jordan River Basins is well above normal at 135% of median, compared to 206% at this time last year. Precipitation in March was well above normal at 156%, which brings the seasonal accumulation (October-March) to 126% of median. Soil moisture is at 74% saturation compared to 62% saturation last year. Reservoir storage is 92% of capacity, compared to 66% last year. Forecast streamflow volumes (50% exceedence, April-July) range from 124% to 280% of normal. The Surface Water Supply Index percentile is 84% for the Provo.



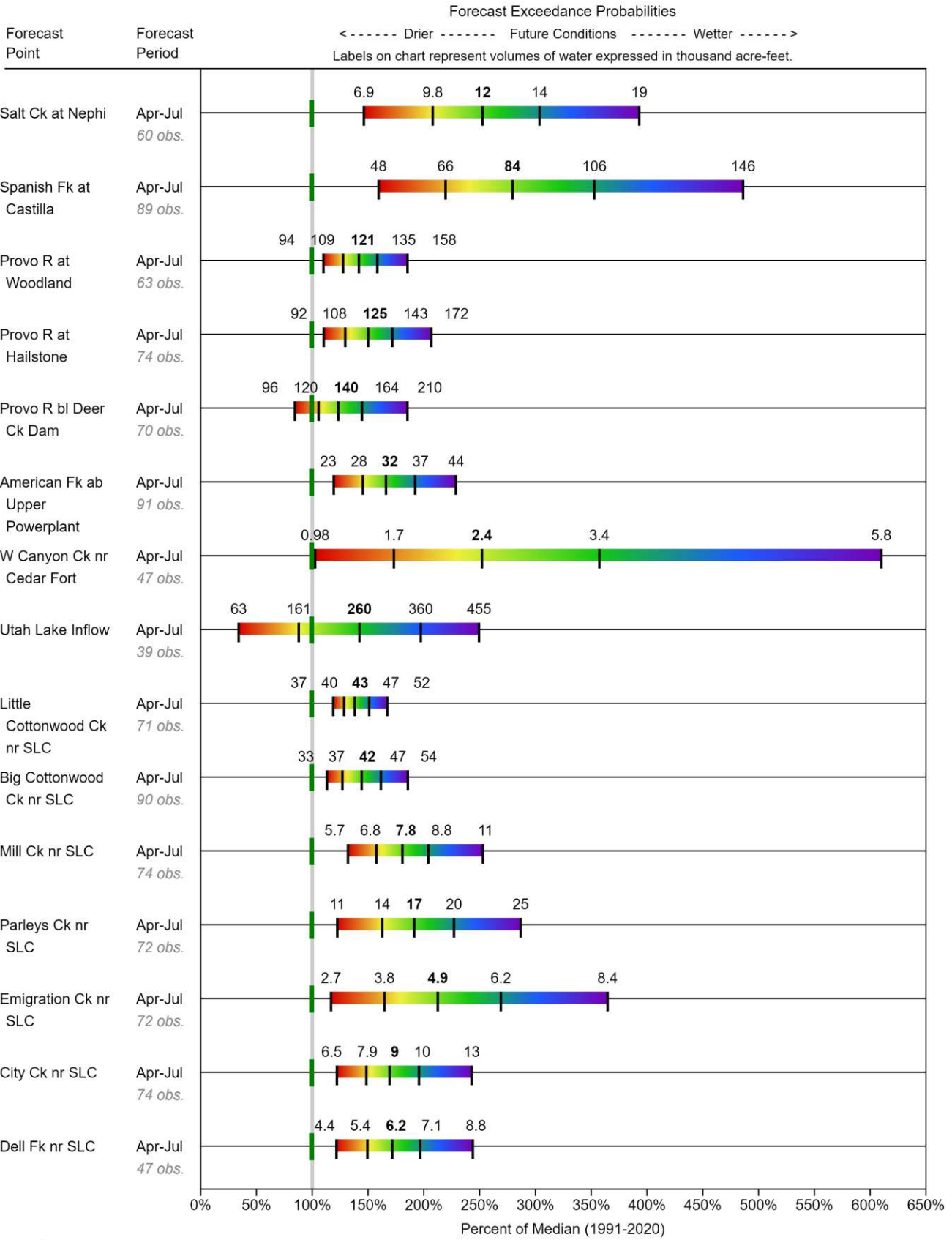
Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles. For more information visit: [30 year normal calculation description](#)

Provo-Utah Lake-Jordan



Provo-Utah Lake-Jordan

PROVO-UTAH LAKE-JORDAN Water Supply Forecasts April 1, 2024



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

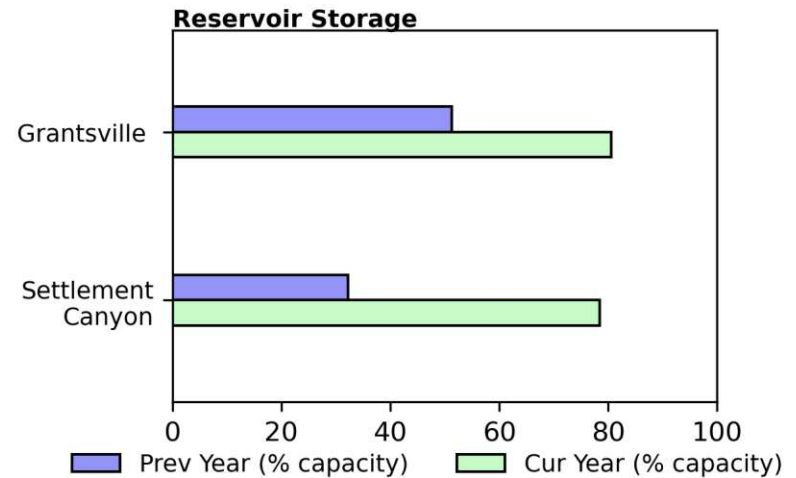
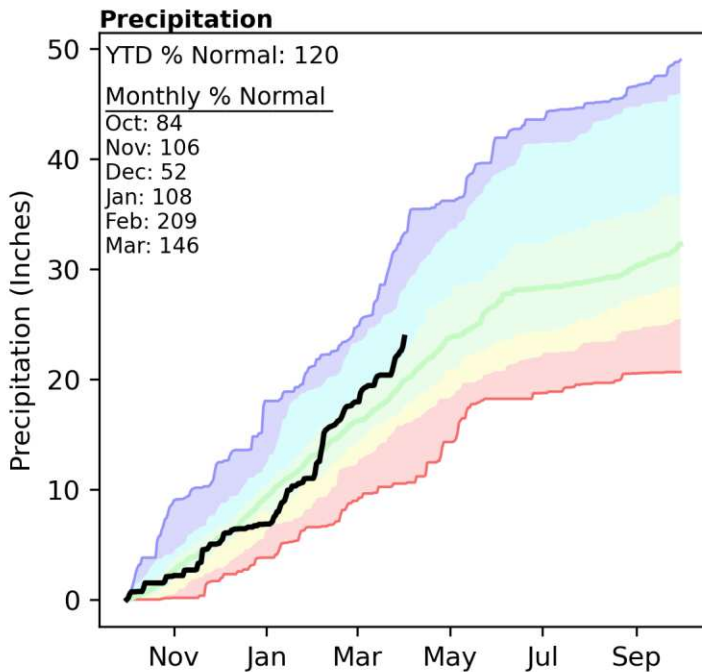
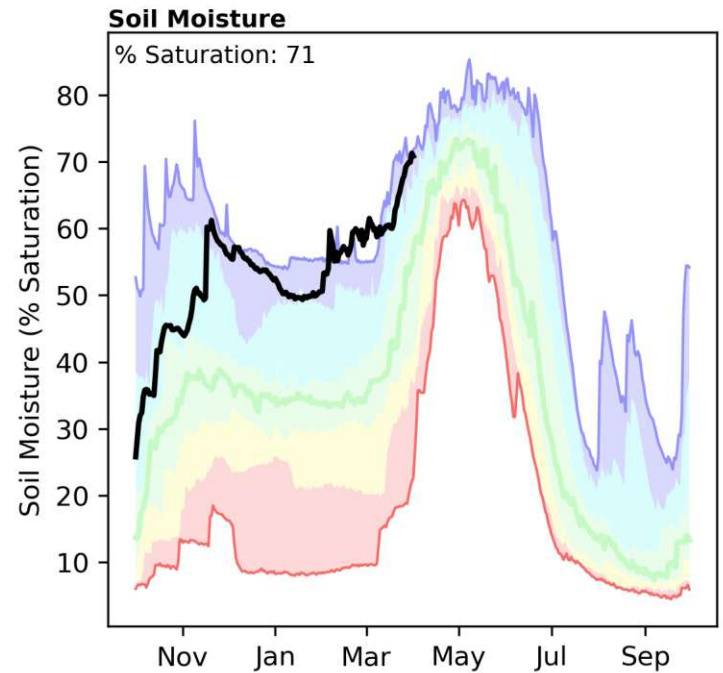
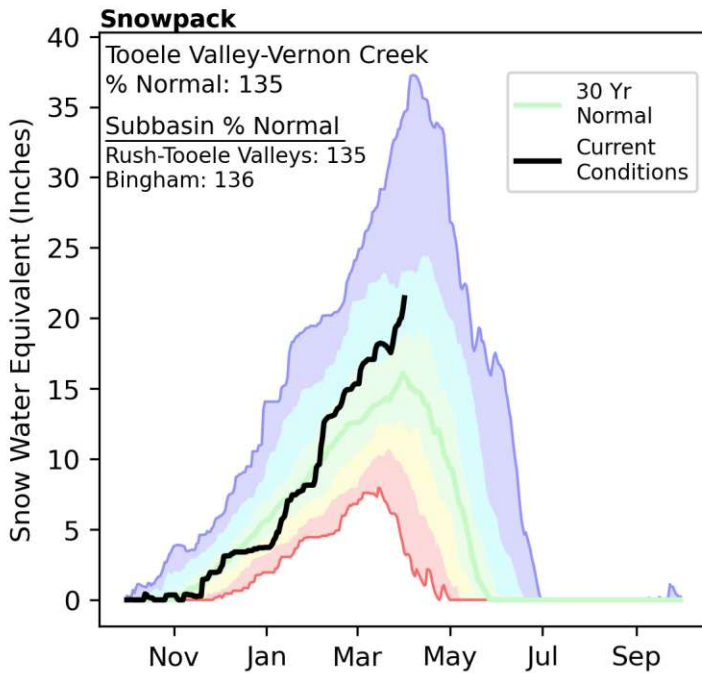
Observed Streamflow KAF

Period of Record Maximum Streamflow KAF (Year)

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

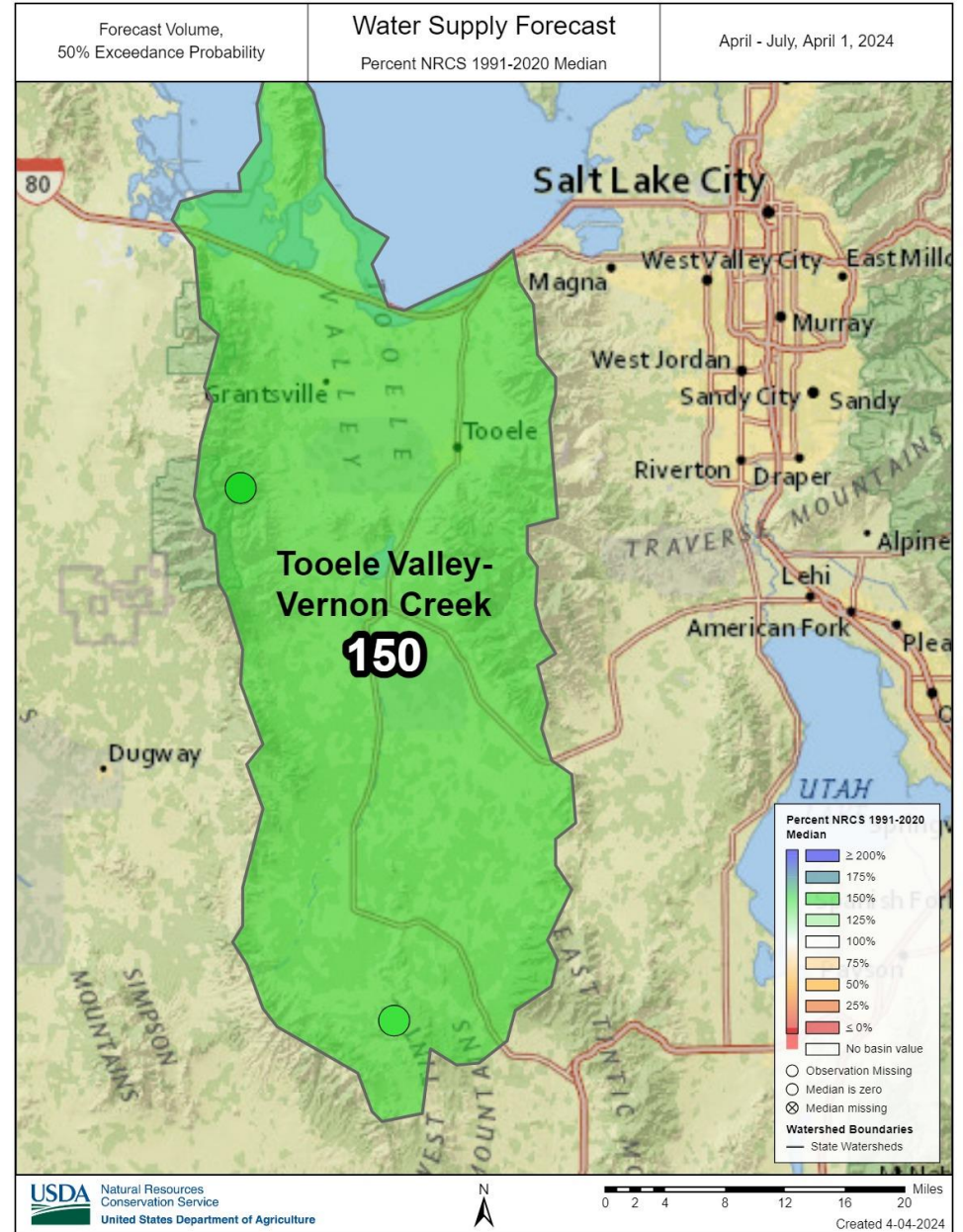
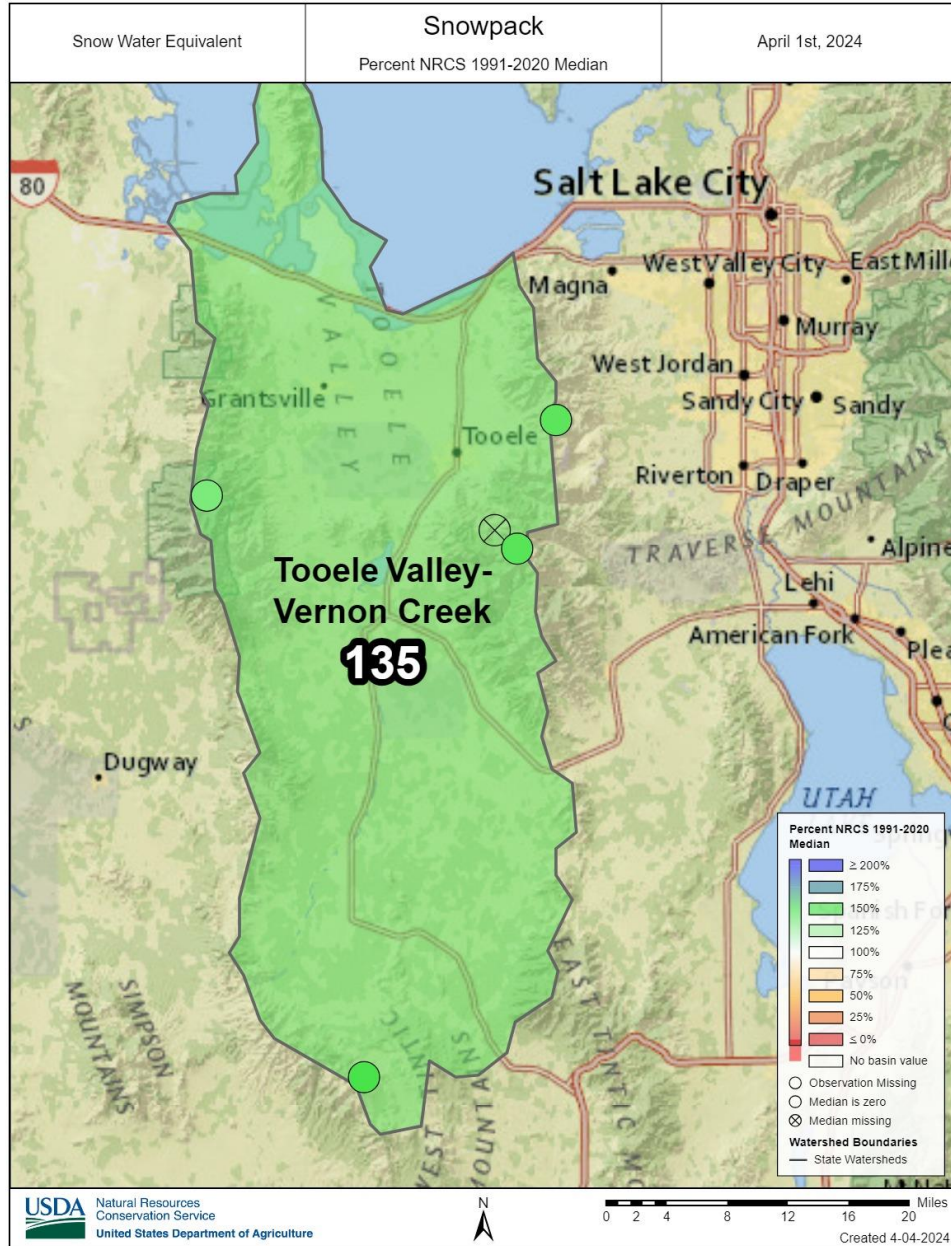
Tooele Valley-Vernon Creek | April 1, 2024

Snowpack in the Tooele Valley and West Desert Region is well above normal at 135% of median, compared to 218% at this time last year. Precipitation in March was well above normal at 146%, which brings the seasonal accumulation (October-March) to 120% of median. Soil moisture is at 71% saturation compared to 42% saturation last year. Reservoir storage is 80% of capacity, compared to 46% last year. Forecast streamflow volumes (50% exceedence, April-July) range from 143% to 175% of normal.



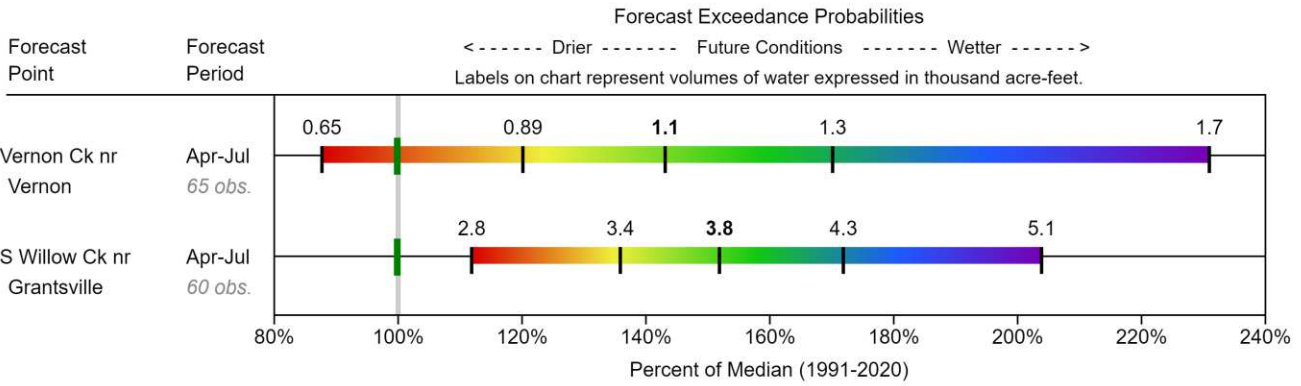
Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.
For more information visit: [30 year normal calculation description](#)

Tooele Valley-Vernon Creek

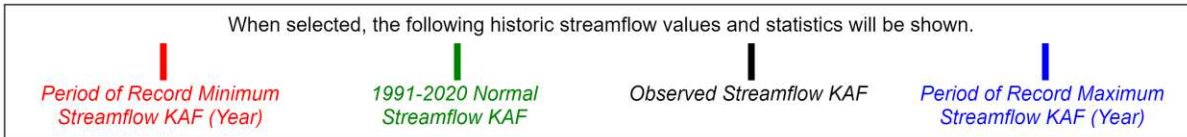


Tooele Valley-Vernon Creek

TOOELE VALLEY-VERNON CREEK Water Supply Forecasts April 1, 2024



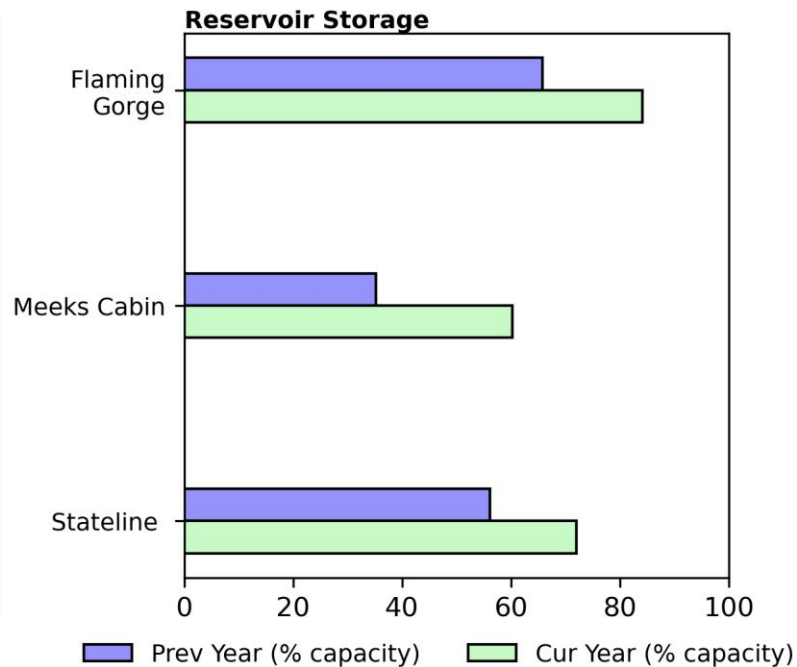
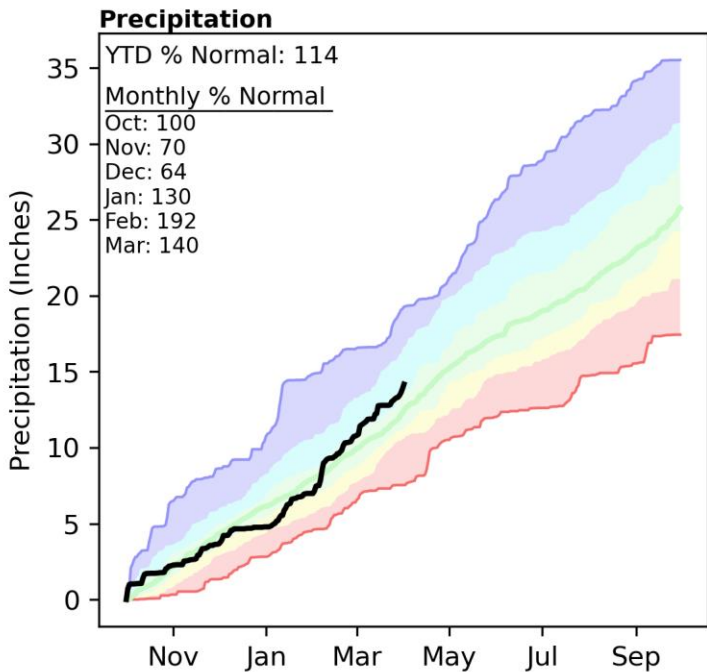
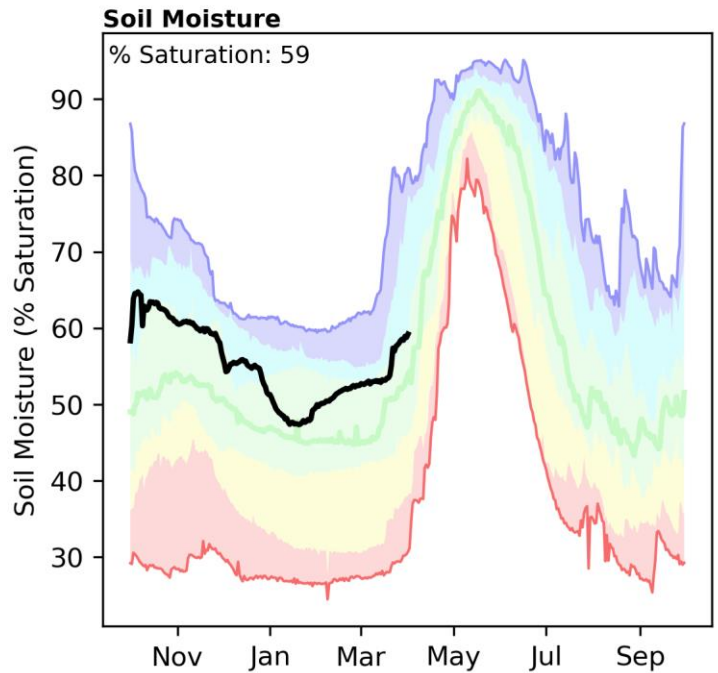
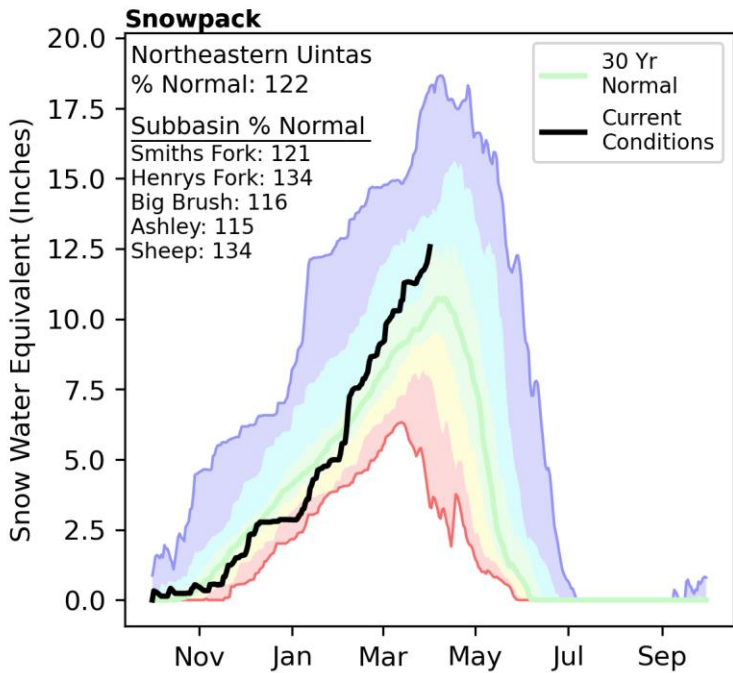
Legend



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

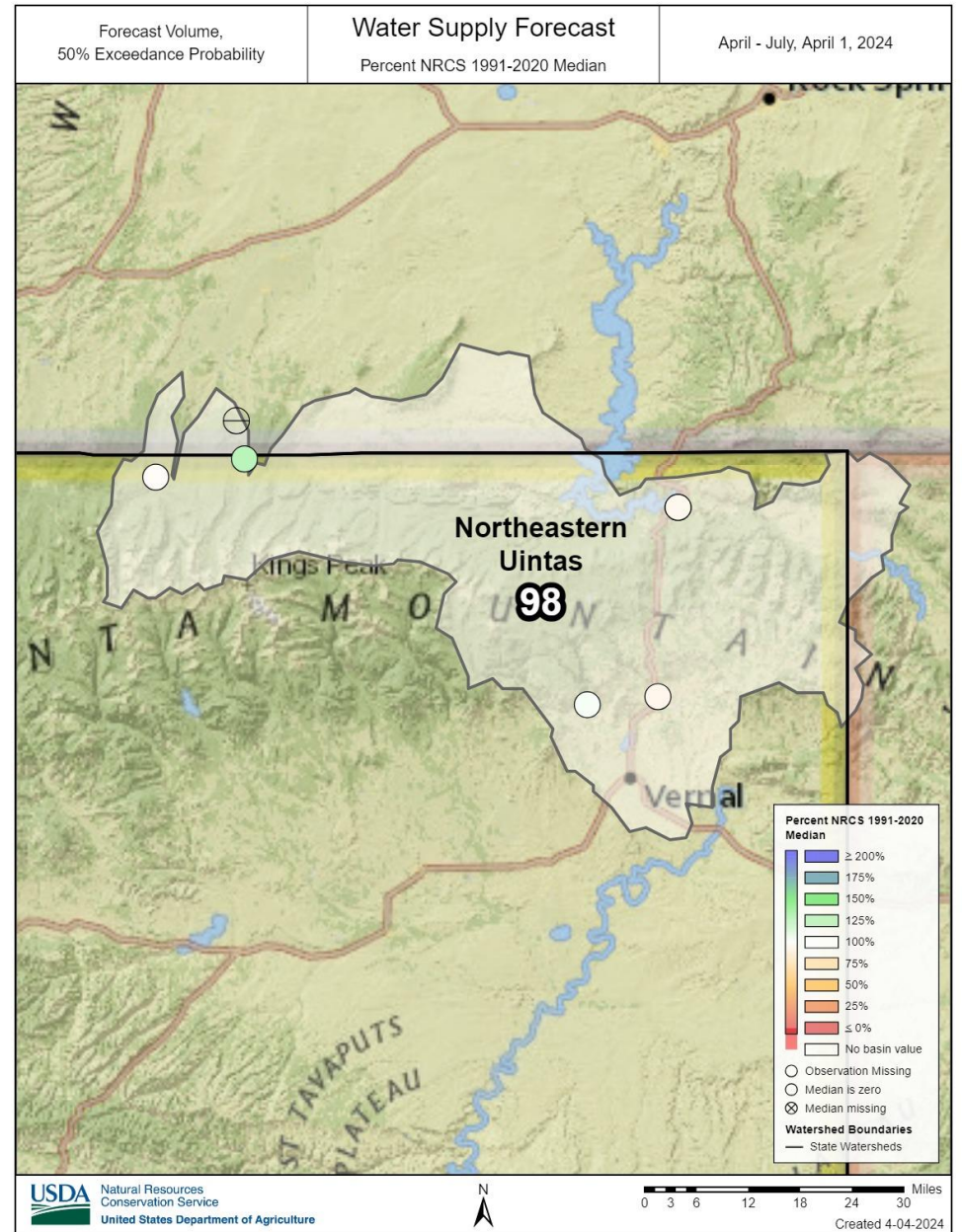
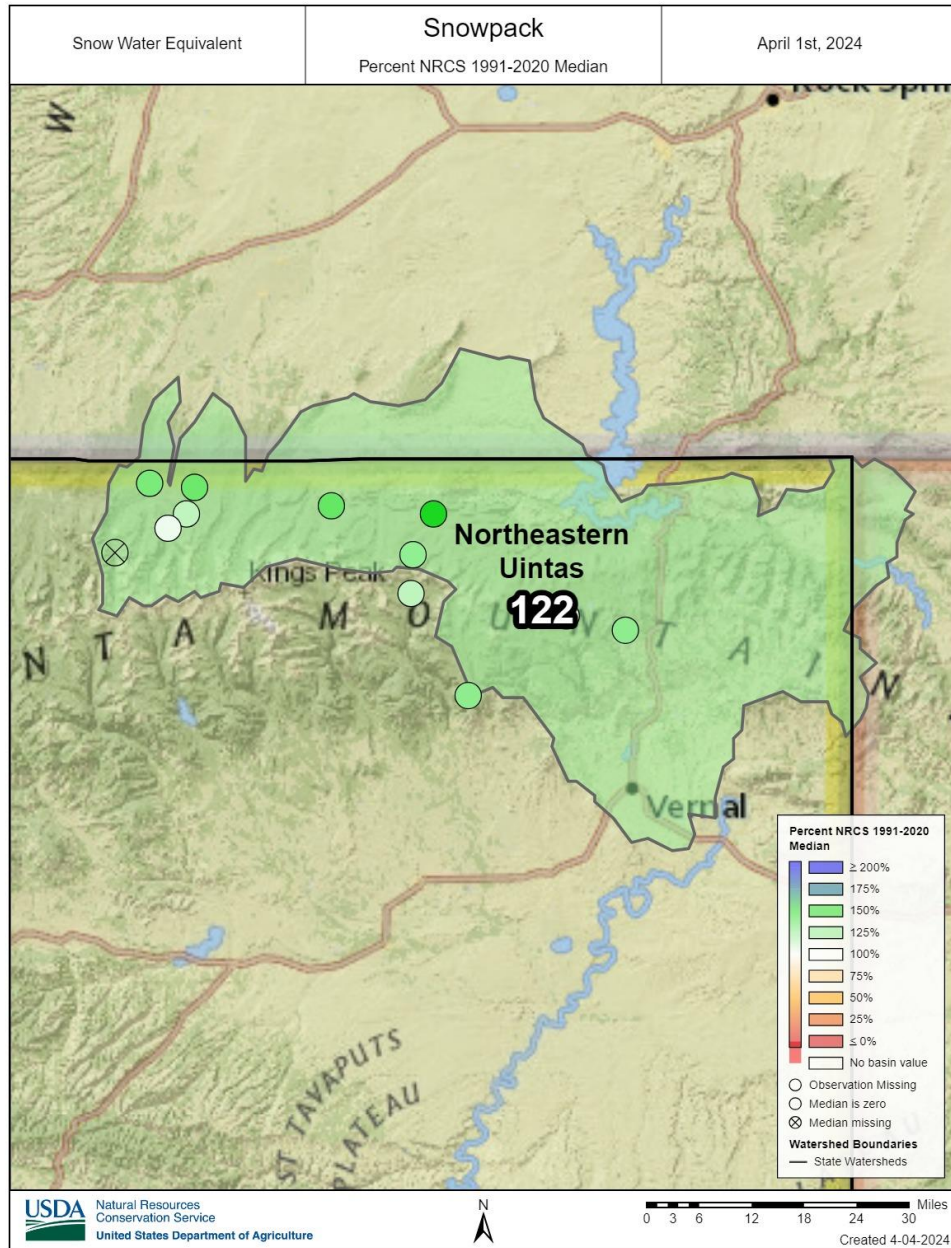
Northeastern Uintas | April 1, 2024

Snowpack in the Northeastern Uintas is above normal at 122% of median, compared to 163% at this time last year. Precipitation in March was well above normal at 140%, which brings the seasonal accumulation (October-March) to 114% of median. Soil moisture is at 59% saturation compared to 57% saturation last year. Reservoir storage is 83% of capacity, compared to 65% last year. Forecast streamflow volumes (50% exceedence, April-July) range from 96% to 115% of normal. The Surface Water Supply Index percentiles are 64% for the Blacks Fork, and 74% for the Smiths Fork.



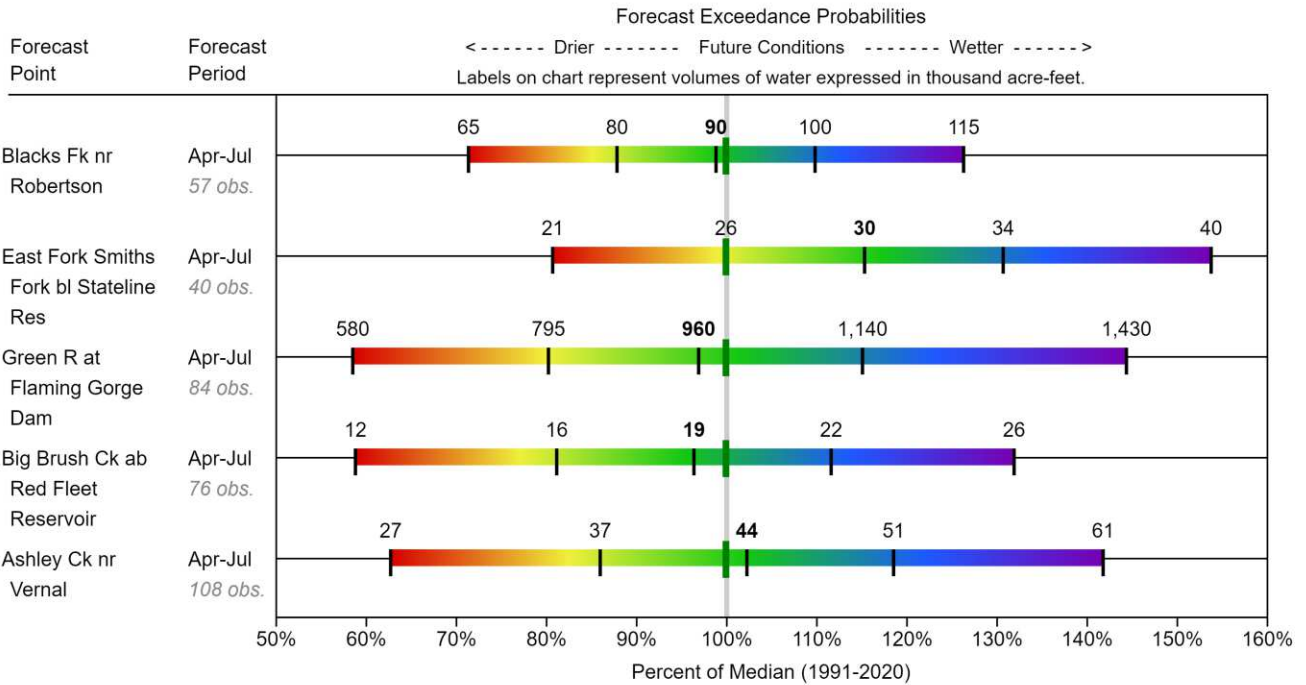
Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles. For more information visit: [30 year normal calculation description](#)

Northeastern Uintas

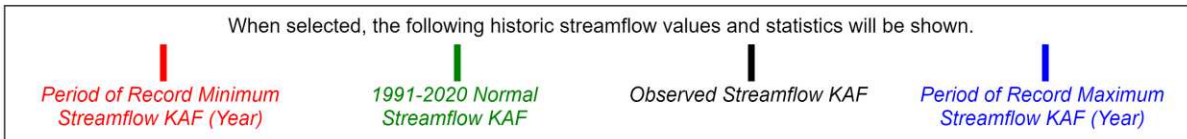


Northeastern Uintas

NORTHEASTERN UINTAS Water Supply Forecasts April 1, 2024

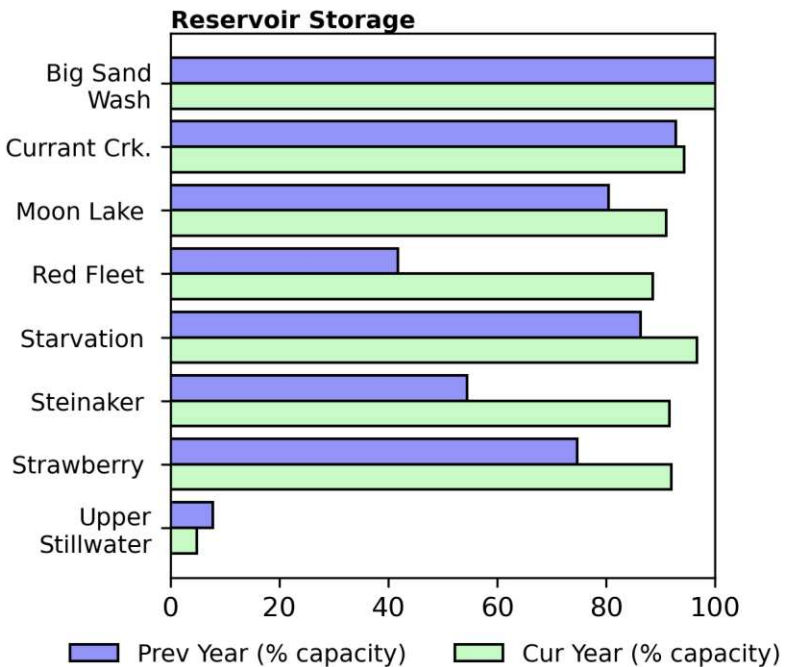
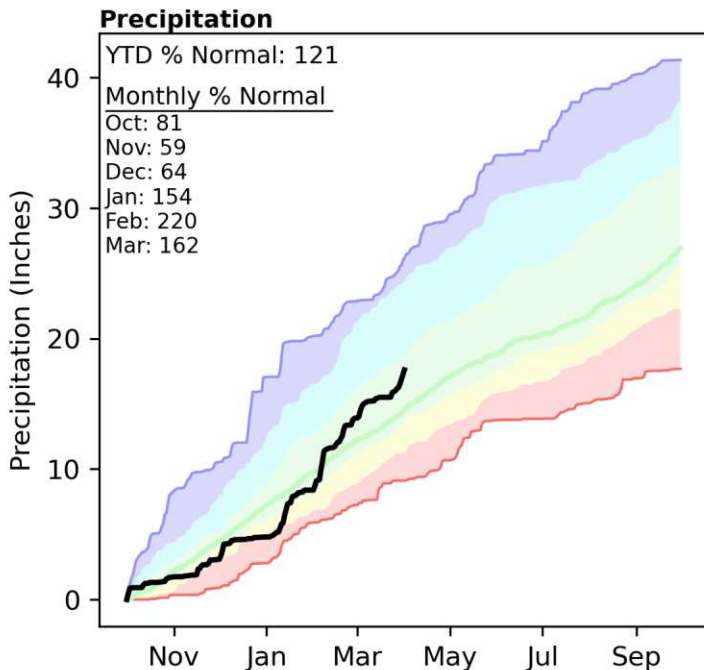
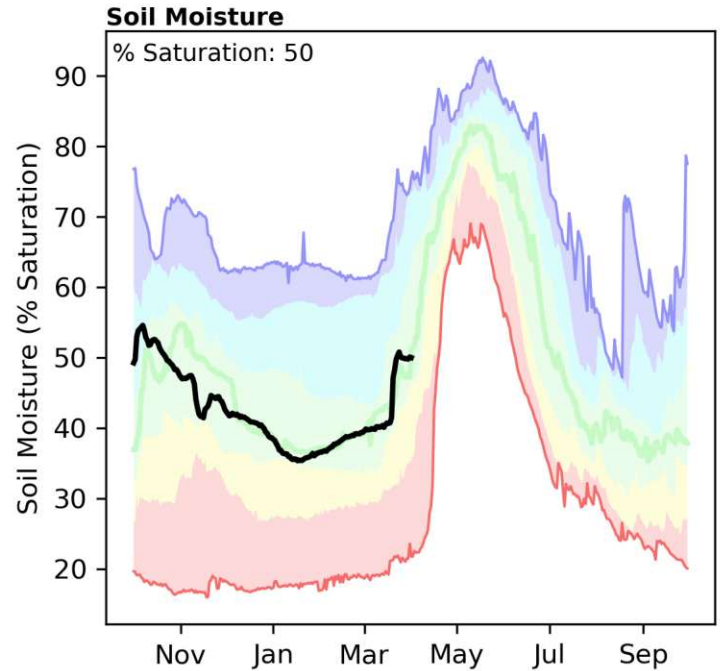
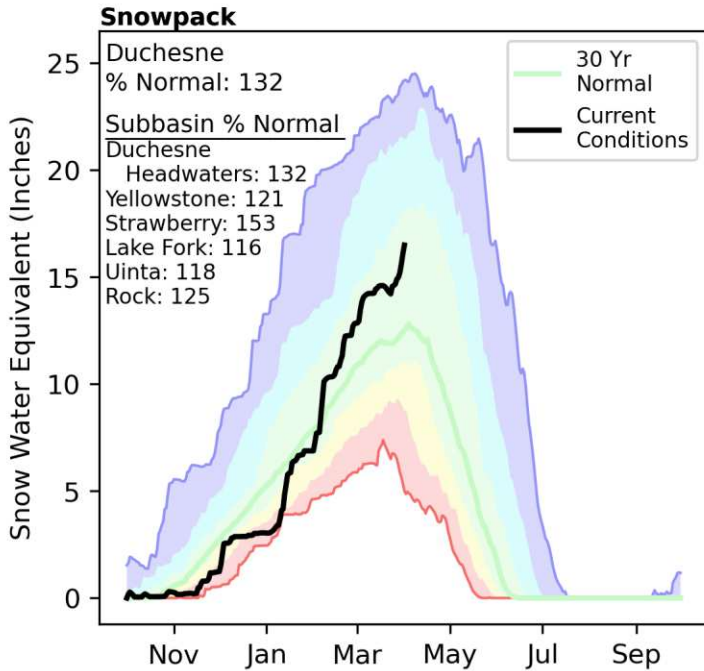


Legend



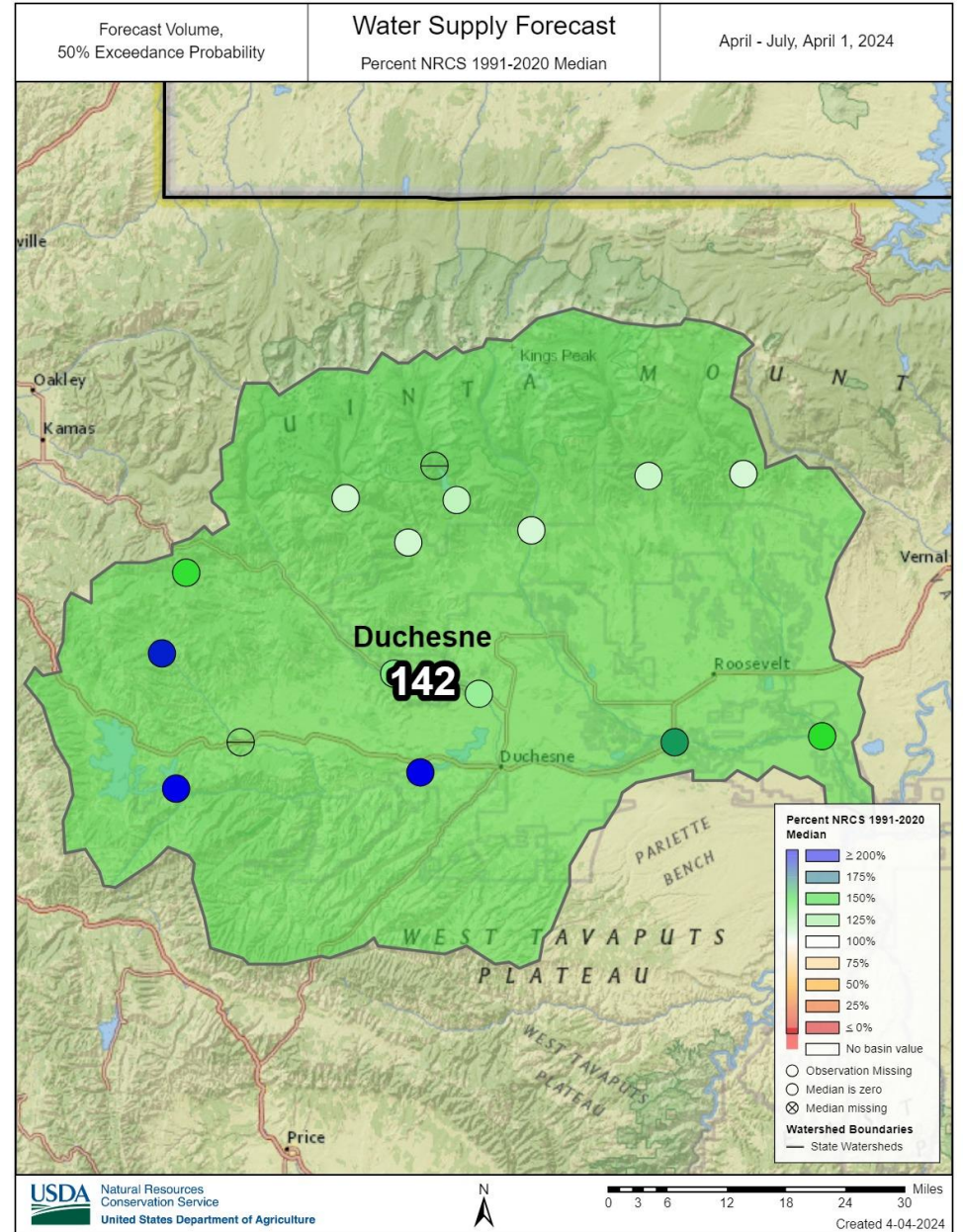
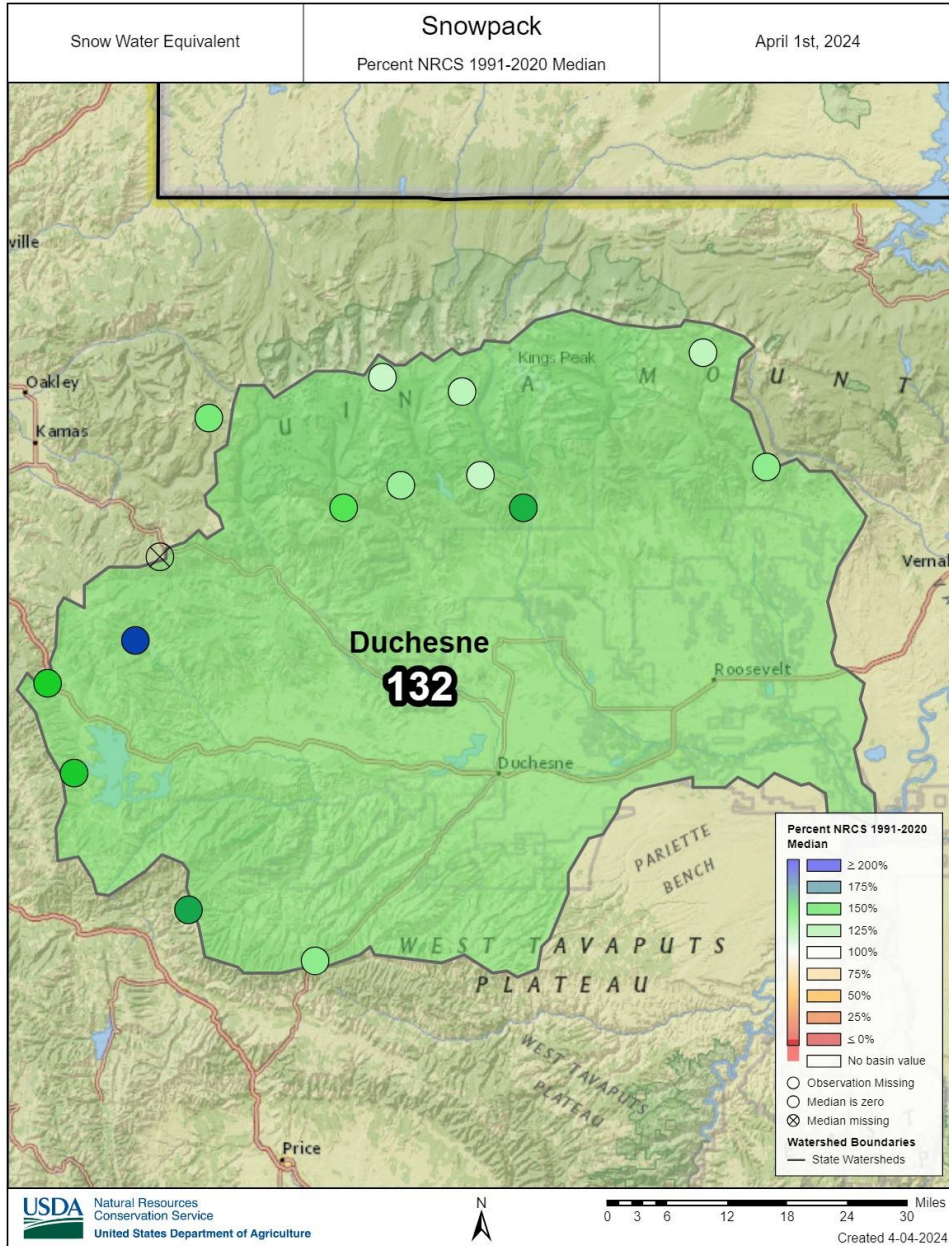
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

Snowpack in the Duchesne River Basin is well above normal at 132% of median, compared to 187% at this time last year. Precipitation in March was well above normal at 162%, which brings the seasonal accumulation (October-March) to 121% of median. Soil moisture is at 50% saturation compared to 53% saturation last year. Reservoir storage is 90% of capacity, compared to 74% last year. Forecast streamflow volumes (50% exceedence, April-July) range from 109% to 255% of normal. The Surface Water Supply Index percentiles are 73% for the Western Uintas, and 58% for the Eastern Uintas.



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

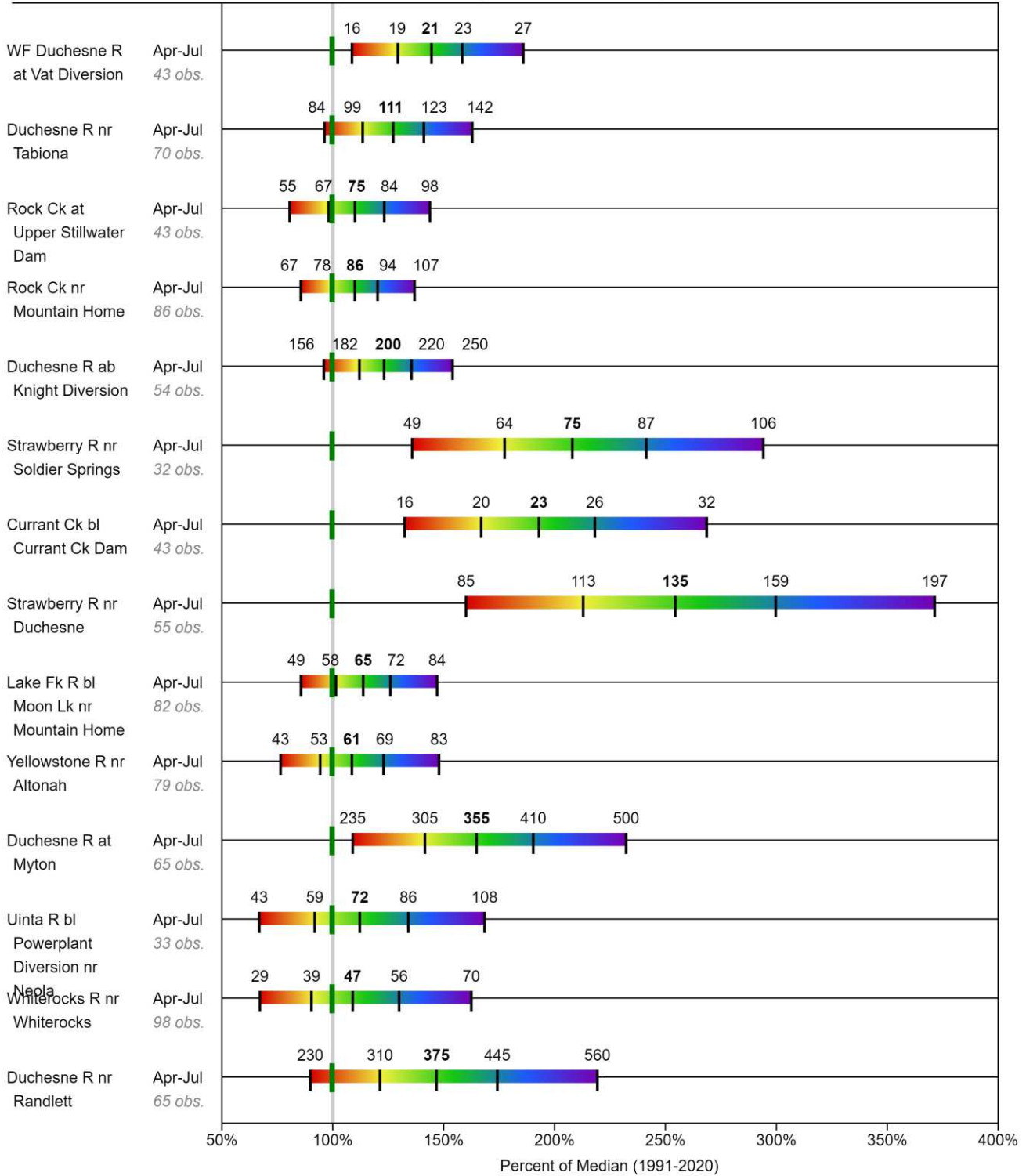
Duchesne



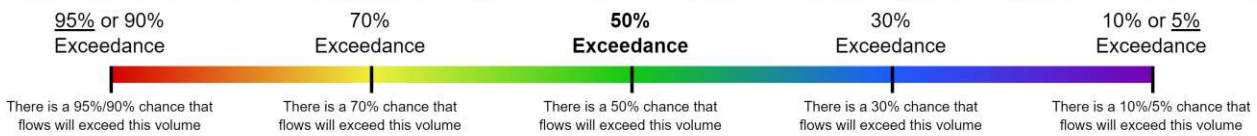
DUCHESNE Water Supply Forecasts April 1, 2024

Forecast Exceedance Probabilities

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



Legend



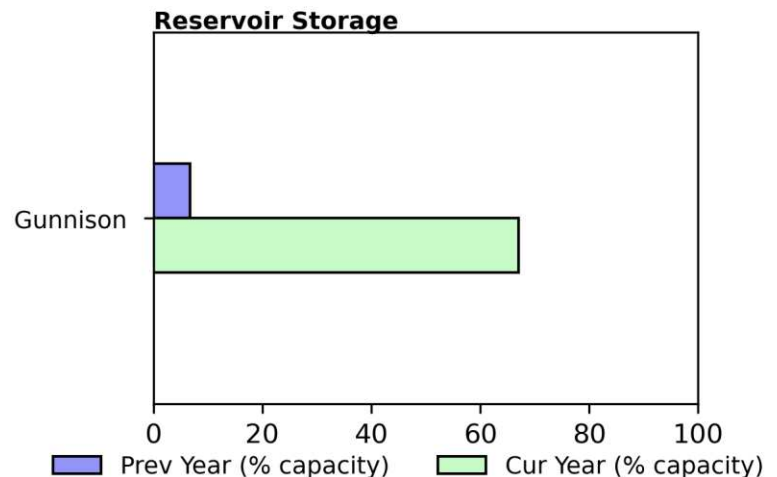
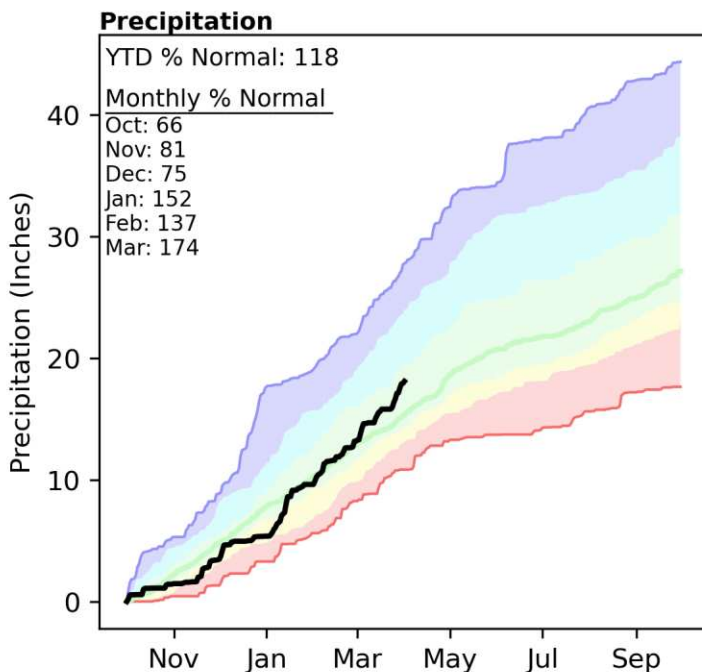
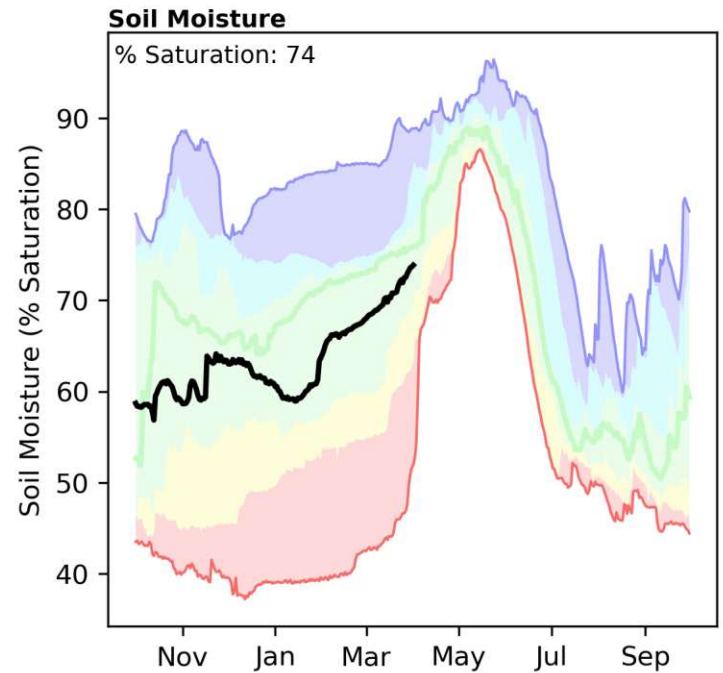
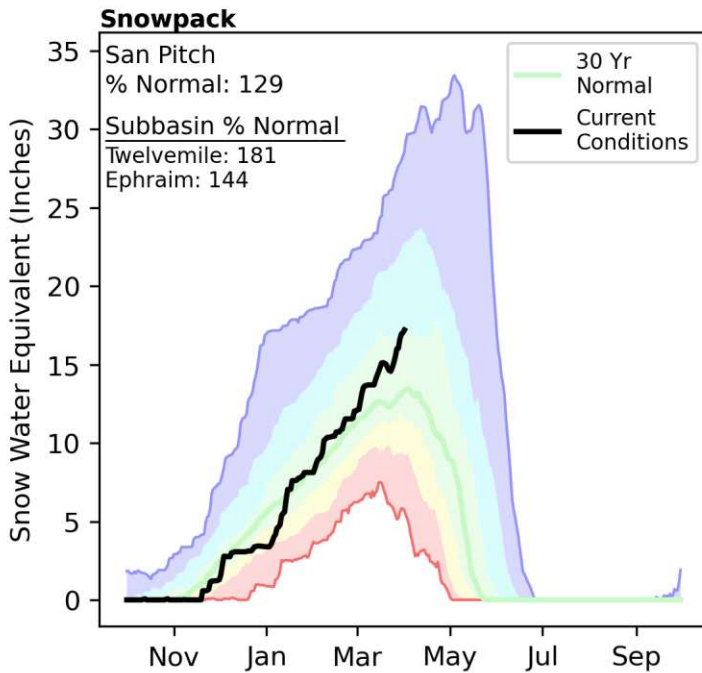
When selected, the following historic streamflow values and statistics will be shown.

█ *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.

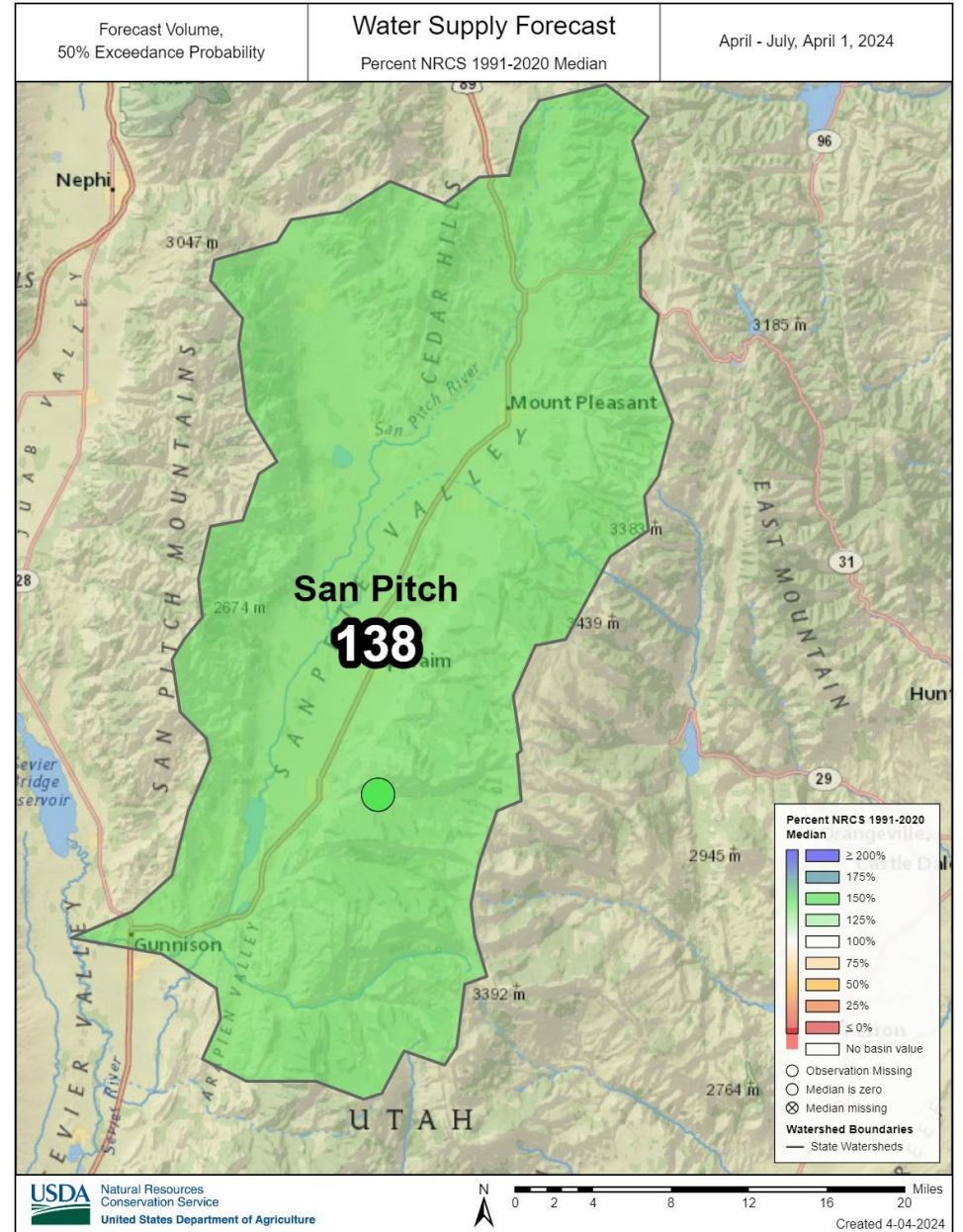
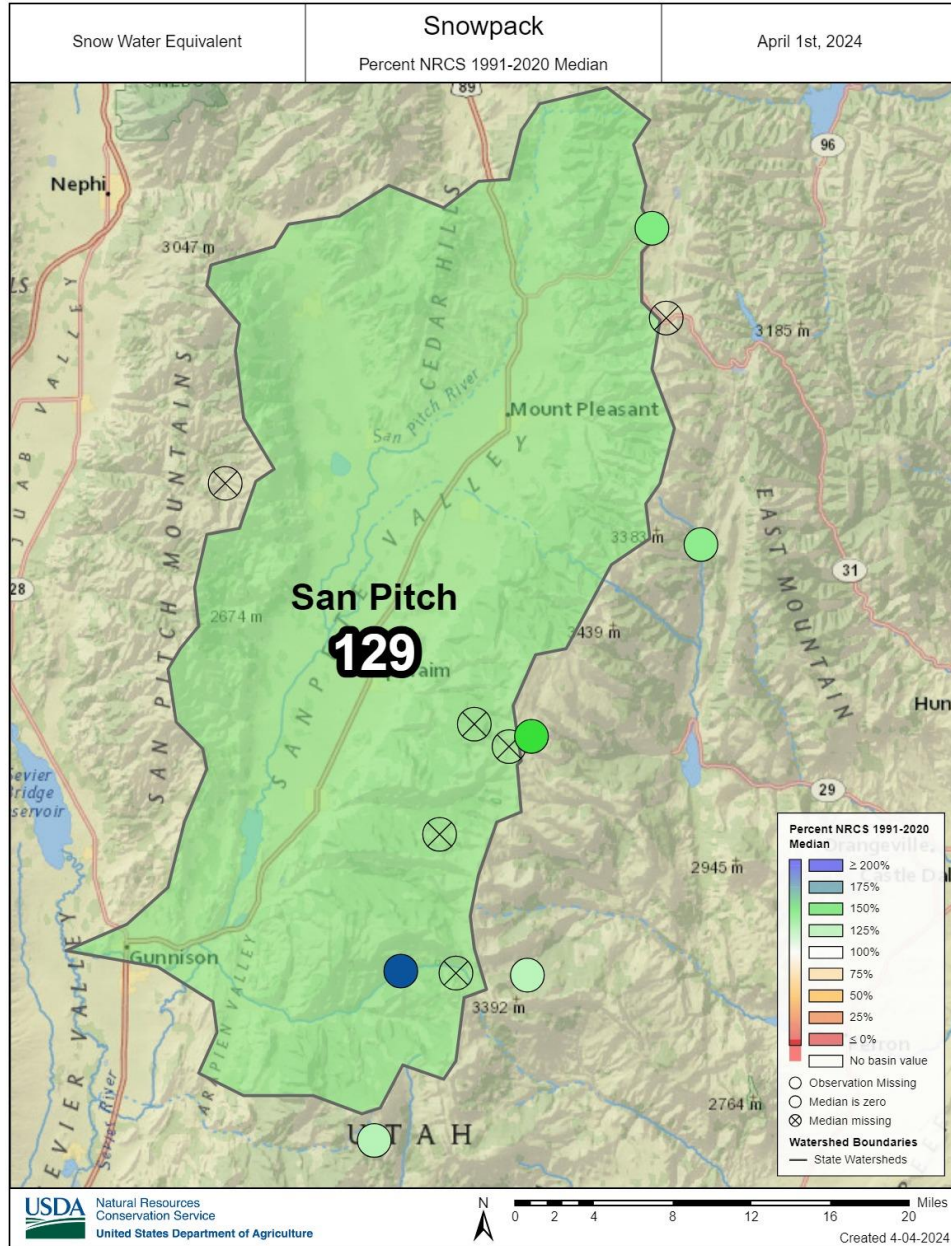
San Pitch | April 1, 2024

Snowpack in the San Pitch River Basin is above normal at 129% of median, compared to 192% at this time last year. Precipitation in March was well above normal at 174%, which brings the seasonal accumulation (October-March) to 118% of median. Soil moisture is at 74% saturation compared to 75% saturation last year. Reservoir storage is 67% of capacity, compared to 6% last year. The forecast streamflow volume (50% exceedence, April-July) for Manti Creek is 138% of normal. The Surface Water Supply Index percentile is 67% 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

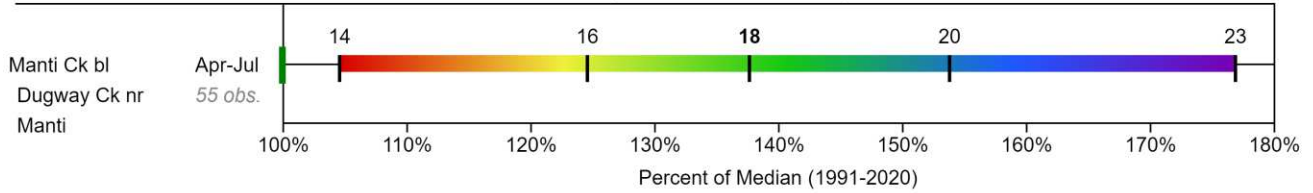


San Pitch

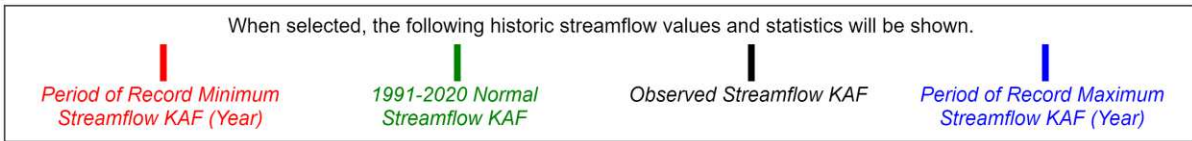
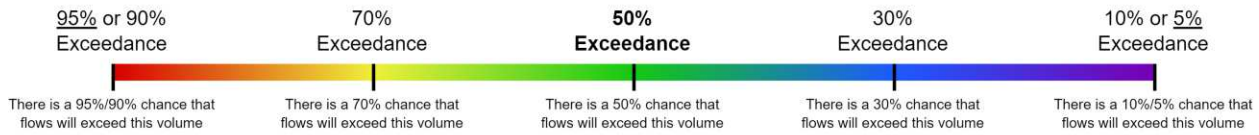
SAN PITCH Water Supply Forecasts April 1, 2024

Forecast Exceedance Probabilities

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



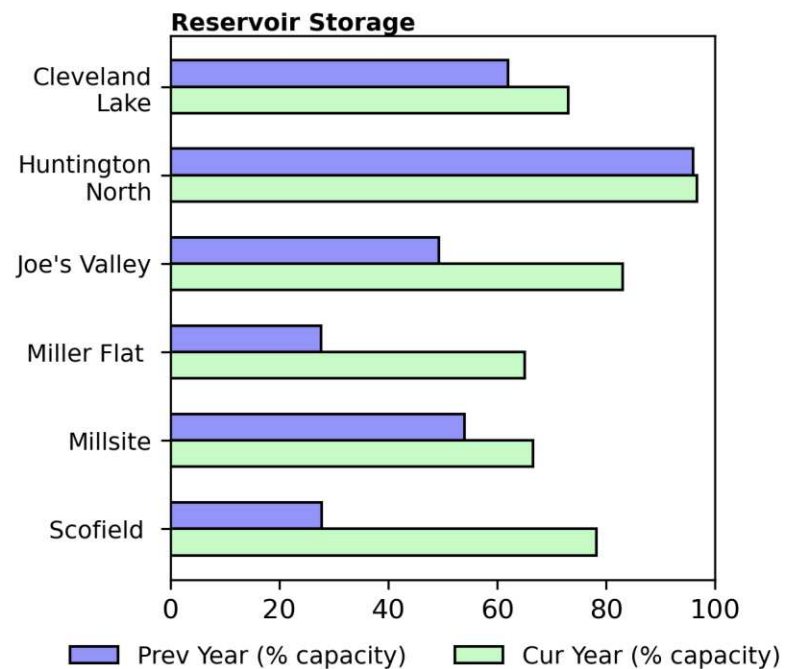
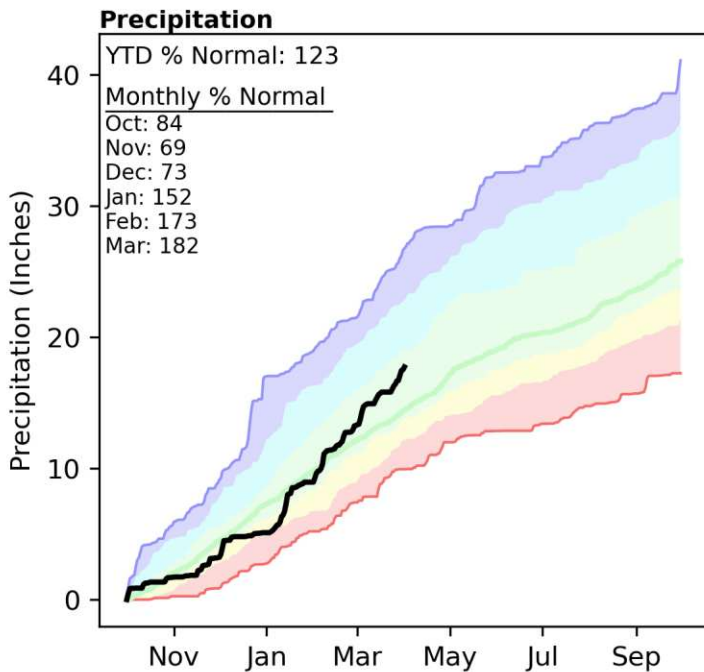
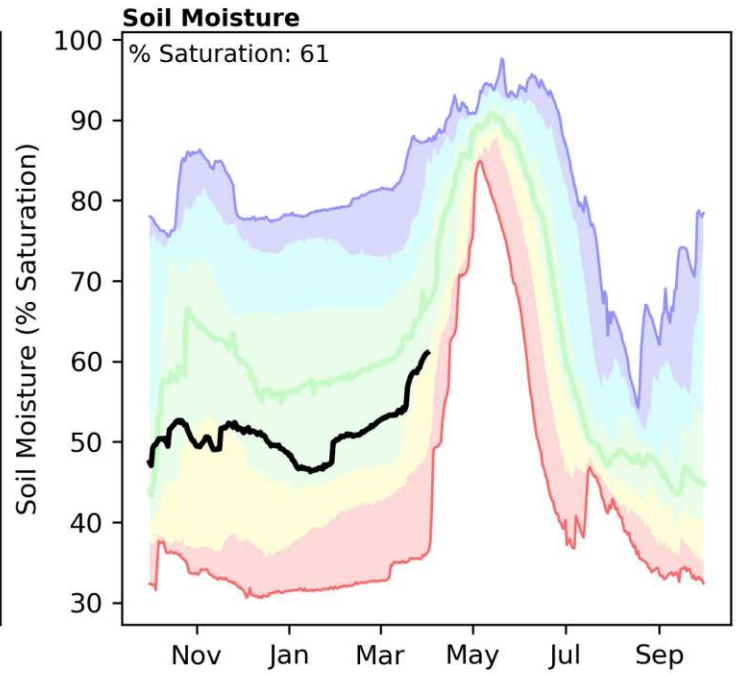
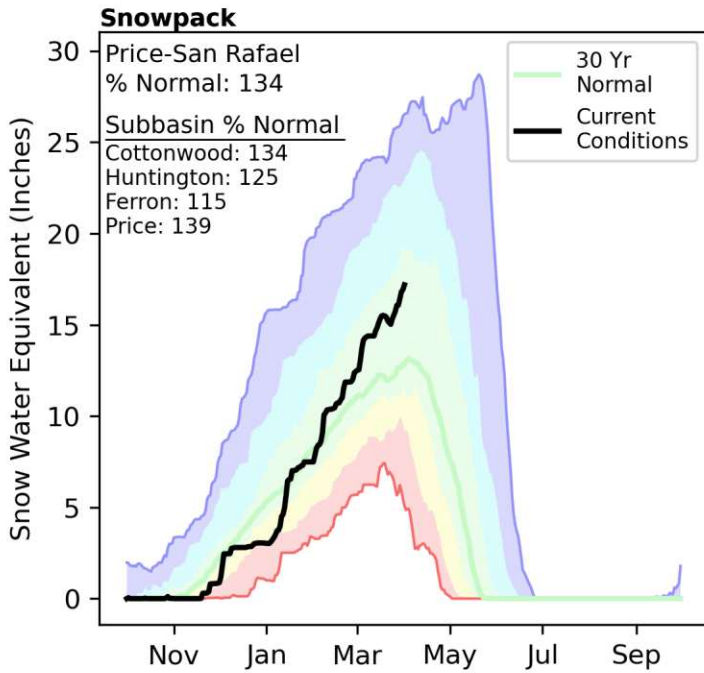
Legend



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

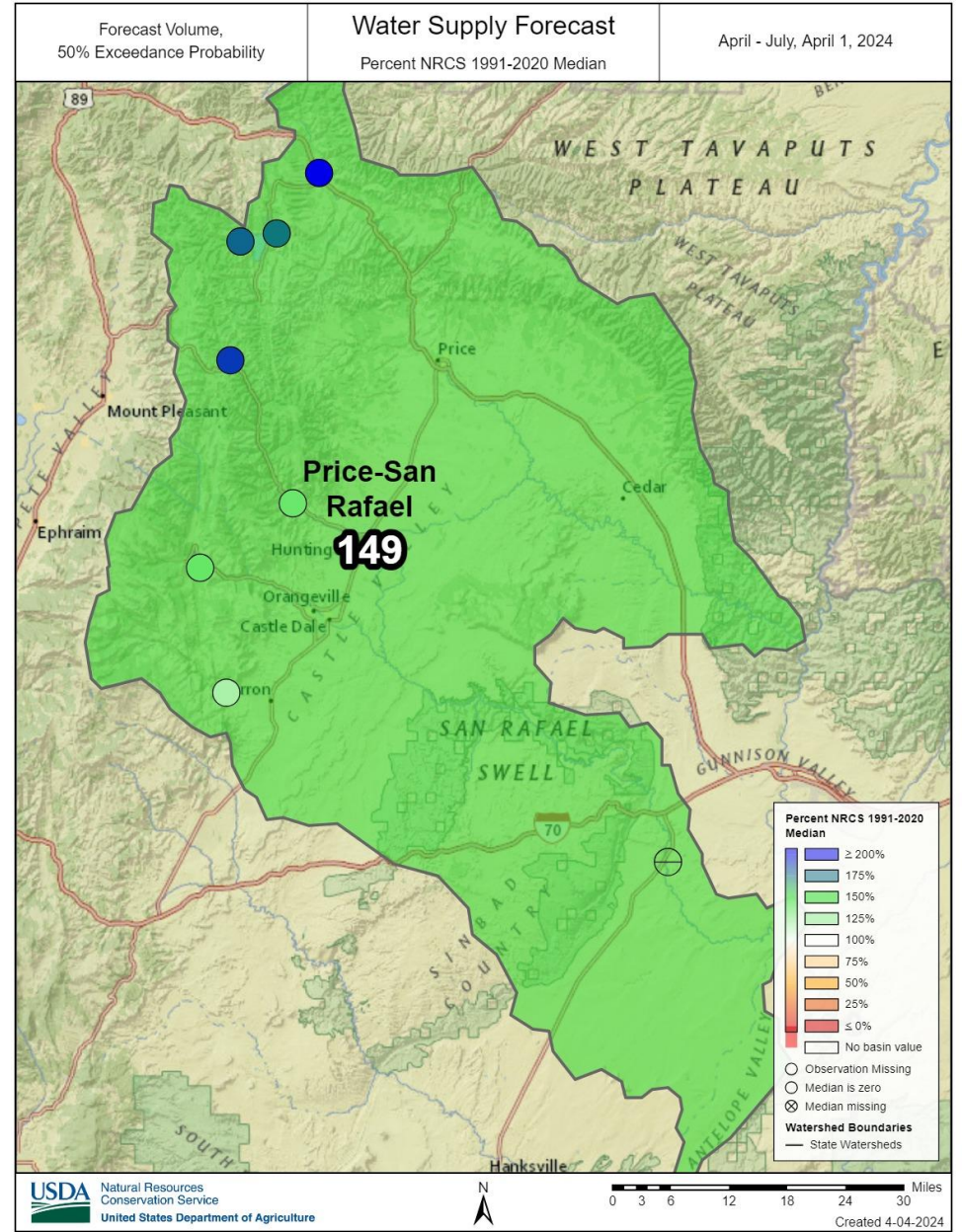
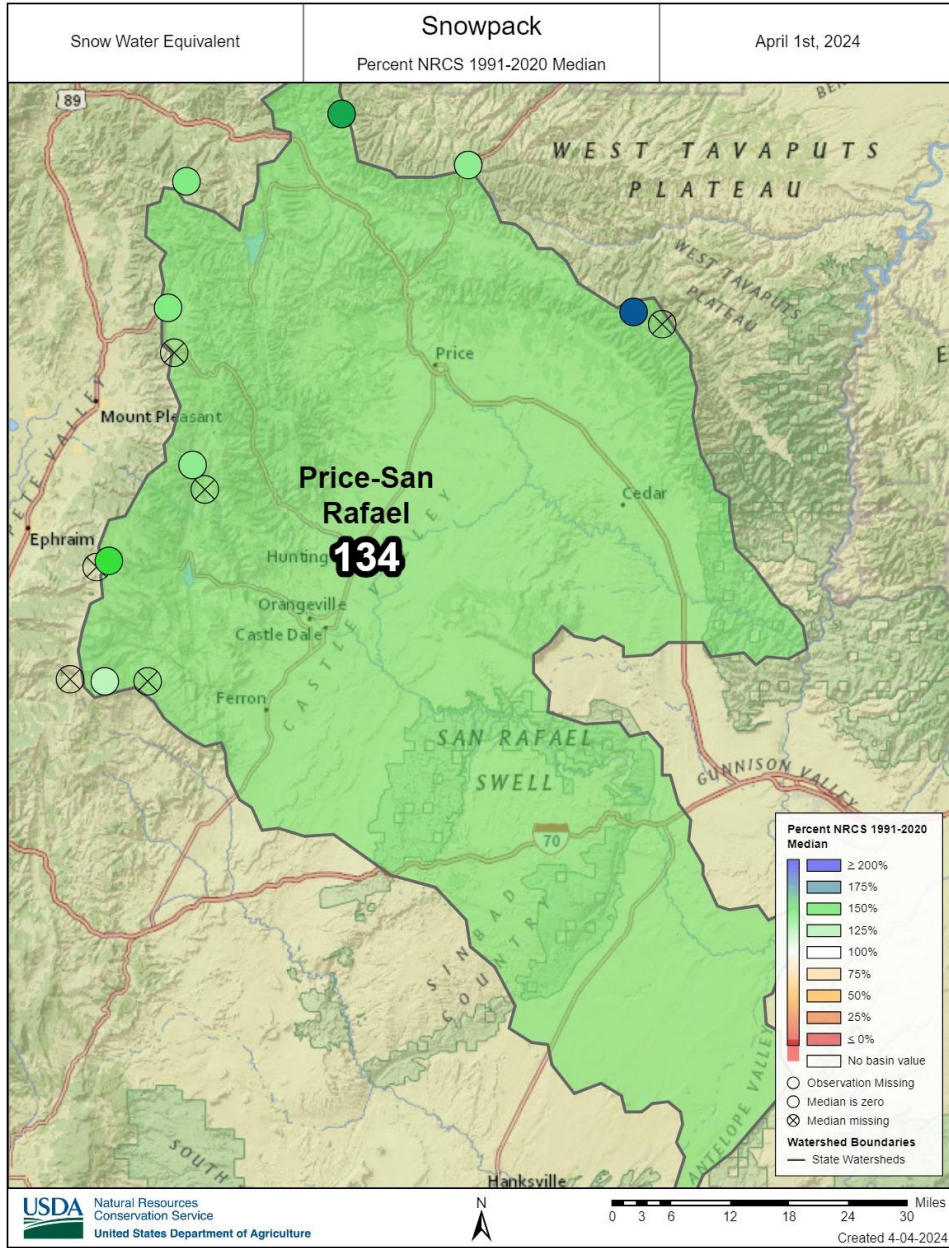
Price-San Rafael | April 1, 2024

Snowpack in the Price and San Rafael River Basins is well above normal at 134% of median, compared to 207% at this time last year. Precipitation in March was well above normal at 182%, which brings the seasonal accumulation (October-March) to 123% of median. Soil moisture is at 61% saturation compared to 63% saturation last year. Reservoir storage is 78% of capacity, compared to 41% last year. Forecast streamflow volumes (50% exceedence, April-July) range from 119% to 257% of normal. The Surface Water Supply Index percentiles are 82% for the Price, 76% for Joes Valley, and 62% 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

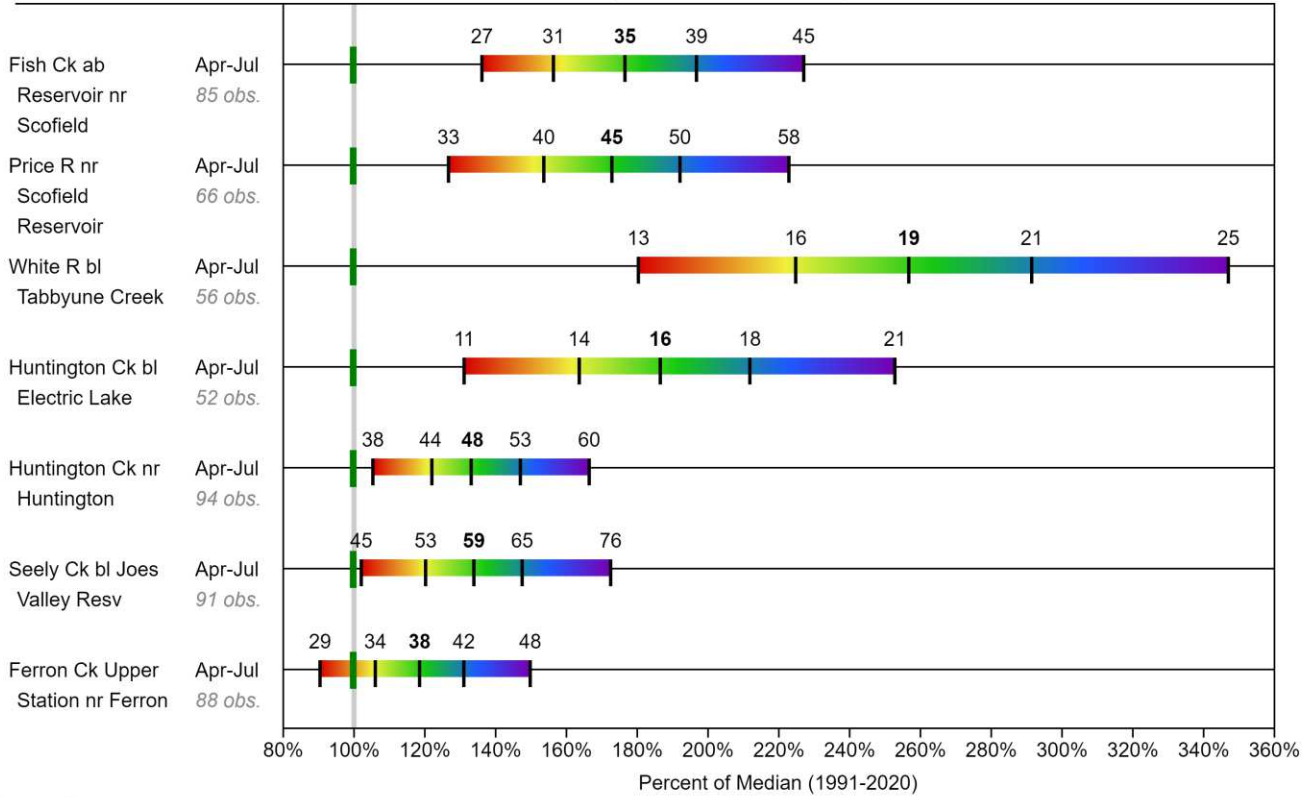


Price-San Rafael

PRICE-SAN RAFAEL Water Supply Forecasts April 1, 2024

Forecast Exceedance Probabilities

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



Legend



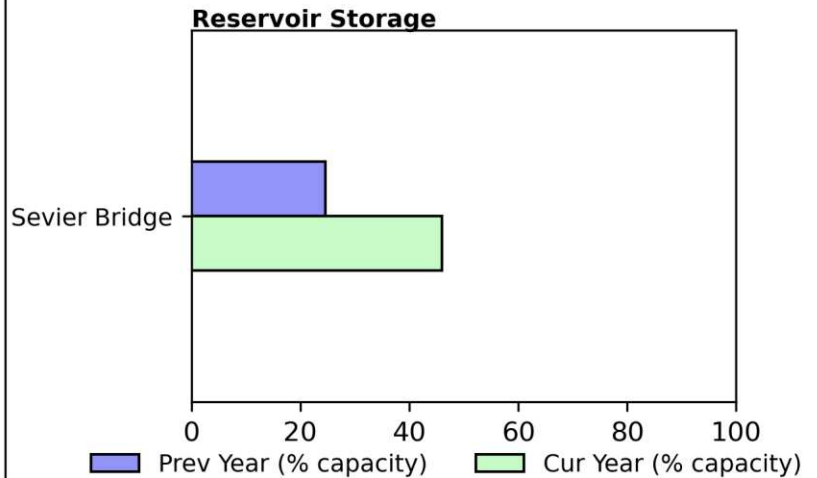
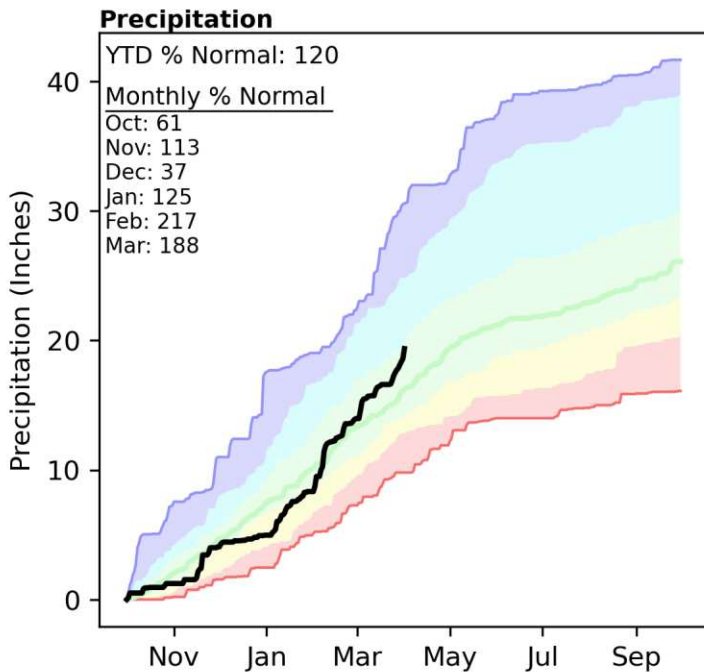
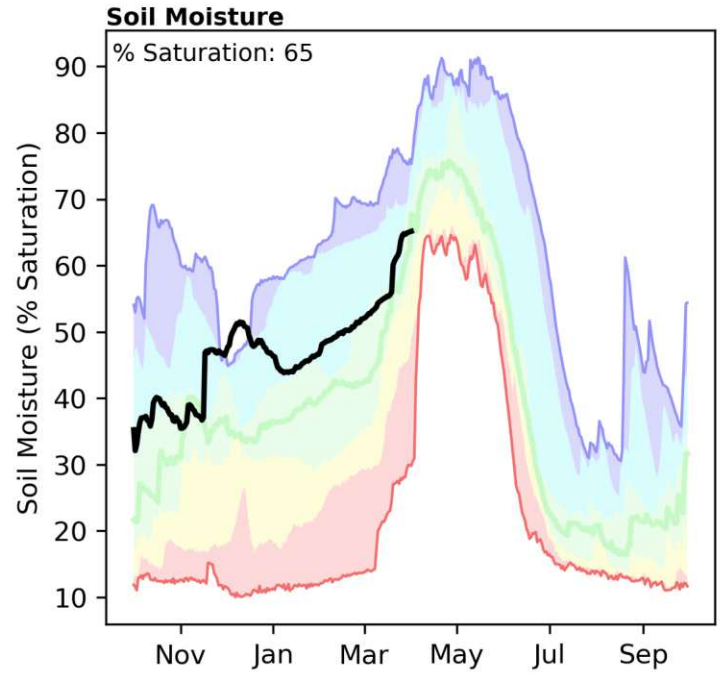
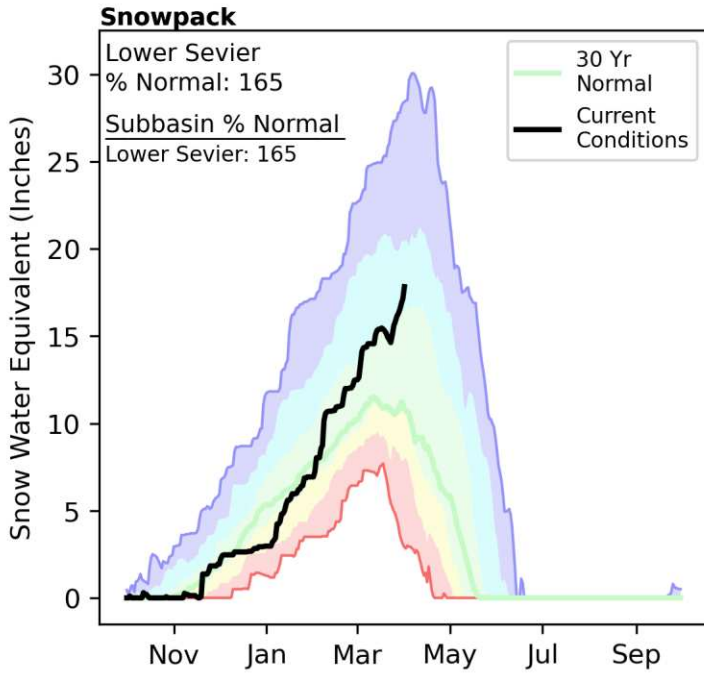
When selected, the following historic streamflow values and statistics will be shown.



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

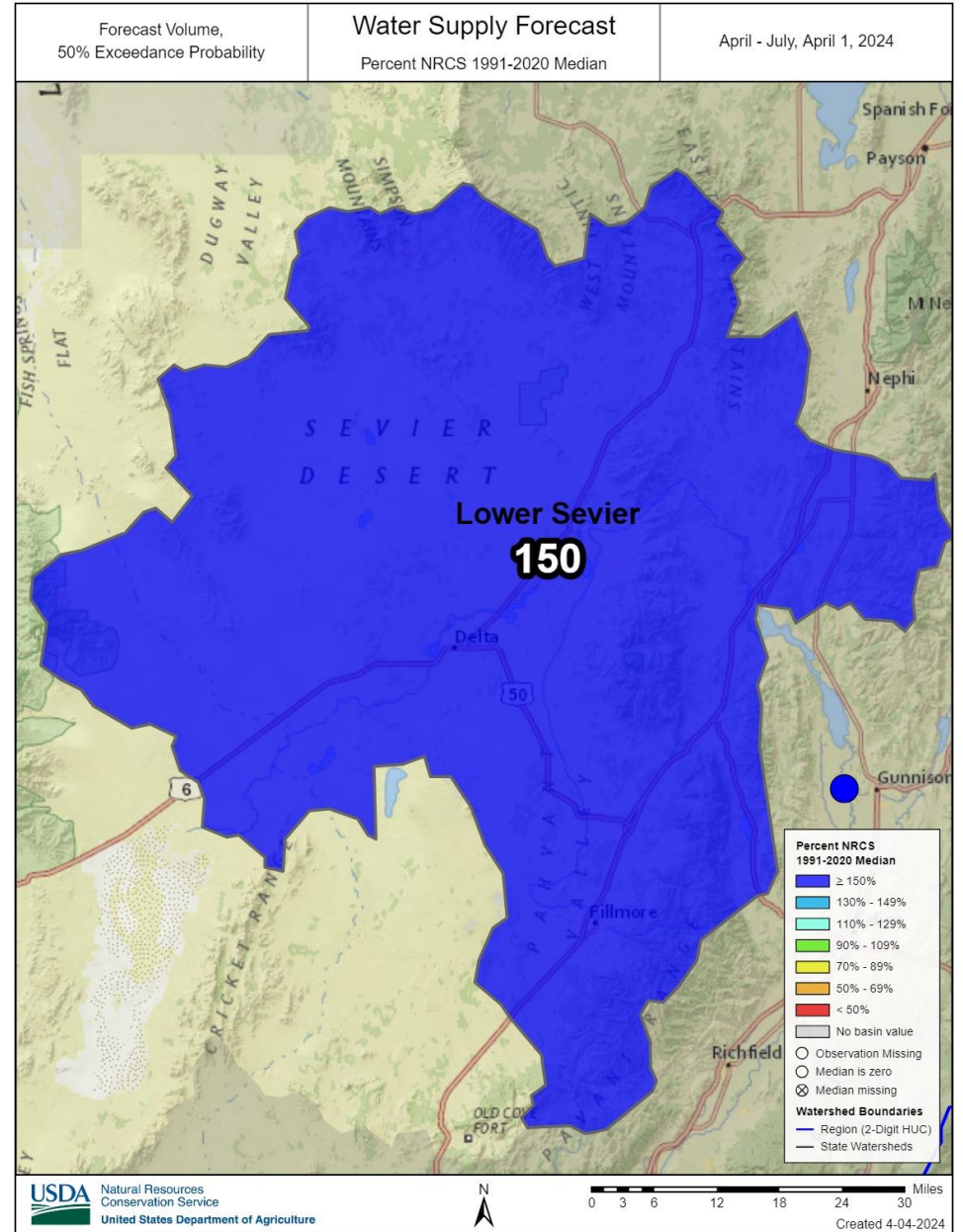
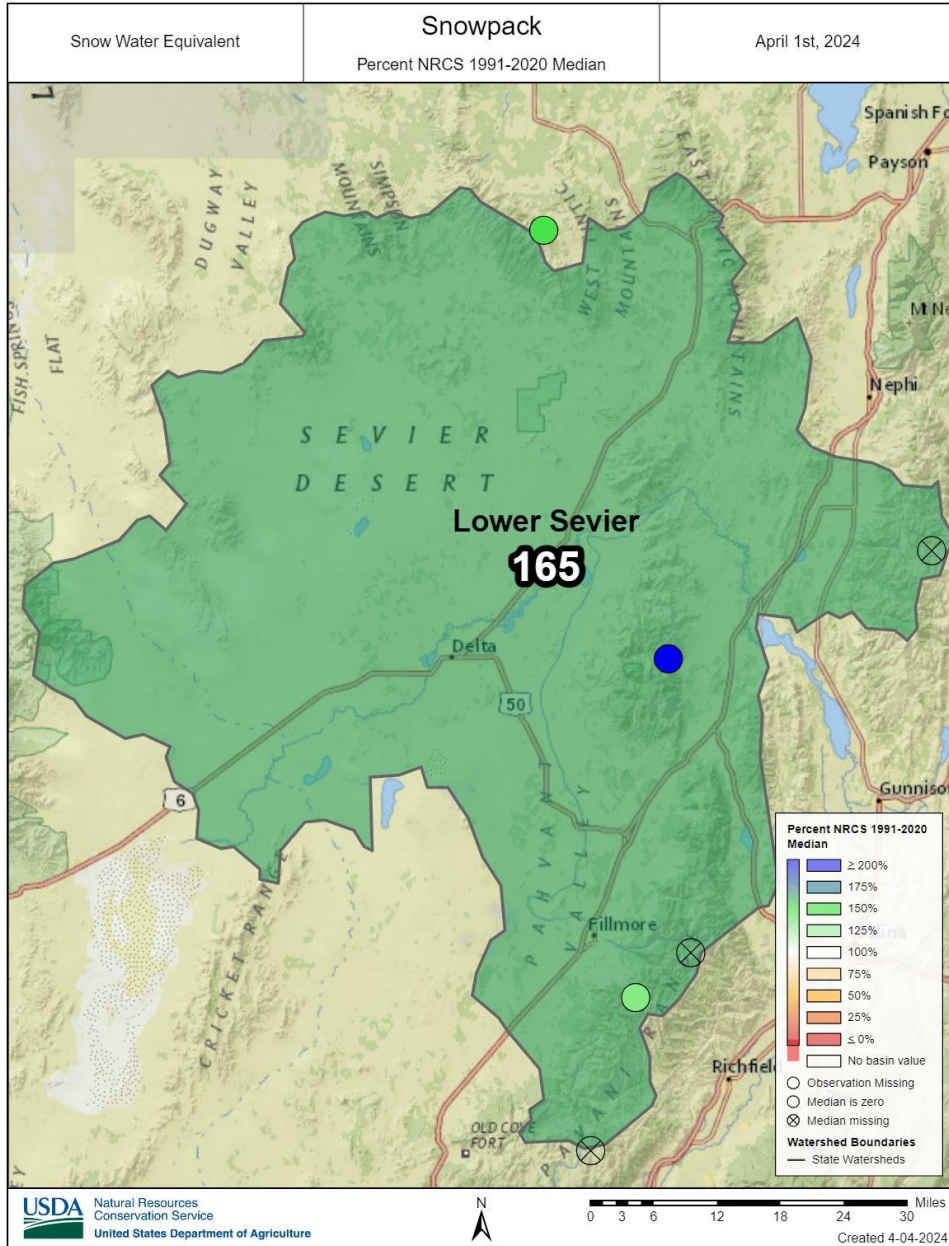
Lower Sevier | April 1, 2024

Snowpack in the Lower Sevier River Basin is well above normal at 165% of median, compared to 263% at this time last year. Precipitation in March was well above normal at 188%, which brings the seasonal accumulation (October-March) to 120% of median. Soil moisture is at 65% saturation compared to 69% saturation last year. Reservoir storage is 45% of capacity, compared to 24% last year. Forecast streamflow volume (50% exceedence, April-July) for the Sevier River near Gunnison is 150% of normal. The Surface Water Supply Index percentile is 24% for the Lower Sevier.

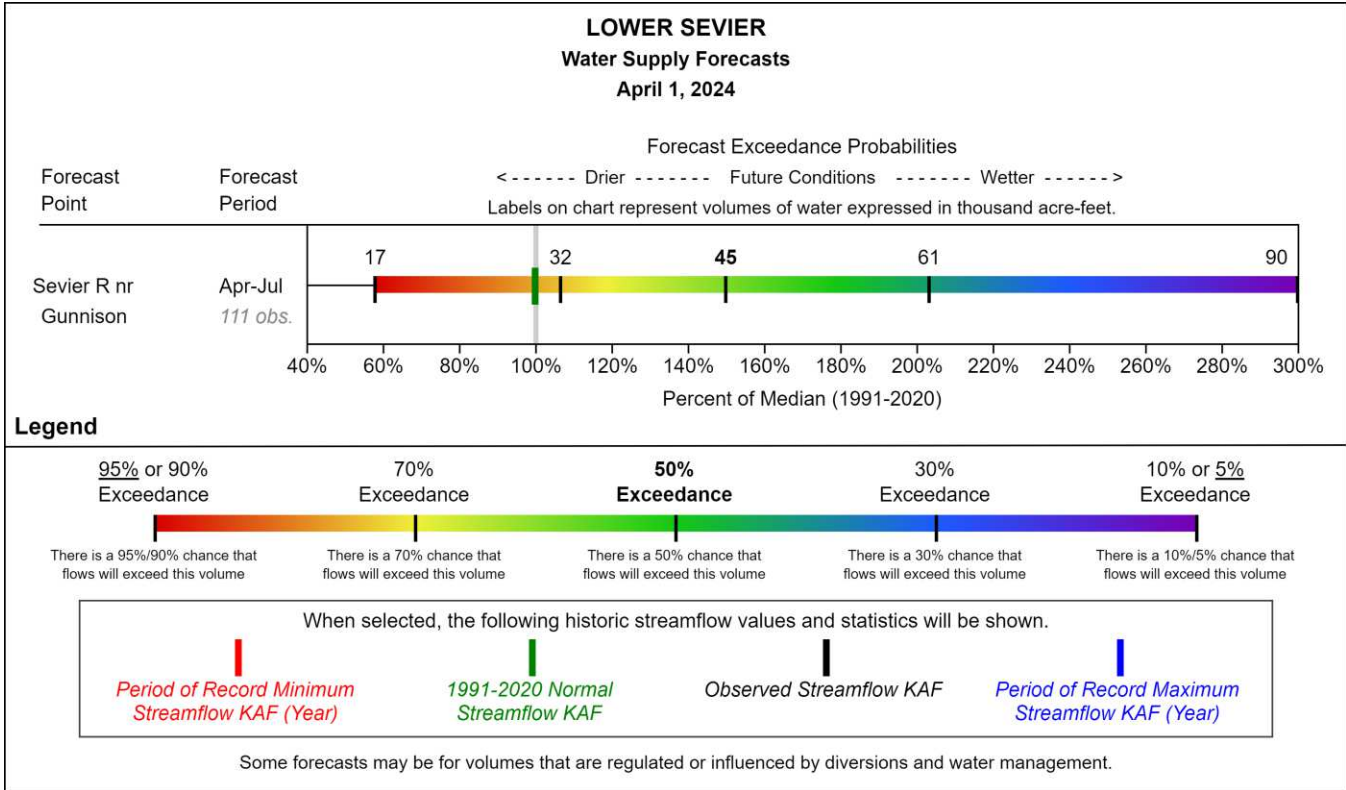


Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.
 For more information visit: [30 year normal calculation description](#)

Lower Sevier

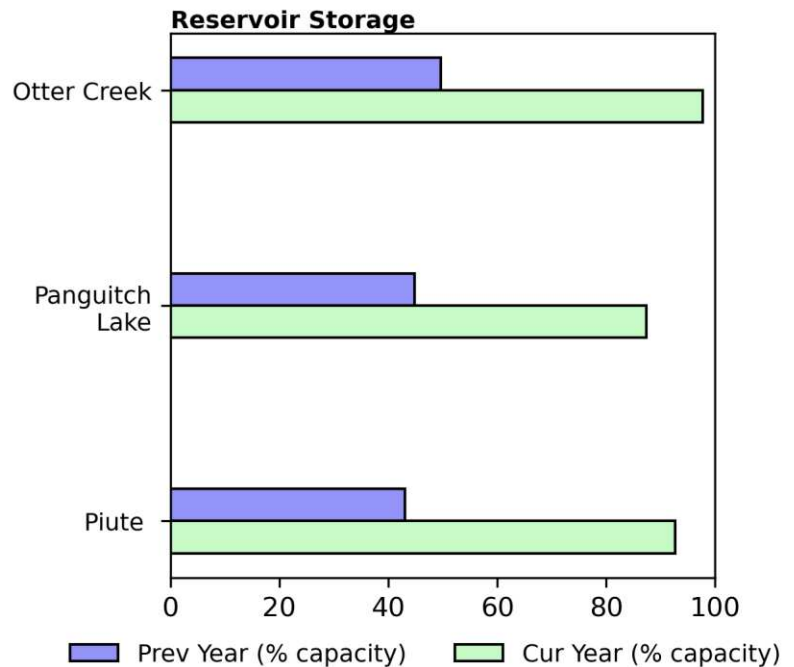
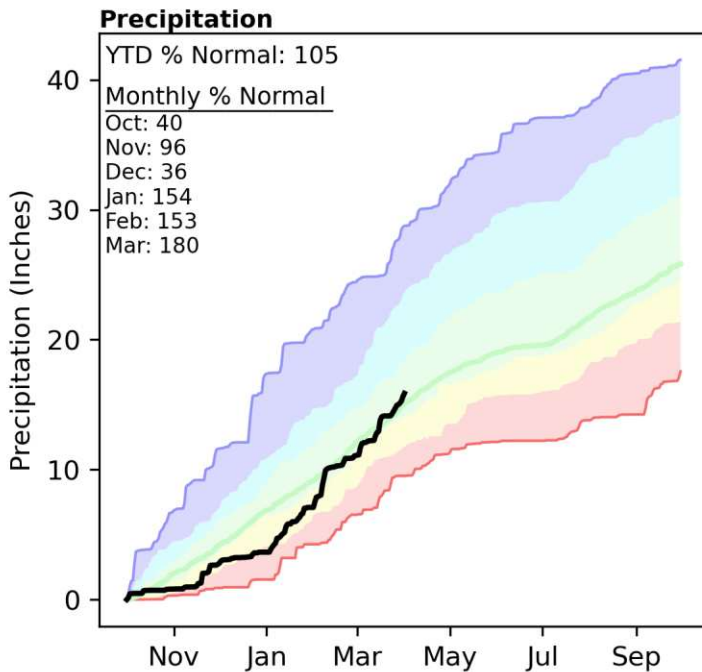
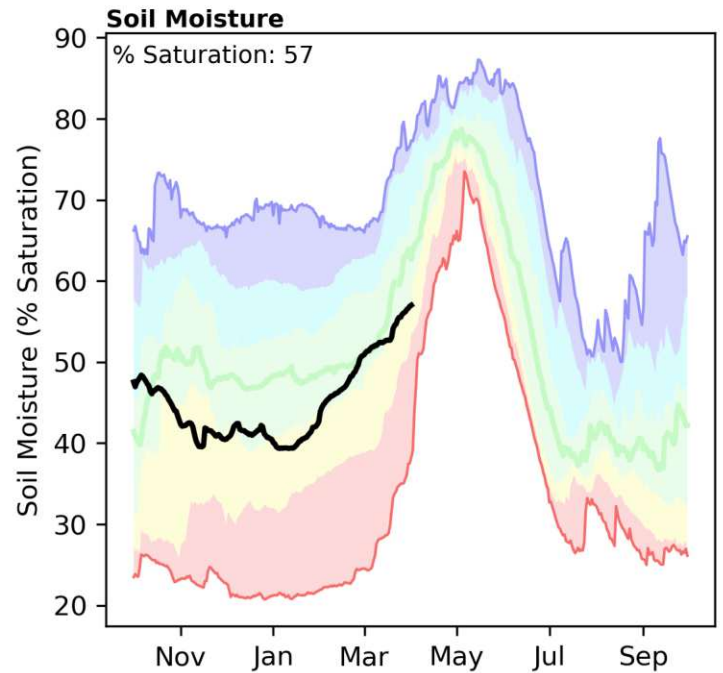
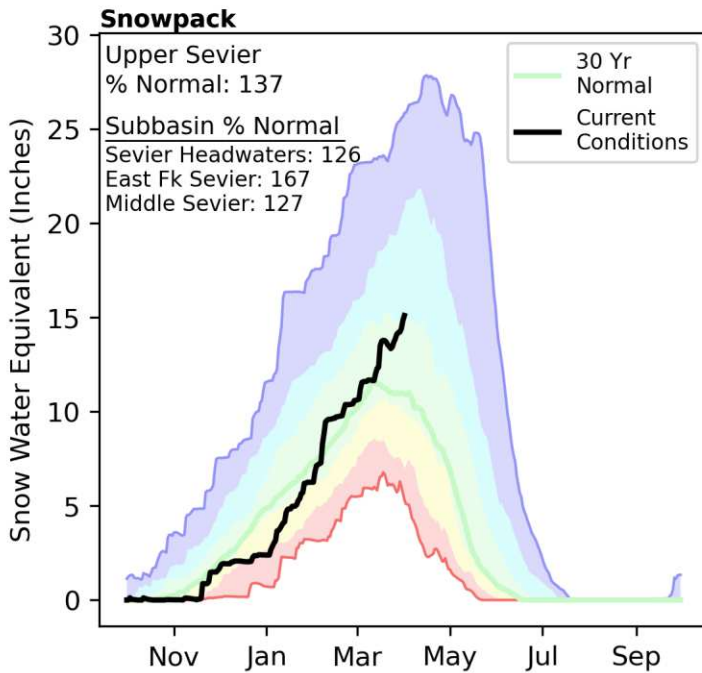


Lower Sevier



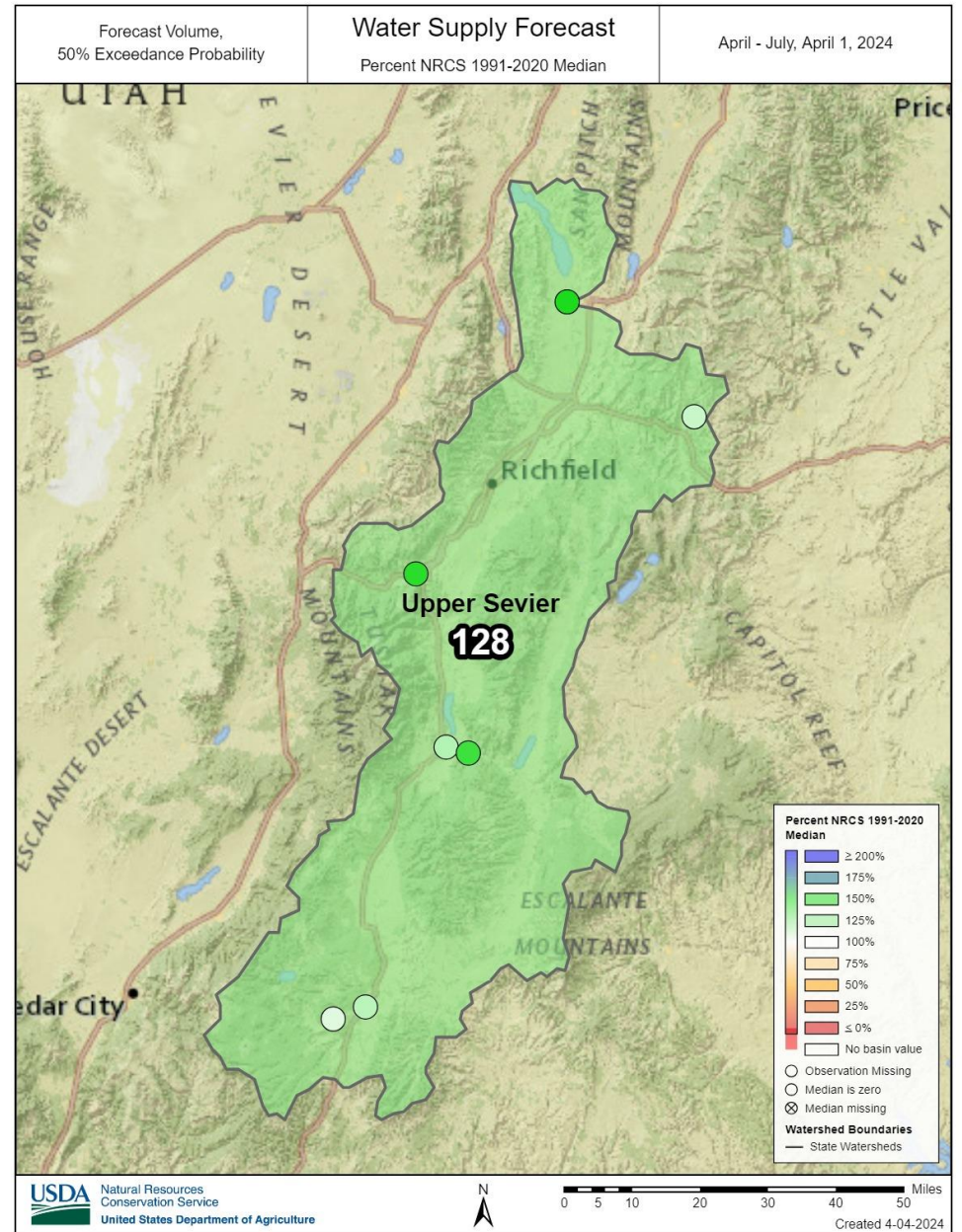
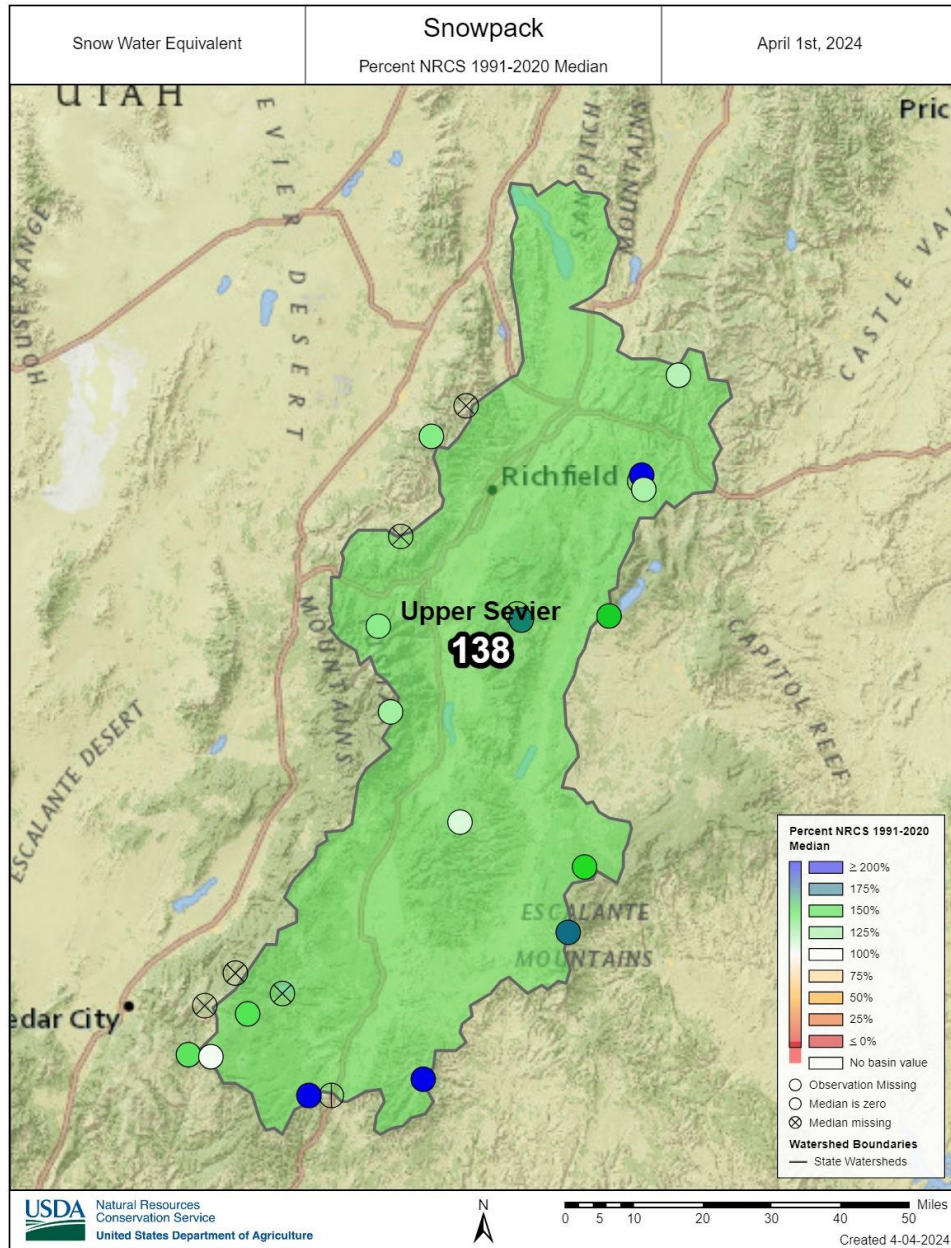
Upper Sevier | April 1, 2024

Snowpack in the Upper Sevier River Basin is well above normal at 137% of median, compared to 225% at this time last year. Precipitation in March was well above normal at 180%, which brings the seasonal accumulation (October-March) to 105% of median. Soil moisture is at 57% saturation compared to 61% saturation last year. Reservoir storage is 93% of capacity, compared to 45% last year. Forecast streamflow volumes (50% exceedence, April-July) range from 107% to 150% 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](#)

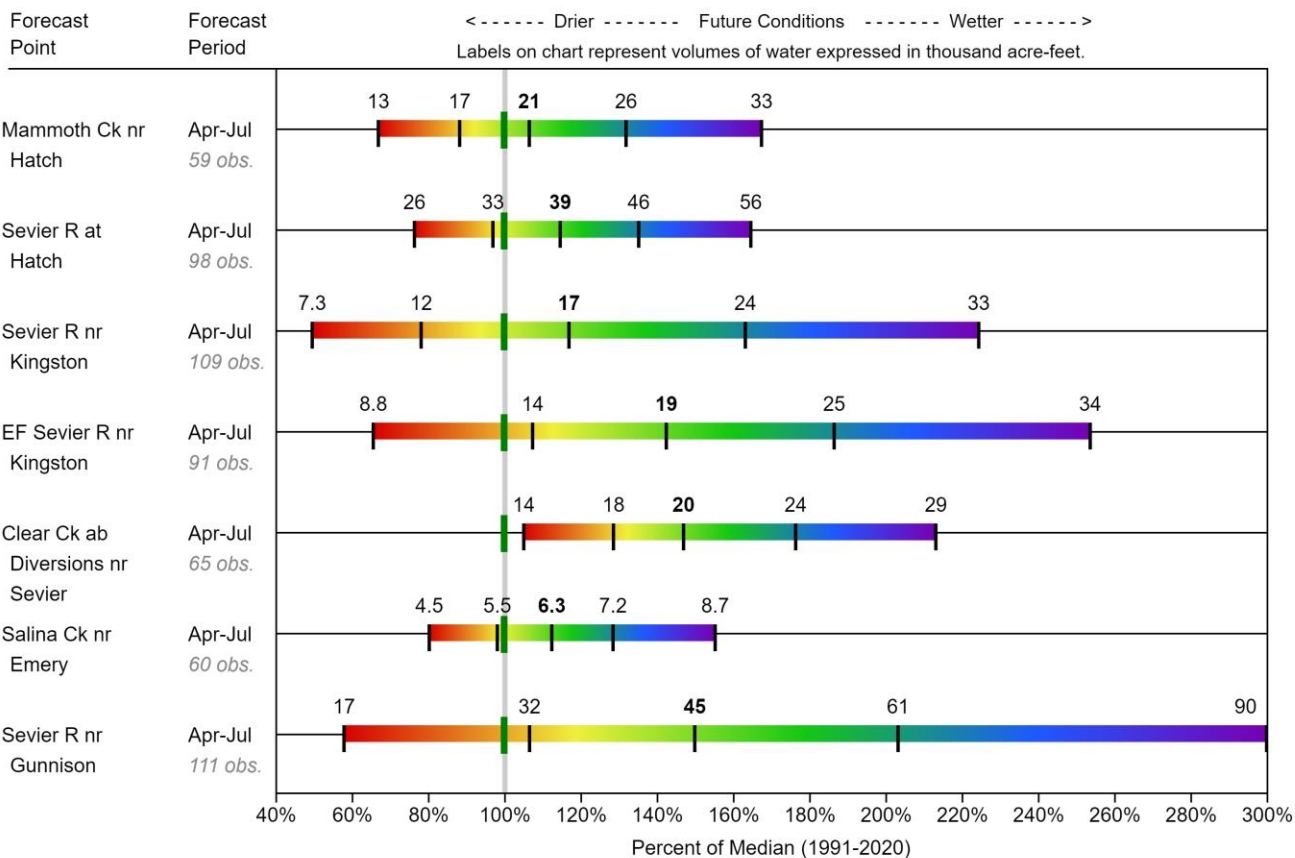
Upper Sevier



Upper Sevier

UPPER SEVIER Water Supply Forecasts April 1, 2024

Forecast Exceedance Probabilities



Legend



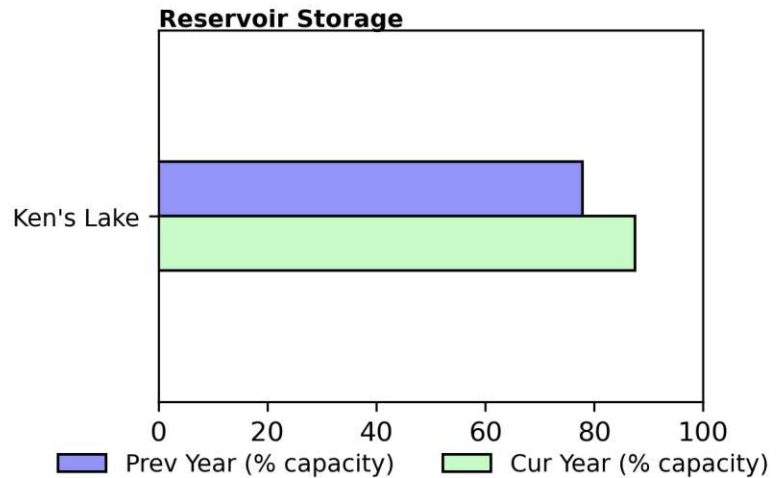
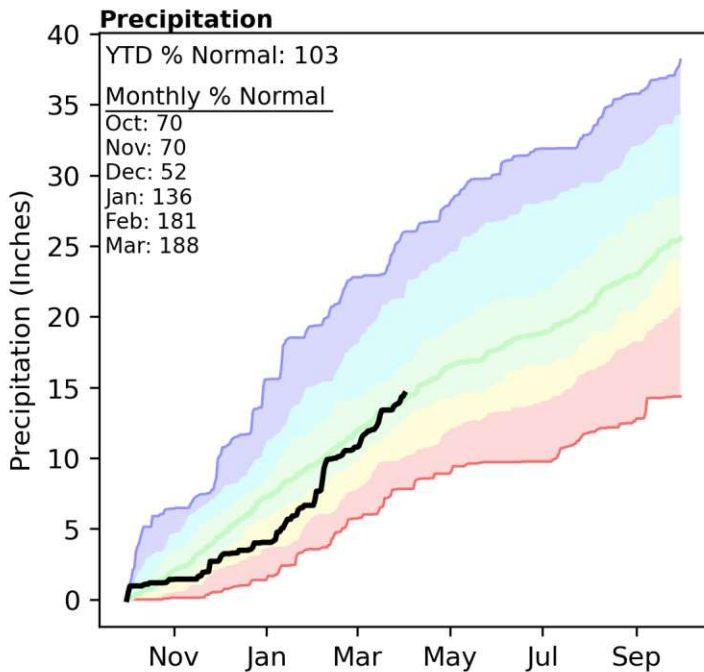
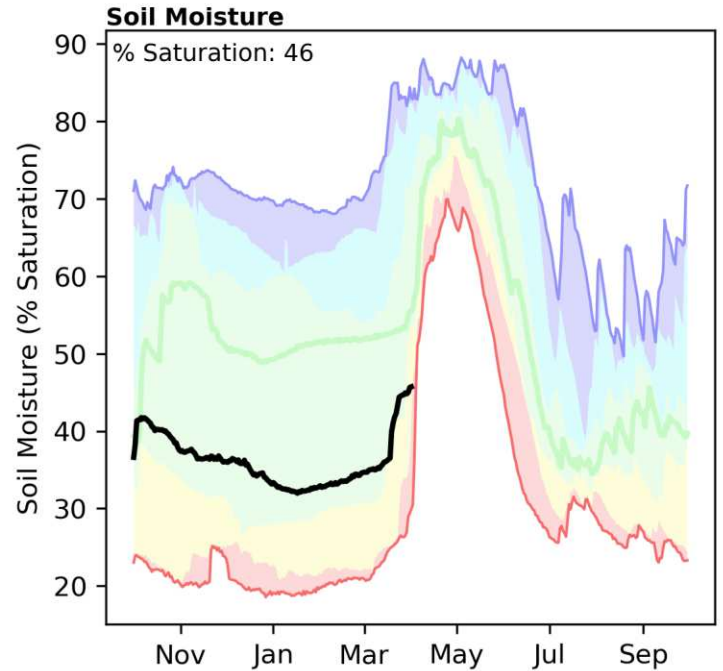
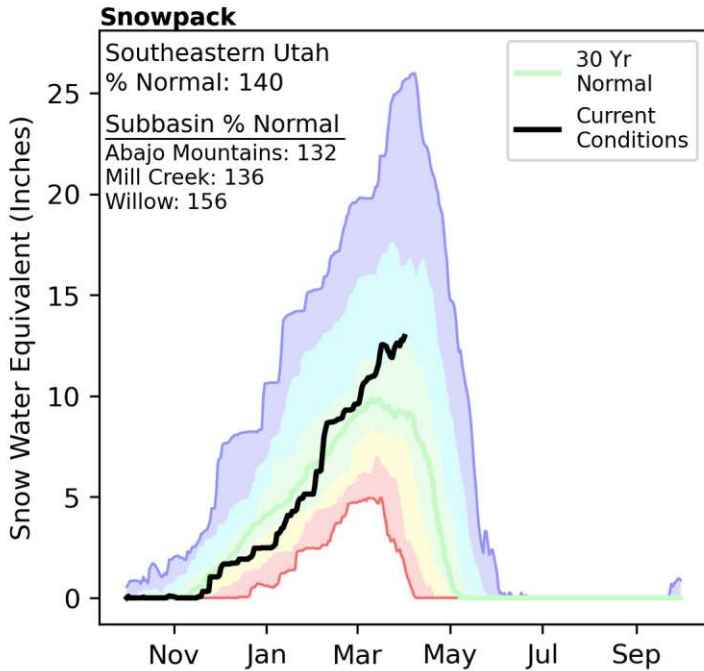
When selected, the following historic streamflow values and statistics will be shown.



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

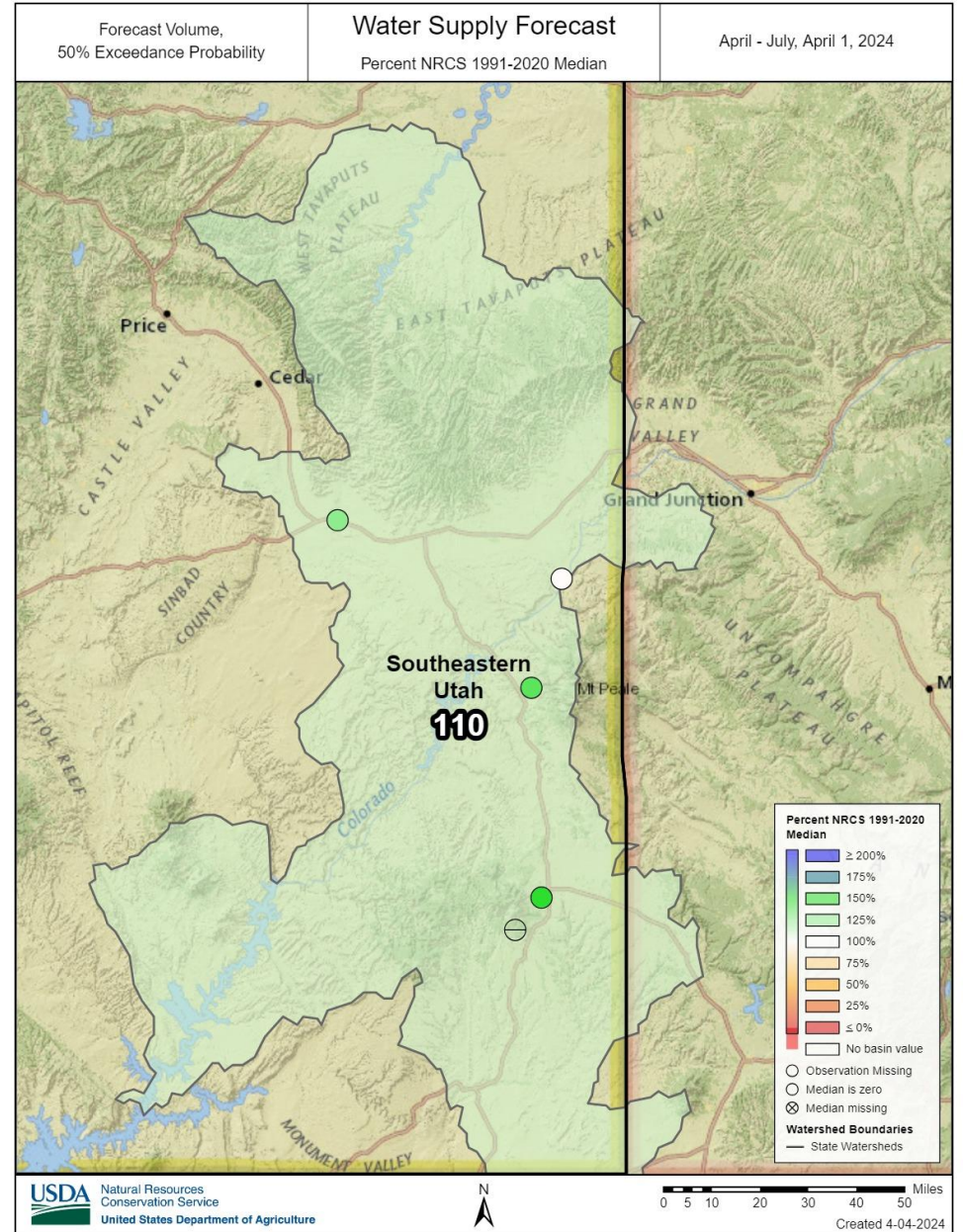
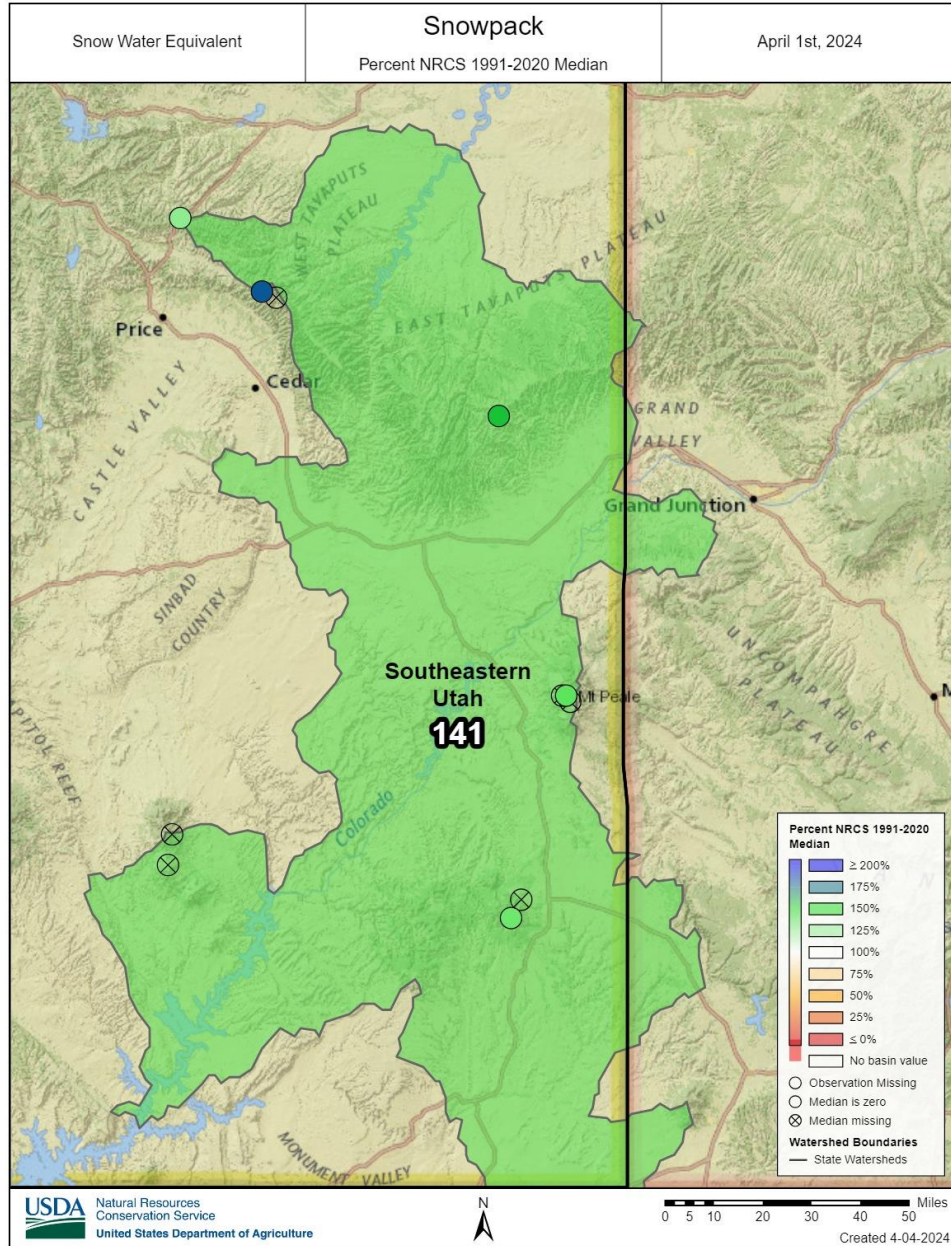
Southeastern Utah | April 1, 2024

Snowpack in Southeastern Utah is well above normal at 140% of median, compared to 278% at this time last year. Precipitation in March was well above normal at 188%, which brings the seasonal accumulation (October-March) to 103% of median. Soil moisture is at 46% saturation compared to 53% saturation last year. Reservoir storage is 87% of capacity, compared to 77% last year. Forecast streamflow volumes (50% exceedence, April-July) range from 99% to 146% of normal. The Surface Water Supply Index percentile is 68% for Moab.



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

Southeastern Utah

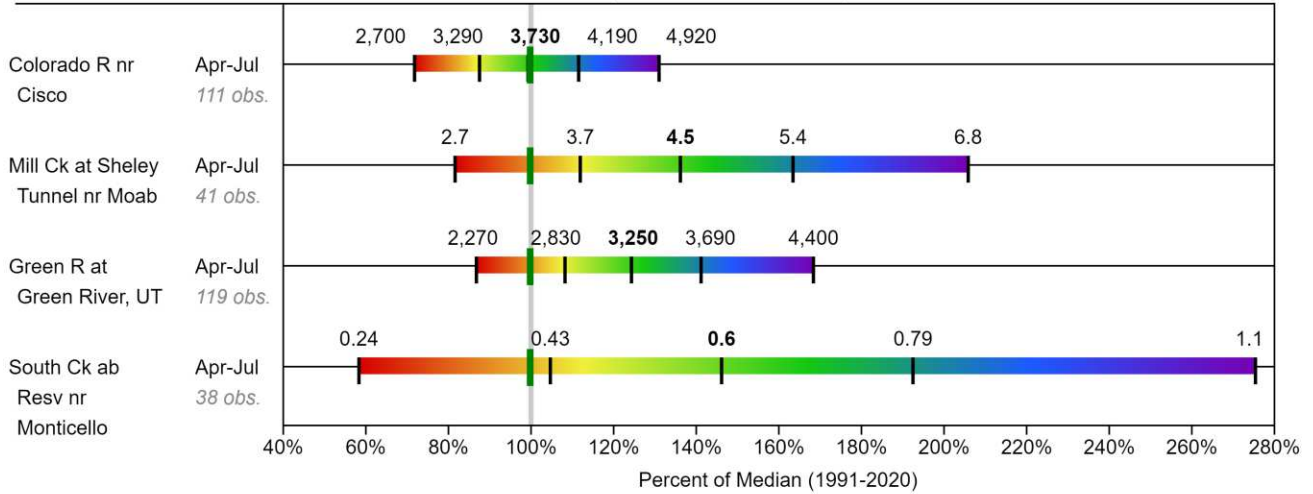


Southeastern Utah

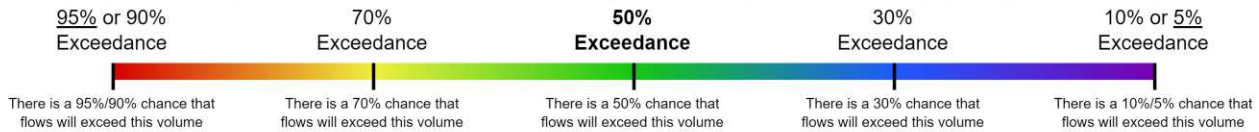
SOUTHEASTERN UTAH Water Supply Forecasts April 1, 2024

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)

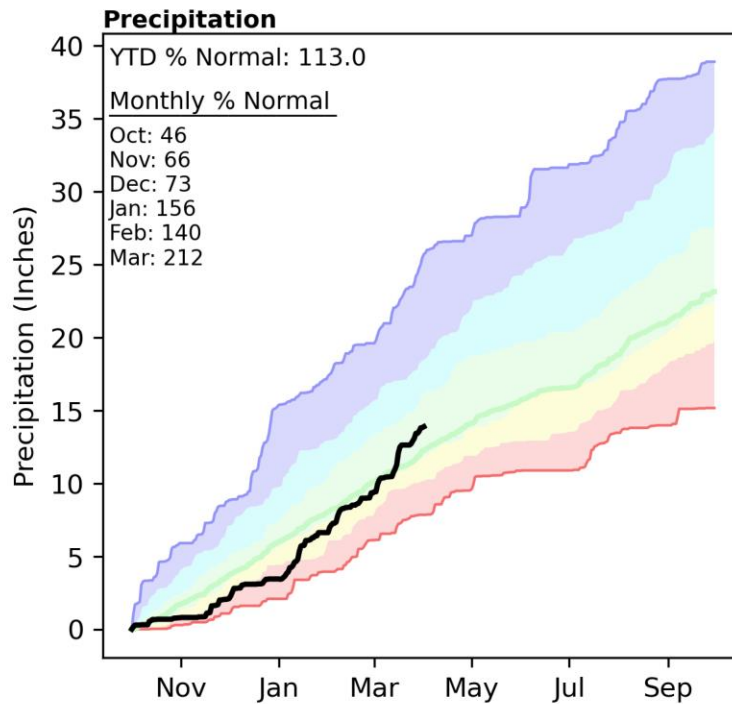
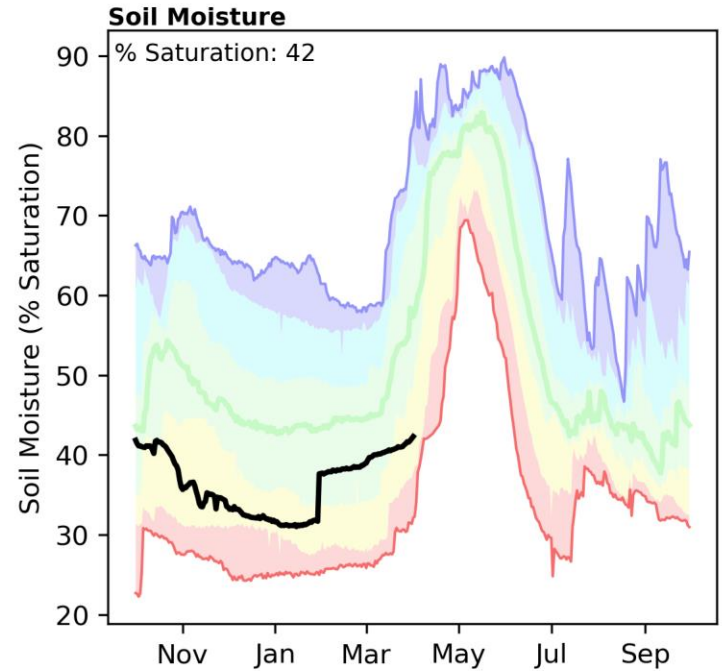
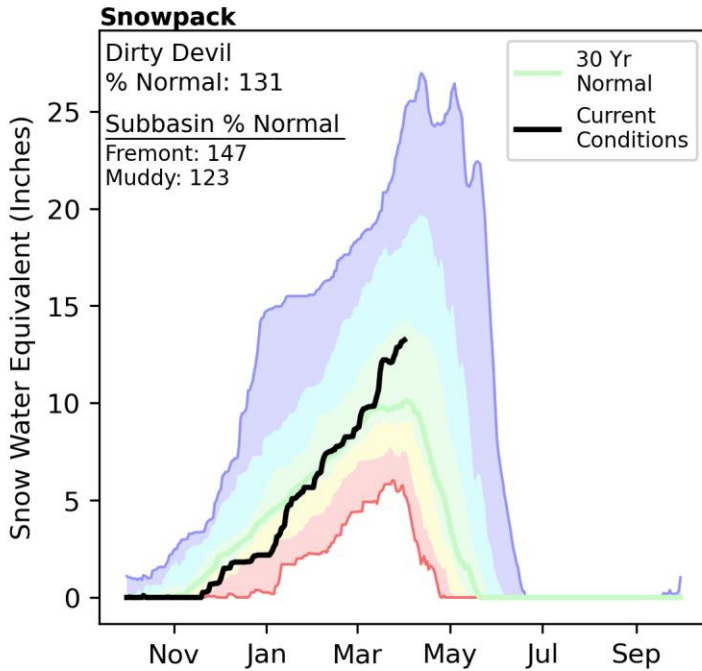
1991-2020 Normal Streamflow KAF

Observed Streamflow KAF

Period of Record Maximum Streamflow KAF (Year)

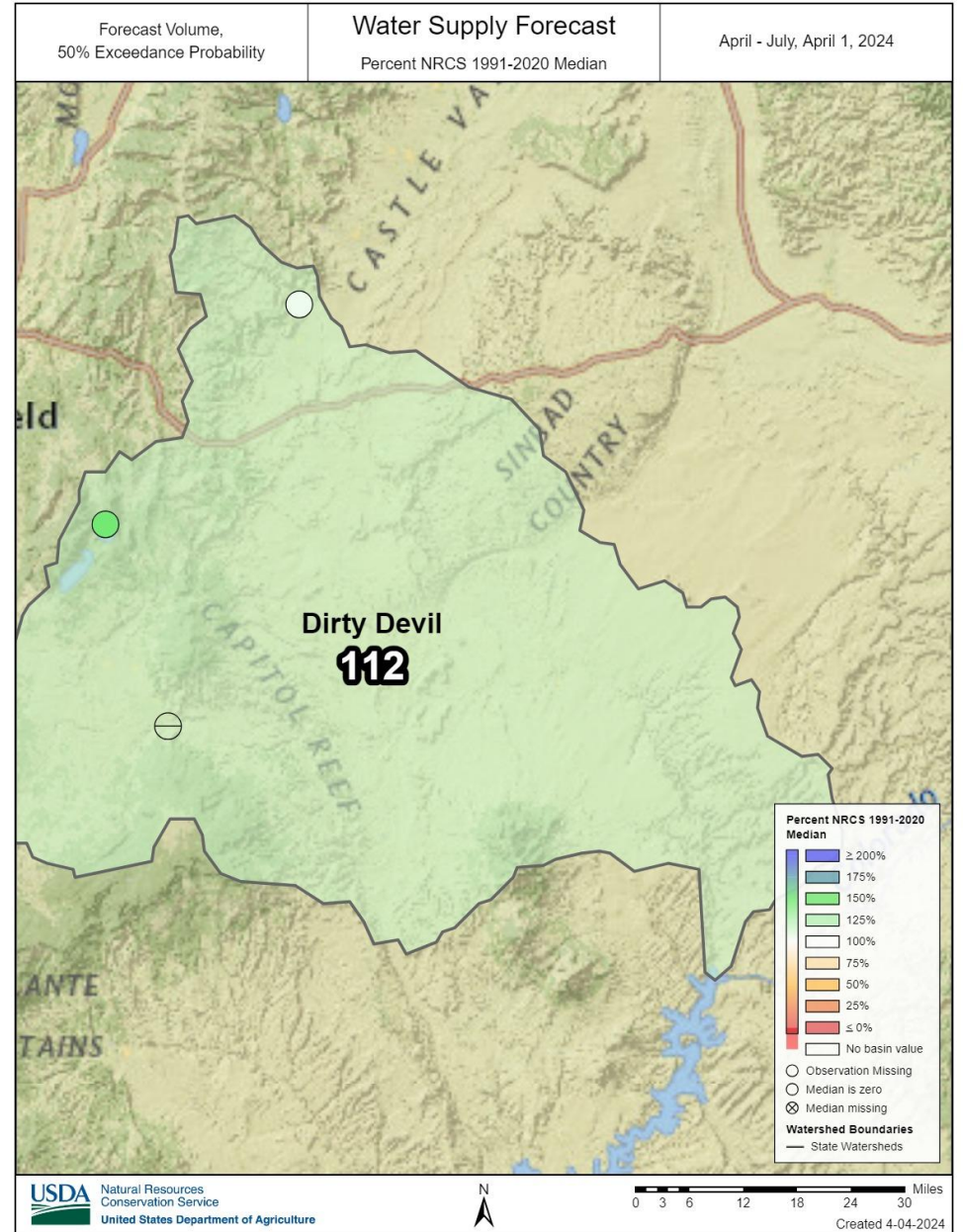
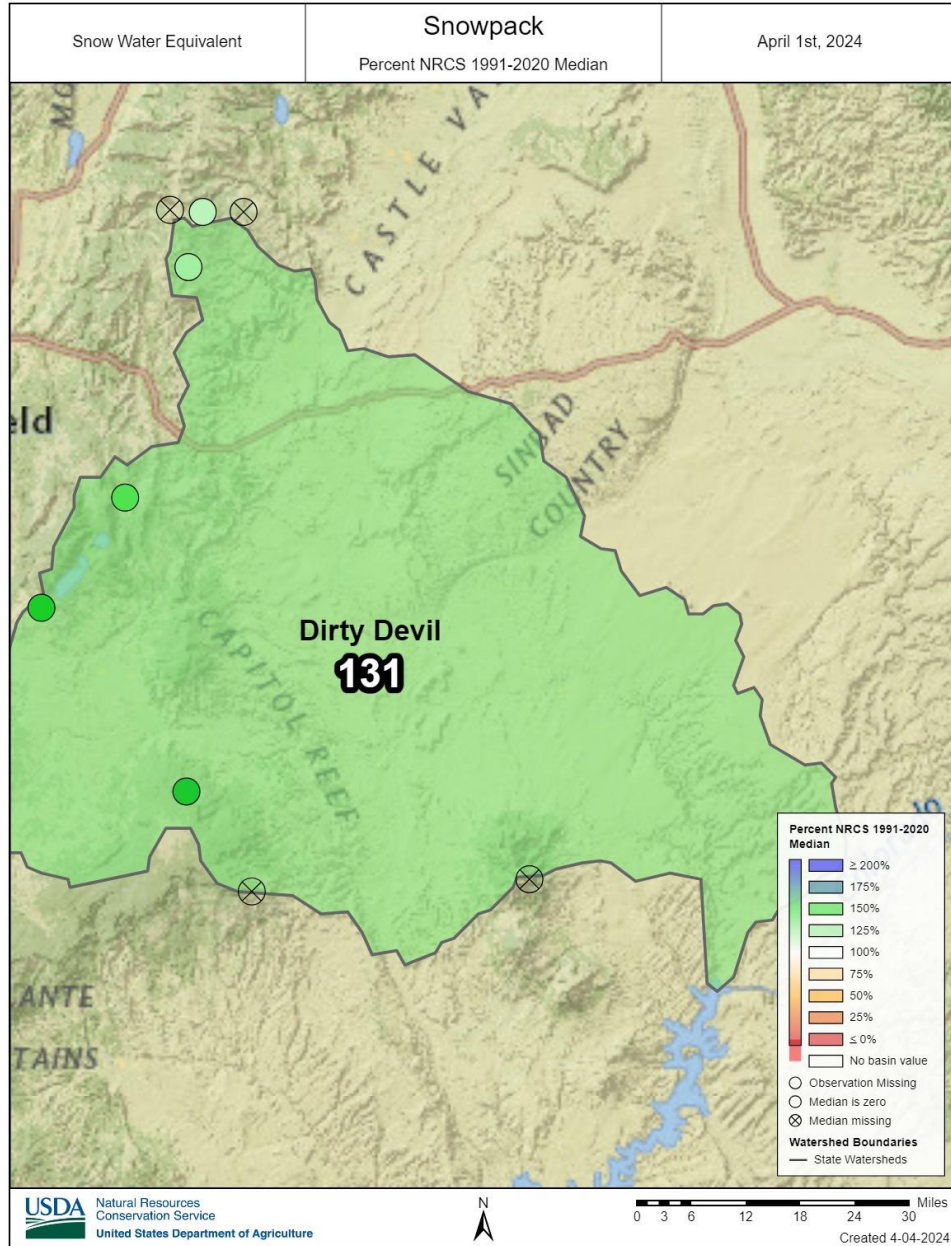
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

Snowpack in the Dirty Devil River Basin is well above normal at 131% of median, compared to 187% at this time last year. Precipitation in March was well above normal at 212%, which brings the seasonal accumulation (October-March) to 113% of median. Soil moisture is at 42% saturation compared to 42% saturation last year. Forecast streamflow volumes (50% exceedence, April-July) range from 104% to 131% of normal.



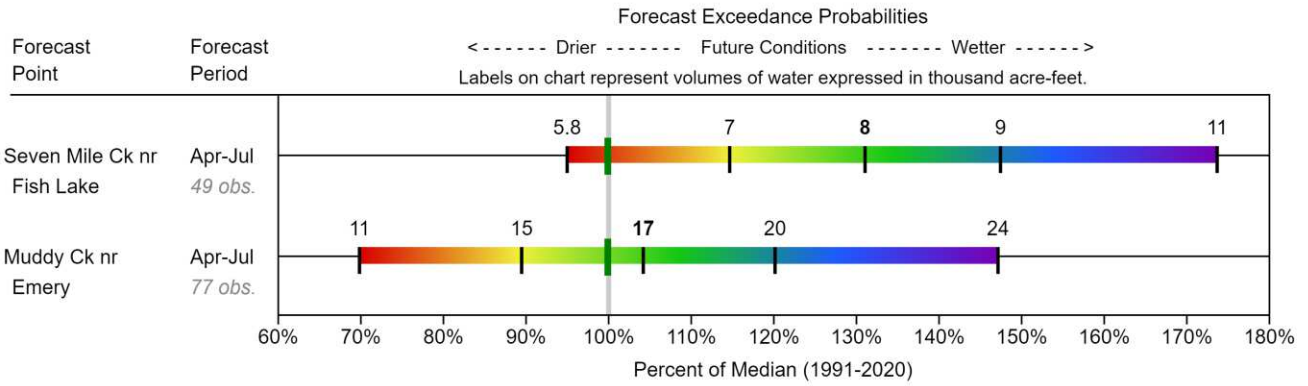
Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.
For more information visit: [30 year normal calculation description](#)

Dirty Devil

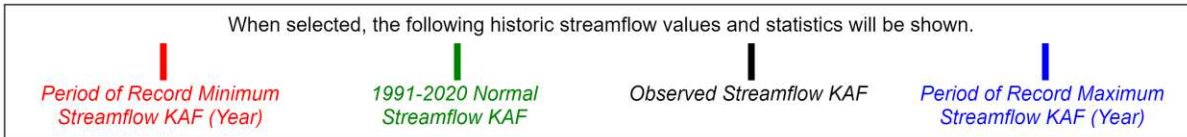


Dirty Devil

DIRTY DEVIL Water Supply Forecasts April 1, 2024

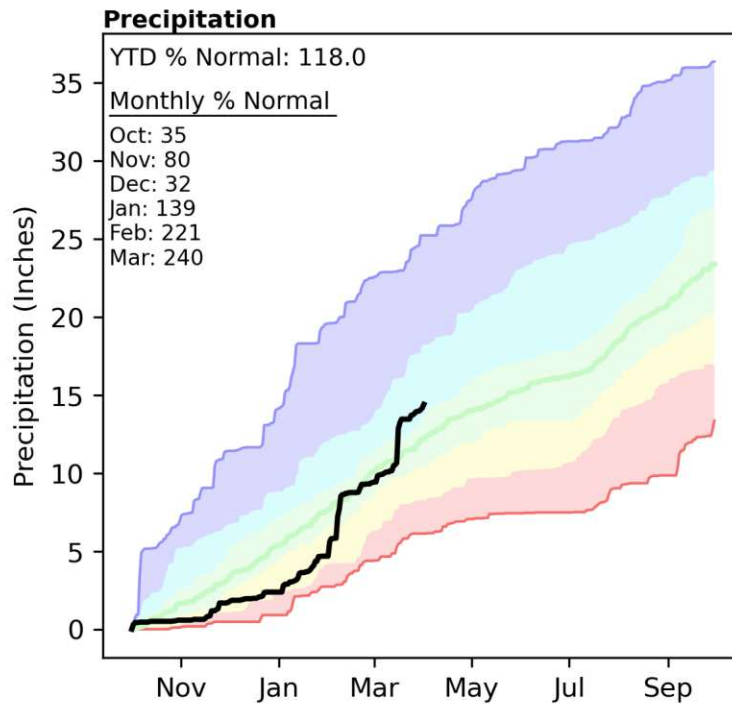
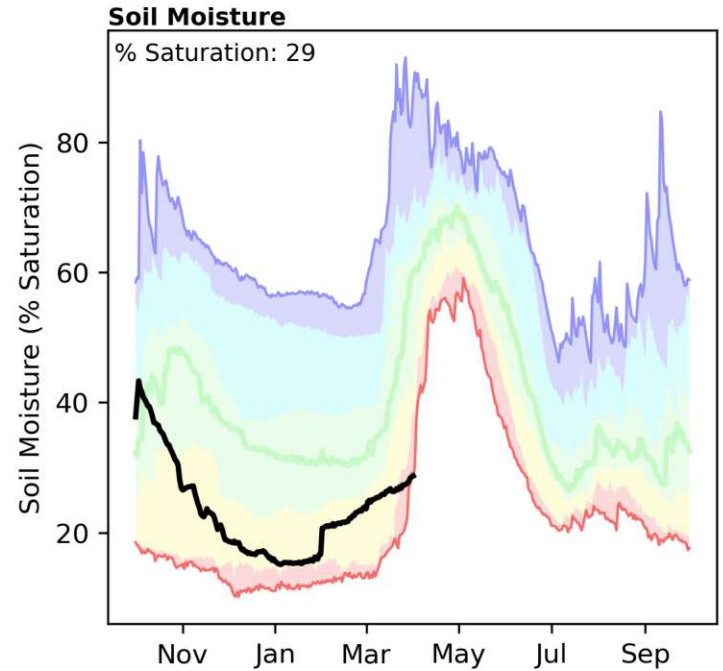
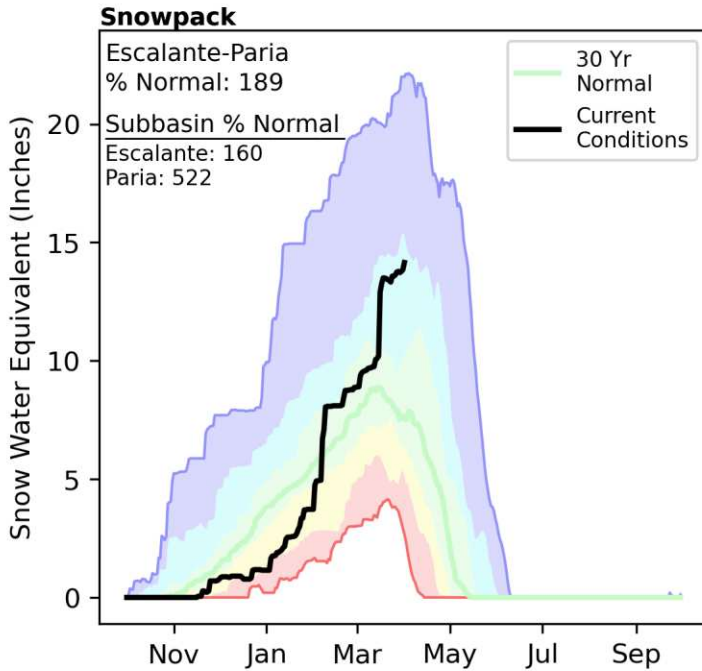


Legend



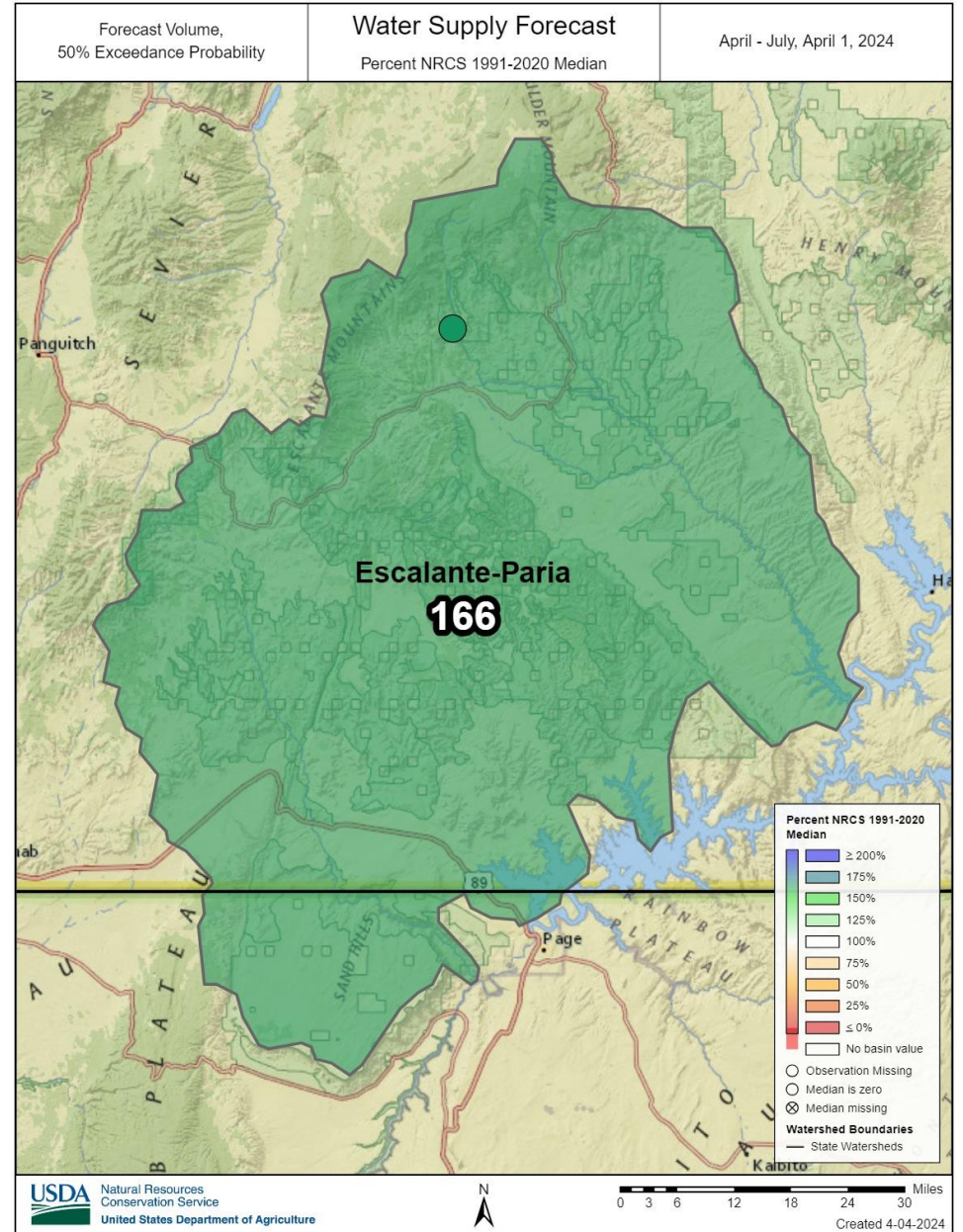
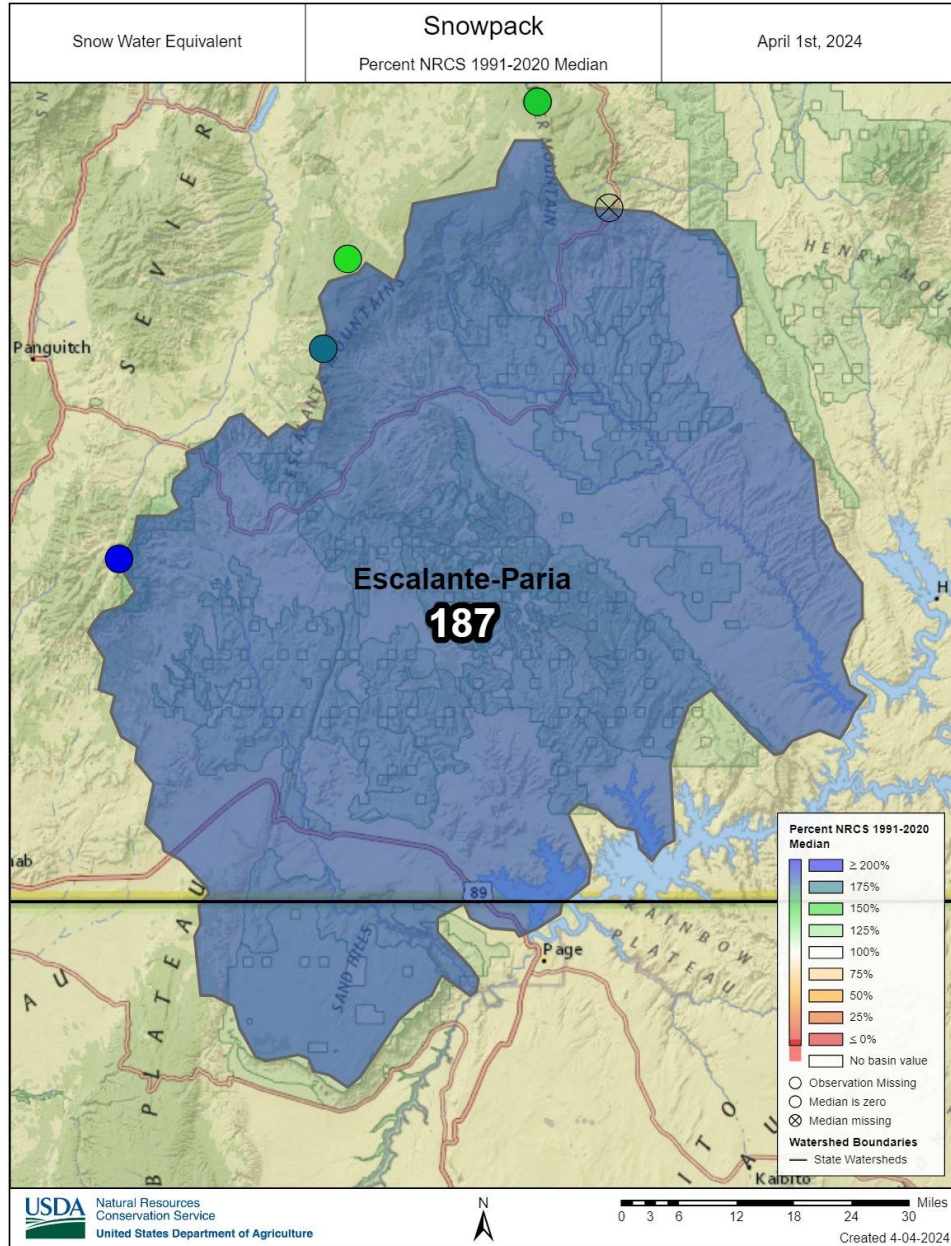
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

Snowpack in the Escalante and Paria River Basins is well above normal at 189% of median, compared to 255% at this time last year. Precipitation in March was well above normal at 240%, which brings the seasonal accumulation (October-March) to 118% of median. Soil moisture is at 29% saturation compared to 41% saturation last year. The forecast streamflow volume (50% exceedence, April-July) for Pine Creek is 166% of normal.



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

Escalante-Paria

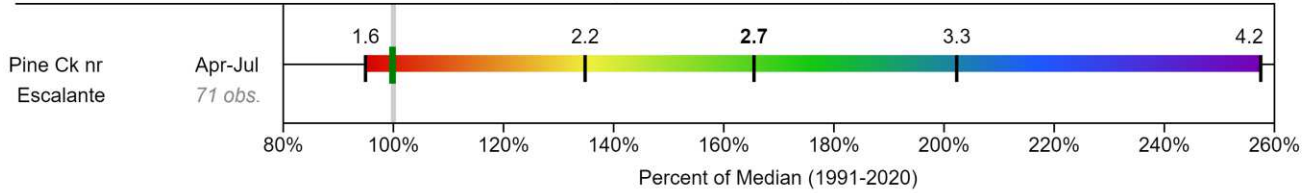


Escalante-Paria

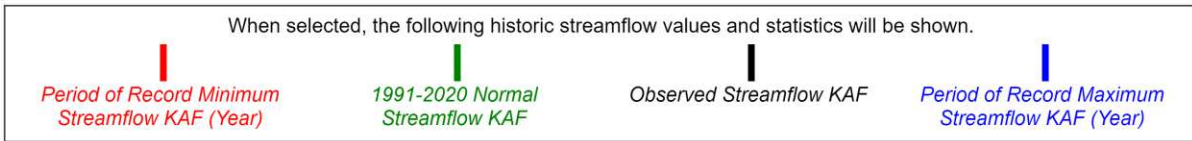
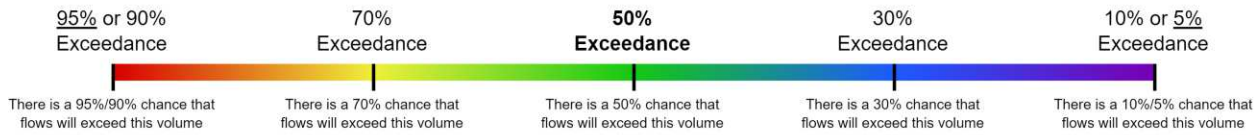
ESCALANTE-PARIA Water Supply Forecasts April 1, 2024

Forecast Exceedance Probabilities

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

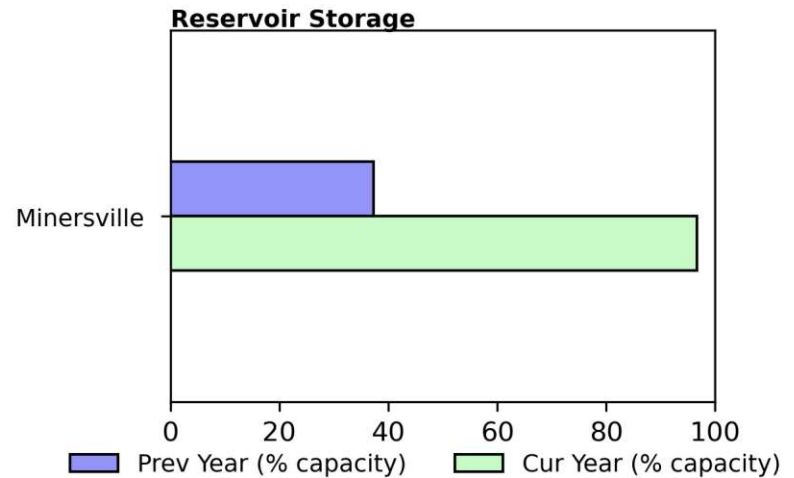
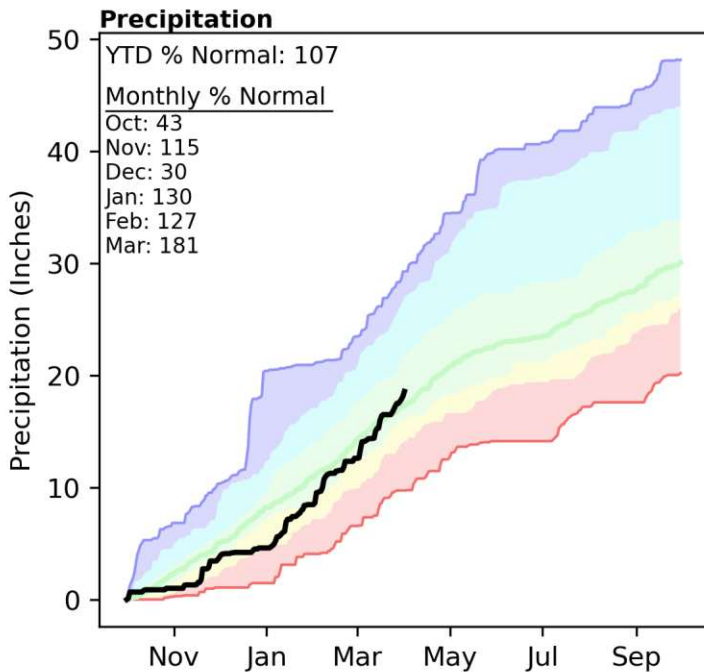
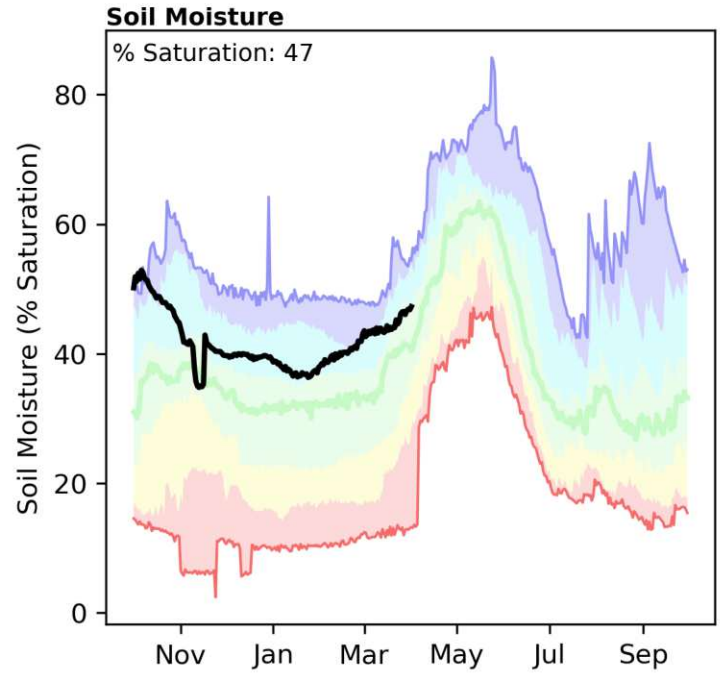
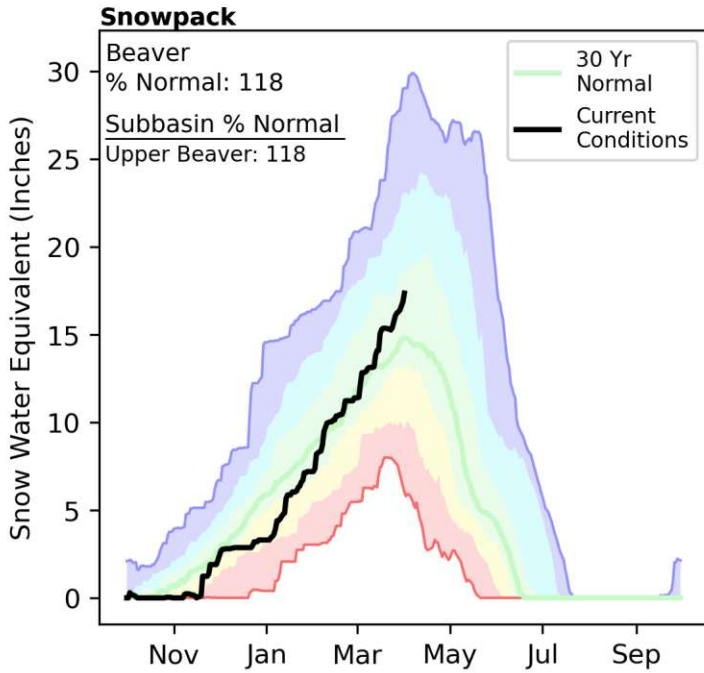


Legend



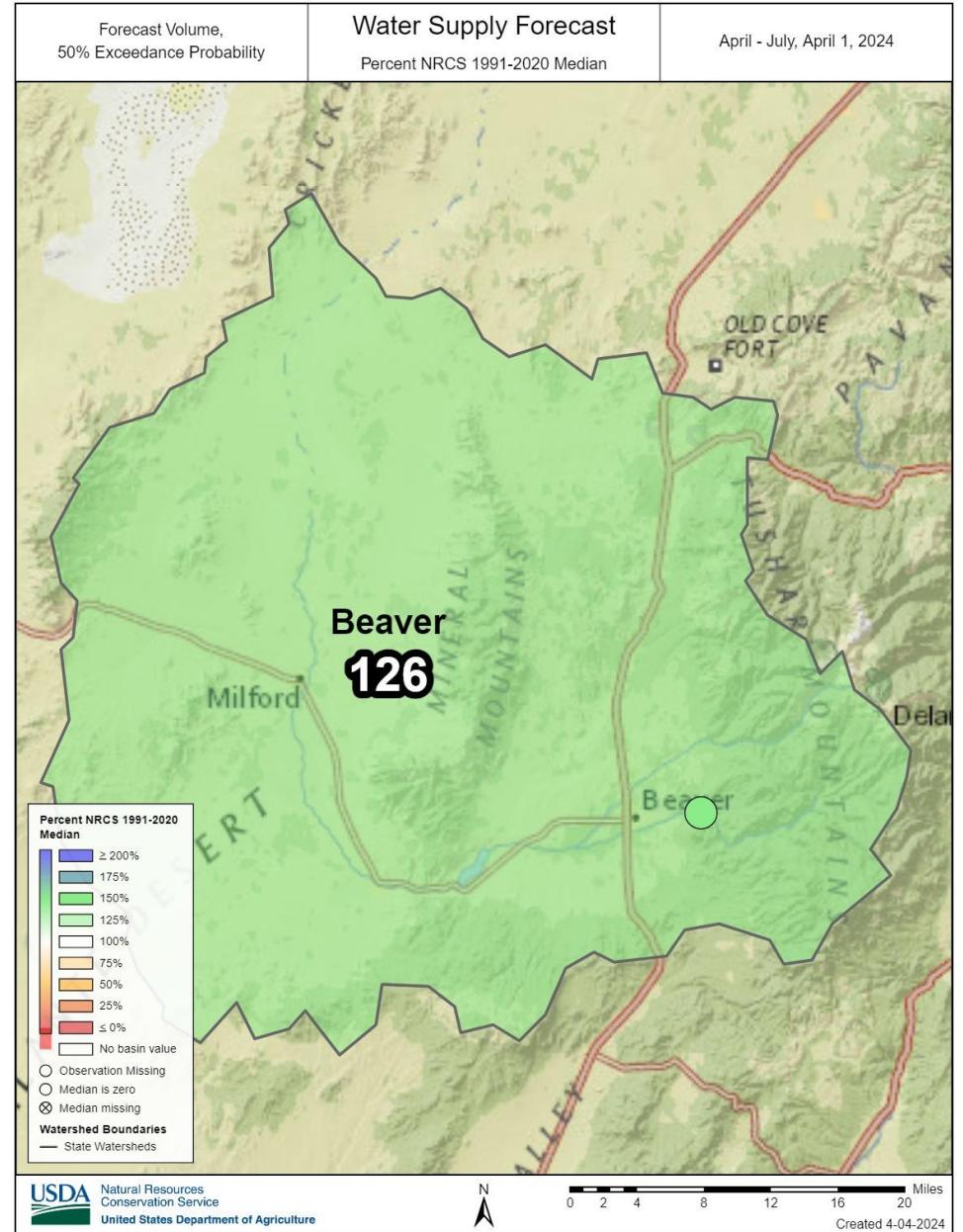
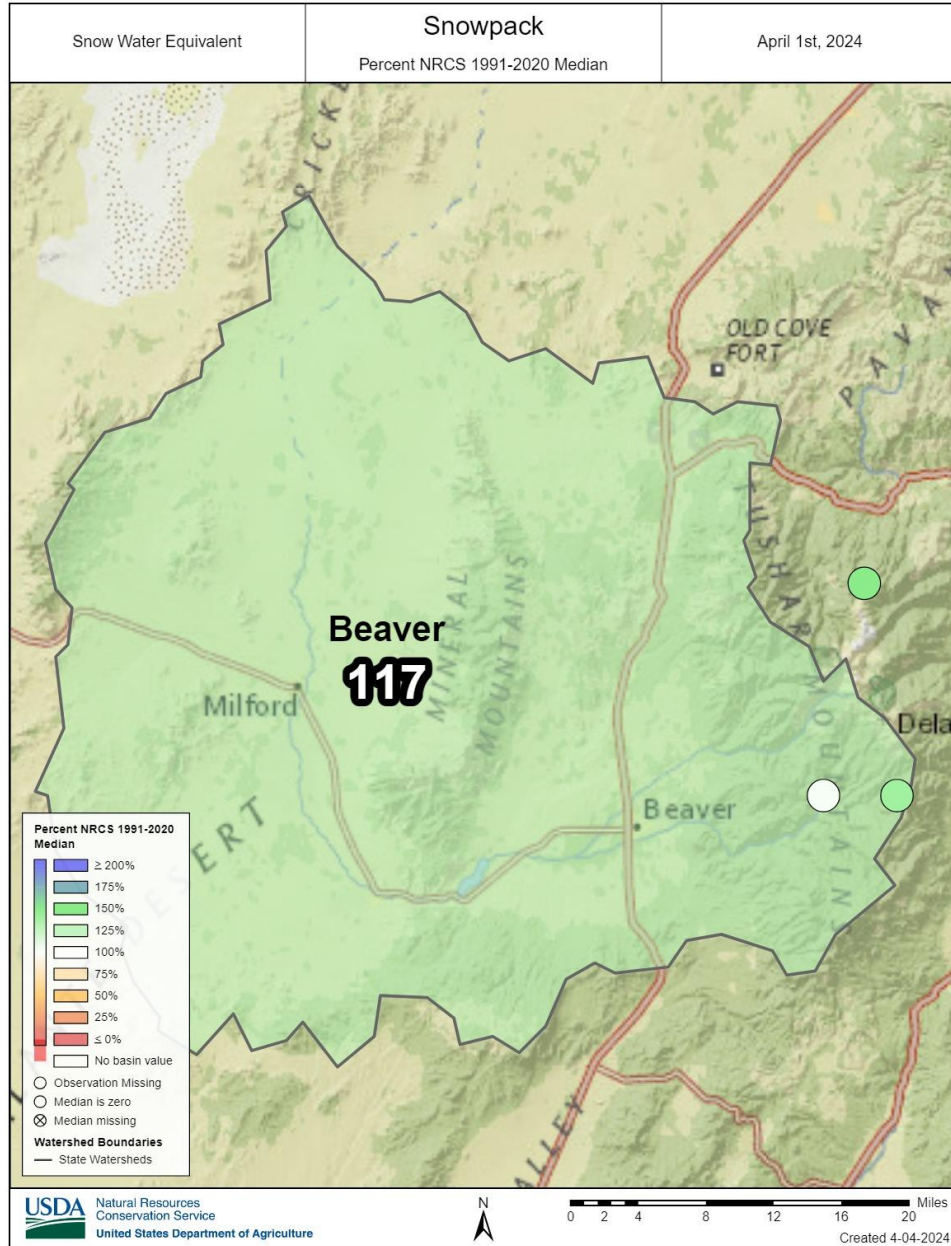
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

Snowpack in the Beaver River Basin is above normal at 118% of median, compared to 196% at this time last year. Precipitation in March was well above normal at 181%, which brings the seasonal accumulation (October-March) to 107% of median. Soil moisture is at 47% saturation compared to 47% saturation last year. Reservoir storage is 96% of capacity, compared to 37% last year. The forecast streamflow volume (50% exceedence, April-July) for the Beaver River is 126% of normal. The Surface Water Supply Index percentile is 60% for the Beaver River.

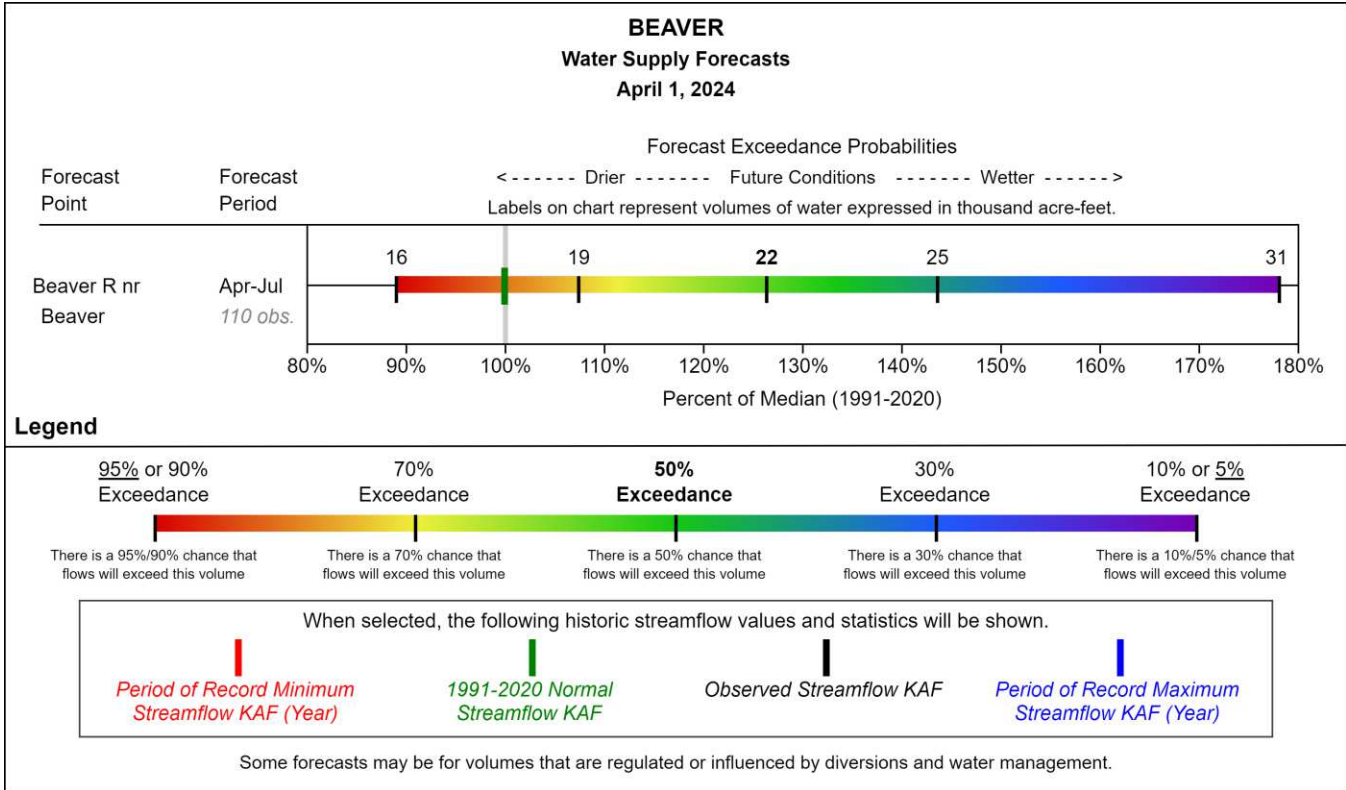


Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.
For more information visit: [30 year normal calculation description](#)

Beaver

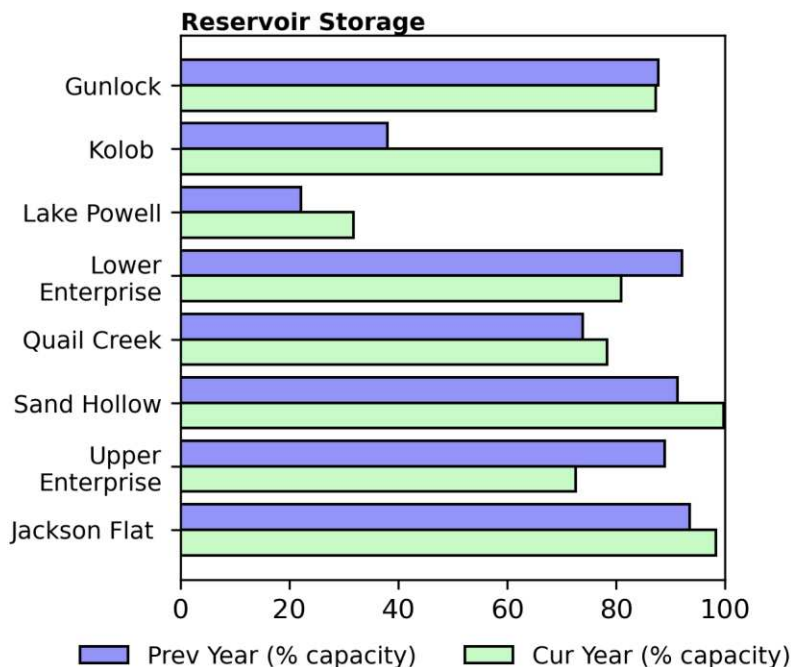
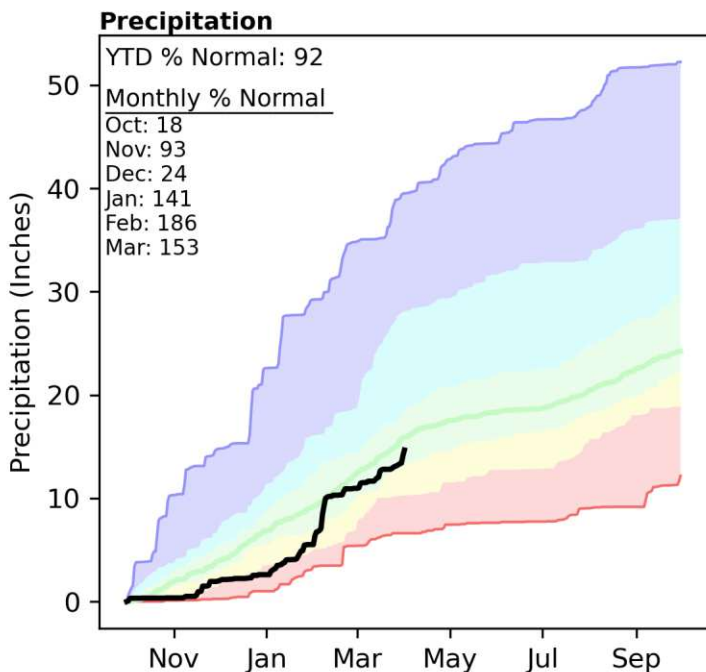
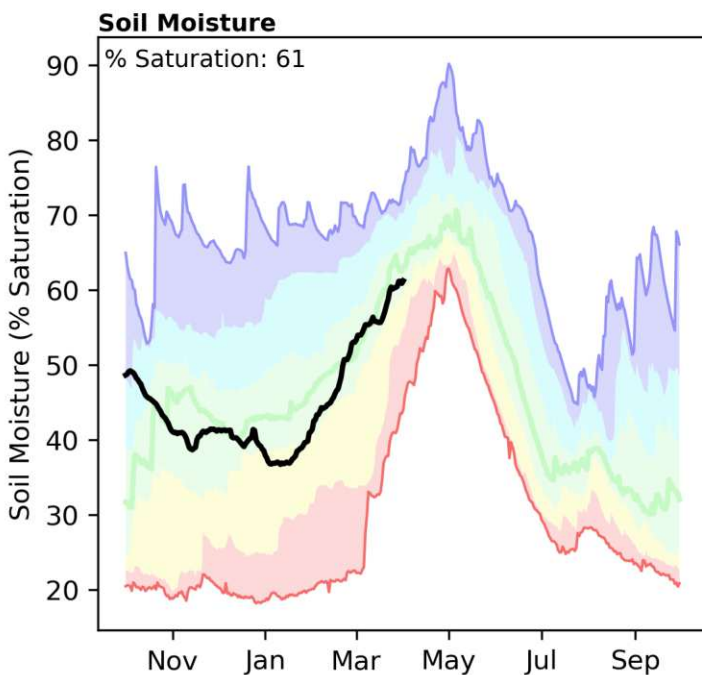
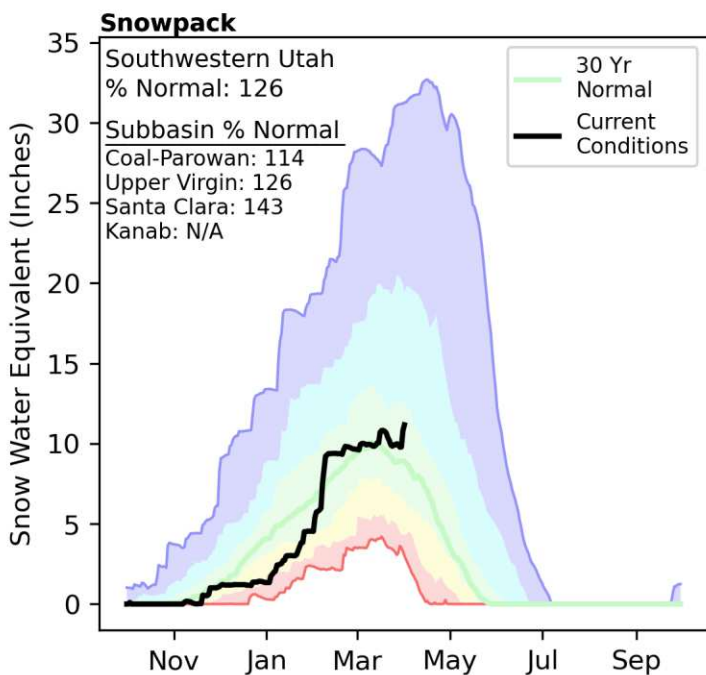


Beaver



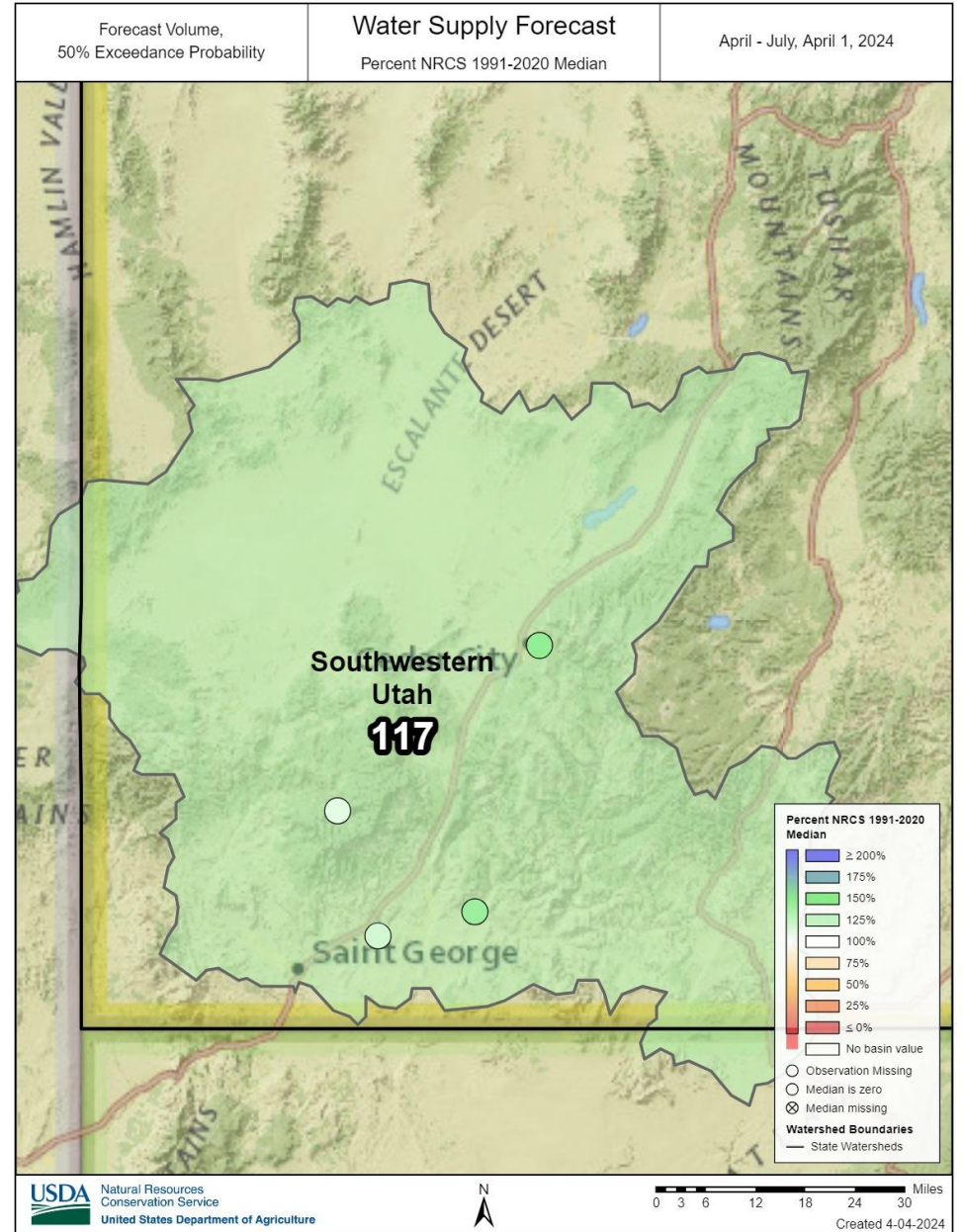
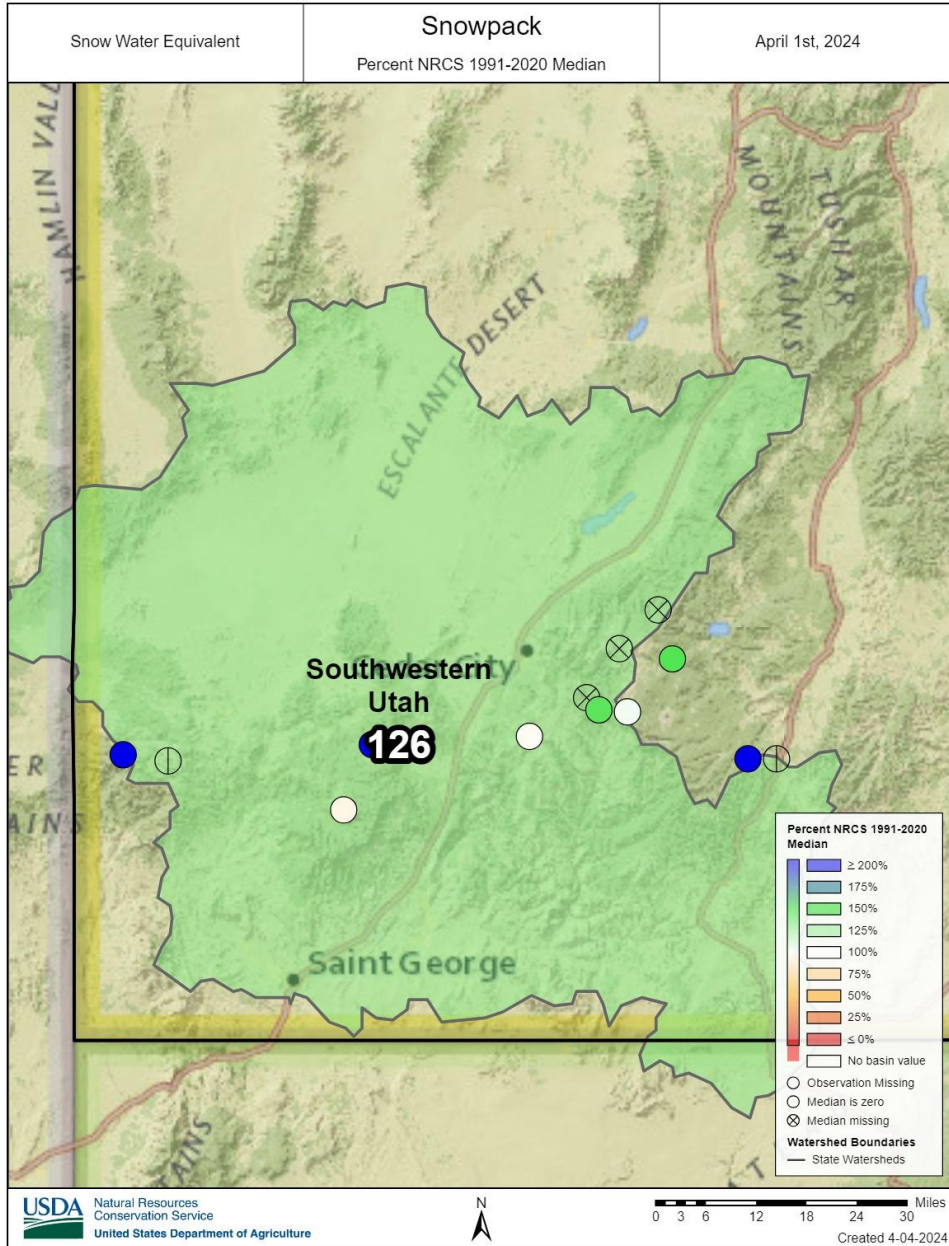
Southwestern Utah | April 1, 2024

Snowpack in Southwestern Utah is above normal at 126% of median, compared to 318% at this time last year. Precipitation in March was well above normal at 153%, which brings the seasonal accumulation (October-March) to 92% of median. Soil moisture is at 61% saturation compared to 65% saturation last year. Reservoir storage is 32% of capacity, compared to 22% last year. Forecast streamflow volumes (50% exceedence, April-July) range from 106% to 124% of normal. The Surface Water Supply Index percentile is 64% 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

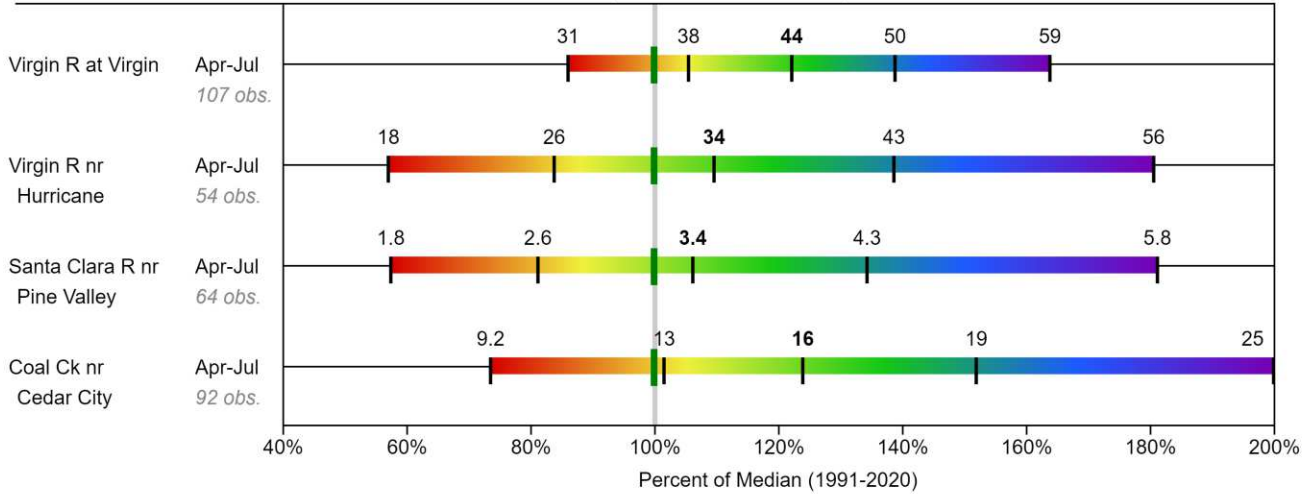


Southwestern Utah

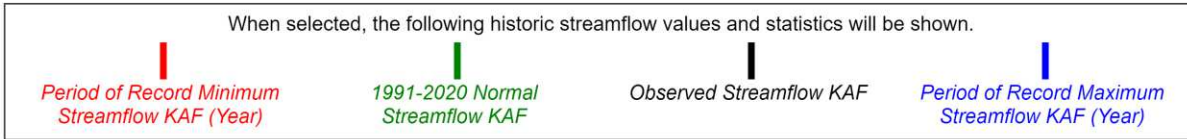
SOUTHWESTERN UTAH Water Supply Forecasts April 1, 2024

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.

April 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)	4567	5469	54	83
Utah (Statewide) Incl. Flaming G. & Lk. Powell	15439	33540	32	46
Bear	997	1389	34	71
Weber-Ogden	447	547	54	81
Northeastern Uintas	3236	3852	65	84
Tooele Valley	3	4	46	80
Duchesne	1250	1379	75	90
Provo	1268	1334	61	95
San Pitch	13	20	6	67
Price	125	158	41	78
Upper Sevier	245	382	32	64
Southeast UT	2	2	77	87
Beaver	22	23	37	96
Southwest Utah	108	122	82	88

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	922	1302	34	70
Big Sand Wash Reservoir	25	25	100	100
Causey Reservoir	4	7	55	66
Cleveland Lake	3	5	61	73
Currant Creek Reservoir	14	15	92	94
Deer Creek Reservoir	145	149	68	96
East Canyon Reservoir	38	49	57	77
Echo Reservoir	57	73	62	78
Flaming Gorge Reservoir	3155	3749	65	84
Grantsville Reservoir	2	3	51	80
Gunlock	9	10	87	87
Gunnison Reservoir	13	20	6	67
Huntington North Reservoir	4	4	95	96
Hyrum Reservoir	10	15	64	68
Jackson Flat Reservoir	4	4	93	98
Joes Valley Reservoir	51	61	49	83
Jordanelle Reservoir	254	314	59	80
Ken's Lake	2	2	77	87
Kolob Reservoir	4	5	37	88
Lake Powell	7717	24322	22	31
Lost Creek Reservoir	19	22	45	85
Lower Enterprise	2	2	92	80
Meeks Cabin Reservoir	19	32	35	60
Miller Flat Reservoir	3	5	27	65
Millsite	11	16	54	66
Minersville Reservoir	22	23	37	96
Moon Lake Reservoir	32	35	80	91
Otter Creek Reservoir	51	52	49	97
Panguitch Lake	19	22	44	87
Pineview Reservoir	79	110	34	72
Piute Reservoir	66	71	43	92
Porcupine Reservoir	11	11	78	105
Quail Creek	31	40	73	78
Red Fleet Reservoir	22	25	41	88
Rockport Reservoir	49	60	47	81
Sand Hollow Reservoir	49	50	91	99
Scofield Reservoir	51	65	27	78
Settlement Canyon Reservoir	0	1	32	78
Sevier Bridge Reservoir	108	236	24	45
Smith and Morehouse	4	8	51	56
Starvation Reservoir	158	164	86	96
Stateline Reservoir	8	12	56	72
Steinaker Reservoir	30	33	54	91
Strawberry Reservoir	1017	1105	74	92
Upper Enterprise	7	10	88	72
Upper Stillwater Reservoir	1	32	7	4
Utah Lake	869	870	60	99
Willard Bay	193	215	64	90
Woodruff Creek	3	4	70	87
Woodruff Narrows Reservoir	48	57	28	85

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

SF Ogden R nr Huntsville	APR-JUL	136	169	197	164%	230	285	120
Pineview Reservoir Inflow	APR-JUL	49	58	66	161%	75	90	41
East Canyon Ck nr Morgan ²	APR-JUL	107	138	163	206%	192	240	79
Weber R nr Coalville ²	APR-JUL	23	29	34	189%	39	49	18
	APR-JUL	111	134	152	163%	172	205	93

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

Northeastern Uintas	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	11.6	16	19	96%	22	26	19.7
Flaming Gorge Reservoir Inflow ²	APR-JUL	580	795	960	97%	1140	1430	990
Ashley Ck nr Vernal	APR-JUL	27	37	44	102%	51	61	43
Stateline Reservoir Inflow ²	APR-JUL	21	26	30	115%	34	40	26
Blacks Fk nr Robertson	APR-JUL	65	80	90	99%	100	115	91

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

Tooele Valley-Vernon Creek	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Vernon Ck nr Vernon ²	APR-JUL	0.65	0.89	1.06	143%	1.26	1.71	0.74
S Willow Ck nr Grantsville ²	APR-JUL	2.8	3.4	3.8	152%	4.3	5.1	2.5

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

Duchesne	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Whiterocks R nr Whiterocks	APR-JUL	29	39	47	109%	56	70	43
WF Duchesne R at VAT Diversion ²	APR-JUL	15.8	18.8	21	145%	23	27	14.5
Uinta R bl Powerplant Diversion nr Neola	APR-JUL	43	59	72	113%	86	108	64
Duchesne R at Myton ²	APR-JUL	235	305	355	165%	410	500	215

Currant Ck Reservoir Inflow ²	APR-JUL	15.8	19.9	23	193%	26	32	11.9
Strawberry R nr Duchesne ²	APR-JUL	85	113	135	255%	159	197	53
Duchesne R ab Knight Diversion ²	APR-JUL	156	182	200	123%	220	250	162
Lake Fk R bl Moon Lk nr Mountain Home ²	APR-JUL	49	58	65	114%	72	84	57
Upper Stillwater Reservoir Inflow ²	APR-JUL	55	67	75	110%	84	98	68
Strawberry R nr Soldier Springs ²	APR-JUL	49	64	75	208%	87	106	36
Duchesne R nr Tabiona ²	APR-JUL	84	99	111	128%	123	142	87
Rock Ck nr Mountain Home ²	APR-JUL	67	78	86	110%	94	107	78
Duchesne R nr Randlett	APR-JUL	230	310	375	147%	445	560	255
Yellowstone R nr Altonah	APR-JUL	43	53	61	109%	69	83	56

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

Provo-Utah Lake-Jordan	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
City Ck nr SLC	APR-JUL	6.5	7.9	9	170%	10.4	12.9	5.3
Mill Ck nr SLC	APR-JUL	5.7	6.8	7.8	181%	8.8	10.9	4.3
Parleys Ck nr SLC	APR-JUL	10.7	14.2	16.7	192%	19.8	25	8.7
Provo R bl Deer Ck Dam ²	APR-JUL	96	120	140	124%	164	210	113
Little Cottonwood Ck nr SLC	APR-JUL	37	40	43	139%	47	52	31
W Canyon Ck nr Cedar Fort ²	APR-JUL	0.98	1.65	2.4	253%	3.4	5.8	0.95
Provo R at Woodland ²	APR-JUL	94	109	121	142%	135	158	85
Spanish Fk at Castilla	APR-JUL	48	66	84	280%	106	146	30
Utah Lake Inflow ²	APR-JUL	63	161	260	143%	360	455	182
American Fk ab Upper Powerplant	APR-JUL	23	28	32	167%	37	44	19.2
Salt Ck at Nephi ²	APR-JUL	6.9	9.8	11.9	253%	14.3	18.5	4.7
Big Cottonwood Ck nr SLC	APR-JUL	33	37	42	145%	47	54	29
Provo R at Hailstone ²	APR-JUL	92	108	125	151%	143	172	83
Dell Fk nr SLC ²	APR-JUL	4.4	5.4	6.2	172%	7.1	8.8	3.6
Emigration Ck nr SLC ²	APR-JUL	2.7	3.8	4.9	213%	6.2	8.4	2.3

- 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

Lower Sevier	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Sevier R nr Gunnison	APR-JUL	17.4	32	45	150%	61	90	30

- 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

San Pitch	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	13.6	16.2	17.9	138%	20	23	13

- 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

Price-San Rafael	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Price R nr Scofield Reservoir ²	APR-JUL	33	40	45	173%	50	58	26
Huntington Ck nr Huntington ²	APR-JUL	38	44	48	133%	53	60	36
Ferron Ck (Upper Station) nr Ferron	APR-JUL	29	34	38	119%	42	48	32
Joes Valley Reservoir Inflow ²	APR-JUL	45	53	59	134%	65	76	44
White R bl Tabbyune Creek	APR-JUL	13	16.2	18.5	257%	21	25	7.2
Fish Ck ab Reservoir nr Scofield	APR-JUL	27	31	35	177%	39	45	19.8
Electric Lake Inflow ²	APR-JUL	10.9	13.6	15.5	187%	17.6	21	8.3

- 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

Upper Sevier	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Salina Ck nr Emery ²	APR-JUL	4.5	5.5	6.3	113%	7.2	8.7	5.6
Sevier R at Hatch	APR-JUL	26	33	39	115%	46	56	34

Sevier R nr Gunnison	APR-JUL	17.4	32	45	150%	61	90	30
EF Sevier R nr Kingston ²	APR-JUL	8.8	14.4	19.1	143%	25	34	13.4
Clear Ck ab Diversions nr Sevier	APR-JUL	14.3	17.5	20	147%	24	29	13.6
Mammoth Ck nr Hatch	APR-JUL	13.2	17.4	21	107%	26	33	19.7
Sevier R nr Kingston	APR-JUL	7.3	11.5	17.2	117%	24	33	14.7

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

Southeastern Utah	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Green R at Green River, UT ²	APR-JUL	2270	2830	3250	125%	3690	4400	2610
Colorado R nr Cisco ²	APR-JUL	2700	3290	3730	99%	4190	4920	3750
Mill Ck at Sheley Tunnel nr Moab	APR-JUL	2.7	3.7	4.5	136%	5.4	6.8	3.3
South Ck ab Resv nr Monticello	APR-JUL	0.24	0.43	0.6	146%	0.79	1.13	0.41

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

Dirty Devil	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Muddy Ck nr Emery	APR-JUL	11.4	14.6	17	104%	19.6	24	16.3
Seven Mile Ck nr Fish Lake	APR-JUL	5.8	7	8	131%	9	10.6	6.1

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

Beaver	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Beaver R nr Beaver	APR-JUL	15.5	18.7	22	126%	25	31	17.4

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

Southwestern Utah	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Santa Clara R nr Pine Valley ²	APR-JUL	1.84	2.6	3.4	106%	4.3	5.8	3.2
Coal Ck nr Cedar City	APR-JUL	9.2	12.7	15.5	124%	19	25	12.5
Virgin R at Virgin ²	APR-JUL	31	38	44	122%	50	59	36
Virgin R nr Hurricane ²	APR-JUL	17.7	26	34	110%	43	56	31

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

Escalante-Paria	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Pine Ck nr Escalante	APR-JUL	1.55	2.2	2.7	166%	3.3	4.2	1.63

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

Great Salt Lake	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Bear R bl Stewart Dam	APR-JUL	107	163	210	183%	270	375	115
	APR-SEP	135	184	235	193%	280	330	122
Smiths Fk nr Border	APR-JUL	67	77	87	101%	96	109	86
	APR-SEP	78	90	100	100%	111	128	100
Parleys Ck nr SLC	APR-JUL	10.7	14.2	16.7	192%	19.8	25	8.7
Weber R at Gateway ²	APR-JUL	270	335	385	188%	440	550	205
Provo R at Woodland ²	APR-JUL	94	109	121	142%	135	158	85
American Fk ab Upper Powerplant	APR-JUL	23	28	32	167%	37	44	19.2
Pineview Reservoir Inflow	APR-JUL	107	138	163	206%	192	240	79
Salt Ck at Nephi ²	APR-JUL	6.9	9.8	11.9	253%	14.3	18.5	4.7
Big Cottonwood Ck nr SLC	APR-JUL	33	37	42	145%	47	54	29
Provo R at Hailstone ²	APR-JUL	92	108	125	151%	143	172	83
Big Ck nr Randolph	APR-JUL	3.4	5.1	6.9	216%	9.2	14.3	3.2
Dunn Ck nr Park Valley ²	APR-JUL	2.9	3.6	4.2	175%	4.9	6.2	2.4
East Canyon Ck nr Jeremy Ranch ²	APR-JUL	14.4	18	21	221%	24	29	9.5

S Willow Ck nr Grantsville ²	APR-JUL	2.8	3.4	3.8	152%	4.3	5.1	2.5
SF Ogden R nr Huntsville	APR-JUL	49	58	66	161%	75	90	41
Echo Reservoir Inflow ²	APR-JUL	136	169	197	164%	230	285	120
Vernon Ck nr Vernon ²	APR-JUL	0.65	0.89	1.06	143%	1.26	1.71	0.74
Dell Fk nr SLC ²	APR-JUL	4.4	5.4	6.2	172%	7.1	8.8	3.6
Little Bear at Paradise	APR-JUL	38	48	57	204%	67	86	28
Weber R nr Oakley ²	APR-JUL	107	124	135	139%	149	171	97
Little Cottonwood Ck nr SLC	APR-JUL	37	40	43	139%	47	52	31
W Canyon Ck nr Cedar Fort ²	APR-JUL	0.98	1.65	2.4	253%	3.4	5.8	0.95
Chalk Ck at Coalville	APR-JUL	27	36	44	169%	52	67	26
Spanish Fk at Castilla	APR-JUL	48	66	84	280%	106	146	30
Great Salt Lake Inflow	APR-JUL	600	845	1010	224%	1180	1420	450
East Canyon Ck nr Morgan ²	APR-JUL	23	29	34	189%	39	49	18
Emigration Ck nr SLC ²	APR-JUL	2.7	3.8	4.9	213%	6.2	8.4	2.3
Rockport Reservoir Inflow ²	APR-JUL	110	132	151	174%	171	205	87
Mill Ck nr SLC	APR-JUL	5.7	6.8	7.8	181%	8.8	10.9	4.3
City Ck nr SLC	APR-JUL	6.5	7.9	9	170%	10.4	12.9	5.3
Provo R bl Deer Ck Dam ²	APR-JUL	96	120	140	124%	164	210	113
Bear R nr UT-WY State Line	APR-JUL	95	110	122	121%	135	155	101
	APR-SEP	103	121	134	118%	148	169	114
Lost Ck Reservoir Inflow	APR-JUL	10.8	13.7	16.3	172%	19.1	24	9.5
Bear R ab Resv nr Woodruff	APR-JUL	81	105	124	135%	147	185	92
	APR-SEP	85	110	132	133%	159	205	99
Lehman Ck nr Baker	APR-JUL	1.58	2.4	2.9	146%	3.4	4.2	1.99
Logan R nr Logan	APR-JUL	112	127	138	152%	154	172	91
Blacksmith Fk nr Hyrum	APR-JUL	38	44	48	166%	53	59	29
Utah Lake Inflow ²	APR-JUL	63	161	260	143%	360	455	182
Weber R nr Coalville ²	APR-JUL	111	134	152	163%	172	205	93

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

State of Utah	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Bear R bl Stewart Dam	APR-JUL	107	163	210	183%	270	375	115
	APR-SEP	135	184	235	193%	280	330	122
Smiths Fk nr Border	APR-JUL	67	77	87	101%	96	109	86
	APR-SEP	78	90	100	100%	111	128	100
Pine Ck nr Escalante	APR-JUL	1.55	2.2	2.7	166%	3.3	4.2	1.63
Pineview Reservoir Inflow	APR-JUL	107	138	163	206%	192	240	79
South Ck ab Resv nr Monticello	APR-JUL	0.24	0.43	0.6	146%	0.79	1.13	0.41
White R bl Tabbyune Creek	APR-JUL	13	16.2	18.5	257%	21	25	7.2
Big Ck nr Randolph	APR-JUL	3.4	5.1	6.9	216%	9.2	14.3	3.2
Big Brush Ck ab Red Fleet Reservoir	APR-JUL	11.6	16	19	96%	22	26	19.7
Duchesne R nr Tabiona ²	APR-JUL	84	99	111	128%	123	142	87
Vernon Ck nr Vernon ²	APR-JUL	0.65	0.89	1.06	143%	1.26	1.71	0.74
Green R at Green River, UT ²	APR-JUL	2270	2830	3250	125%	3690	4400	2610
Duchesne R ab Knight Diversion ²	APR-JUL	156	182	200	123%	220	250	162
Seven Mile Ck nr Fish Lake	APR-JUL	5.8	7	8	131%	9	10.6	6.1
Blacks Fk nr Robertson	APR-JUL	65	80	90	99%	100	115	91
Mill Ck nr SLC	APR-JUL	5.7	6.8	7.8	181%	8.8	10.9	4.3
Sevier R at Hatch	APR-JUL	26	33	39	115%	46	56	34
Bear R ab Resv nr Woodruff	APR-JUL	81	105	124	135%	147	185	92
	APR-SEP	85	110	132	133%	159	205	99
Blacksmith Fk nr Hyrum	APR-JUL	38	44	48	166%	53	59	29
Parleys Ck nr SLC	APR-JUL	10.7	14.2	16.7	192%	19.8	25	8.7
Colorado R nr Cisco ²	APR-JUL	2700	3290	3730	99%	4190	4920	3750
Mammoth Ck nr Hatch	APR-JUL	13.2	17.4	21	107%	26	33	19.7
Coal Ck nr Cedar City	APR-JUL	9.2	12.7	15.5	124%	19	25	12.5
Strawberry R nr Duchesne ²	APR-JUL	85	113	135	255%	159	197	53
Dunn Ck nr Park Valley ²	APR-JUL	2.9	3.6	4.2	175%	4.9	6.2	2.4
SF Ogden R nr Huntsville	APR-JUL	49	58	66	161%	75	90	41
Virgin R at Virgin ²	APR-JUL	31	38	44	122%	50	59	36
Beaver R nr Beaver	APR-JUL	15.5	18.7	22	126%	25	31	17.4
Little Bear at Paradise	APR-JUL	38	48	57	204%	67	86	28

Huntington Ck nr Huntington ²	APR-JUL	4.5	5.5	6.3	113%	7.2	8.7	5.6
Lake Fk R bl Moon Lk nr Mountain Home ²	APR-JUL	38	44	48	133%	53	60	36
Provo R at Woodland ²	APR-JUL	49	58	65	114%	72	84	57
Ferron Ck (Upper Station) nr Ferron	APR-JUL	94	109	121	142%	135	158	85
American Fk ab Upper Powerplant	APR-JUL	29	34	38	119%	42	48	32
Salt Ck at Nephi ²	APR-JUL	23	28	32	167%	37	44	19.2
Rock Ck nr Mountain Home ²	APR-JUL	6.9	9.8	11.9	253%	14.3	18.5	4.7
Stateline Reservoir Inflow ²	APR-JUL	67	78	86	110%	94	107	78
Big Cottonwood Ck nr SLC	APR-JUL	21	26	30	115%	34	40	26
Flaming Gorge Reservoir Inflow ²	APR-JUL	33	37	42	145%	47	54	29
East Canyon Ck nr Jeremy Ranch ²	APR-JUL	580	795	960	97%	1140	1430	990
S Willow Ck nr Grantsville ²	APR-JUL	14.4	18	21	221%	24	29	9.5
Echo Reservoir Inflow ²	APR-JUL	2.8	3.4	3.8	152%	4.3	5.1	2.5
Sevier R nr Kingston	APR-JUL	136	169	197	164%	230	285	120
Price R nr Scofield Reservoir ²	APR-JUL	7.3	11.5	17.2	117%	24	33	14.7
Mill Ck at Sheley Tunnel nr Moab	APR-JUL	33	40	45	173%	50	58	26
W Canyon Ck nr Cedar Fort ²	APR-JUL	2.7	3.7	4.5	136%	5.4	6.8	3.3
Fish Ck ab Reservoir nr Scofield	APR-JUL	0.98	1.65	2.4	253%	3.4	5.8	0.95
Currant Ck Reservoir Inflow ²	APR-JUL	27	31	35	177%	39	45	19.8
Bear R nr UT-WY State Line	APR-JUL	15.8	19.9	23	193%	26	32	11.9
Manti Ck bl Dugway Ck nr Manti	APR-JUL	95	110	122	121%	135	155	101
Lost Ck Reservoir Inflow	APR-SEP	103	121	134	118%	148	169	114
Logan R nr Logan	APR-JUL	13.6	16.2	17.9	138%	20	23	13
Utah Lake Inflow ²	APR-JUL	10.8	13.7	16.3	172%	19.1	24	9.5
	APR-JUL	112	127	138	152%	154	172	91
	APR-JUL	63	161	260	143%	360	455	182

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Appendix A: Data used in SWSI Calculations

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

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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

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Salt Lake City, UT**

