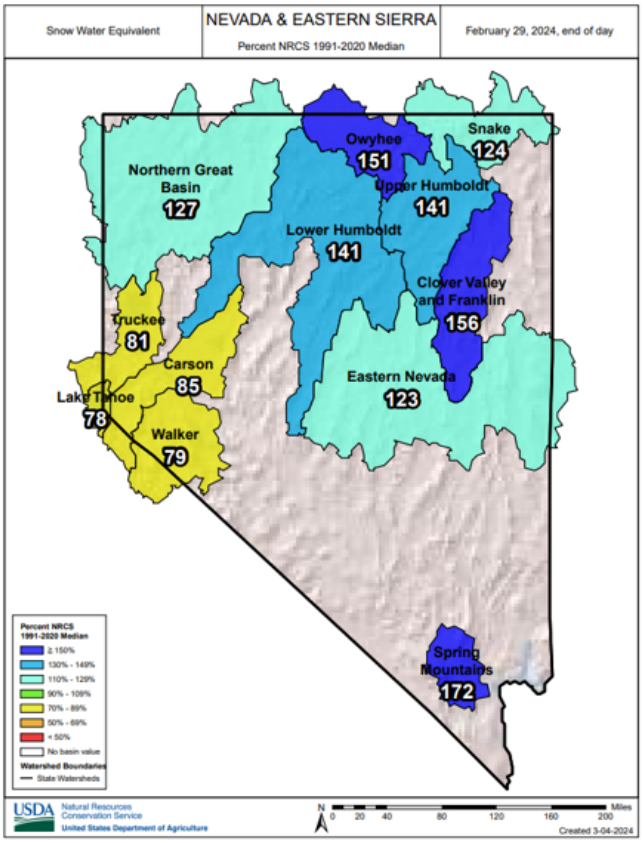
United States Department of Agriculture

Natural Resources Conservation Service

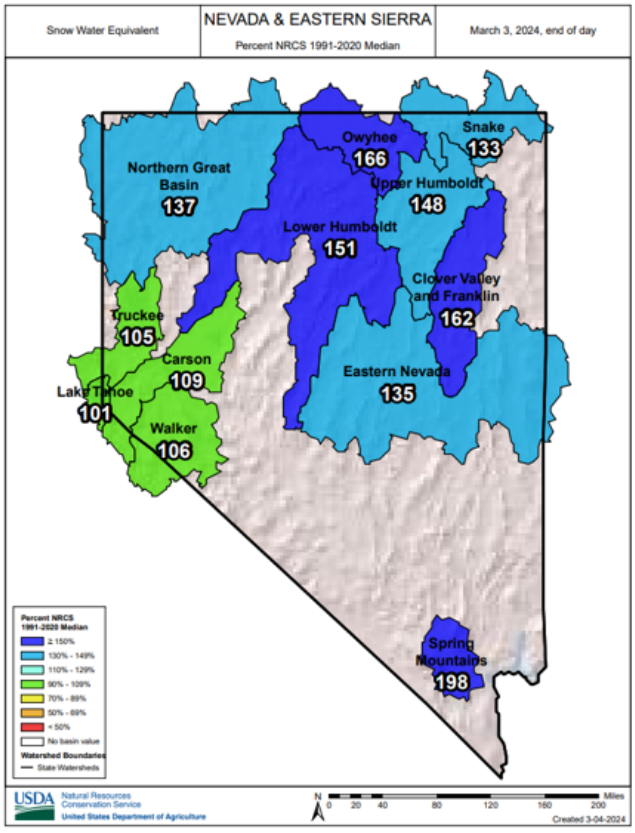
Nevada Water Supply Outlook Report
March 1, 2024

Snowpack as a Percent of Median

February 29, 2024



March 4, 2024



Credit: [NRCS Snowpack Map]

Blizzard boosts Sierra Snowpack above Normal

Snowpack percentages in the eastern Sierra jumped 30% during the four-day blizzard that started on Leap Day! By March 4 all basins across Nevada had above normal snowpacks for the first time this winter. In the eastern Sierra snow water content increased on average 6.9 inches across the 31 long-term SNOTEL sites between February 29 and March 4. Based on historic SNOTEL data back to 1981 there have only been 16 other storms that have added more than 6 inches of water content to the region's snowpack over a four-day stretch. Of those only three storms recorded a higher four-day gain than this year's blizzard. Over the years there have been longer duration storms or back-to-back storms that caused greater snow water increases, however the rate of increase over just four days would indicate the storm intensity of this blizzard was among the strongest on record.

Background information about this report:

This report provides an analysis of water supply conditions across Nevada and a part of the eastern Sierra in California. It is published monthly from January to May. First of month data are summarized and used to forecast summer streamflow. The report is best read in digital format which allows readers to click on the blue internet links.

Streamflow Forecasts: Most of the annual streamflow in the western United States originates as snowfall that accumulates in the mountains during the winter. As the snowpack accumulates, hydrologists can estimate the runoff that will occur when the snow melts. Measurements of snow water equivalent (SWE) at snow courses and SNOTEL sites, along with precipitation, antecedent streamflow, and El Niño / Southern Oscillation indices are used in computerized statistical models to produce streamflow runoff forecasts. **Forecasts in this report give the total volume of water expected to flow past a location during a specified period, such as April 1 to July 31.**

Most **streamflow forecast volumes** in this report are expressed in KAF (thousand-acre-feet). Some smaller streams are forecast in acre-feet and noted as such in parentheses after the forecast name, such as "Marlette Lake Inflow (acre-feet)". Forecasts for Lake Tahoe, Pyramid Lake and Walker Lake are expressed in feet of water surface elevation change during the forecast period. A rise in lake level is indicated by a positive value, while a drop caused by evaporation is indicated by a negative number. The East Fork Carson River has two recession forecasts that provide the dates when spring river flows are expected to recede to 500 cfs and 200 cfs levels as the snowmelt decreases in late spring.

Interpreting Streamflow Forecasts: Forecasts of any kind 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. 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. **Unless otherwise stated the 50% exceedance forecast is the one referred to in the text of this report.** To quantify the range around this 50% value, four other forecasts are provided in the forecast tables, two smaller values (90% and 70% exceedances) and two larger values (30% and 10% exceedances). There is a 90% chance that the actual flow will be more than the minimum forecast (90% exceedance forecast). Likewise there is a 10% chance the actual flow will be more than the maximum forecast (10% exceedance forecast). Other forecasts can be interpreted similarly. The wider the spread between these values, the more forecast uncertainty.

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. Water 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 perhaps due to a dry climate outlook for the coming months, 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 if there is a 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, they should be prepared to deal with either more or less water.

Streamflow Adjustments: Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream lakes, reservoirs and diversions. Certain forecasts are adjusted for these structures; these are footnoted with a (2) in the report. A summary list of all streamflow adjustments is provided on the back cover of this report.

"Normal" = Median: Starting in water year 2022 the NRCS selected the statistical median for the 1991-2020 period as the default central tendency for all parameters including snowpack, precipitation, soil moisture, streamflow and reservoir storage. Unless otherwise stated all percentages in this report are based on median. For more information about the 1991-2020 normals and how they impact our region visit the Nevada Normals Dashboard.

Soil moisture has been measured at SNOTEL sites since ~2006. Due to the short record the soil moisture normal is based on water years 2006-2020. Soil moisture data are depth averaged from sensors located at soil depths of 8 and 20 inches.

Maximums and Minimums: Graphs in this report display "Max" and "Min" lines for snowpack, precipitation and soil moisture. For snow and precipitation these are basin-wide, daily maximums and minimums for water years 1981-2021; for soil moisture the period is 2006-2021.

Watershed Snowpack Analysis: These tables summarize the snowpack percent of median for each basin and its sub-basins. Percentages are based on SNOTEL and snow course measurements. Basin snowpack files are available here. Select "Nevada" and report type "Snow" a full report with station-by-station data. Basin order is alphabetical by main bain, followed by its sub-basins, then the next main basin.

For questions contact:

Jeff Anderson, Nevada NRCS Snow Survey
jeff.anderson@usda.gov

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Nevada Water Supply Outlook Report
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Nevada Water Supply Outlook
March 1, 2024

SUMMARY

The strongest storm of the winter swept across the Sierra bringing blizzard conditions and heavy snowfall to the mountains. SNOTEL sites in the Lake Tahoe, Truckee, Carson and Walker basins added between 4 to over 10 inches of water equivalent to the snowpack in four days. This storm was a game changer boosting snowpack percentages by 30% in the eastern Sierra. By the end of the storm all four Sierra basins had surpassed 100% of normal snowpack for early March. This is a dramatic comeback after a 44% median snowpack on January 1 which ranked sixth lowest for the date. As a result of the storm the Carson and Walker basins snowpacks have surpassed their normal springtime peak snow water amounts. The Lake Tahoe and Truckee basins still need 2-3 inches of additional snow water to reach their peaks. Snow percentages also improved by 8-12% across the Humboldt Basin and other parts of northern Nevada as this storm moved west. This added to already well above normal March 1 snowpack in this part of the state. The mountains of northern Nevada and the Spring Mountains in southern Nevada have also already surpassed their median peak snowpack amounts. This is the second winter in a row with robust snowpacks across the Great Basin. Spring is getting closer, but the snow accumulation season typically extends to late March or early April. There is still time to increase snowpack percentages. As you read this report keep in mind that graphs and maps are based on first of month data and do not show some of the four-day storm data since it occurred after March 1. For the most up-to-date versions of these products refer to the following links:

snowpack map | water year precipitation map | basin charts.

Streamflow forecasts in this report are also based on first of month data. February brought two atmospheric river storms earlier in the month and these storms helped pushed March 1 forecasts higher than February 1 forecasts. The amount of snow that piled up in the Sierra during the first few days of March should not be ignored. Water users in the Lake Tahoe, Truckee, Carson and Walker basins may want to hedge towards the 30% exceedance streamflow forecast volumes. One important exception would be the four forecasts that the NRCS coordinates with the NOAA California-Nevada River Forecast Center, including: Lake Tahoe Rise, Little Truckee River, Truckee River at Farad and the Carson River at Ft Churchill. These coordinated forecasts took into consideration this additional precipitation. Outside of the Sierra storm totals did not significantly change the water supply picture. Snowpacks increased by 8-12% across the rest of northern Nevada including the Humboldt Basin as the blizzard tracked west. This rise added to already well above normal snow amounts and did not significantly shift the forecast distribution. Northern Nevada already had a very good snowpack prior to the early March storm and March 1 50% exceedance forecasts reflect those conditions. The five forecast exceedances provide a range of possible outcomes which are based primarily on what future weather could bring. The higher volume exceedances (30% and 10%) are more likely if we see wetter than normal conditions through the spring and the lower volume exceedances (70% and 90%) are more likely if the weather turns drier than normal.

SNOWPACK

March 1 snowpack percentages range from 75-85% of median in the Sierra basins to 116-152% across the rest of northern Nevada and the Spring Mountains. The Upper Colorado Basin at 103% is also doing well. This winter has shown steady increases in snowpack percentages each month and the trend has continued in February and into early March. As of publication on March 7 all basins except Lake Tahoe and the Truckee basin have exceeded their normal seasonal peak snow amounts.

PRECIPITATION

Monthly precipitation in February was well above normal statewide ranging from 141-142% in the Truckee and Lake Tahoe Basins up to 412% in the Spring Mountains. Other basins across northern Nevada and the Upper Colorado Basin got between 150% to 218% for the month. Water year precipitation percentages on March 1 are 81-85% of median in the Sierra, 99% in the Upper Colorado, 104% in the Spring Mountains, 114-133% across the rest of northern Nevada.

SOIL MOISTURE

Soil moisture is above normal across northern Nevada and the eastern Sierra. Soil moisture increased at Leavitt Meadows, Monitor Pass and Willow Flat SNOTELs pushing average soil moisture in the Walker basin to near normal this month. Soil moisture also increased to near normal in the Spring Mountains. Soil moisture improved in the Upper Colorado Basin however overall conditions are still drier than normal for this time of year and much drier than last year at this time. Soil moisture graphs found later in this report average data from sensors located at soil depths of 8 and 20 inches for all the SNOTEL sites in a basin. SNOTEL soil moisture data has a short period of record. Soil moisture graphs in this report are based on data since October 2005.

RESERVOIRS

The volume of streamflow produced from last winter's record snowpack has allowed reservoir managers to carry over excellent storage amounts into 2024. Table 1 shows March 1 storage amounts for the region's reservoirs compared to January 1.

Table 1: Reservoir storage for March 1, 2024 compared to January 1, 2024.

Reservoir	Mar 1, 2024 Storage (KAF)	Jan 1, 2024 Storage (KAF)	Median Mar 1 Storage (KAF)	Reservoir Capacity (KAF)	Current Storage % Capacity	Current Storage % Median
Lake Tahoe	557.8	507.6	244.2	744.5	75%	228%
Marlette Lake	11.7	11.2	11.9	11.8	99%	98%
Boca Reservoir	6.4	8.0	15	40.9	16%	43%
Donner Lake	3.7	3.4	3.7	9.5	39%	101%
Independence Lake	14.4	14.0	14.6	17.3	83%	99%
Prosser Reservoir	7.0	6.5	9.7	29.8	23%	72%
Stampede Reservoir	197.8	201.7	161.1	226.5	87%	123%
Lahontan Reservoir	251.4	217.7	153.6	313.0	80%	164%
Bridgeport Reservoir	39.5	35.8	19.4	42.5	93%	203%
Topaz Lk nr Topaz	53.3	40.2	20.8	59.4	90%	256%
Chimney Ck Reservoir	14.9	13.7	12.6	35.0	42%	118%
Rye Patch Reservoir	82.7	67.3	31	194.3	43%	267%
Wild Horse Reservoir	58.7	57.4	31.6	71.5	82%	186%
Lake Powell	7,935.1	8,440.7	13,114.0	24,322.0	33%	61%
Lake Mead	9,725.0	9,055.5	15,462.0	26,159.0	37%	63%
Lake Mohave	1,673.0	1,627.0	1,670.0	1,810.0	92%	100%

STREAMFLOW FORECASTS

The NRCS March 1 streamflow forecasts are close to or well above median across Nevada and the eastern Sierra based on the 50% exceedance volumes. Due to significant snow accumulation after March 1 water users in the Sierra basins may want to hedge towards the 30% exceedance volumes as discussed earlier in the Summary section of the report. March 1 forecasts in the Humboldt Basin range from 141-508% as a percent of median, or as expressed as a percent of average forecasts are 124-192%. These percentages point toward another strong runoff this spring and summer. For more information on why median and average percentages vary so much in the Great Basin read the next paragraph. This winter's snowpack is very strong but still far below last year's peak snow amounts. The Humboldt River generally has better runoff volumes when the system is primed by back-to-back above normal years. Examples include 1982-1984, 1996-1998 and 2005-2006. Each of these periods saw greater runoff volumes during the second and third years with above normal snowpacks. Hopefully March continues to add more snow. A wet spring would really help deliver the larger volumes that irrigators in Lovelock hoped for last year.

A note about streamflow medians and averages. Starting in 2022 forecast percentages in NRCS Water Supply Outlook Reports have been based on medians, not averages. The Normals Dashboard has 15-minute YouTube presentation that goes into details about how this impacts Nevada. The boom or bust nature of runoff in the Great Basin creates large difference between median and average streamflow. The Humboldt River at Imlay is an extreme example. Its April-July median streamflow volume is 52 kaf, while the average is 130 kaf, two and a half time more. Due to this it is possible for a streamflow forecast for Imlay to be far above 100% of median, while also being far below 100% of average. While the Humboldt River at Imlay is the most extreme example, many other streams in the Great Basin have large differences between median and average streamflow. Click the links that follow to compare this month's forecasts as a percent of median and a percent of average. Water users should always focus on the forecasted volumes, and not only the percent of normal, when assessing forecasts.

VALLEY AND RANGELAND CONDITIONS

Most the data presented in this report comes from NRCS SNOTEL stations located in the mountains above 6,000 feet. This section looks at data from valley and rangeland locations to provide a more complete summary of conditions across lower elevations.

Seasonal snow cover replenishes soil moisture and provides water for plant growth on rangelands. A useful tool to track the lower elevation snowpack is NOAA's Modeled Snow Water Equivalent Map. The March 5th map (right) shows widespread snow cover across northern Nevada compared to March 1st (left).

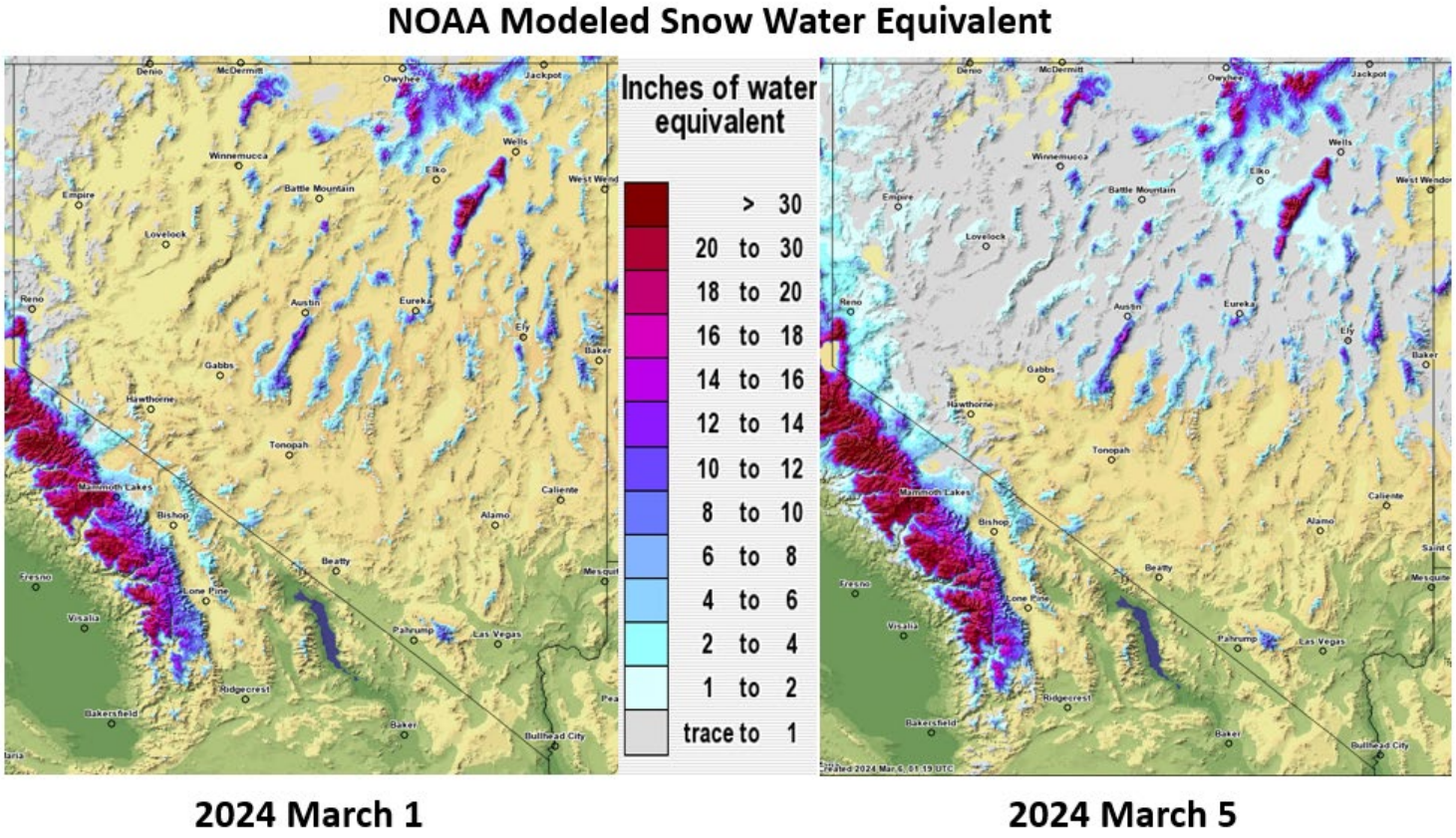


Figure 1: Modeled snow water content across Nevada. Source: NOAA

Valley Temperature and Precipitation: Table 2 provides a February summary of precipitation and temperature from valley climate stations across the state. Valley precipitation totals were near to above normal at all stations. Average temperatures were above normal at all stations with the exception of Las Vegas.

Table 2. February summary of valley climate stations. Source: http://www.rcc-acis.org/

Climate Station	Precipitation February Total (inches)	Precipitation February Departure from Normal (inches)	February Temperature Average (deg F)	February Temperature Departure from Normal (deg F)
Reno Airport	1.53	+0.50	41.2	+0.6
Yerington	1.16	+0.76	39.0	+0.6
Fallon NAS	0.78	+0.33	40.6	+1.7
Lovelock Airport	1.08	+0.59	37.2	+0.6
Winnemucca Airport	1.31	+0.60	38.5	+1.9
Elko Airport	1.47	+0.58	35.4	+3.8
Eureka	2.10	+0.82	31.6	+1.9
Ely Airport	1.18	+0.34	32.5	+2.5
Tonopah	1.10	+0.02	36.4	+1.6
Las Vegas Int Airport	0.95	+0.15	52.7	-0.8

DROUGHT STATUS:

As a result of above normal precipitation and snowpacks returning to normal amounts the eastern Sierra was removed from abnormally dry status on the March 5th U.S. Drought Monitor map (Figure 3).

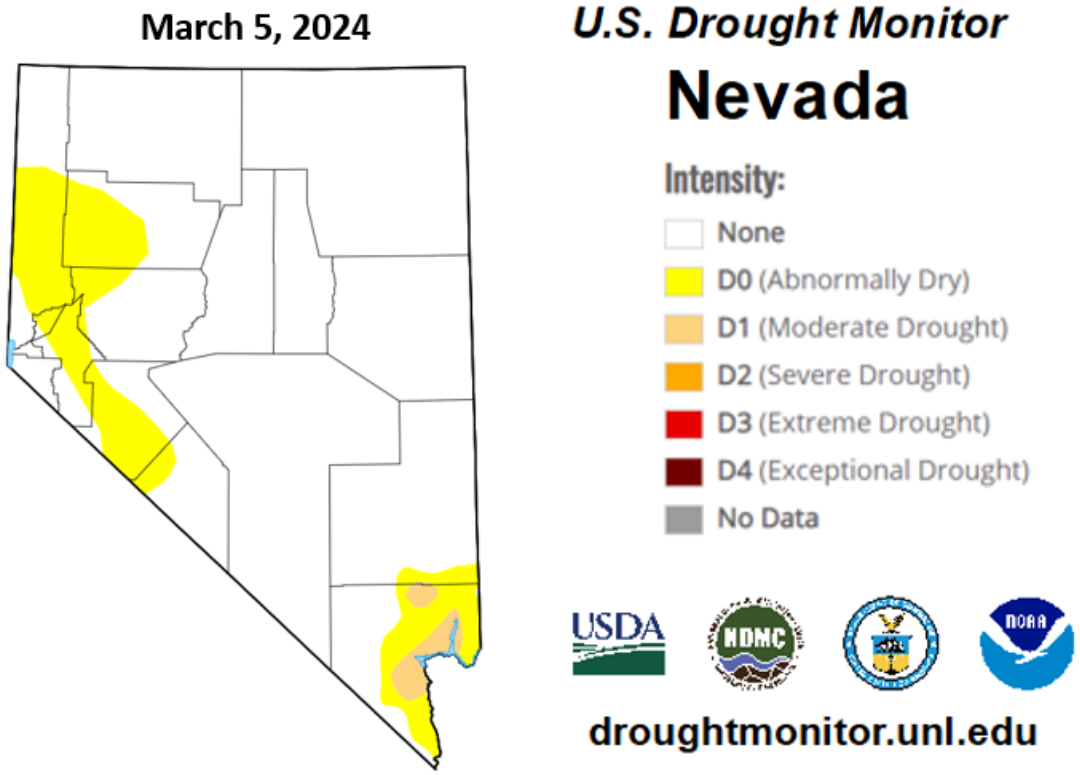


Figure 2: Drought status for March 5, 2024 Source: U.S. Drought Monitor

UPCOMING EVENTS

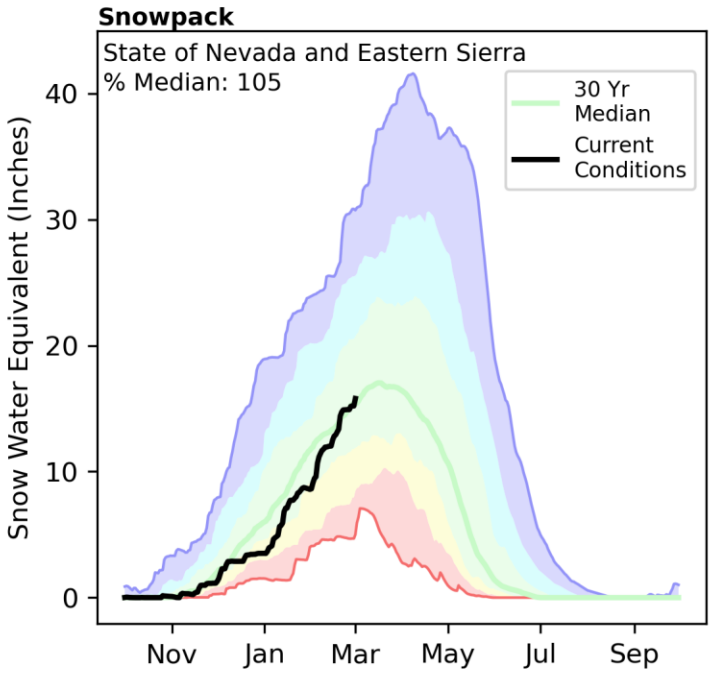
Northern Nevada Streamflow, Reservoir and Weather Forecast Meeting
The public is invited to attend presentations by the NRCS, NWS, USBR, USGS.
April 11, 2024 from 1:30 to 3pm
Nevada Division of Water Resources; 901 S. Stewart St. Suite 2002, Carson City, Nevada
Contact: Nicole Goehring ngoehring@water.nv.gov for more information

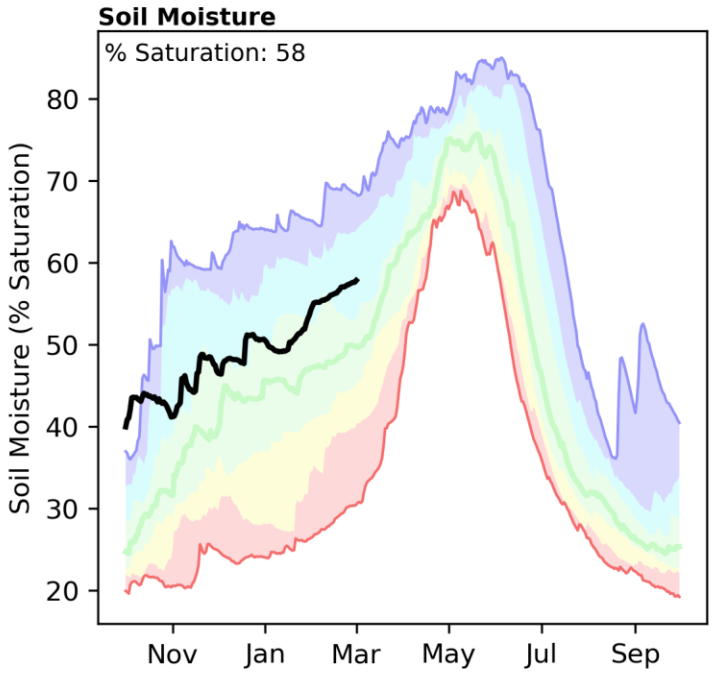
Western Snow Conference - link
April 22 - 25, 2024
Corvallis, Oregon
This Year's Theme: Watersheds to Estuaries
Short Course on April 22: Rivers Running: Dam Removal Methods, Developments, and Results in the Pacific Northwest."

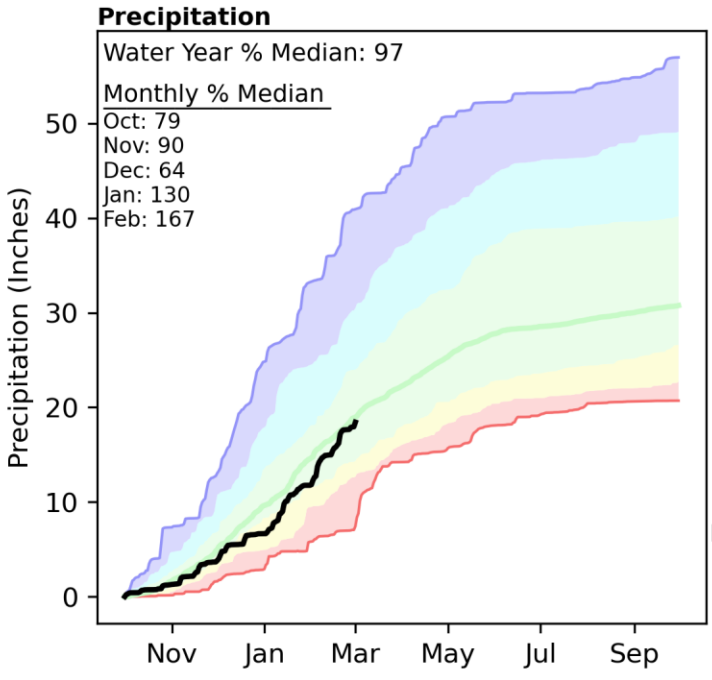
Smart About Water Day
May 4, 2024 from 10am – 2pm
McKinley Arts Center, Reno, Nevada
The purpose of this annual event is to provide the community with an opportunity to understand more about water management and watershed stewardship in our region. This free public event will once again host activities for all ages. The NRCS Snow Survey will participate along with many other organizations.

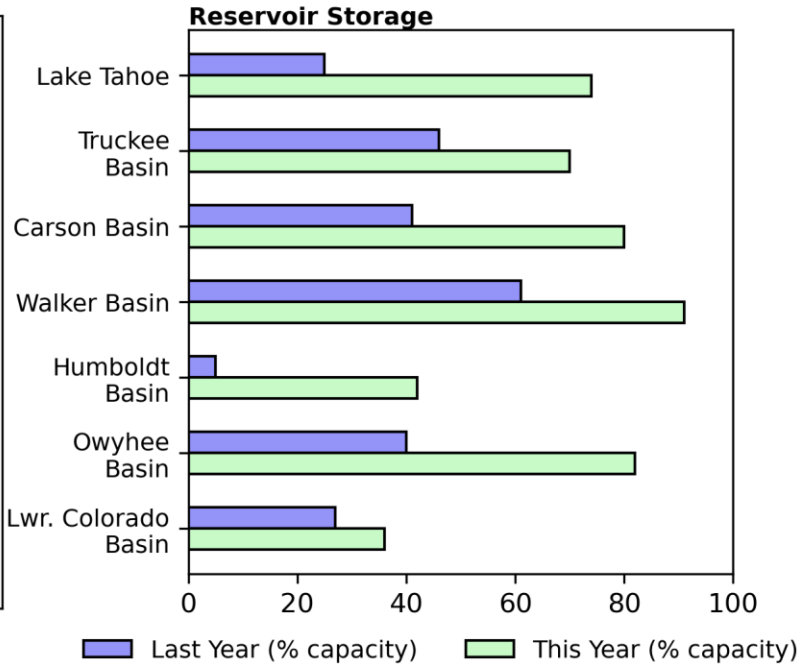
State of Nevada and Eastern Sierra | March 1, 2024

Snowpack in the State of Nevada and Eastern Sierra is about normal at 105% of median, compared to 185% at this time last year. Precipitation in February was well above normal at 167%, which brings the seasonal accumulation (October-February) to 97% of median. Soil moisture is at 58% saturation compared to 51% saturation last year.



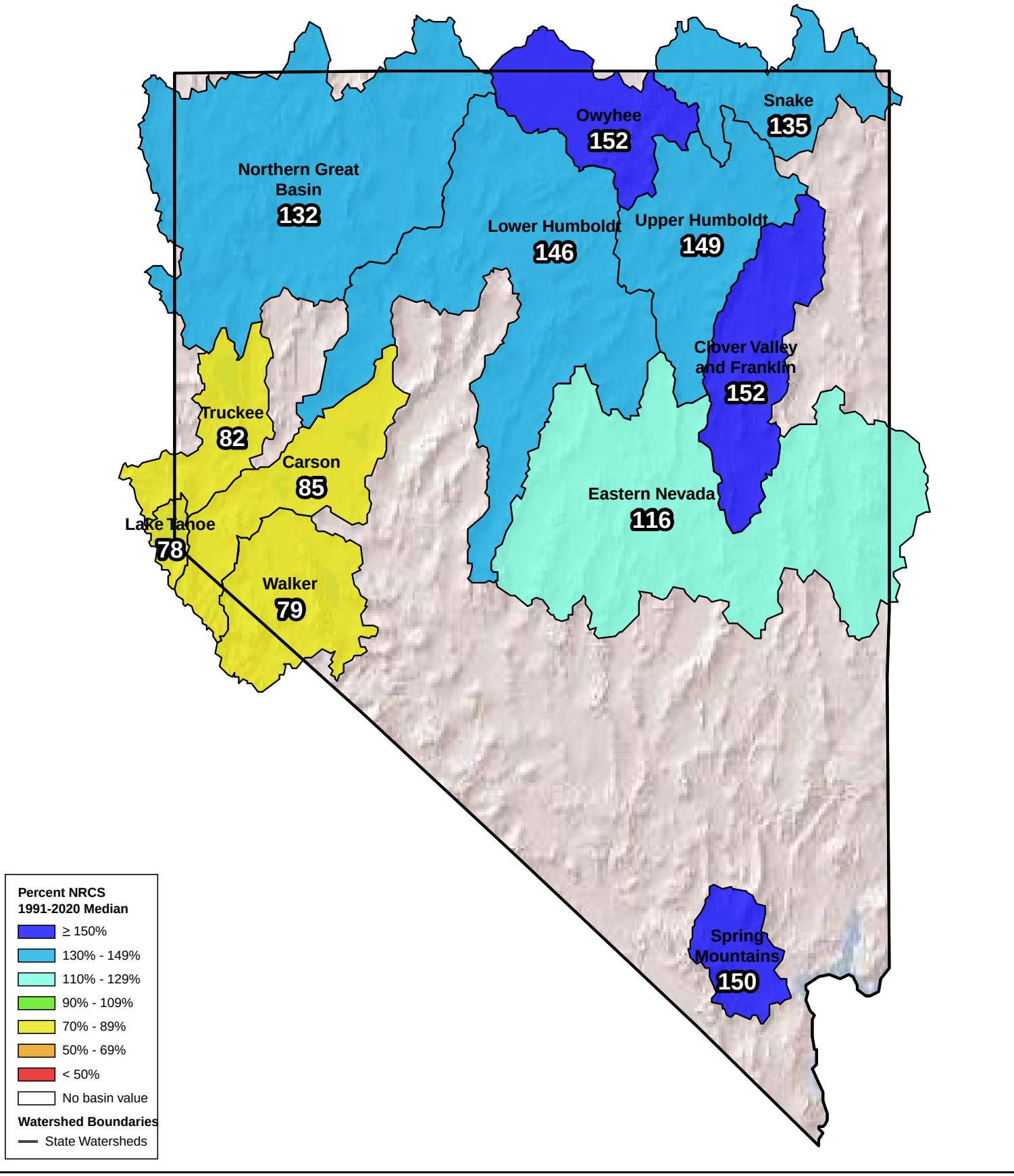






Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.
For more information visit: 30 year normal calculation description

Snow Water Equivalent	Percent NRCS 1991-2020 Median	March 1st, 2024



USDA Natural Resources Conservation Service
United States Department of Agriculture

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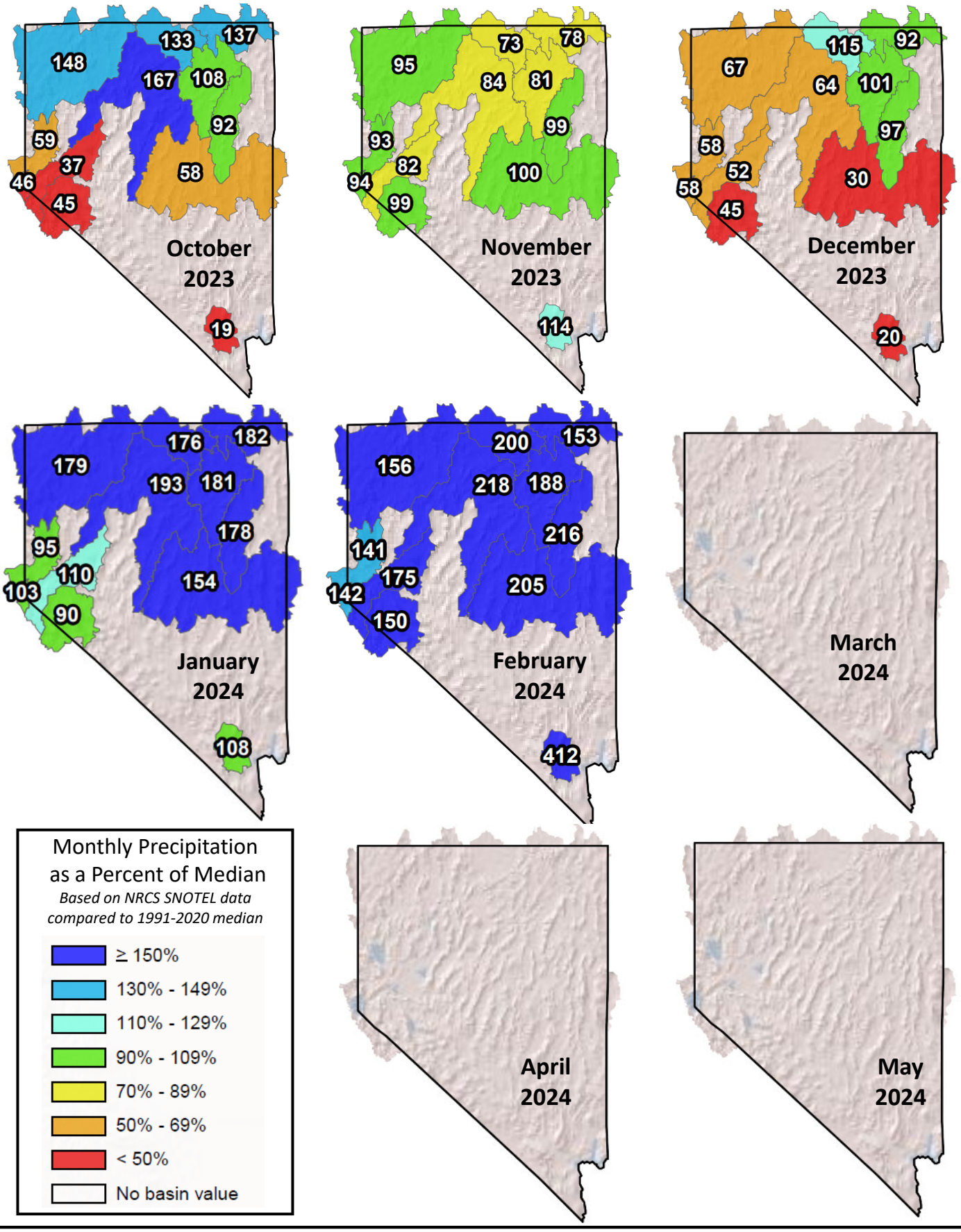
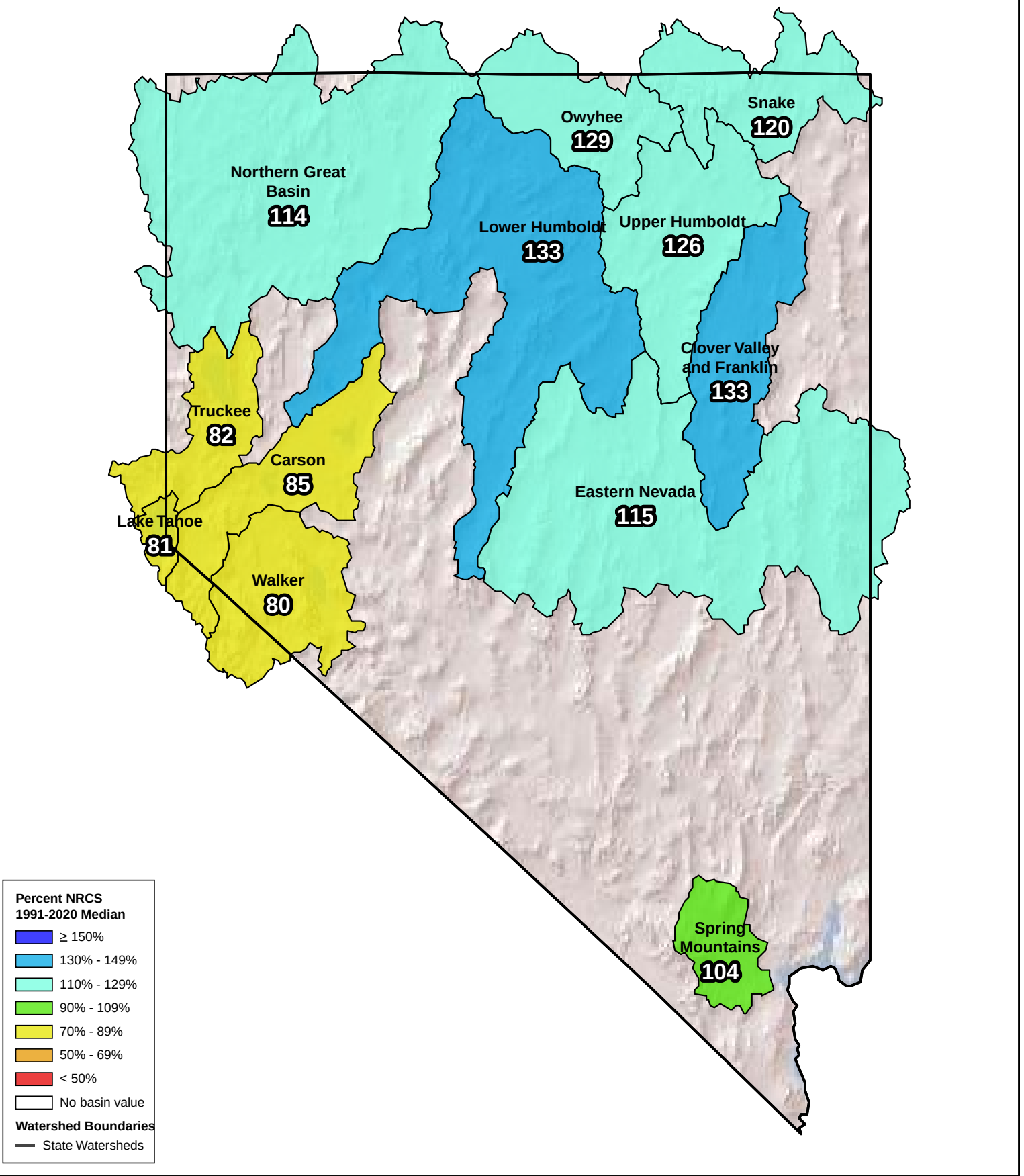
Monthly Precipitation as Percent of Median – Water Year 2024



USDA Natural Resources Conservation Service
United States Department of Agriculture

Water Year to Date Precipitation	Percent NRCS 1991-2020 Median	October 1, 2023 - February 29, 2024



USDA Natural Resources Conservation Service
United States Department of Agriculture

N
0 20 40 80 120 160 200 Miles

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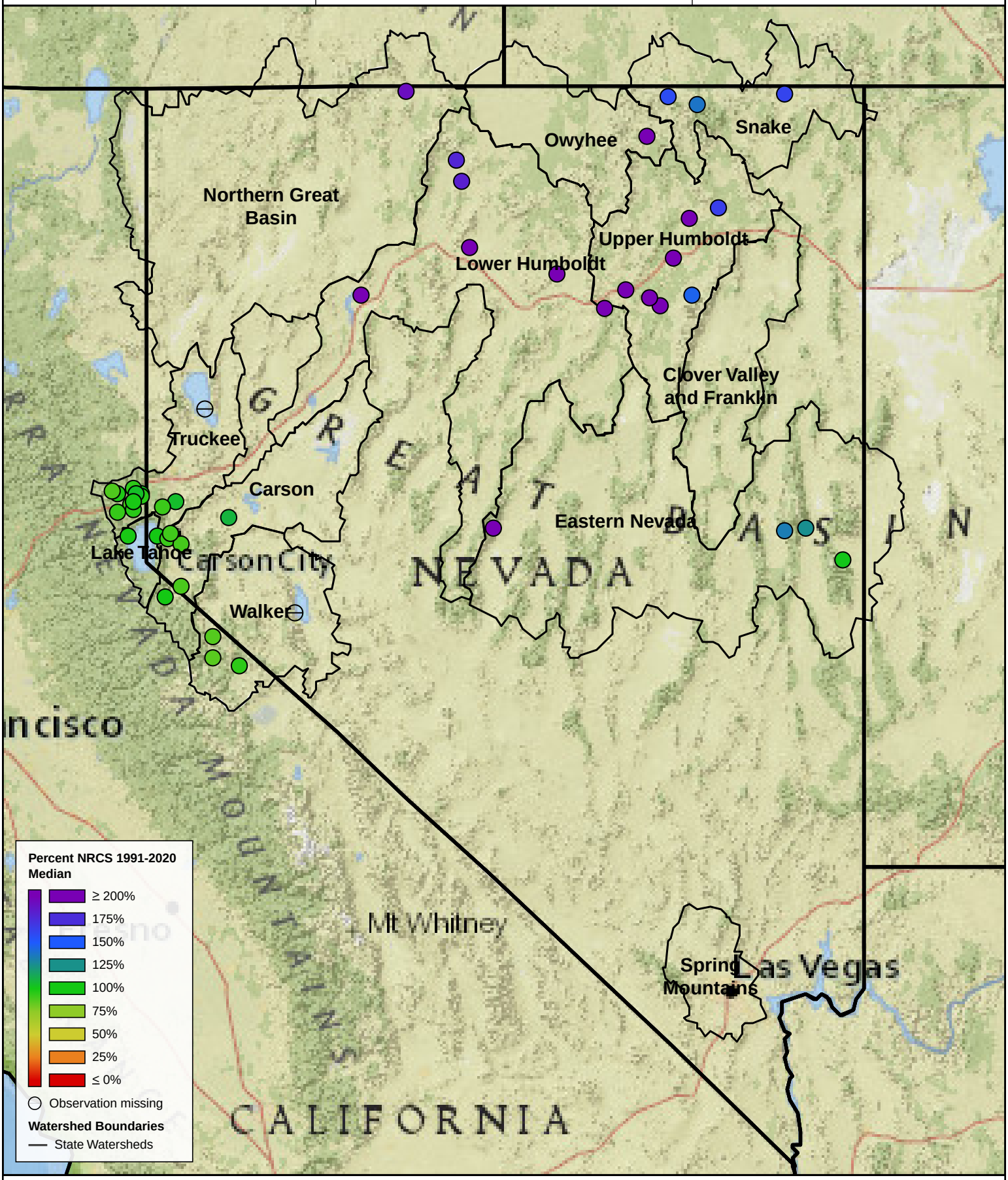
Streamflow Forecast Volume 50% Exceedance Probability	Percent NRCS 1991-2020 Median	March 1, 2024 Primary Forecast Period *(April-July in most cases)*



USDA Natural Resources Conservation Service
United States Department of Agriculture

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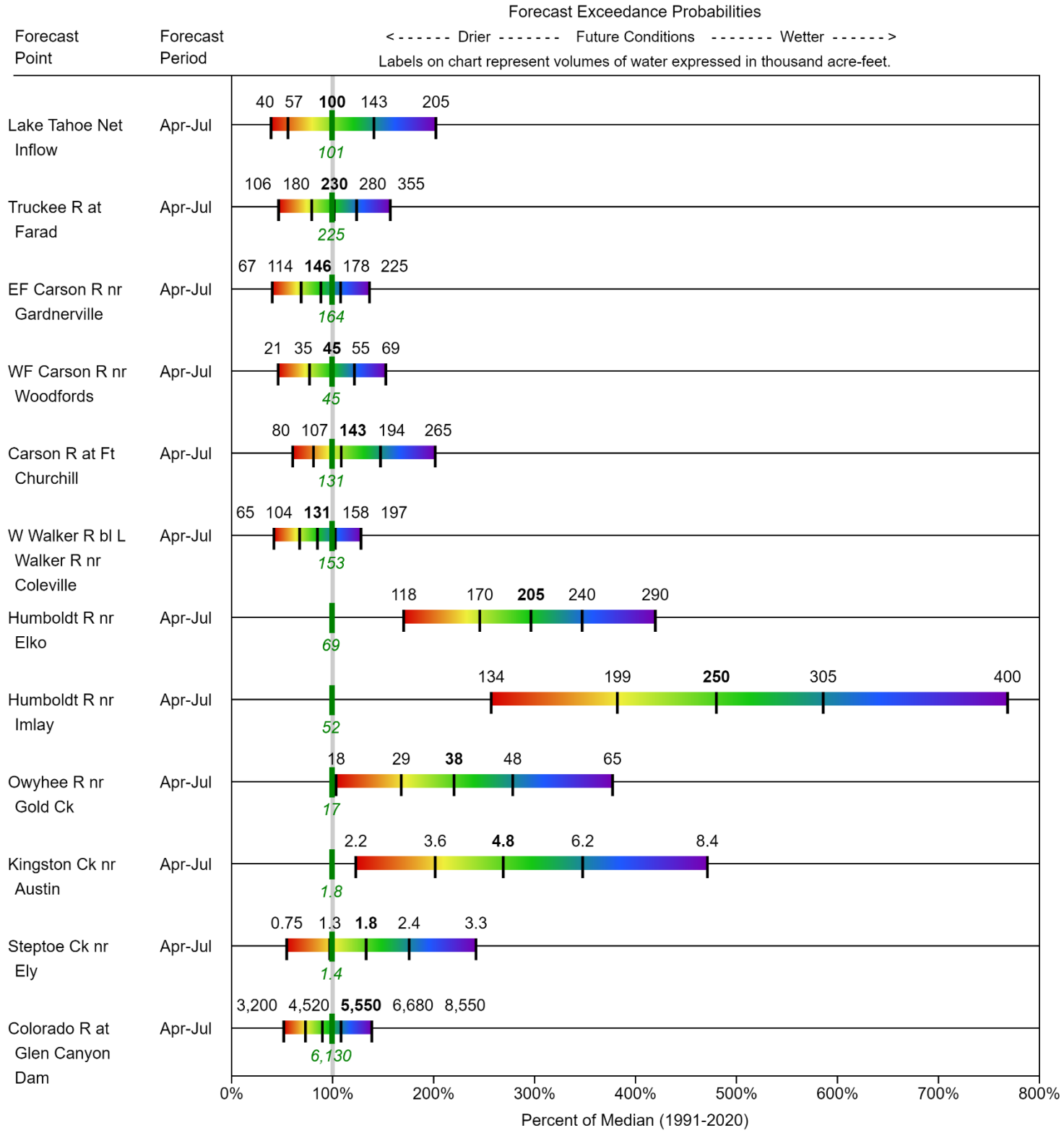
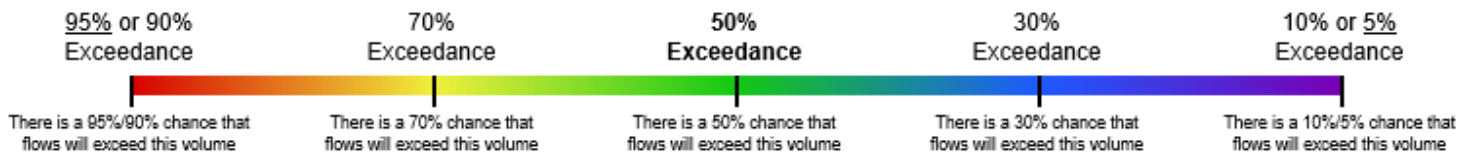
Streamflow Forecasts - State of Nevada Overview

March 1, 2024





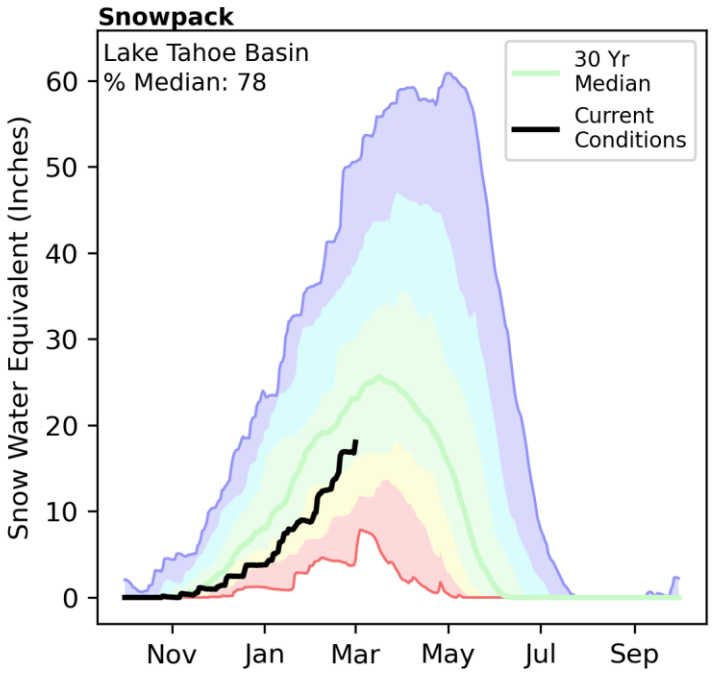
[Click Here for Basin Forecast Charts](#)

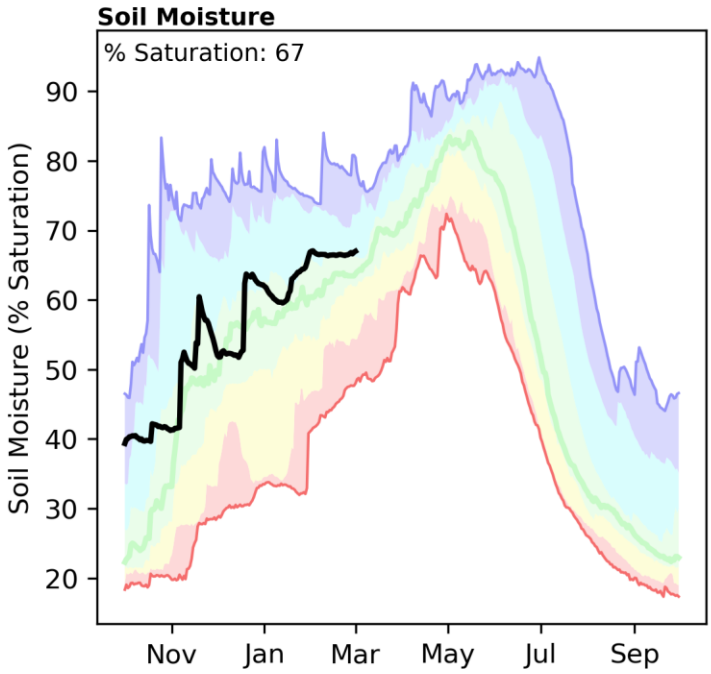
1981-2010 Normal Streamflow KAF

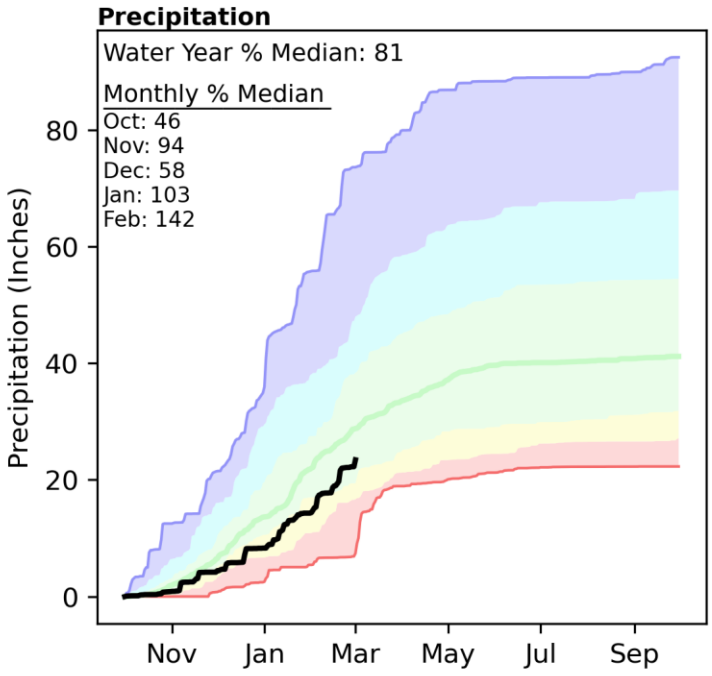
See appendix for more information

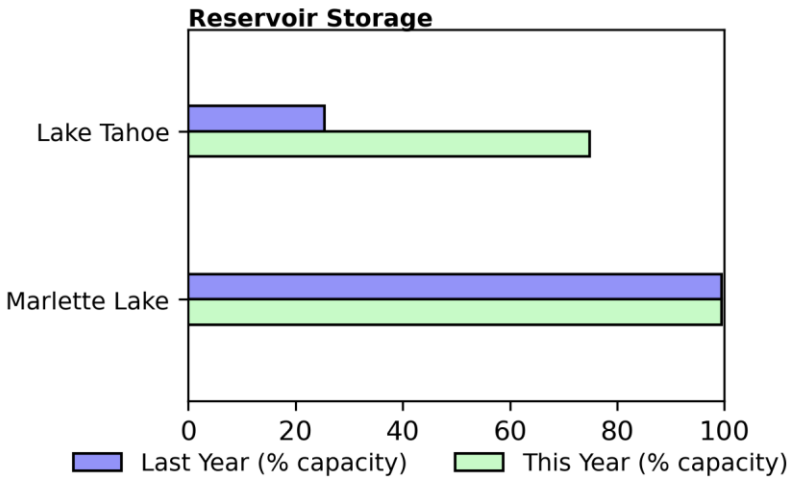
Lake Tahoe Basin | March 1, 2024

Snowpack in the Lake Tahoe Basin is below normal at 78% of median, compared to 183% at this time last year. Precipitation in February was well above normal at 142%, which brings the seasonal accumulation (October-February) to 81% of median. Soil moisture is at 67% saturation, same as last year at this time. Reservoir storage is 75% of capacity, compared to 27% last year.









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

Important Information about Forecast Coordination: Hydrologists with the NRCS and National Weather Service California Nevada River Forecast Center (CNRFC) coordinate Lake Tahoe Rise, Truckee River at Farad, Little Truckee River near Boca, and the Carson River at Ft. Churchill forecasts (following page) using output of their respective hydrology models at the request of the Bureau of Reclamation. The NRCS model is a statistical model based on the current data as of the first of each month. The CNRFC ensemble forecasting system incorporates near-term weather prediction and climatology into their model. These models can provide different answers because of the nature of the model systems, and from the inclusion of future weather in the CNRFC model. The hydrologists agree on forecast values using guidance from both models to best provide an accurate water supply forecast for these points.

Data Current As of: 3/6/2024 5:44:24 PM

Lake Tahoe
Streamflow Forecasts - March 1, 2024

Lake Tahoe	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
		Forecast Exceedance Probabilities For Risk Assessment Chance that actual volume will exceed forecast						
Marlette Lake Inflow								
	MAR-JUL	-0.39	0.17	0.55	98%	0.93	1.49	0.56
	APR-JUL	-0.46	0.05	0.4	100%	0.75	1.26	0.4
Lake Tahoe Rise Gates Closed[2]								
	OCT-HIGH	0.7	0.93	1.6	101%	2.3	3.3	1.59
	MAR-HIGH	0.6	1	1.5	107%	2	2.7	1.4
	APR-HIGH	0.43	0.95	1.3	112%	1.65	2.2	1.16
Lake Tahoe Net Inflow								
	MAR-JUL	60	77	135	97%	193	280	139
	APR-JUL	40	57	100	99%	143	205	101

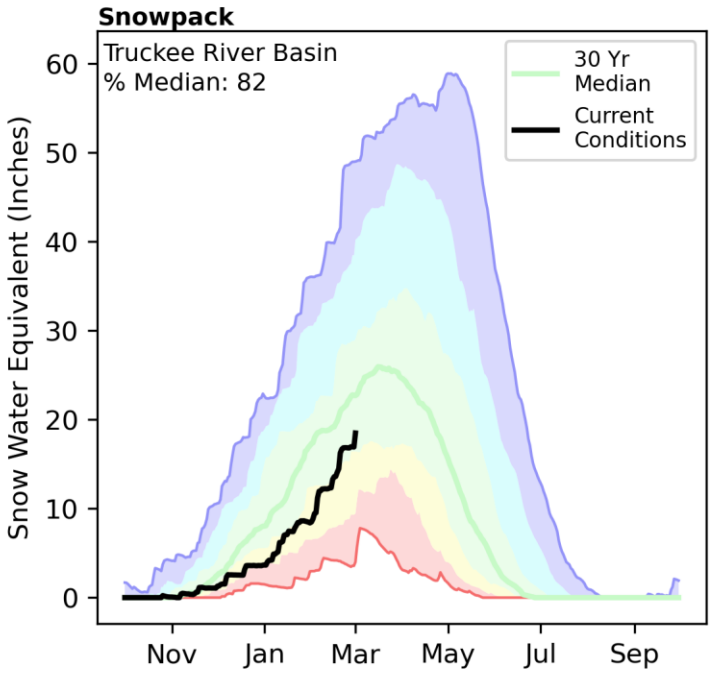
1) 90% And 10% exceedance probabilities are actually 95% And 5%
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

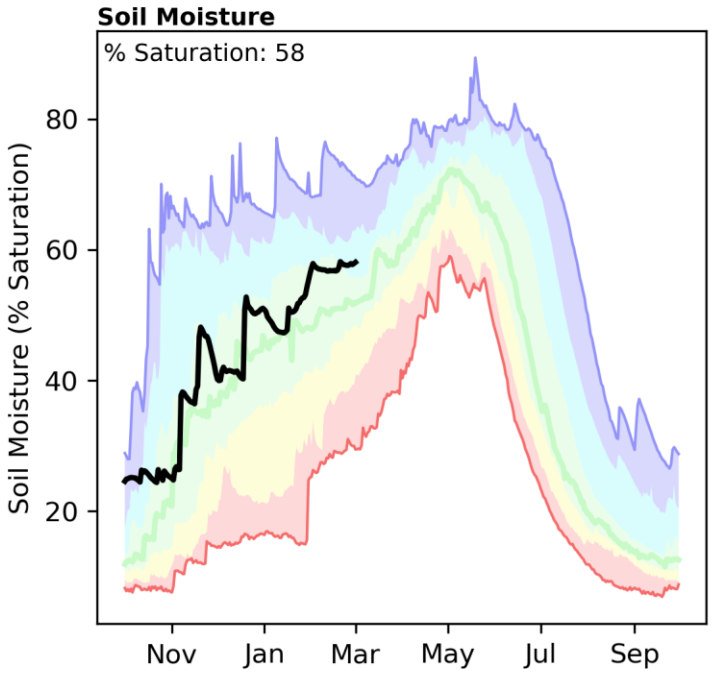
Reservoir Storage End of February, 2024	Current (KAF)	Last Year (KAF)	Median (KAF)	Capacity (KAF)
Lake Tahoe	557.8	189.5	244.2	744.5
Marlette Lk nr Carson City	11.7	11.7	11.9	11.8

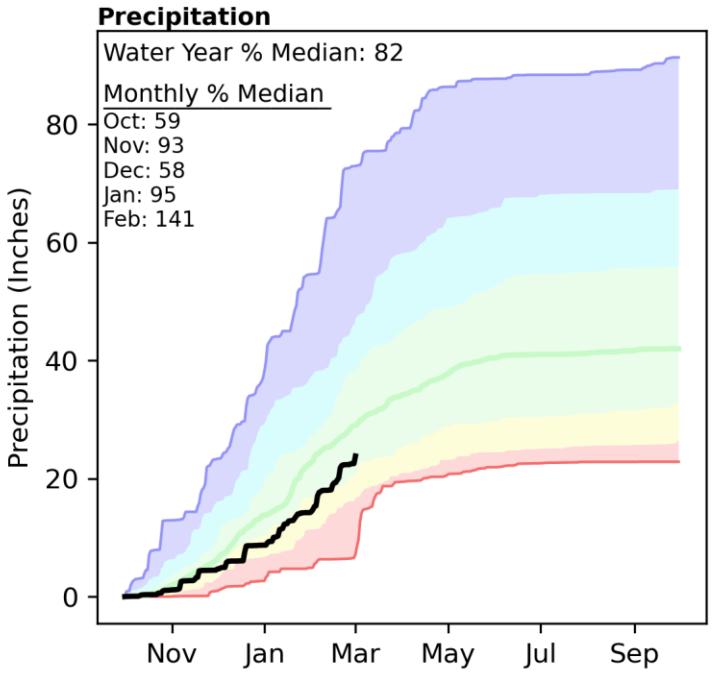
Watershed Snowpack Analysis March 1, 2024	# of Sites	% Median	Last Year % Median
Lake Tahoe	23	78%	183%

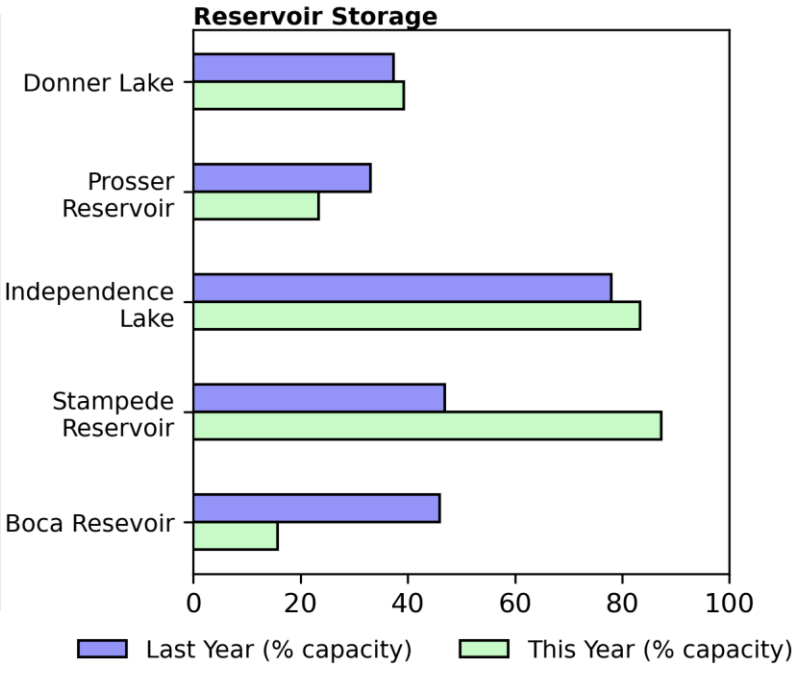
Truckee River Basin | March 1, 2024

Snowpack in the Truckee River Basin is below normal at 82% of median, compared to 170% at this time last year. Precipitation in February was well above normal at 141%, which brings the seasonal accumulation (October-February) to 82% of median. Soil moisture is at 58% saturation compared to 57% saturation last year. Reservoir storage is 71% of capacity, compared to 47% last year.









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

Important Information about Forecast Coordination: Hydrologists with the NRCS and National Weather Service California Nevada River Forecast Center (CNRFC) coordinate Lake Tahoe Rise, Truckee River at Farad, Little Truckee River near Boca, and the Carson River at Ft. Churchill forecasts (following page) using output of their respective hydrology models at the request of the Bureau of Reclamation. The NRCS model is a statistical model based on the current data as of the first of each month. The CNRFC ensemble forecasting system incorporates near-term weather prediction and climatology into their model. These models can provide different answers because of the nature of the model systems, and from the inclusion of future weather in the CNRFC model. The hydrologists agree on forecast values using guidance from both models to best provide an accurate water supply forecast for these points.

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Truckee
Streamflow Forecasts - March 1, 2024

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

Truckee	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Donner Lake Inflow[2]								
	MAR-JUL	7.8	13	16.5	86%	20	25	19.2
	APR-JUL	6.6	11	14	93%	17	21	15
Martis Ck Res Inflow[2]								
	MAR-JUL	3	5.1	8	90%	10.9	15.3	8.9
	APR-JUL	2	2.8	5.5	96%	8.2	12.1	5.7
Prosser Ck Res Inflow[2]								
	MAR-JUL	18.9	30	38	90%	46	57	42
	APR-JUL	13.1	24	31	89%	38	49	35
Independence Lk Inflow[2]								
	MAR-JUL	5.9	8.6	10.4	91%	12.2	14.9	11.4
	APR-JUL	4.9	7.5	9.2	88%	10.9	13.5	10.5
Sagehen Ck nr Truckee								
	MAR-JUL	1.19	3.2	4.5	94%	5.8	7.8	4.8
	APR-JUL	0.82	2.7	4	98%	5.3	7.2	4.1
Stampede Res Local Inflow[2]								
	MAR-JUL	23	49	66	96%	83	109	69
	APR-JUL	15.9	40	56	95%	72	96	59
L Truckee R ab Boca Reservoir[2]								
	MAR-JUL	35	65	86	100%	107	137	86
	APR-JUL	28	56	75	104%	94	122	72
Boca Res Local Inflow[2]								
	MAR-JUL	1	2.2	4.5	102%	6.8	10.3	4.4
	APR-JUL	0	0.6	1.5	99%	3.4	6.1	1.52
Truckee R at Farad[2]								
	MAR-JUL	117	196	250	94%	305	385	265
	APR-JUL	106	180	230	102%	280	355	225
Truckee R ab Farad Sidewater[2]								
	MAR-JUL	47	79	101	95%	123	155	106
	APR-JUL	35	65	86	96%	107	137	90
Galena Ck at Galena Ck State Pk								
	MAR-JUL	2	3.3	4.1	93%	5	6.2	4.4
	APR-JUL	1.66	2.9	3.7	93%	4.5	5.7	4
Steamboat Ck at Steamboat								
	MAR-JUL	0.08	1.19	2.7	100%	4.8	9	2.7
	APR-JUL	0.07	0.98	2.2	105%	3.9	7.3	2.1
Pyramid Lake Elevation Change								
	LOW-HIGH	-2.5	-0.74	0.48		1.69	3.5	

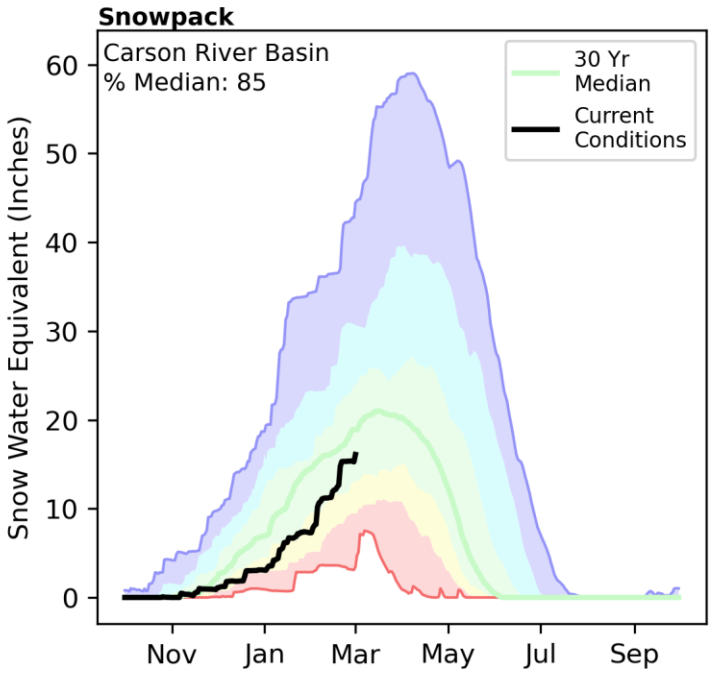
1) 90% And 10% exceedance probabilities are actually 95% And 5%
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

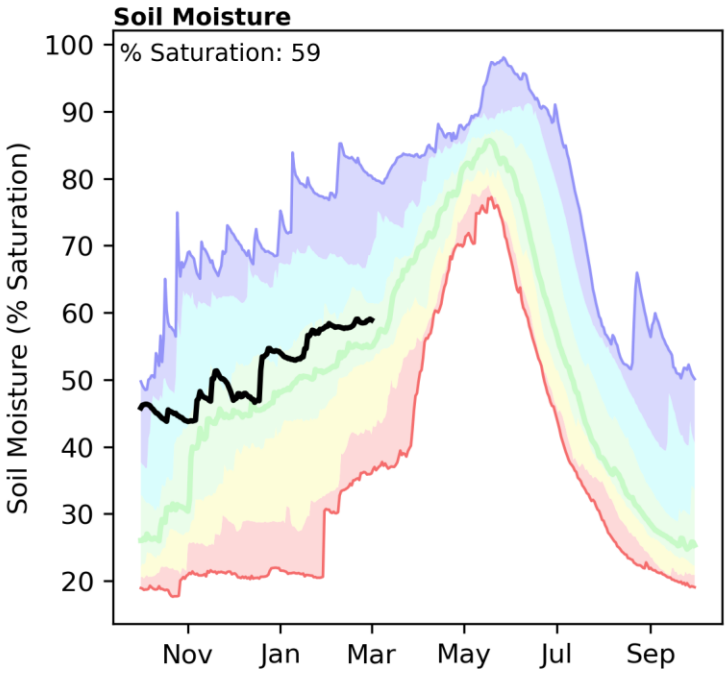
Reservoir Storage End of February, 2024	Current (KAF)	Last Year (KAF)	Median (KAF)	Capacity (KAF)
Boca Reservoir	6.4	18.8	15.0	40.9
Donner Lake	3.7	3.5	3.7	9.5
Independence Lake	14.4	13.5	14.6	17.3
Prosser Reservoir	7.0	9.8	9.7	29.8
Stampede Reservoir	197.8	106.2	161.1	226.5

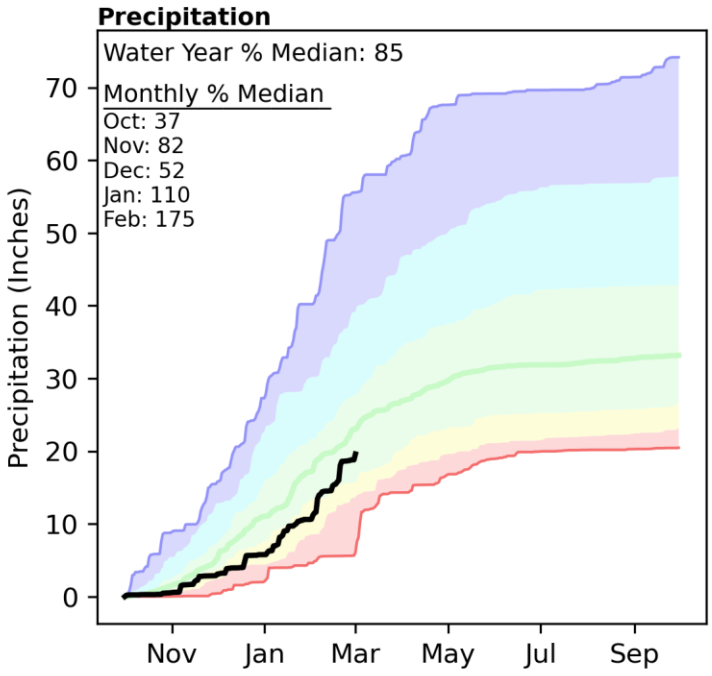
Watershed Snowpack Analysis March 1, 2024	# of Sites	% Median	Last Year % Median
Truckee	15	82%	170%
Little Truckee ab Stampede	3	89%	185%
Sagehen-Independence	3	89%	185%
Galena	1	76%	182%
Steamboat	1	76%	182%
Truckee above Pyramid Lake	31	80%	181%

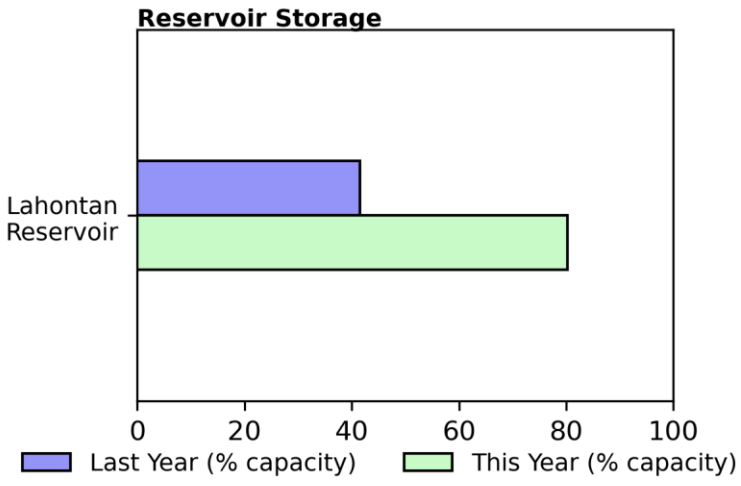
Carson River Basin | March 1, 2024

Snowpack in the Carson River Basin is below normal at 85% of median, compared to 232% at this time last year. Precipitation in February was well above normal at 175%, which brings the seasonal accumulation (October-February) to 85% of median. Soil moisture is at 59% saturation compared to 63% saturation last year. Reservoir storage is 80% of capacity, compared to 42% last year.









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

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Carson
Streamflow Forecasts - March 1, 2024

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

Carson	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
EF Carson R nr Gardnerville								
	MAR-JUL	78	128	162	88%	196	245	184
	APR-JUL	67	114	146	89%	178	225	164
	200 cfs	09 Jun	23 Jun	03 Jul		13 Jul	27 Jul	14 Jul
	500 cfs	12 May	29 May	09 Jun		20 Jun	07 Jul	20 Jun
WF Carson R nr Woodfords								
	MAR-JUL	25	39	49	98%	59	73	50
	APR-JUL	21	35	45	100%	55	69	45
Carson R nr Carson City								
	MAR-JUL	61	107	145	92%	189	265	157
	APR-JUL	12.1	76	120	90%	164	230	133
Kings Canyon Ck nr Carson City								
	MAR-JUL	0.07	0.13	0.18	95%	0.24	0.34	0.19
	APR-JUL	0.04	0.08	0.12	92%	0.17	0.26	0.13
Ash Canyon Ck nr Carson City								
	MAR-JUL	0.57	0.79	0.95	92%	1.13	1.42	1.03
	APR-JUL	0.42	0.61	0.75	91%	0.91	1.17	0.82
Carson R at Ft Churchill								
	MAR-JUL	90	113	160	104%	205	275	154
	APR-JUL	80	107	143	109%	194	265	131

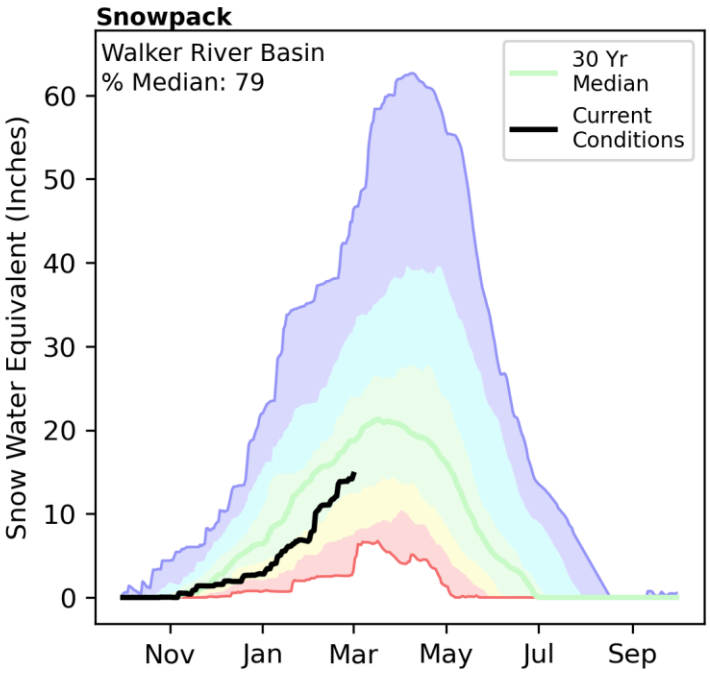
1) 90% And 10% exceedance probabilities are actually 95% And 5%
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

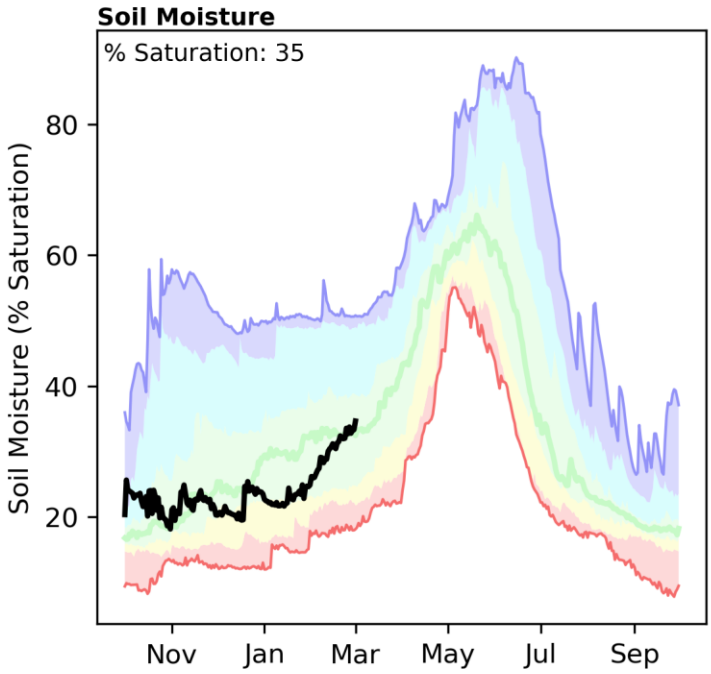
Reservoir Storage End of February, 2024	Current (KAF)	Last Year (KAF)	Median (KAF)	Capacity (KAF)
Lahontan Reservoir	251.3	130.0	153.6	313.0

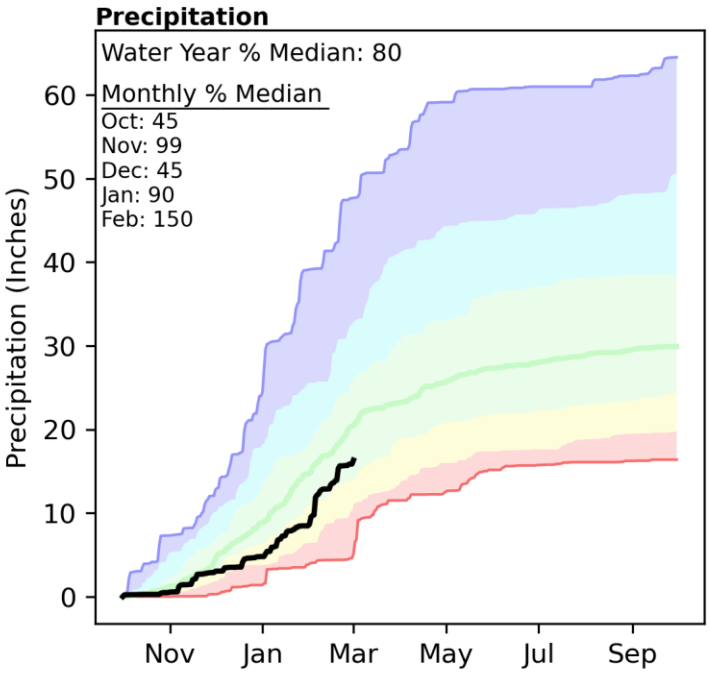
Watershed Snowpack Analysis March 1, 2024	# of Sites	% Median	Last Year % Median
Carson	16	85%	232%
East Fork Carson	7	86%	252%
West Fork Carson	9	90%	223%

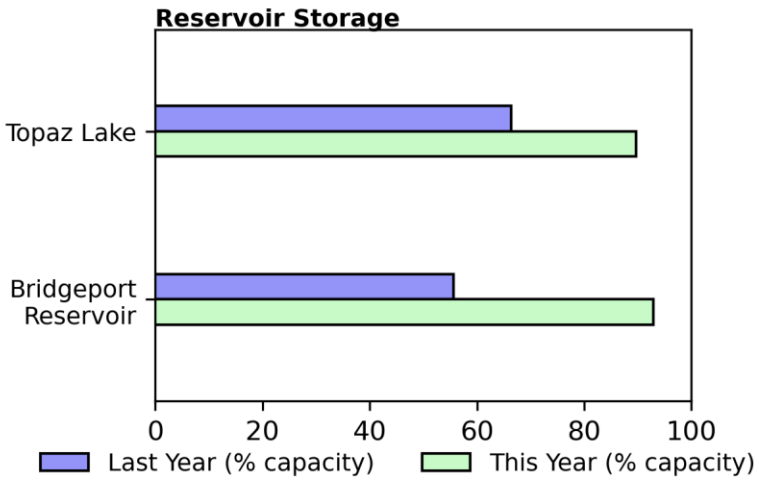
Walker River Basin | March 1, 2024

Snowpack in the Walker River Basin is below normal at 79% of median, compared to 248% at this time last year. Precipitation in February was well above normal at 150%, which brings the seasonal accumulation (October-February) to 80% of median. Soil moisture is at 35% saturation compared to 44% saturation last year. Reservoir storage is 91% of capacity, compared to 62% last year.









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

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Walker

Streamflow Forecasts - March 1, 2024

Walker	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
		Forecast Exceedance Probabilities For Risk Assessment Chance that actual volume will exceed forecast						
E Walker R nr Bridgeport[2]								
	MAR-AUG	7.8	32	49	96%	66	90	51
	APR-AUG	2.6	26	42	95%	58	81	44
W Walker R bl L Walker R nr Coleville								
	MAR-JUL	73	113	140	88%	167	205	159
	APR-JUL	65	104	131	86%	158	197	153
W Walker R nr Coleville								
	MAR-JUL	69	108	135	88%	162	200	154
	APR-JUL	62	101	128	87%	155	194	147
Walker Lake Elevation Change[1]								
	LOW-HIGH	-1.61	-0.11	0.91		1.93	3.4	

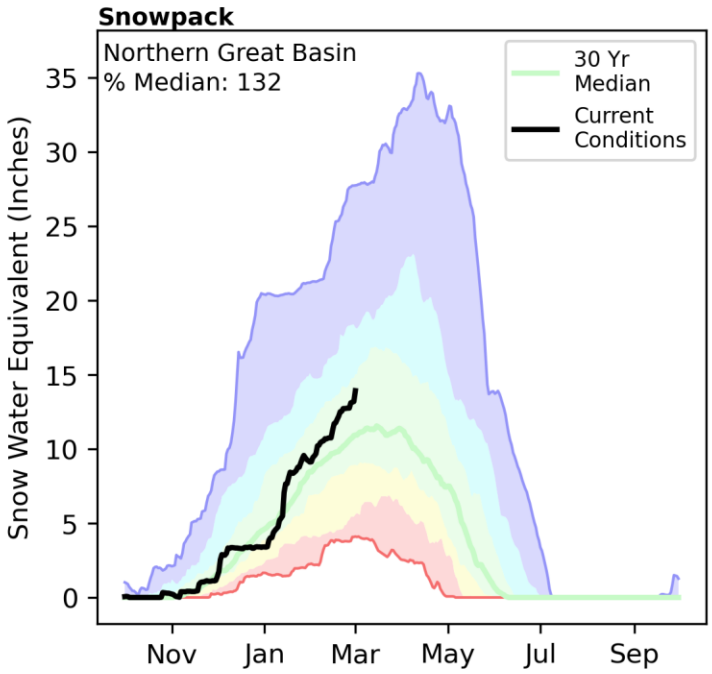
1) 90% And 10% exceedance probabilities are actually 95% And 5%
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

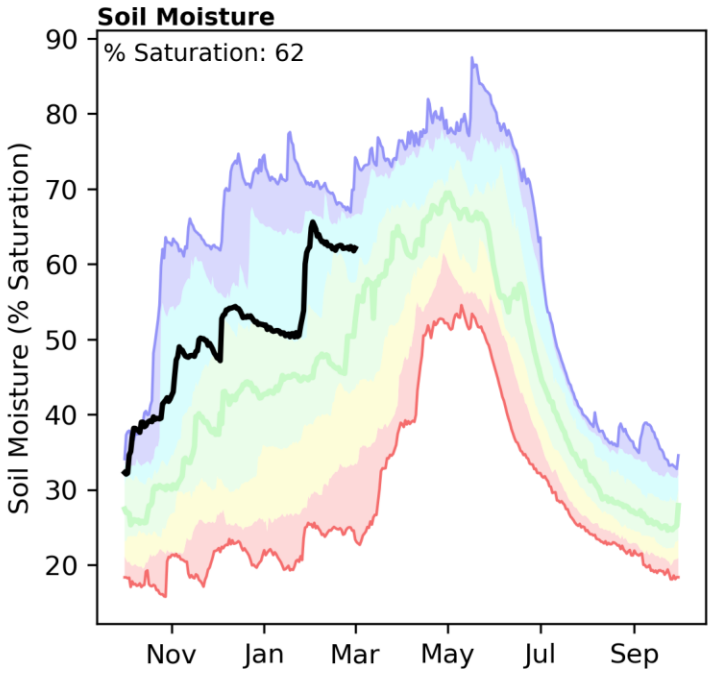
Reservoir Storage End of February, 2024	Current (KAF)	Last Year (KAF)	Median (KAF)	Capacity (KAF)
Bridgeport Reservoir	39.5	23.6	19.4	42.5
Topaz Lk nr Topaz	53.3	39.5	20.8	59.4

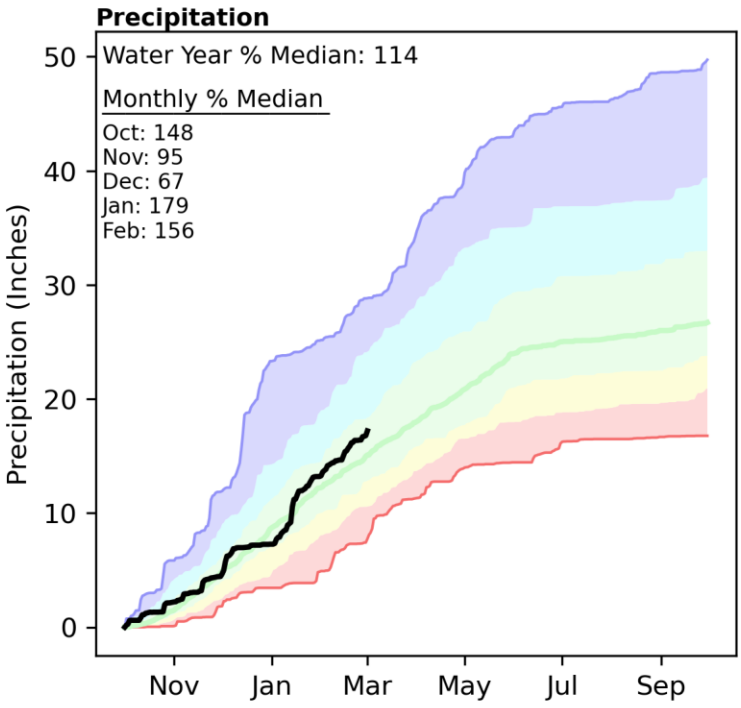
Watershed Snowpack Analysis March 1, 2024	# of Sites	% Median	Last Year % Median
Walker	7	79%	248%
East Walker ab Bridgeport	2	67%	279%
West Walker ab Coleville	6	79%	243%

Northern Great Basin | March 1, 2024

Snowpack in the Northern Great Basin is well above normal at 132% of median, compared to 147% at this time last year. Precipitation in February was well above normal at 156%, which brings the seasonal accumulation (October-February) to 114% of median. Soil moisture is at 62% saturation compared to 36% saturation last year.







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

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Northern Great Basin
Streamflow Forecasts - March 1, 2024

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

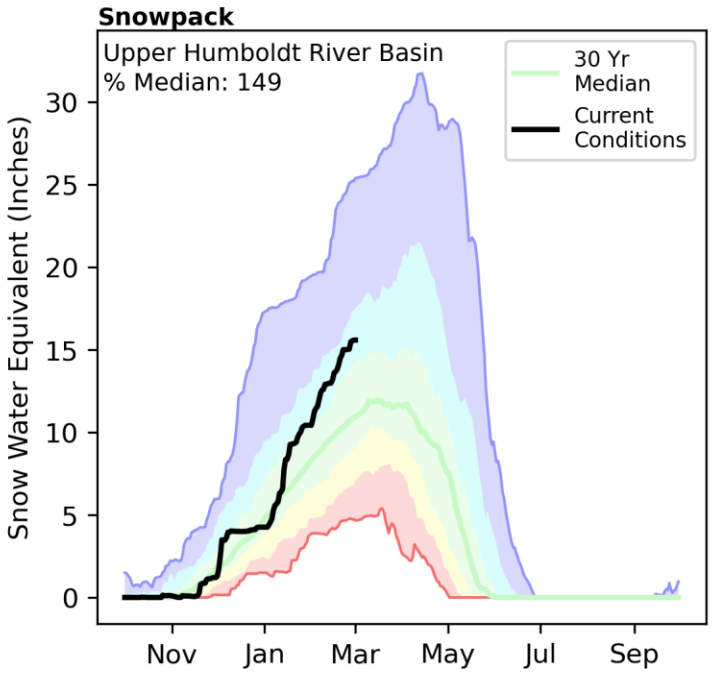
Northern Great Basin	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
McDermitt Ck nr McDermitt								
	MAR-JUN	12.3	17.2	21	191%	25	32	11
	APR-JUL	6.7	10.7	14	192%	17.7	24	7.3

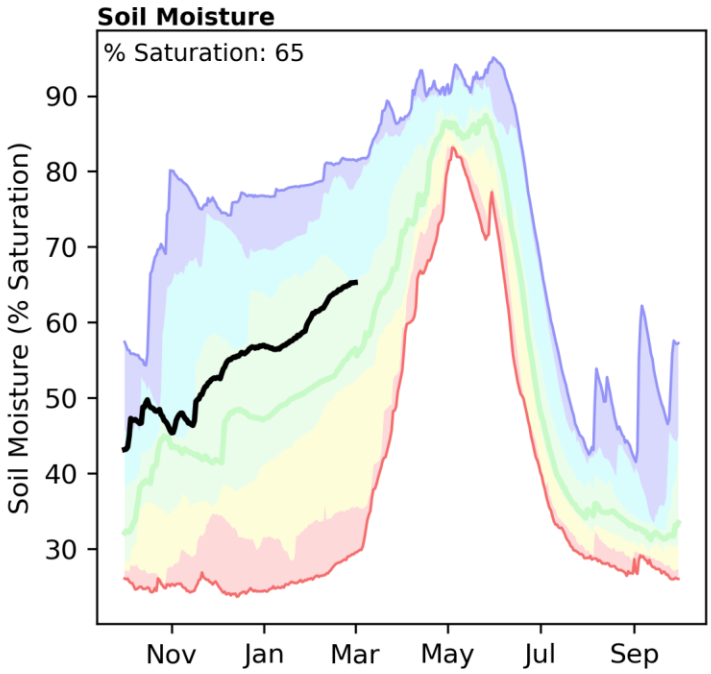
1) 90% And 10% exceedance probabilities are actually 95% And 5%
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

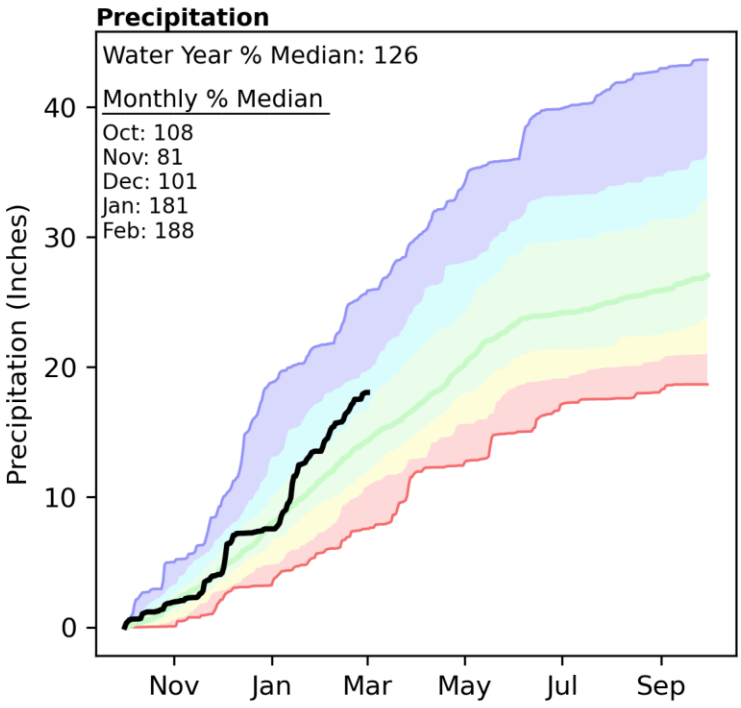
Watershed Snowpack Analysis March 1, 2024	# of Sites	% Median	Last Year % Median
Northern Great Basin	16	132%	147%
Surprise Valley-Warner Mtns	4	117%	133%
McDermitt	4	138%	138%
Quinn	9	144%	152%

Upper Humboldt River Basin | March 1, 2024

Snowpack in the Upper Humboldt River Basin is well above normal at 149% of median, compared to 166% at this time last year. Precipitation in February was well above normal at 188%, which brings the seasonal accumulation (October-February) to 126% of median. Soil moisture is at 65% saturation compared to 56% saturation last year.







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

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Upper Humboldt
Streamflow Forecasts - March 1, 2024

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

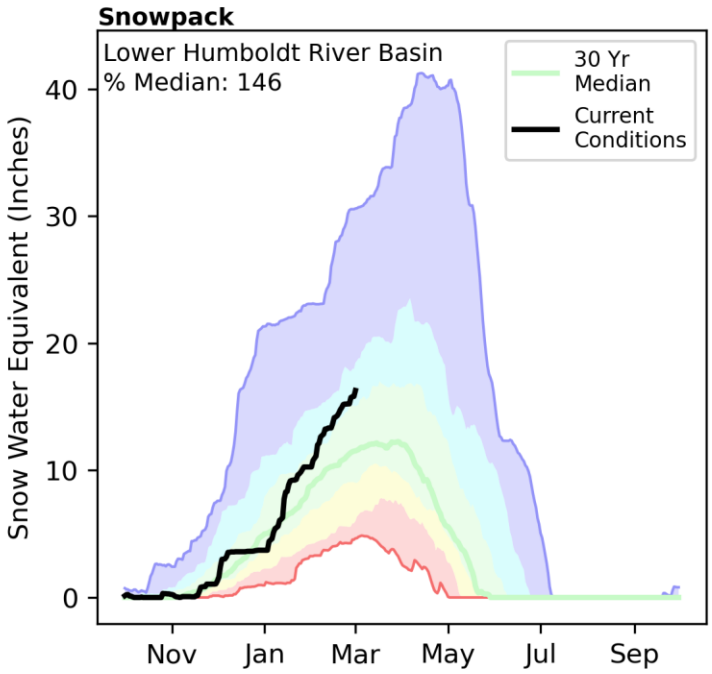
Upper Humboldt	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Marys R nr Deeth								
	MAR-JUL	29	40	48	166%	56	67	29
	APR-JUL	24	35	43	165%	51	62	26
Lamoille Ck nr Lamoille								
	MAR-JUL	28	35	39	144%	43	50	27
	APR-JUL	27	34	38	146%	42	49	26
NF Humboldt R at Devils Gate								
	MAR-JUL	23	38	48	209%	58	73	23
	APR-JUL	14.5	27	36	200%	45	58	18
Humboldt R nr Elko								
	MAR-JUL	163	215	250	321%	285	335	78
	APR-JUL	118	170	205	297%	240	290	69
SF Humboldt R abv Tenmile Ck								
	MAR-JUL	69	95	113	205%	131	157	55
	APR-JUL	62	88	106	204%	124	150	52
SF Humboldt R ab Dixie Ck								
	MAR-JUL	74	101	119	225%	137	164	53
	APR-JUL	67	94	112	220%	130	157	51
Humboldt R nr Carlin								
	MAR-JUL	225	305	365	326%	430	540	112
	APR-JUL	173	245	305	305%	370	475	100
Humboldt R at Palisade								
	MAR-JUL	255	345	415	327%	490	615	127
	APR-JUL	210	295	360	330%	435	550	109

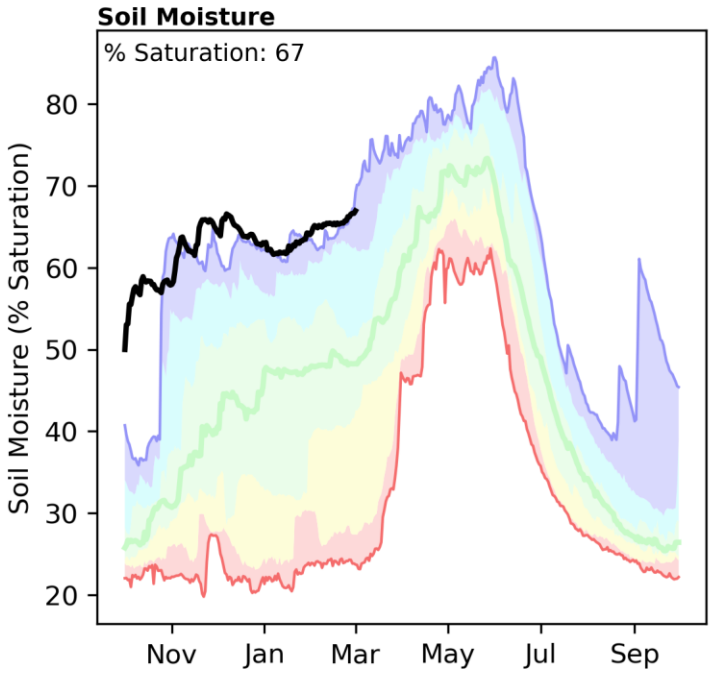
1) 90% And 10% exceedance probabilities are actually 95% And 5%
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

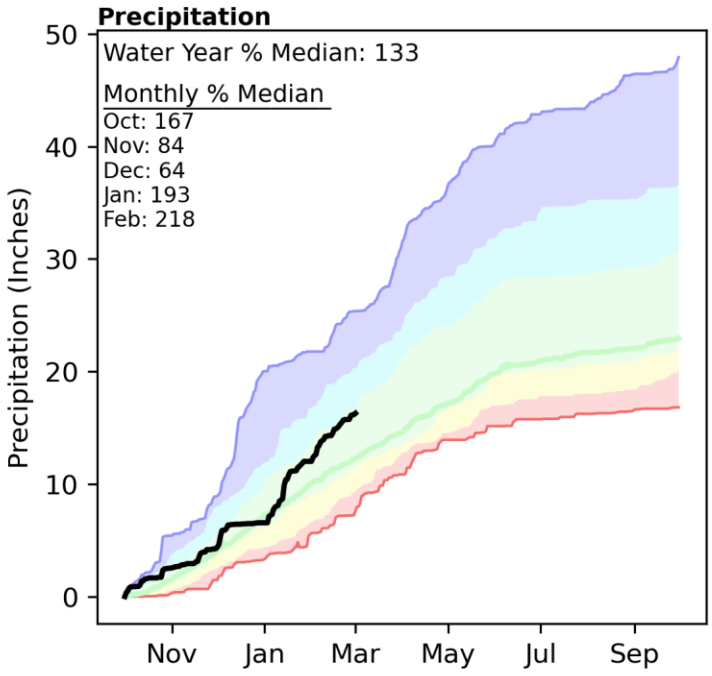
Watershed Snowpack Analysis March 1, 2024	# of Sites	% Median	Last Year % Median
Upper Humboldt	25	149%	166%
Mary's	5	136%	127%
Lamoille	3	136%	163%
North Fork Humboldt	5	142%	138%
South Fork Humboldt	8	144%	181%

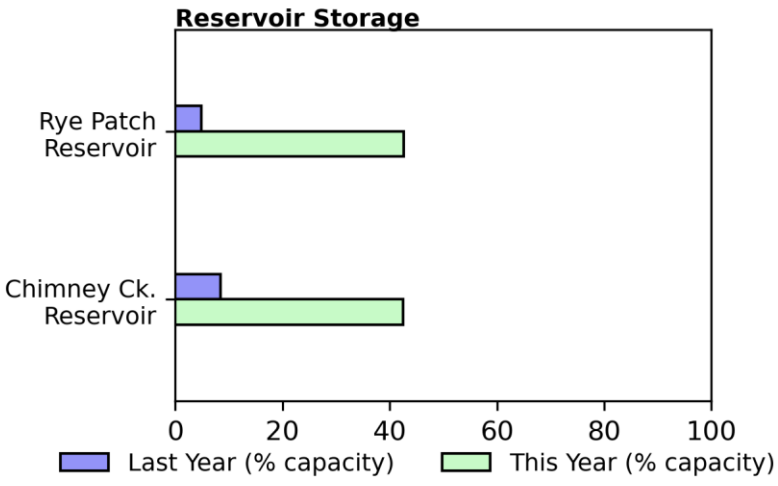
Lower Humboldt River Basin | March 1, 2024

Snowpack in the Lower Humboldt River Basin is well above normal at 146% of median, compared to 158% at this time last year. Precipitation in February was well above normal at 218%, which brings the seasonal accumulation (October-February) to 133% of median. Soil moisture is at 67% saturation compared to 46% saturation last year. Reservoir storage is 43% of capacity, compared to 5% last year.









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

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Lower Humboldt
Streamflow Forecasts - March 1, 2024

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

Lower Humboldt	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Rock Ck nr Battle Mountain								
	MAR-JUL	14.1	25	34	298%	44	63	11.4
	APR-JUL	7.8	16.4	24	393%	33	49	6.1
Humboldt R at Comus								
	MAR-JUL	210	290	350	357%	415	525	98
	APR-JUL	182	255	315	399%	380	485	79
L Humboldt R nr Paradise Valley[2]								
	MAR-JUL	9.8	15.9	20	169%	24	30	11.8
	APR-JUL	2.4	7.3	10.6	183%	13.9	18.8	5.8
Martin Ck nr Paradise Valley								
	MAR-JUL	12.7	20	25	171%	30	37	14.6
	APR-JUL	7.7	14.6	19.3	179%	24	31	10.8
Humboldt R nr Imlay								
	MAR-JUL	192	270	330	508%	395	505	65
	APR-JUL	134	199	250	481%	305	400	52

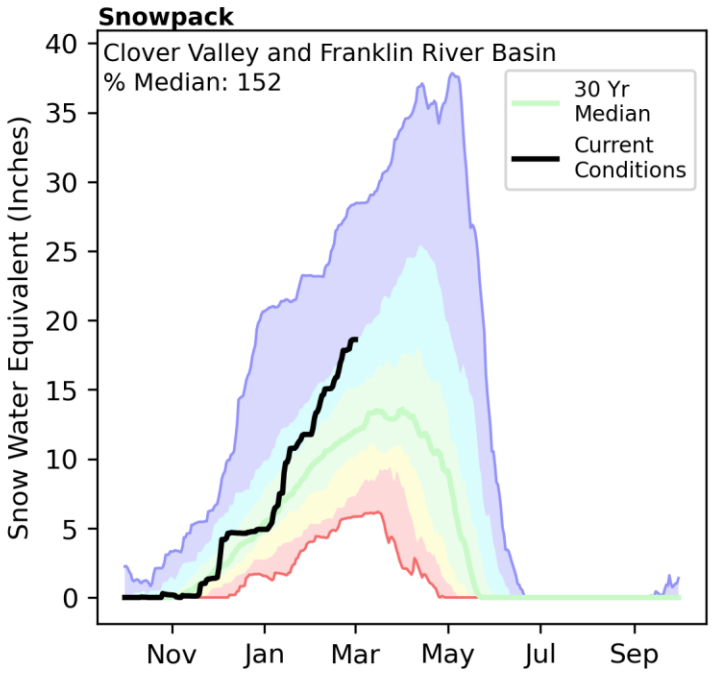
1) 90% And 10% exceedance probabilities are actually 95% And 5%
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

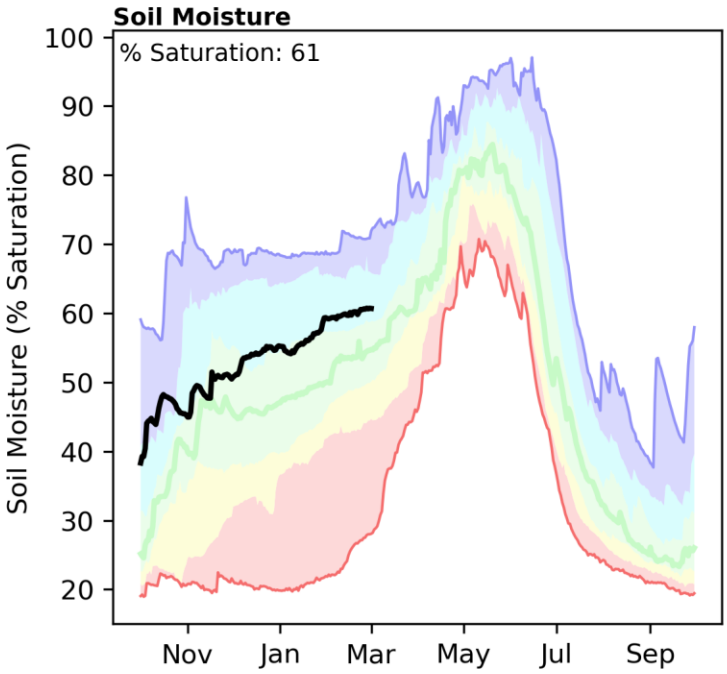
Reservoir Storage End of February, 2024	Current (KAF)	Last Year (KAF)	Median (KAF)	Capacity (KAF)
Chimney Creek Reservoir	14.9	2.9	12.6	35.0
Rye Patch Re nr Rye Patch, NV	82.7	9.5	31.0	194.3

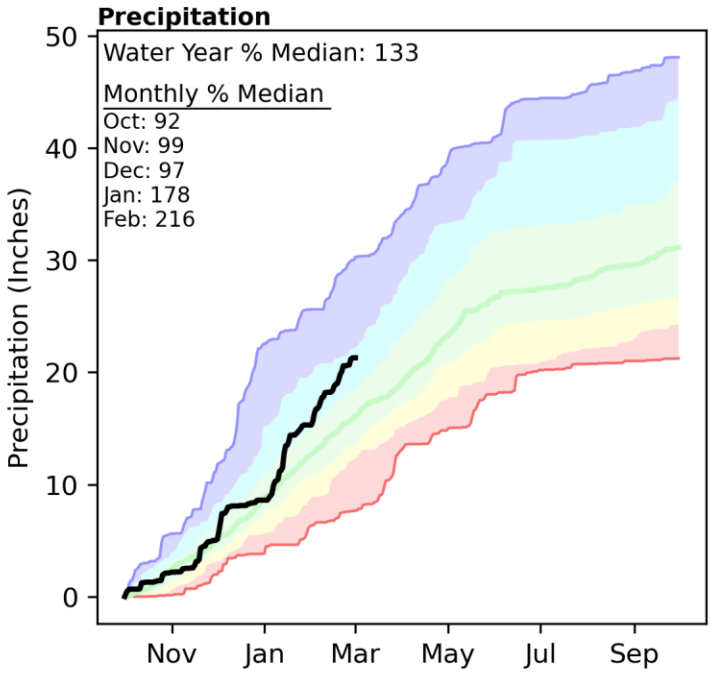
Watershed Snowpack Analysis March 1, 2024	# of Sites	% Median	Last Year % Median
Lower Humboldt	8	146%	158%
Rock	2	166%	140%
Reese	2	134%	199%
Martin	2	130%	158%
Little Humboldt	5	148%	147%
Humboldt above Imlay	33	148%	164%

Clover Valley and Franklin River Basin | March 1, 2024

Snowpack in the Clover Valley and Franklin River Basin is well above normal at 152% of median, compared to 184% at this time last year. Precipitation in February was well above normal at 216%, which brings the seasonal accumulation (October-February) to 133% of median. Soil moisture is at 61% saturation compared to 52% saturation last year.







Hole-in-Mountain SNOTEL - Status
Starting in water year 2020, automated snow water and snow depth measurements have been moved back to the original Hole-in-Mountain SNOTEL location used from 1981-2015. This move allows daily snow water percent of median to be calculated using historic data. The SNOTEL was re-located outside an avalanche zone in 2016 following an avalanche that damaged the site. Unfortunately, the new location while protected from future slides, was subject to drifting and snow data proved unrepresentative. Snow data from 2016-2020 have been removed from the public database and will appear as missing in NRCS products. Other SNOTEL parameters collected at the newer location are representative and were not moved. These include air temperature, precipitation and soil moisture.

Contact Jeff Anderson for more information:
jeff.anderson@usda.gov or 775-834-0913

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

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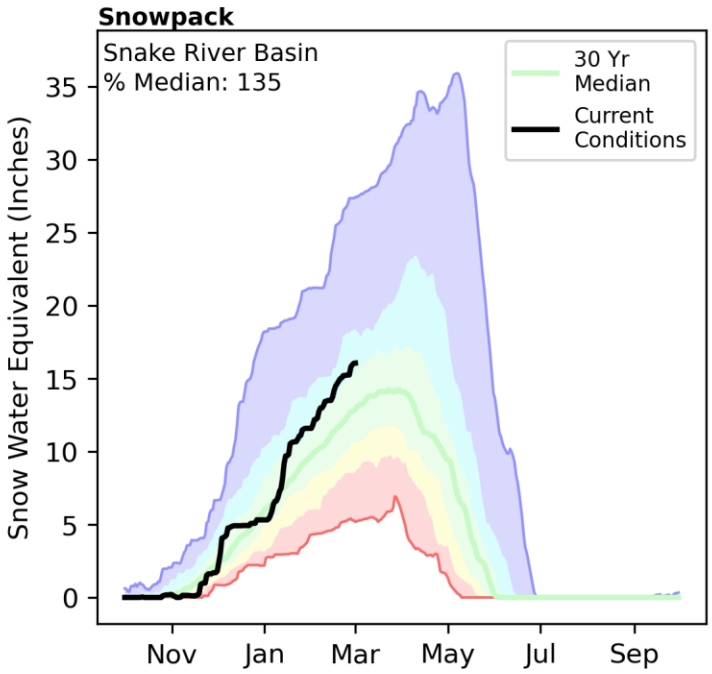
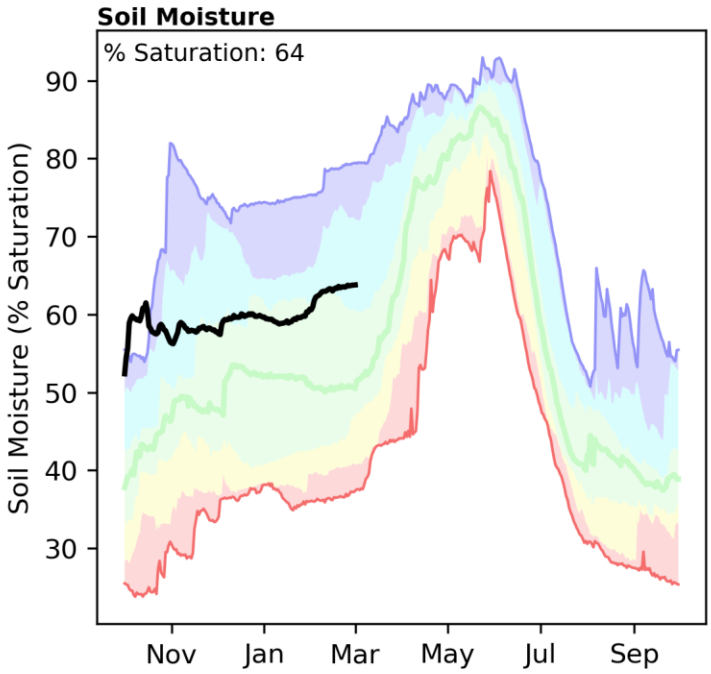
Clover Valley And Franklin - March 1, 2024

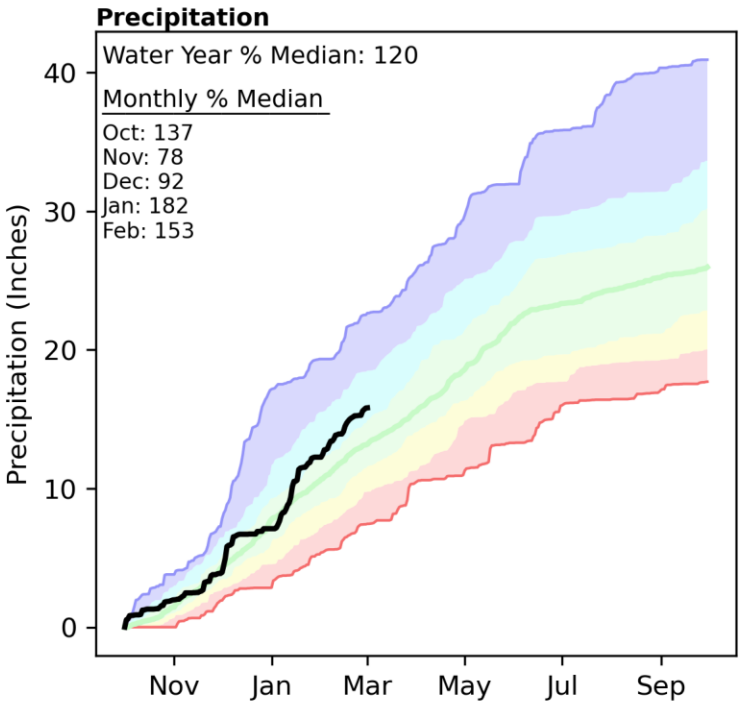
Watershed Snowpack Analysis March 1, 2024	# of Sites	% Median	Last Year % Median
Clover Valley and Franklin	11	152%	184%
Clover Valley	5	162%	188%
Franklin	7	151%	177%

Snake River Basin | March 1, 2024

Snowpack in the Snake River Basin is well above normal at 135% of median, compared to 124% at this time last year. Precipitation in February was well above normal at 153%, which brings the seasonal accumulation (October-February) to 120% of median. Soil moisture is at 64% saturation compared to 43% saturation last year.







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

Data Current As of: 3/6/2024 5:44:35 PM

Snake

Streamflow Forecasts - March 1, 2024

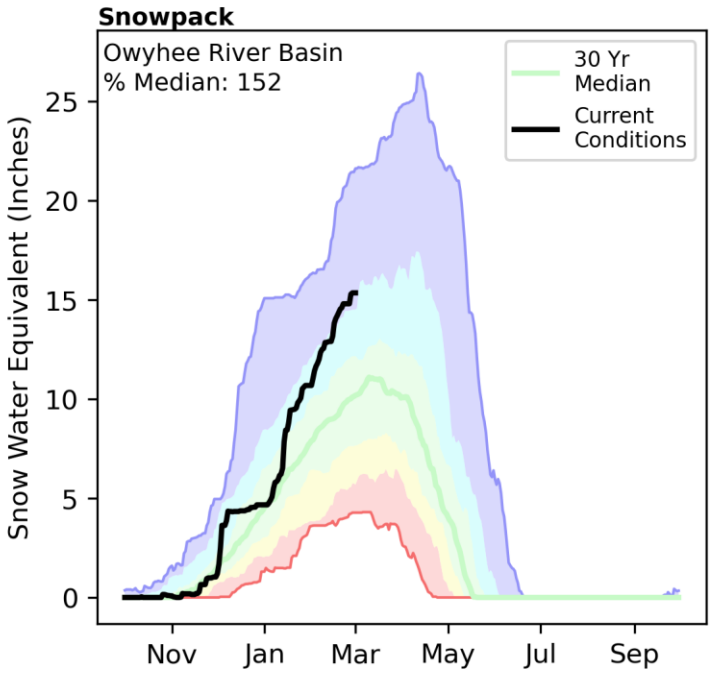
		Forecast Exceedance Probabilities For Risk Assessment Chance that actual volume will exceed forecast						
Snake	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Bruneau R at Rowland								
	APR-JUL	47	64	76	158%	88	105	48
	APR-SEP	48	66	78	159%	90	107	49
Jarbidge River Below Jarbidge								
	APR-JUL	20	24	27	138%	30	35	19.6
	APR-SEP	21	25	28	140%	31	36	20
Salmon Falls Ck nr San Jacinto								
	MAR-JUL	67	88	104	163%	121	148	64
	MAR-SEP	70	91	107	162%	125	152	66

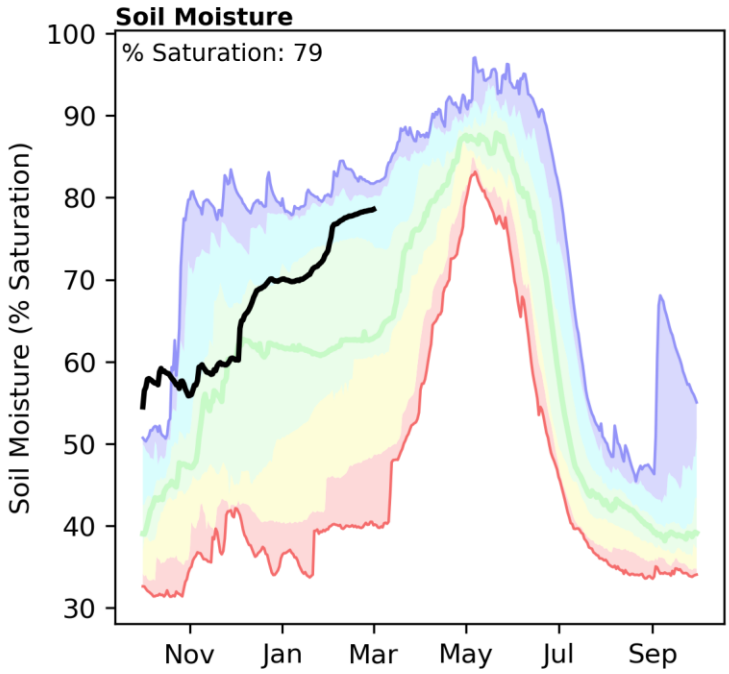
1) 90% And 10% exceedance probabilities are actually 95% And 5%
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

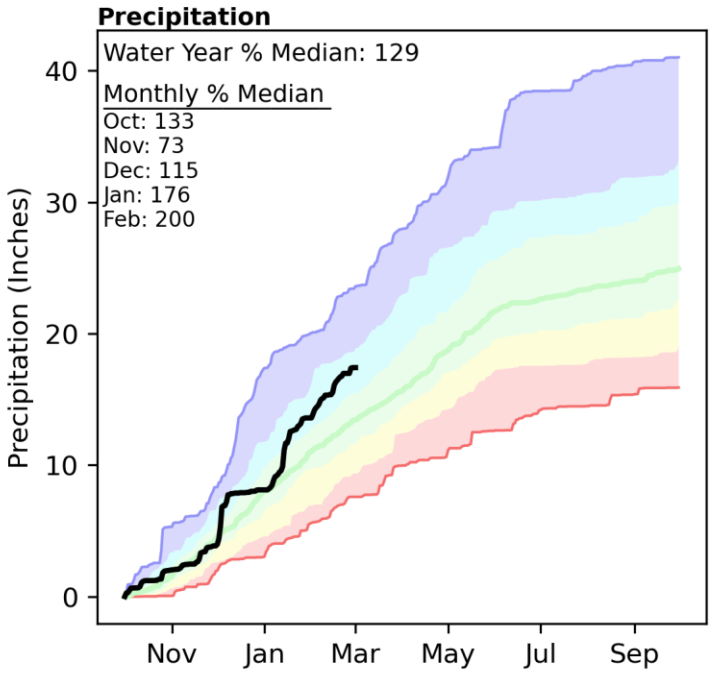
Watershed Snowpack Analysis March 1, 2024	# of Sites	% Median	Last Year % Median
Snake	14	135%	124%
Bruneau Headwaters	6	142%	116%
Jarbidge	3	121%	122%
Salmon Falls	7	129%	129%

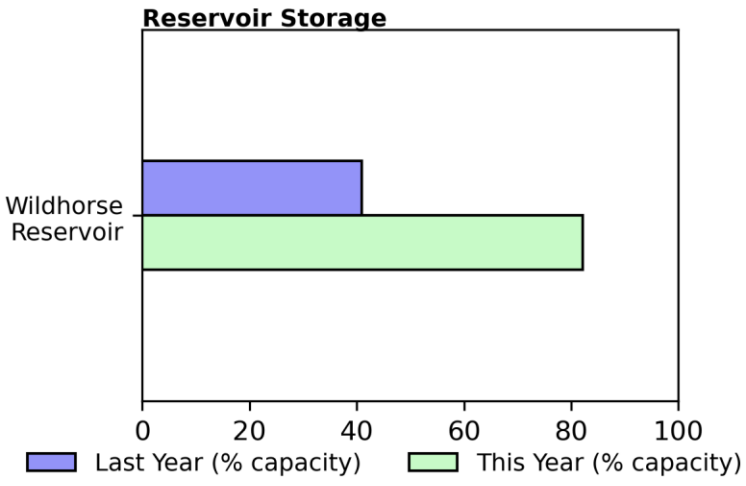
Owyhee River Basin | March 1, 2024

Snowpack in the Owyhee River Basin is well above normal at 152% of median, compared to 125% at this time last year. Precipitation in February was well above normal at 200%, which brings the seasonal accumulation (October-February) to 129% of median. Soil moisture is at 79% saturation compared to 63% saturation last year. Reservoir storage is 82% of capacity, compared to 41% last year.









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

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Owyhee

Streamflow Forecasts - March 1, 2024

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

Owyhee	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Owyhee R nr Gold Ck[2]								
	MAR-JUL	29	40	49	223%	58	73	22
	APR-JUL	17.9	29	38	221%	48	65	17.2

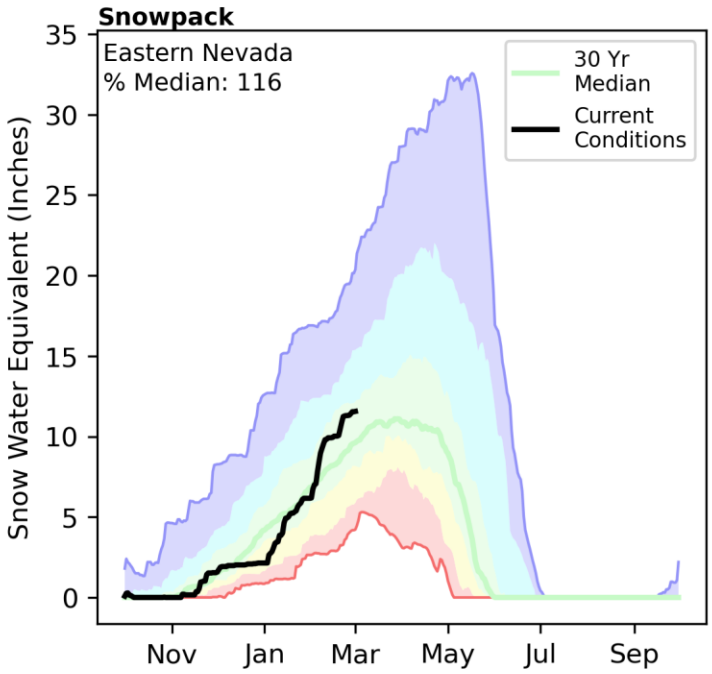
1) 90% And 10% exceedance probabilities are actually 95% And 5%
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

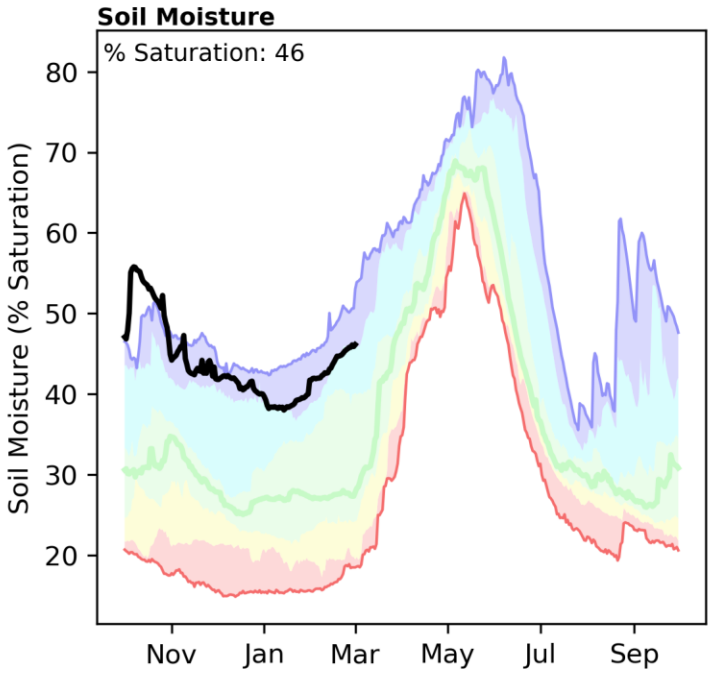
Reservoir Storage End of February, 2024	Current (KAF)	Last Year (KAF)	Median (KAF)	Capacity (KAF)
Wild Horse Reservoir	58.7	29.3	31.6	71.5

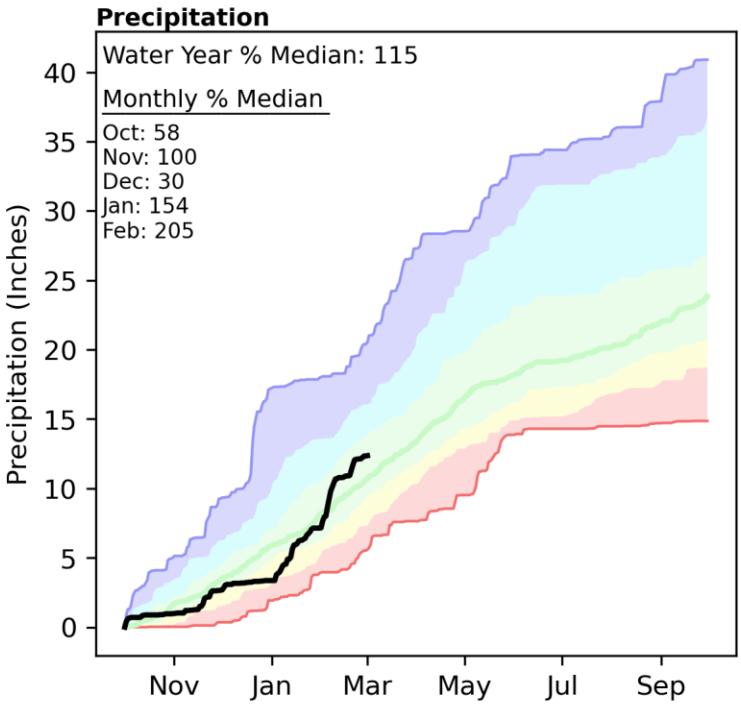
Watershed Snowpack Analysis March 1, 2024	# of Sites	% Median	Last Year % Median
Owyhee	12	152%	125%
Owyhee ab Owhyee	8	153%	111%
Owhyee ab Gold Creek	4	143%	107%
South Fork Owyhee	6	152%	132%

Eastern Nevada | March 1, 2024

Snowpack in Eastern Nevada is above normal at 116% of median, compared to 209% at this time last year. Precipitation in February was well above normal at 205%, which brings the seasonal accumulation (October-February) to 115% of median. Soil moisture is at 46% saturation compared to 41% saturation last year.







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

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Eastern Nevada
Streamflow Forecasts - March 1, 2024

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

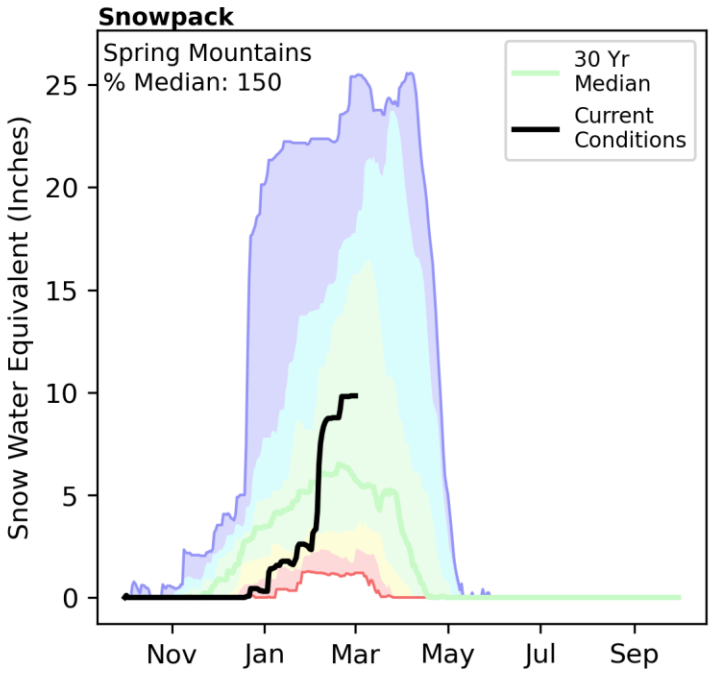
Eastern Nevada	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Kingston Ck nr Austin	APR-JUL	2.2	3.6	4.8	270%	6.2	8.4	1.78
Steptoe Ck nr Ely	APR-JUL	0.75	1.33	1.82	134%	2.4	3.3	1.36
Cleve Ck nr Ely	APR-JUL	1.52	2.6	3.4	126%	4.4	6	2.7
Lehman Ck nr Baker	APR-JUL	0.34	1.33	2	101%	2.7	3.7	1.99

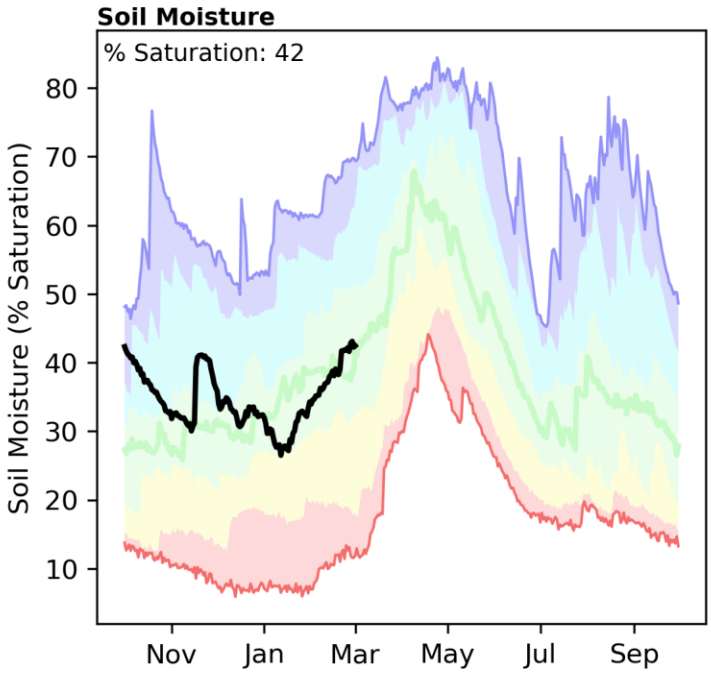
1) 90% And 10% exceedance probabilities are actually 95% And 5%
2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

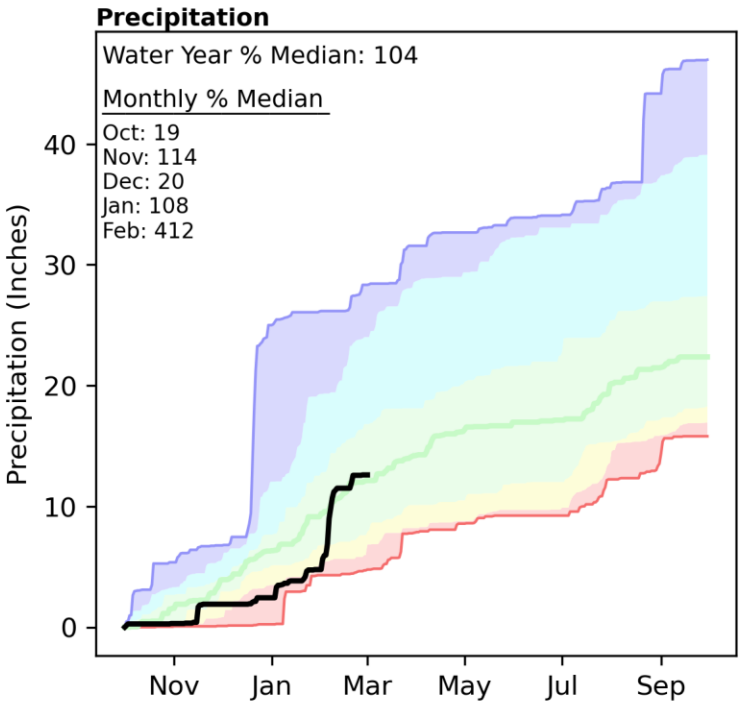
Watershed Snowpack Analysis March 1, 2024	# of Sites	% Median	Last Year % Median
Eastern Nevada	14	116%	209%
Kingston	1	128%	212%
Steptoe Valley	5	97%	214%

Spring Mountains | March 1, 2024

Snowpack in the Spring Mountains is well above normal at 150% of median, compared to 239% at this time last year. Precipitation in February was well above normal at 412%, which brings the seasonal accumulation (October-February) to 104% of median. Soil moisture is at 42% saturation, same as last year at this time.





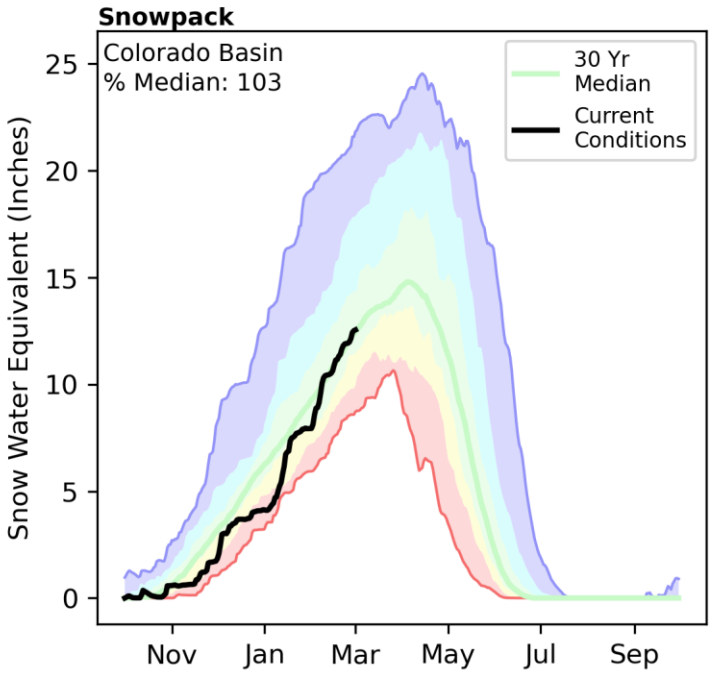


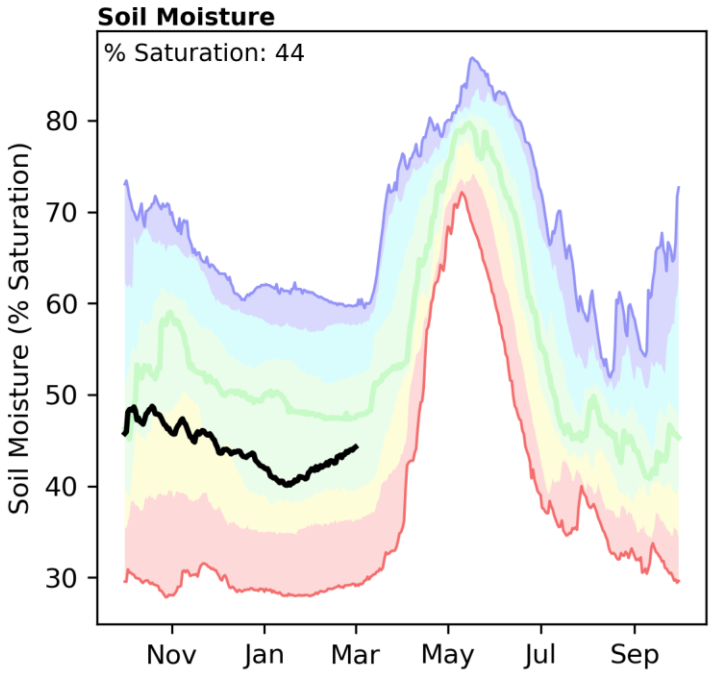
Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th percentiles.
For more information visit: 30 year normal calculation description

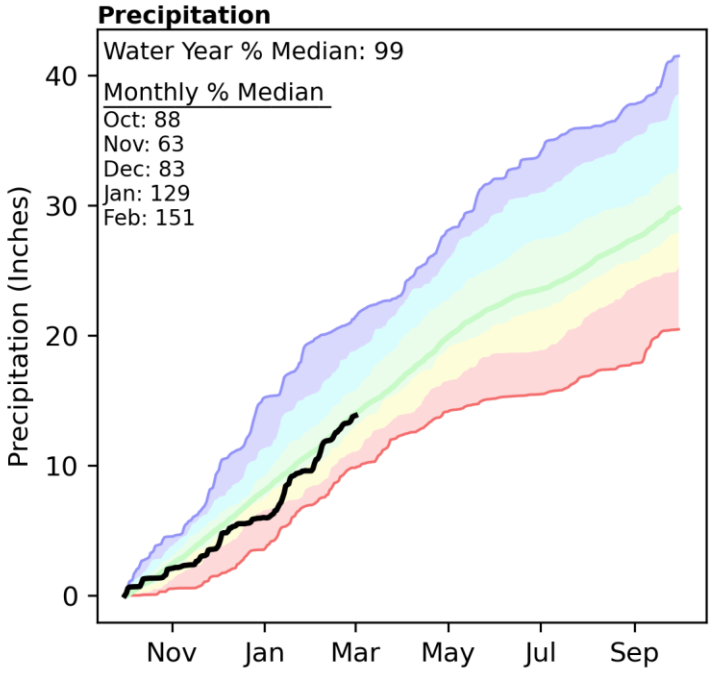
SNOTEL sites in the Spring Mountains were installed in 2008. Reported percentages are based on SNOTEL medians calculated using data from water years 2009-2020, not the full 30-year period. Snowpack percentages in the March and April reports include snow course measurements from long term data collection transects.

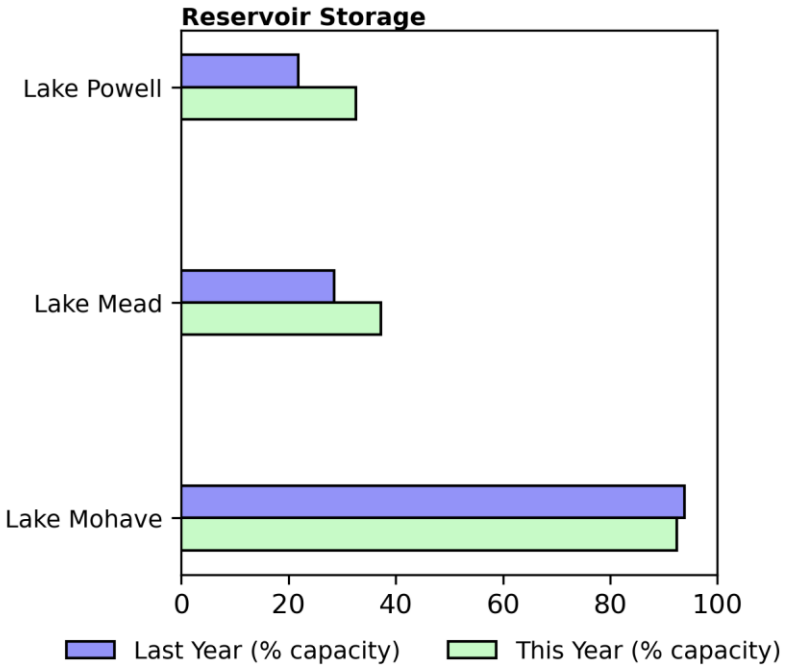
Colorado Basin | March 1, 2024

Snowpack in the Colorado Basin above Lake Powell is about normal at 103% of median, compared to 132% at this time last year. Precipitation in February was well above normal at 151%, which brings the seasonal accumulation (October-February) to 99% of median. Soil moisture is at 44% saturation compared to 52% saturation last year. Reservoir storage in the Lower Colorado Basin is 36% of capacity, compared to 27% last year.









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

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Colorado
Streamflow Forecasts - March 1, 2024

		Forecast Exceedance Probabilities For Risk Assessment Chance that actual volume will exceed forecast						
Colorado	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
Lake Powell Inflow [2]	APR-JUL	3200	4520	5550	91%	6680	8550	6130
Virgin R at Littlefield[2]	APR-JUL	11	18.1	30	91%	46	73	33
Virgin R nr Hurricane[2]	APR-JUL	8.4	17.1	28	90%	40	60	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

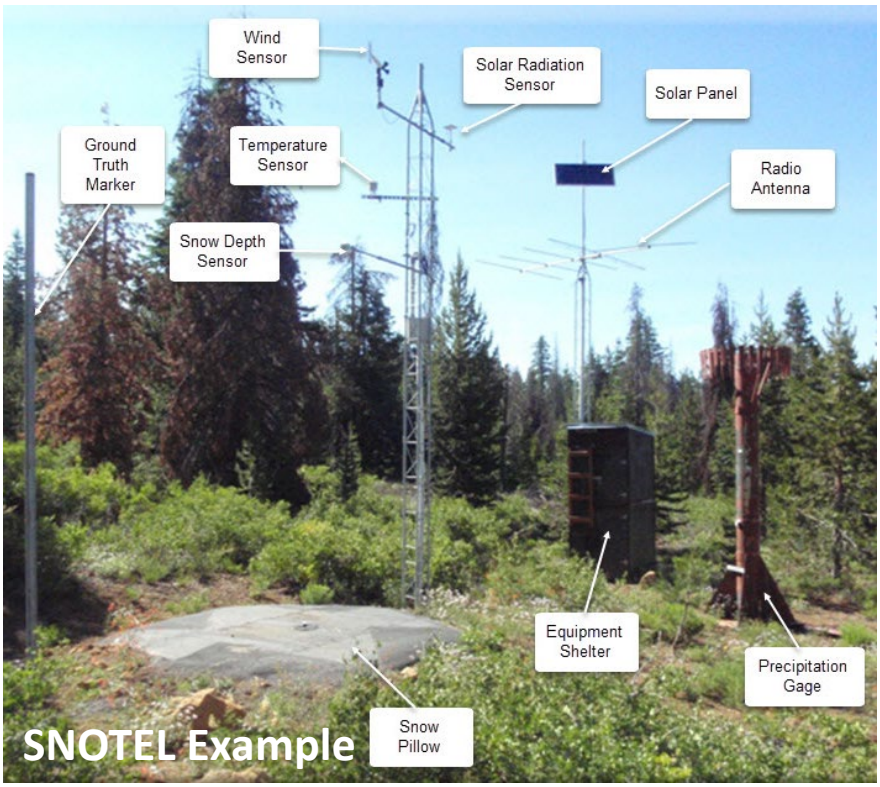
Reservoir Storage End of February, 2024	Current (KAF)	Last Year (KAF)	Median (KAF)	Capacity (KAF)
Lake Powell	7935.1	5319.8	13114.0	24322.0
Lake Mead	9725.0	7469.0	15462.0	26159.0
Lake Mohave	1673.0	1699.0	1670.0	1810.0

Watershed Snowpack Analysis March 1, 2024	# of Sites	% Median	Last Year % Median
Virgin	9	102%	213%
Upper Colorado	131	101%	134%

Appendix - SNOTEL and Snow Course Overview

SNOTEL

The NRCS operates an extensive, automated data collection network called SNOTEL (short for Snow Telemetry). SNOTEL sites are designed to operate unattended in remote mountain locations. Data are collected and transmitted hourly and available on the internet. Daily data (midnight values) are quality checked by NRCS hydrologists on at least a weekly basis. SNOTEL sites provide snowpack water content data via a pressure-sensing snow pillow. Other data include snow depth, water year precipitation accumulation, air temperature with daily maximums, minimums, and averages, soil moisture and soil temperature at depths of 2, 8 and 20 inches. The earliest NRCS SNOTEL sites have data back to 1981 or a bit earlier.



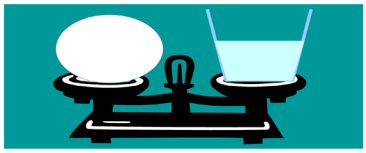
Snow Course

Snow courses are measurement transects where snow tubes are used by snow surveyors during the winter season to determine the depth and water content of the snowpack. Hollow snow tubes are used to vertically core the snowpack. The tubes are then weighed to determine the water content of the snow. Generally, snow courses are situated in meadows or forest openings protected from the wind. A snow course measurement is the average of a number of sample points, typically 5 to 10. Snow courses are measured on a monthly basis typically between February 1 and April 1. Snow courses provide a longer record than SNOTEL. The earliest snow courses in the Lake Tahoe and Truckee basins have data back to 1910.

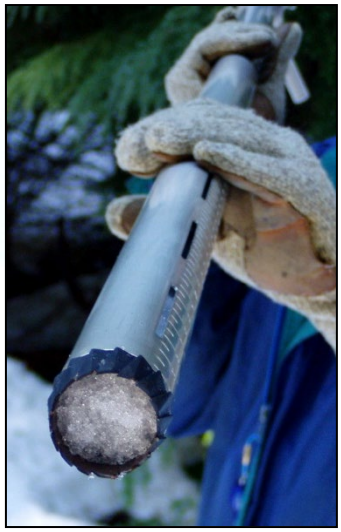
Snow Water Equivalent (SWE):

Sometimes also called snow water content, this is the amount of water contained within the snowpack. It can be thought of as the depth of water (in inches) that would result if you melted the snowpack. For example, if the snowpack was contained 12 inches of SWE, then when melted there would a puddle of water 12 inches deep on the ground.

SWE measurements made by snow pillows or snow tubes rely on the fact that water weighs the same whether it is liquid or frozen.



Weight of frozen water = Weight of liquid water



Snow core inside snow tubes

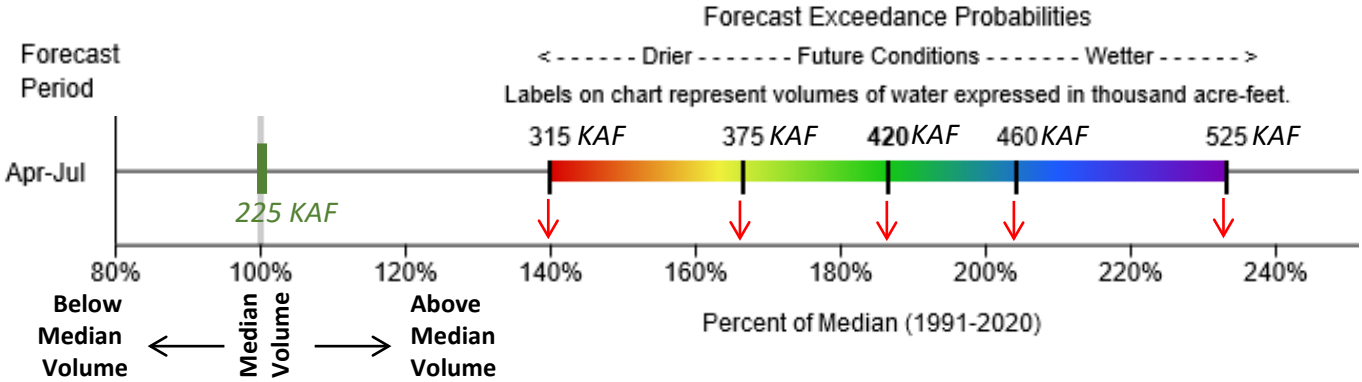
Appendix: Interpreting the Streamflow Forecast Chart

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

Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Median (KAF)
APR-JUL	315	375	420	187%	460	525	225

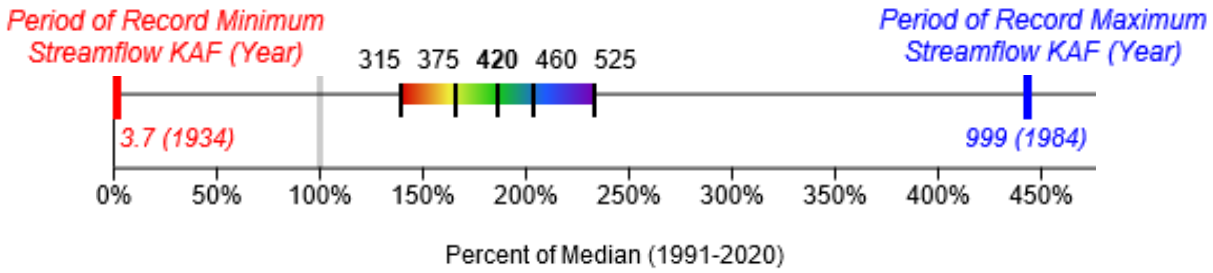
The Forecast Chart (below) provides an alternative to the tables (above) used in the basin summaries. The chart displays the forecast exceedance range as a colored bar. The vertical lines on the bar signify the five forecast exceedances.

The numbers above the forecast bar are the five exceedance probability volumes in thousand acre-feet (KAF). Each exceedance forecast's percent of median can be estimated by looking at the horizontal axis. The green line and number centered above 100% on the horizontal axis represents the 1981-2010 historical median streamflow for the forecast period in KAF.



In the example above, the entire forecast bar is shifted right of the green bar indicating a forecast for above the median Apr-Jul streamflow of 225KAF. The 50% exceedance is represented by the black line in the green portion of the colored bar. This represents a forecast volume of 420KAF which is ~185% of median. If drier than normal future conditions occur the 70% exceedance forecast may be more likely (375KAF or ~165% of median). If future conditions turn wetter than normal, the 30% exceedance forecast may be more likely (460KAF or ~205% of median). Water users are encouraged to consider the range of forecast exceedances instead of relying solely only on the 50% forecast.

In very wet or dry years forecasts may approach historical records. In these cases the period of record minimum or maximum may be displayed. The minimum is represented by a heavy red line, while the maximum is represented by a heavy blue line. The numbers below the red and blue lines represent the volume in KAF and the year it occurred in parentheses.



Click here for an online version which allows users to see averages instead of medians, as well as historic forecasts.

USDA Natural Resources Conservation Service
C. Clifton Young Federal Building
300 Booth Street, Room 2070
Reno, NV 89509

Issued by:
Terry Cosby, Chief
Washington, DC

Released by:
Heidi Ramsey, State Conservationist
Reno, Nevada

Prepared by:
Jeff Anderson, Water Supply Specialist
Reno, Nevada

Assistance provided by:
Utah NRCS Snow Survey

Forecasts provided by the
NRCS National Water and Climate Center:
Gus Goodbody, Team Lead Forecast Hydrologist
Julie Koeberle, Forecast Hydrologist
Patrick Kormos, Forecast Hydrologist
Karl Wetlaufer, Forecast Hydrologist

A number of NRCS field offices and outside agencies provide assistance with snow course measurements. This cooperation is greatly appreciated.

List of Streamflow Adjustments:

Lake Tahoe Net Inflow (2) (externally adjusted by US Water Master*) = Lake Tahoe storage change + Lake Tahoe Release. Net inflow used due to complexities with estimating Lake Tahoe evaporation and precipitation.

Marlette Lake Inflow (2) = Marlette Lake Inflow, observed + Marlette Lake storage change

Donner Lake inflow (2) (externally adjusted by US Water Master*) **=** Donner Lake storage change + Donner Lake Release + Lake Evaporation – Lake Precipitation

Martis Creek Reservoir inflow (2) (externally adjusted by US Water Master*) = Martis Creek Reservoir storage change + Martis Creek Reservoir Release + Lake Evaporation – Lake Precipitation

Prosser Creek Reservoir Inflow (2) (externally adjusted by US Water Master*) = Prosser Creek Reservoir storage change + Prosser Creek Reservoir Release + Lake Evaporation – Lake Precipitation

Independence Lake Inflow (2) (externally adjusted by US Water Master*) = Independence Lake storage change + Independence Lake Release + Lake Evaporation – Lake Precipitation

Stampede Reservoir Local Inflow (2) (externally adjusted by US Water Master*) = Stampede Reservoir storage change + Stampede Reservoir Release + Lake Evaporation – Lake Precipitation – Independence Lake Release + Sierra Valley Diversion

Boca Reservoir Local Inflow (2) (externally adjusted by US Water Master*) = Boca Reservoir storage change + Boca Reservoir Release + Lake Evaporation – Lake Precipitation – Stampede Reservoir Release

Little Truckee River above Boca Reservoir (2) (externally adjusted by US Water Master*) **=** Independence Lake Inflow (2) + Stampede Reservoir Local Inflow (2) + Boca Reservoir Local Inflow (2)

Truckee R above Farad Sidewater (2) (externally adjusted by US Water Master*) **=** Truckee River at Farad, observed – Boca Creek Reservoir Release – Prosser Creek Reservoir Release – Donner Lake Release – Martis Creek Reservoir Release – Lake Tahoe Release

Truckee River at Farad (2) (externally adjusted by US Water Master*) = Donner Lake inflow (2) + Martis Creek Reservoir inflow (2) + Prosser Creek Reservoir Inflow (2) + Independence Lake Inflow (2) + Stampede Reservoir Local Inflow (2) + Boca Reservoir Local Inflow (2) + Truckee R above Farad Sidewater (2)

East Walker River near Bridgeport (2) = East Walker River near Bridgeport, observed + Bridgeport Reservoir storage change

L Humboldt R nr Paradise Valley (2) = L Humboldt R nr Paradise Valley + Chimney Creek Reservoir storage change

Owyhee River near Gold Creek (2) = Owyhee River near Gold Creek + Wildhorse Reservoir storage change

Lake Powell Inflow (2) (externally adjusted by Bureau of Reclamation for major upstream reservoirs, but not trans-basin diversions to Missouri or Rio Grande)

*Externally adjusted US Water Master data comes from Hydrologic Flow Report which accounts for precipitation and evaporation from each reservoir: http://www.troa.net/reports/wm_hydrologicflow/