



Utah Water Supply Outlook Report

January 1, 2019



Winter scene

Photo by Kent Sutcliffe

STATE OF UTAH GENERAL OUTLOOK

January 1, 2019

SUMMARY

Currently our snowpack is about double what it was at this time last year. That might sound impressive until you realize that last year's January 1 snowpack was about 51% of normal... Conversely, this year the snow water equivalent (SWE) in Utah is just below normal right now, and after the roller coaster winters we've had lately, we'll gladly take an average water year. Most of northern Utah is between 90 and 100% of normal SWE. Central Utah is faring best so far, with all basins at or above 100% SWE for January 1. Southwestern and southeastern are lagging at 71% and 72% of normal SWE, respectively. These data suggest that Utah needs to receive a little over 10" additional SWE this winter to continue to have an "average" winter, so bring on the storms!

Temperatures in the mountains have been fairly cold recently. While all the SNOTEL sites in Utah are reporting very cold temperatures right now, a few on the north slope of the Uintas have been particularly brutal. Several SNOTEL sites in that area had temperatures less than -30 degrees Celsius on New Year's morning, with the coldest site (Buck Pasture) reporting -34.5 degrees C (for reference, that's -30 degrees Fahrenheit). Statewide, the average minimum temperature at all the SNOTEL sites was around -7 degrees C for January 1st.

Please note that while the NRCS continues to operate during the current shutdown of the Federal government, we anticipate possible interruptions in service and site maintenance if the shutdown continues into the future, including the possible delay or cancellation of this publication. In addition, due to current staffing constraints, most official forecasts only will be available February through May. If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov.

SNOWPACK

Snowpack is near normal at 92% compared to 51% last year. Thus far, southern Utah has not benefitted from the current El Niño pattern expected to continue over the next few months. Hopefully the south will see some improvements in their snowpack numbers as the water year progresses.

PRECIPITATION

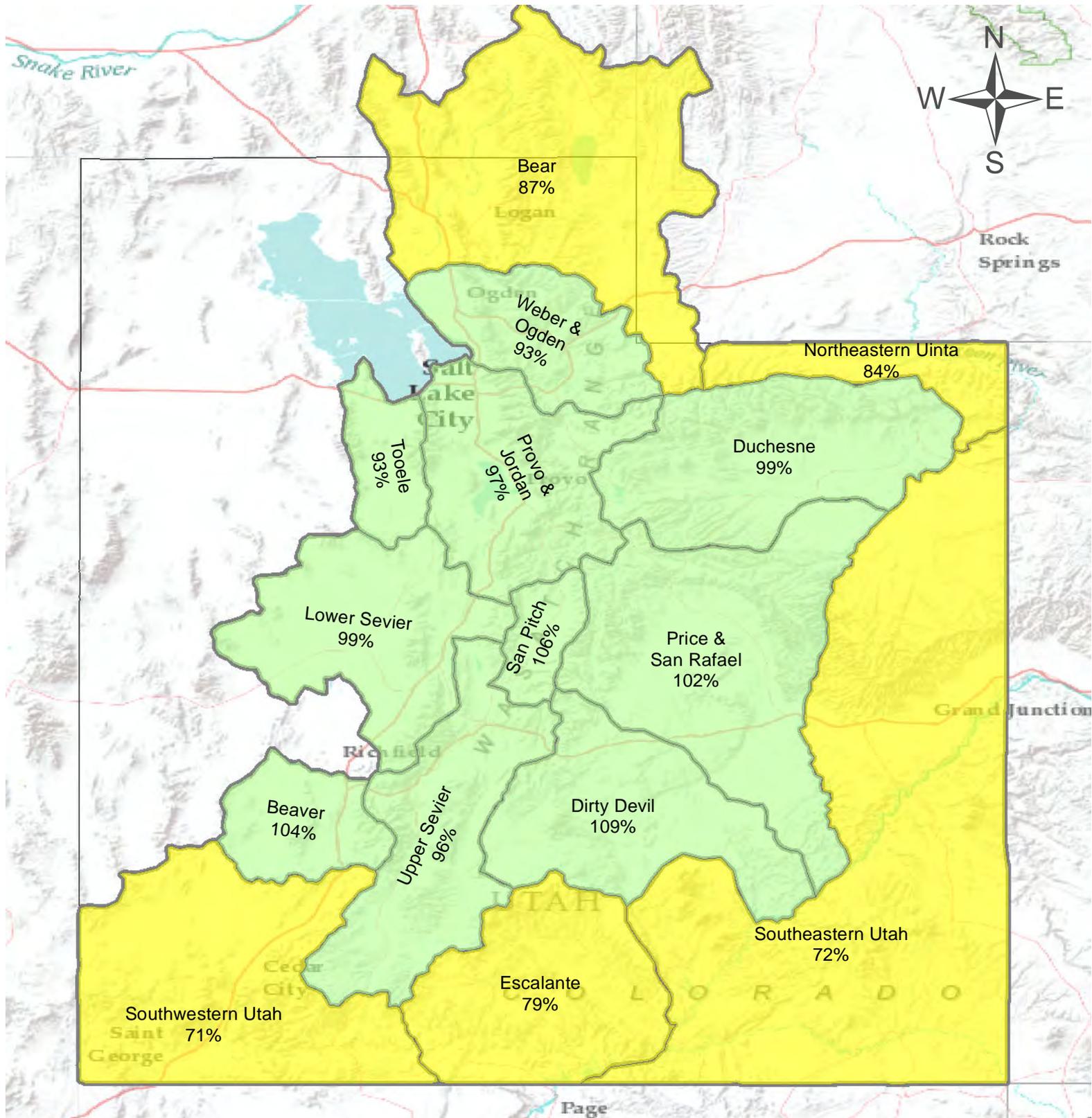
December precipitation across the state was near average to much below average ranging from 52% in the Duchesne River Basin to 94% of average in the Lower Sevier Basin. This brings the seasonal accumulation (Oct-Dec) to 108% compared to 64% last year. A weak El Niño is forecast for this winter and may augment Utah's precipitation totals- particularly for southern Utah.

RESERVOIRS

Reservoir storage is at 57% of capacity statewide compared to 72% of capacity last year. Due to the abysmal 2018 water year we saw heavy use of our reservoir storage throughout the summer. Many southern reservoirs are in dire need of an average to above average snowpack to recover to reasonable water levels (e.g., Gunnison 0%, Millsite 7%, Piute 6%, Sevier Bridge 15%, and Steinaker at 11% capacity). Up north reservoir levels have dropped due to summer water usage but could recover with a normal snowpack year.

STREAMFLOW

As noted above, due to current staffing constraints, most official forecasts only will be available February through May.

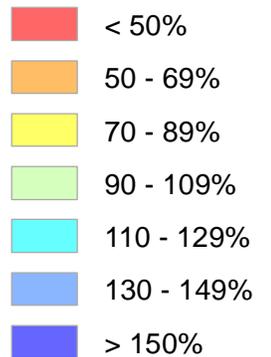


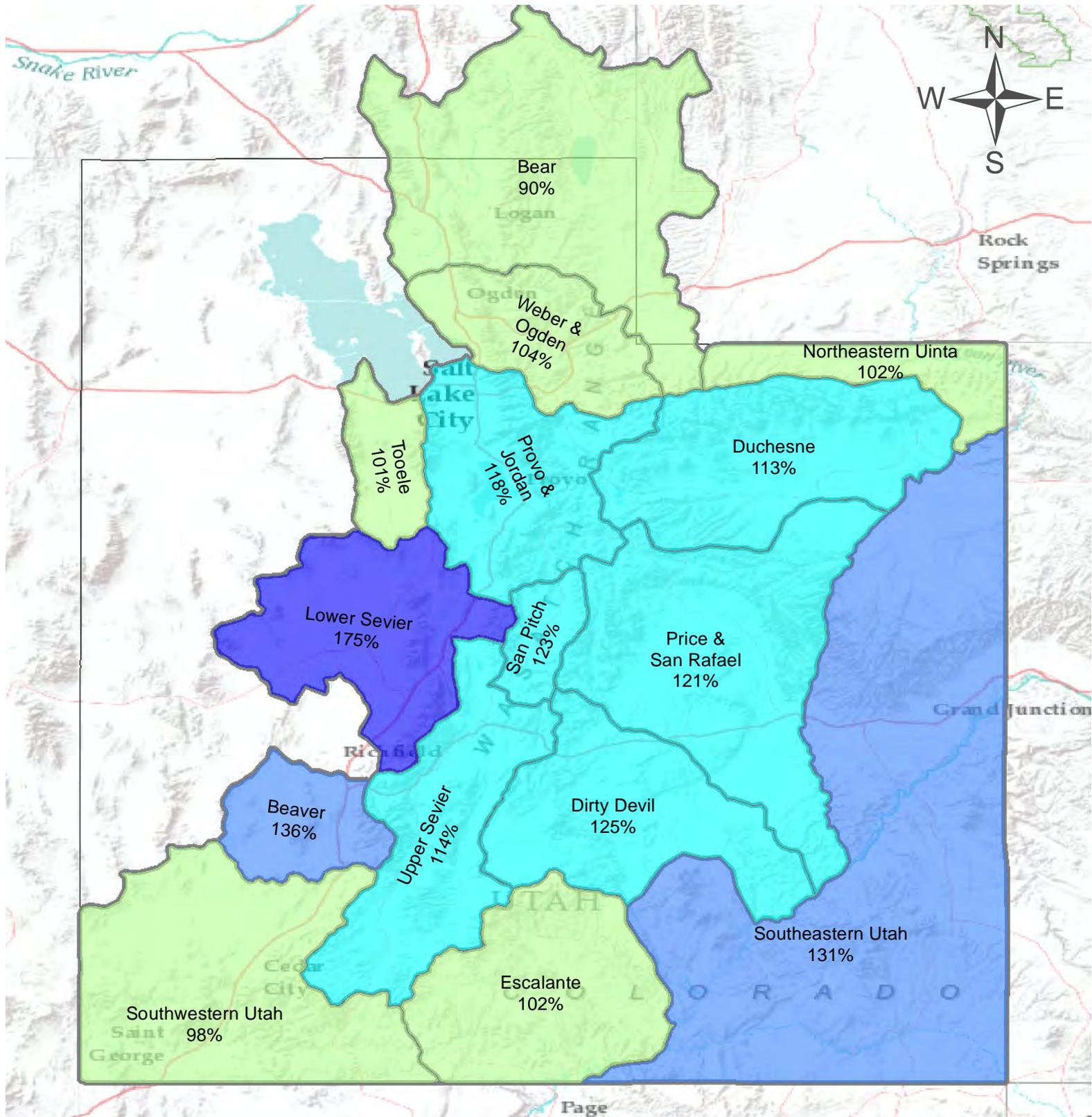
Statewide Snow Water Equivalent

As of January 1, 2019:

92% of Normal Snow Water Equivalent

% of Normal





Statewide Precipitation

As of January 1, 2019:

108% of Normal Precipitation

64% of Normal Precipitation Last Month

% of Normal

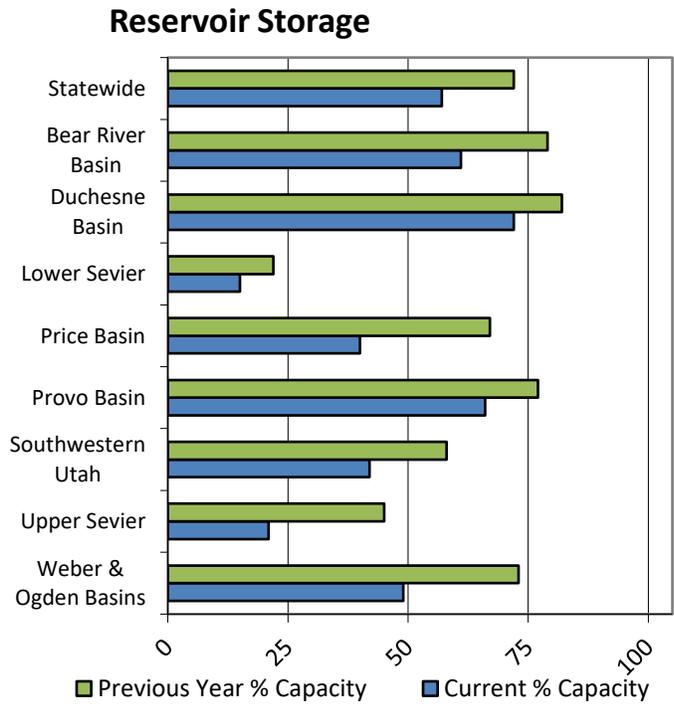
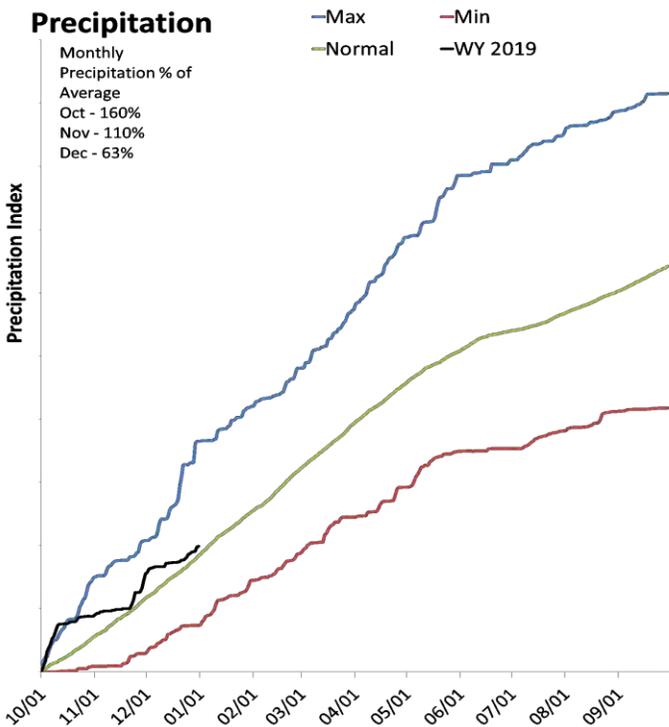
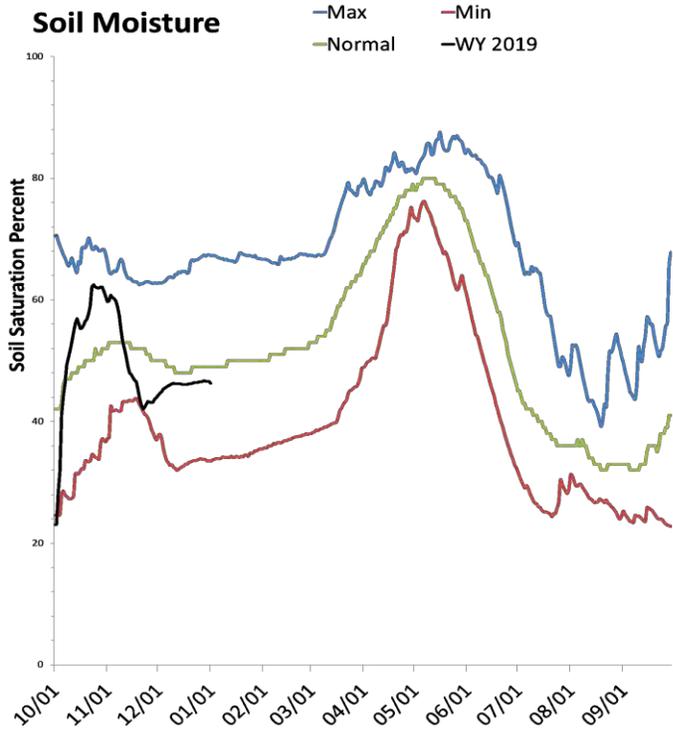
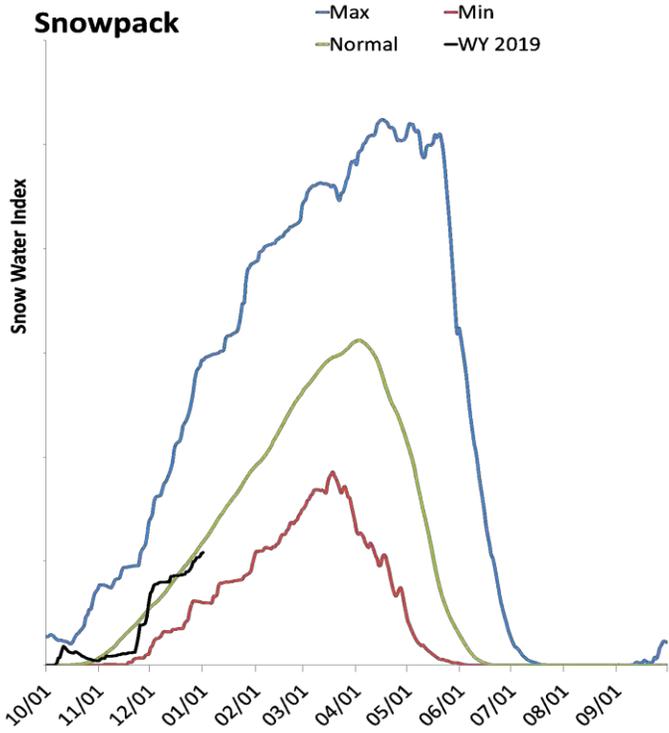
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

0 10 20 40 60 80 100 Miles

Statewide Utah

January 1, 2019

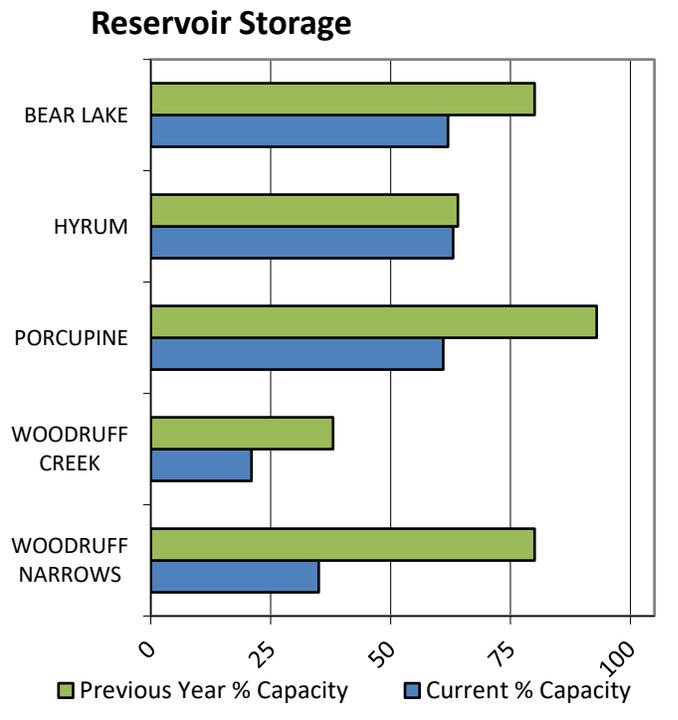
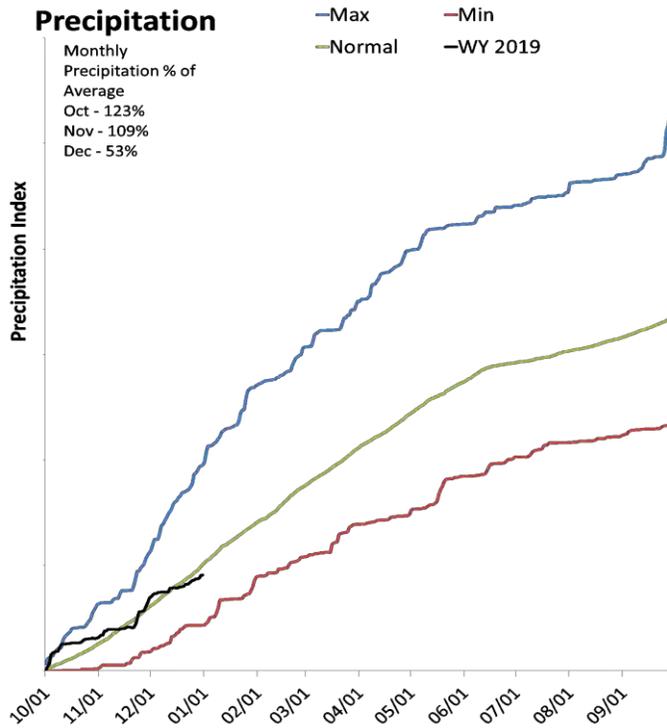
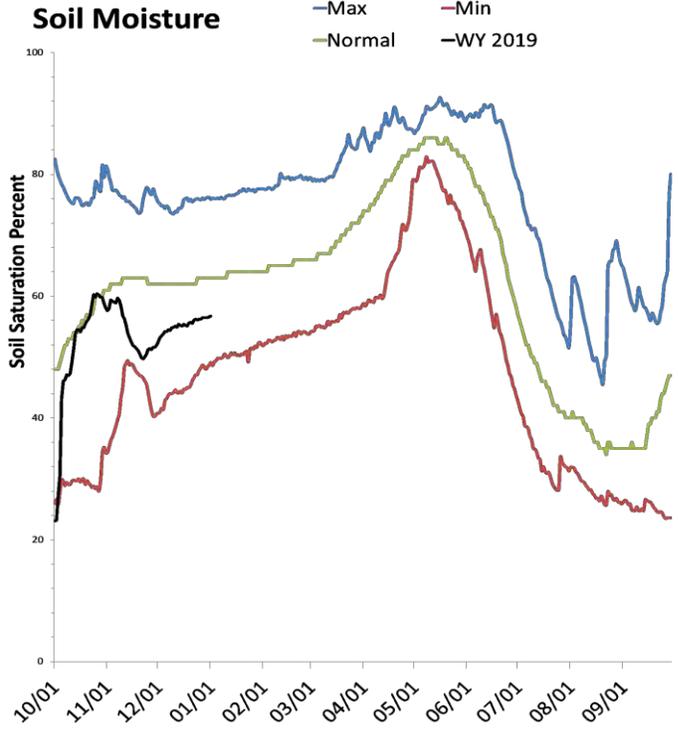
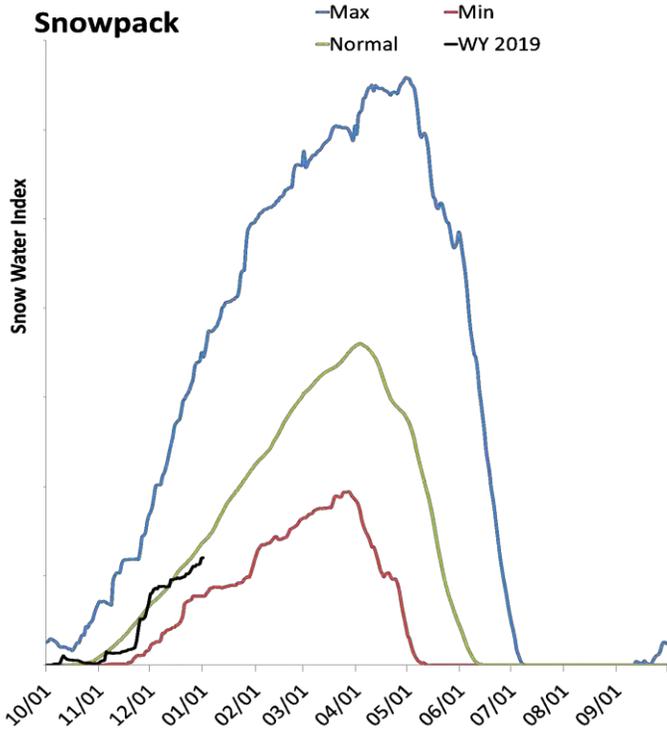
Snowpack in Utah is near normal at 92% of normal, compared to 51% last year. Precipitation in December was much below average at 64%, which brings the seasonal accumulation (Oct-Dec) to 108% of average. Soil moisture is at 46% compared to 40% last year. Reservoir storage is at 57% of capacity, compared to 72% last year. No streamflow forecasts are available for the January 1 report.



Bear River Basin

January 1, 2019

Snowpack in the Bear River Basin is below normal at 87% of normal, compared to 85% last year. Precipitation in December was much below average at 53%, which brings the seasonal accumulation (Oct-Dec) to 90% of average. Soil moisture is at 56% compared to 69% last year. Reservoir storage is at 61% of capacity, compared to 79% last year.



Bear River Streamflow Forecasts - January 1, 2019

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

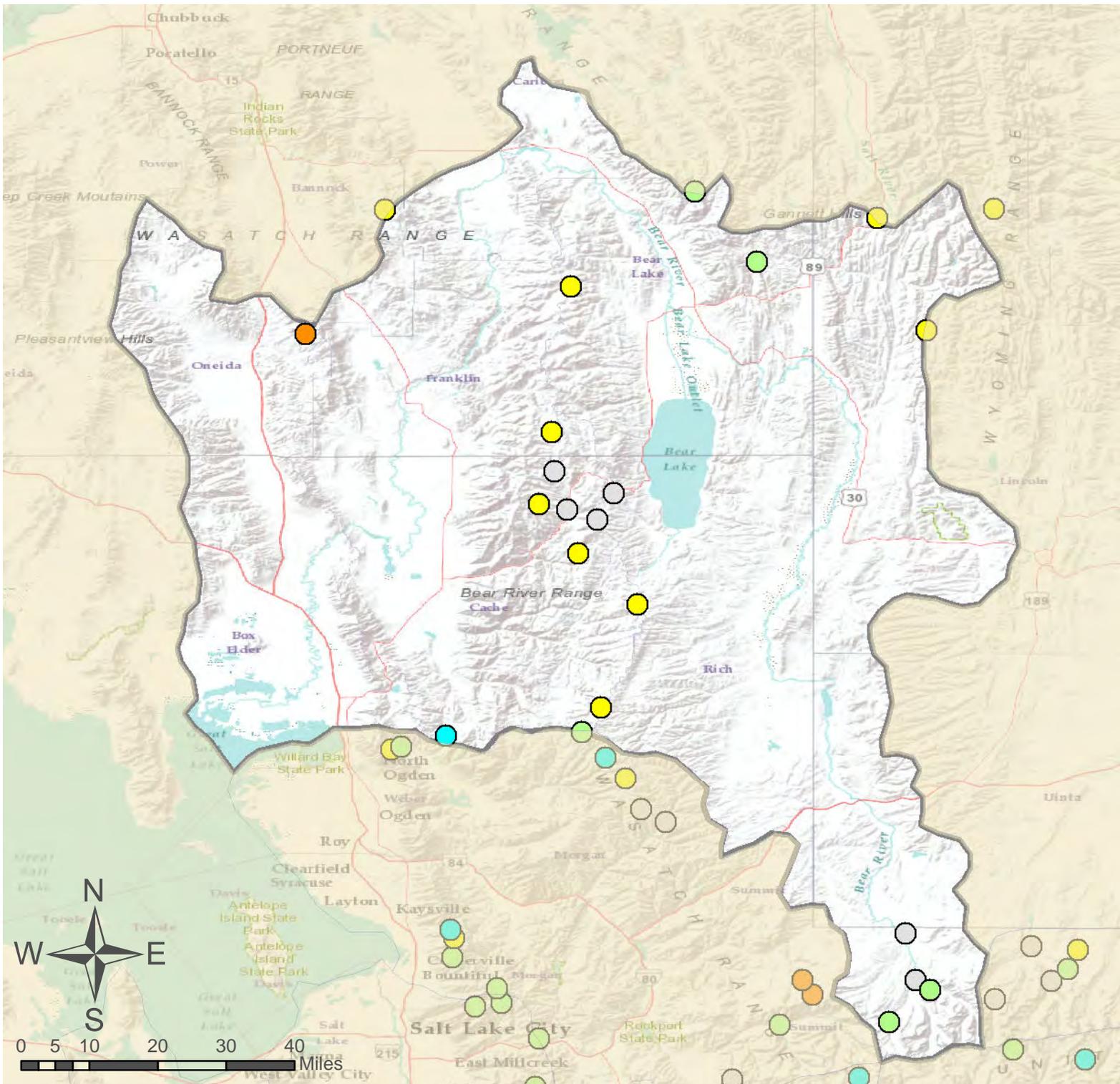
Bear River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Bear R nr UT-WY State Line								
Bear R ab Resv nr Woodruff								
Big Ck nr Randolph								
Smiths Fk nr Border								
Bear R bl Stewart Dam								
Little Bear at Paradise								
Logan R nr Logan								
Blacksmith Fk nr Hyrum								

NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT

- 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
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Bear Lake	809.8	1035.5	580.6	1302.0
Hyrum Reservoir	9.7	9.9	10.1	15.3
Porcupine Reservoir	6.9	10.5	6.5	11.3
Woodruff Creek	0.9	1.5	2.1	4.0
Woodruff Narrows Reservoir	19.9	46.0	27.3	57.3
Basin-wide Total	847.2	1103.4	626.6	1389.9
# of reservoirs	5	5	5	5

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Upper Bear	3	101%	96%
Middle Bear	7	84%	79%
Lower Bear	3	72%	65%
Logan River	7	88%	91%



Bear River Basin

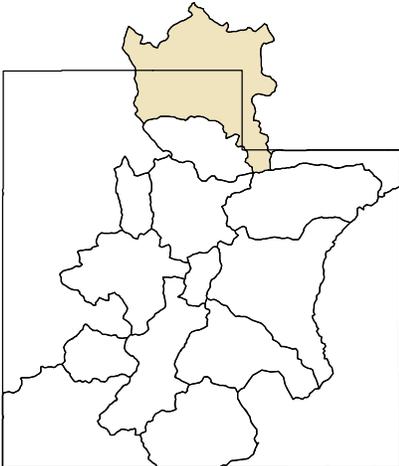
- SNOTEL Site
- △ Forecast Point

As of January 1, 2019:

- 87% of Normal SWE
- 90% of Normal Precipitation
- 53% of Normal Precipitation Last Month
- 56% Saturation Soil Moisture
- Bear River Basin

% of Normal

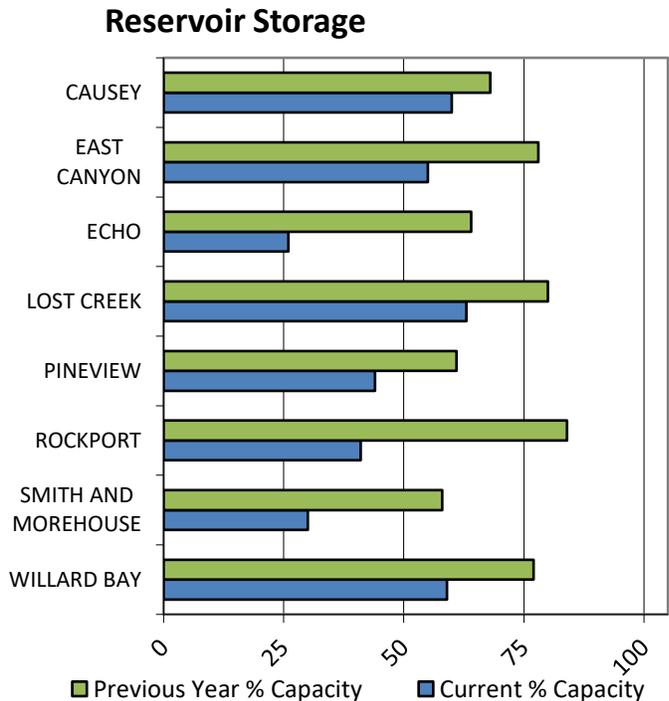
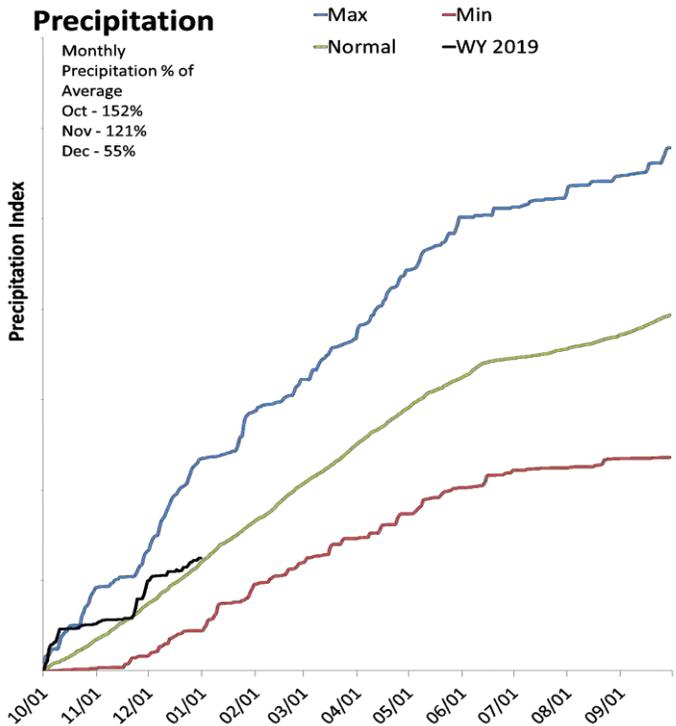
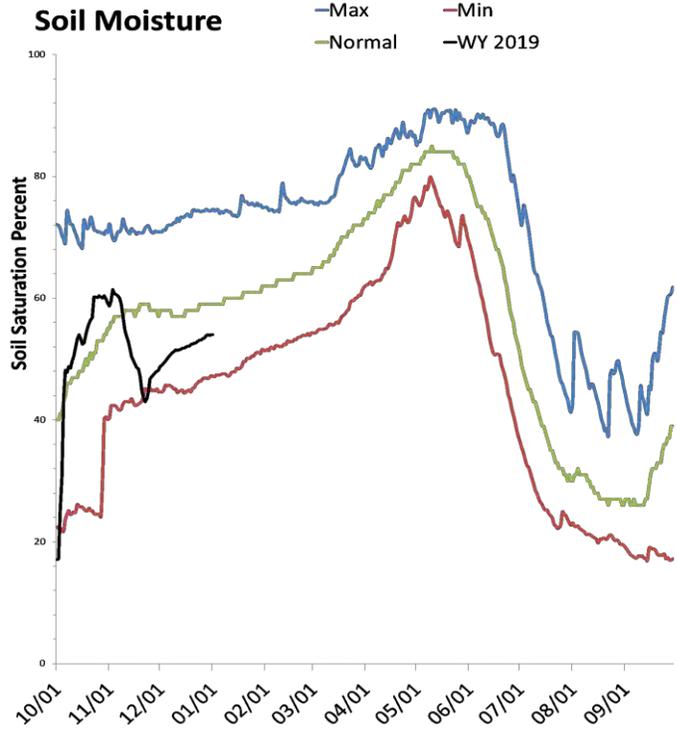
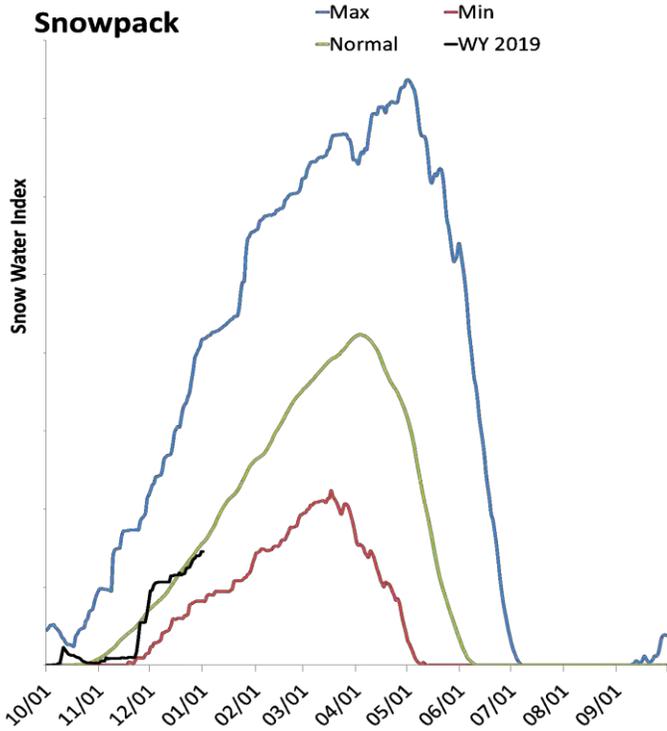
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



Weber & Ogden River Basins

January 1, 2019

Snowpack in the Weber & Ogden River Basins is near normal at 93% of normal, compared to 63% last year. Precipitation in December was much below average at 55%, which brings the seasonal accumulation (Oct-Dec) to 104% of average. Soil moisture is at 54% compared to 61% last year. Reservoir storage is at 49% of capacity, compared to 73% last year.



Weber Ogden Rivers Streamflow Forecasts - January 1, 2019

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

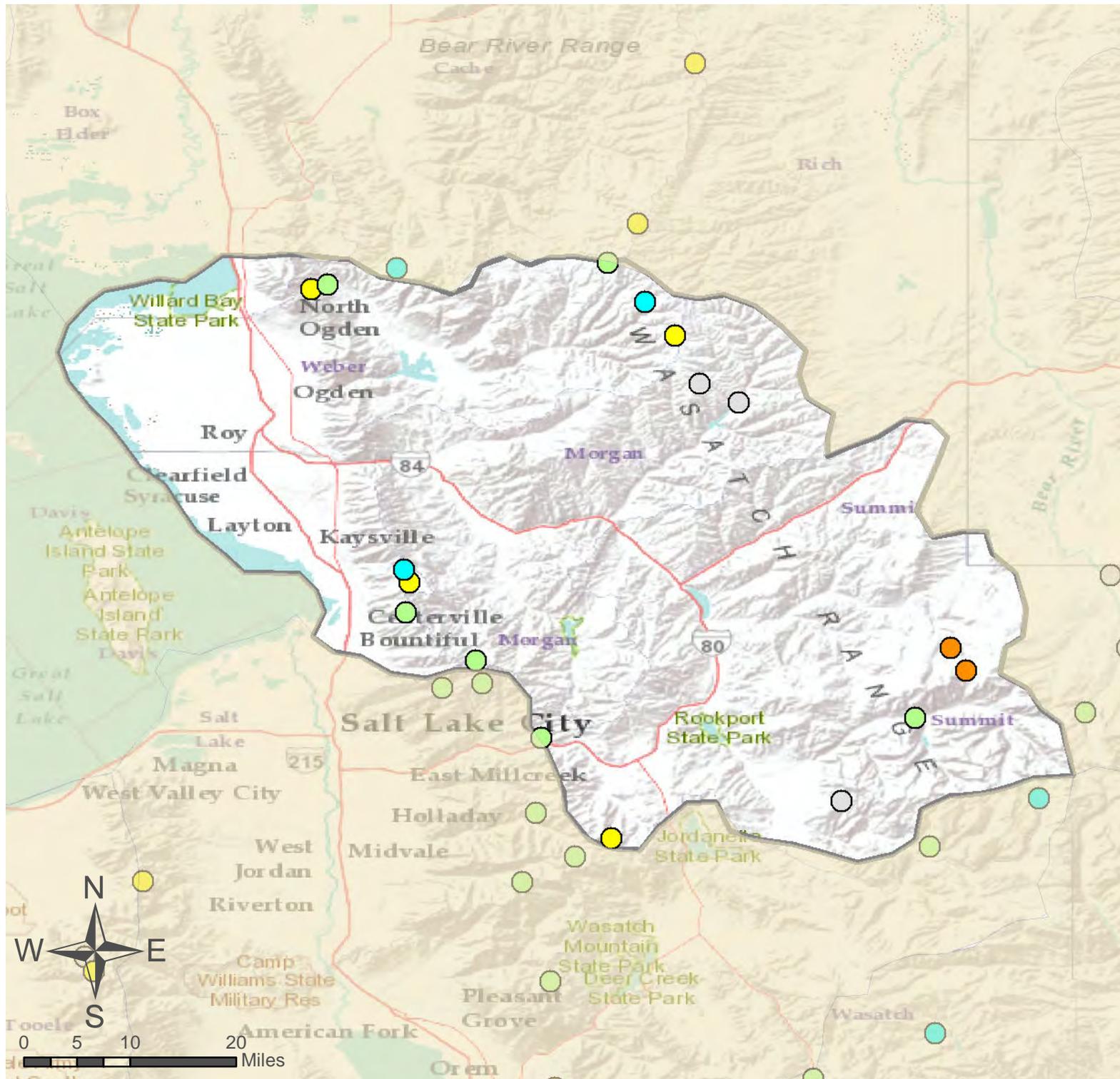
Weber Ogden Rivers	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Smith & Morehouse Resv Inflow								
Weber R nr Oakley								
Rockport Reservoir Inflow								
Chalk Ck at Coalville								
Weber R nr Coalville								
Echo Reservoir Inflow								
Lost Ck Reservoir Inflow								
East Canyon Ck nr Jeremy Ranch								
East Canyon Ck nr Morgan								
Weber R at Gateway								
SF Ogden R nr Huntsville								
Pineview Reservoir Inflow								
Wheeler Ck nr Huntsville								
Centerville Ck								

NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT

- 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
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Causey Reservoir	4.3	4.8	3.1	7.1
East Canyon Reservoir	27.1	38.5	34.1	49.5
Echo Reservoir	19.1	47.3	44.3	73.9
Lost Creek Reservoir	14.2	18.1	12.4	22.5
Pineview Reservoir	48.3	67.7	52.4	110.1
Rockport Reservoir	25.2	51.0	34.8	60.9
Willard Bay	126.9	165.1	129.6	215.0
Smith And Morehouse Reservoir	2.4	4.7	3.8	8.1
Basin-wide Total	267.5	397.3	314.5	547.1
# of reservoirs	8	8	8	8

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Upper Weber	9	90%	73%
Lower Weber	7	98%	57%
Ogden River	5	94%	62%
Lost Creek	3	98%	85%

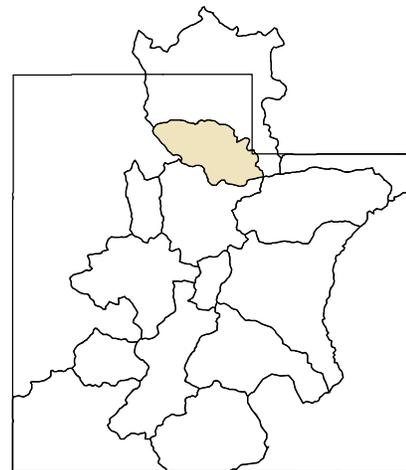


Weber & Ogden River Basins

- SNOTEL Site
- △ Forecast Point

% of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



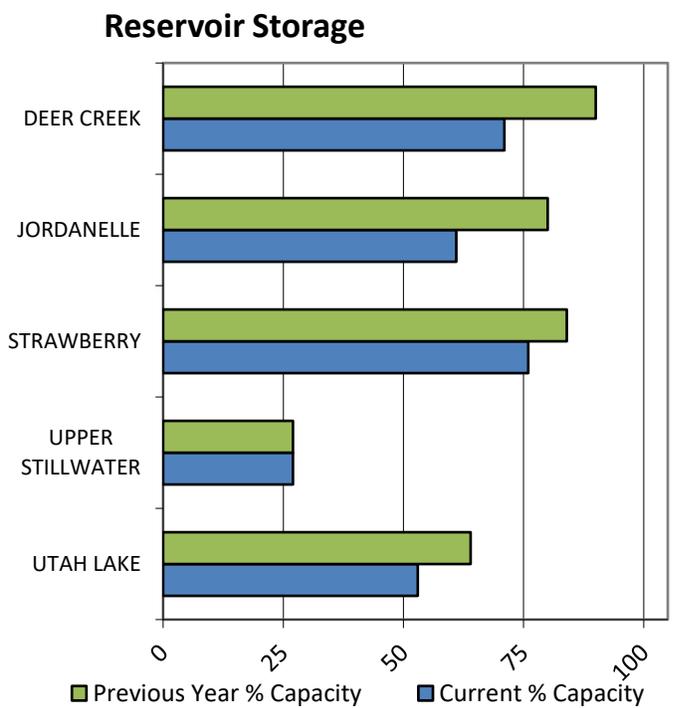
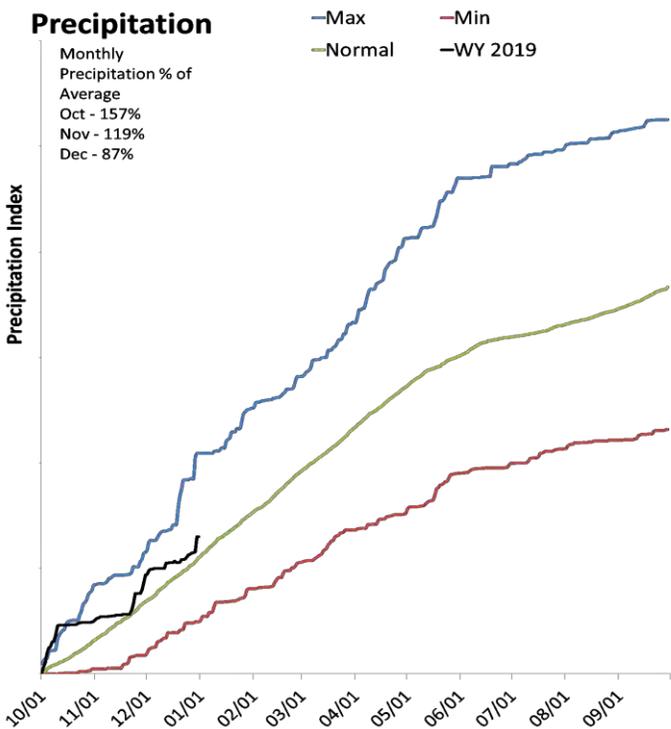
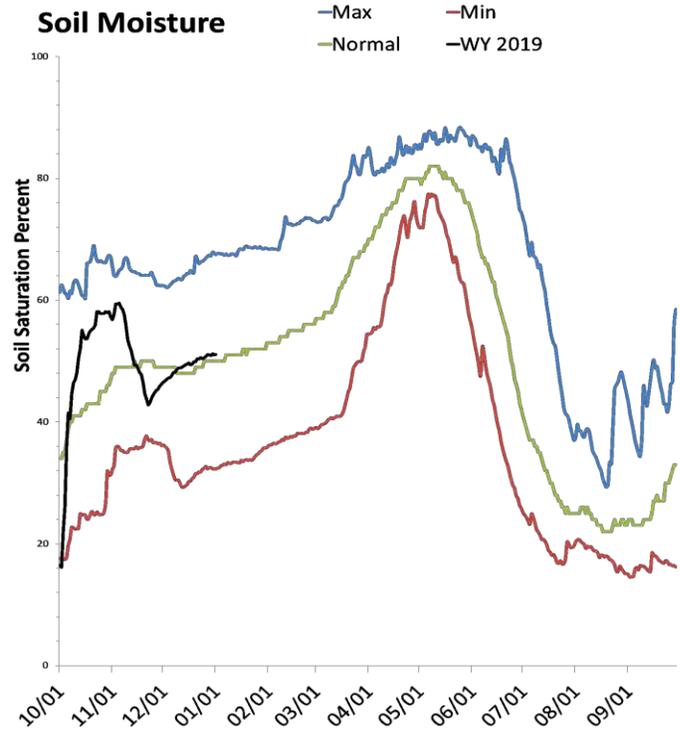
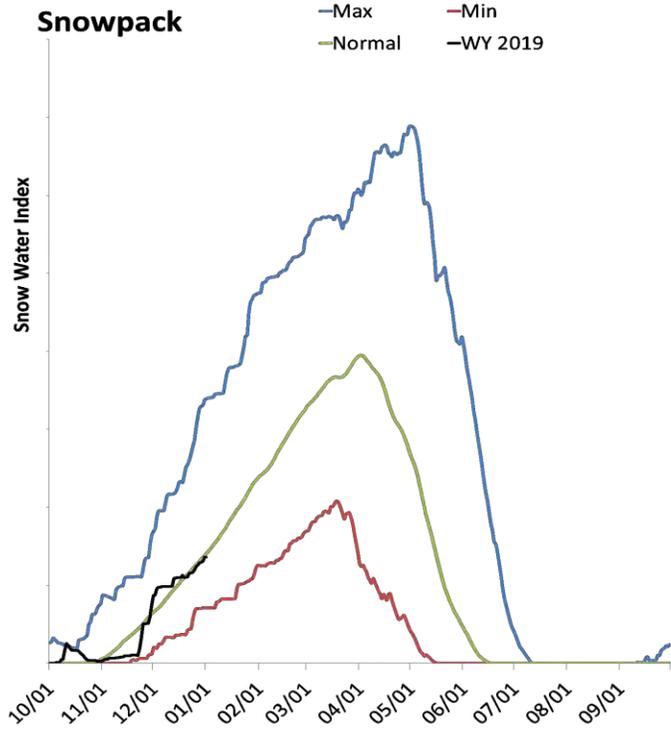
As of January 1, 2019:

- 93% of Normal SWE
 - 104% of Normal Precipitation
 - 55% of Normal Precipitation Last Month
 - 54% Saturation Soil Moisture
- Weber & Ogden River Basins

Provo & Jordan River Basins

January 1, 2019

Snowpack in the Provo & Jordan River Basins is near normal at 97% of normal, compared to 51% last year. Precipitation in December was below average at 87%, which brings the seasonal accumulation (Oct-Dec) to 118% of average. Soil moisture is at 51% compared to 42% last year. Reservoir storage is at 66% of capacity, compared to 77% last year.



Provo Jordan Rivers Streamflow Forecasts - January 1, 2019

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

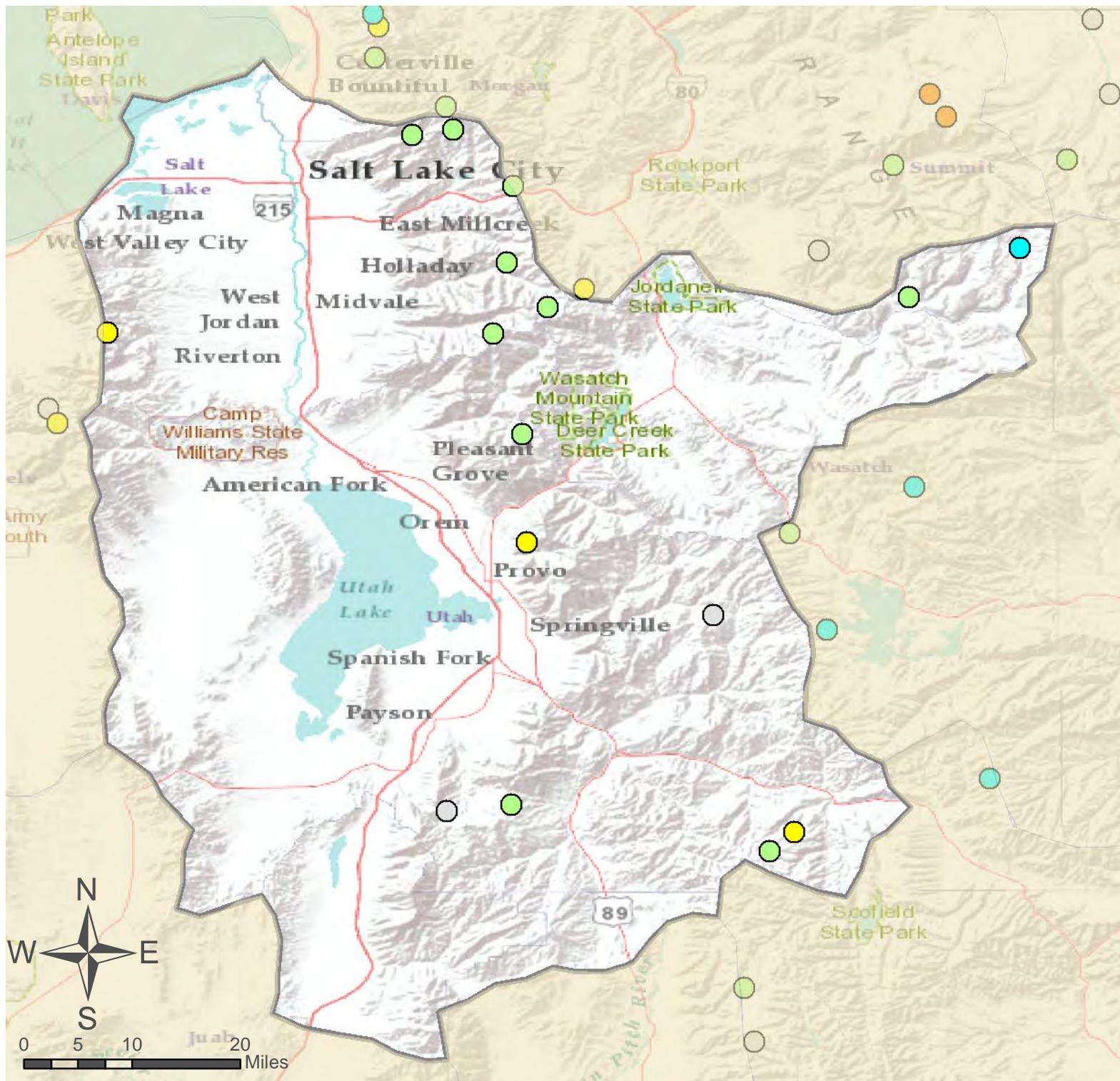
Provo Jordan Rivers	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Provo R at Woodland								
Provo R at Hailstone								
Provo R bl Deer Ck Dam								
Spanish Fk at Castilla								
American Fk ab Upper Powerplant								
Utah Lake Inflow								
W Canyon Ck nr Cedar Fort								
Little Cottonwood Ck nr SLC								
Big Cottonwood Ck nr SLC								
Mill Ck nr SLC								
Parleys Ck nr SLC								
Dell Fk nr SLC								
Emigration Ck nr SLC								
City Ck nr SLC								
Salt Ck at Nephi								

NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT

- 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
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Deer Creek Reservoir	106.5	135.0	103.1	149.7
Strawberry Reservoir	841.2	928.9	657.4	1105.9
Utah Lake	465.3	554.9	726.5	870.9
Jordanelle Reservoir	193.8	256.4	244.5	314.0
Basin-wide Total	1606.8	1875.1	1731.5	2440.5
# of reservoirs	4	4	4	4

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Provo River	6	94%	49%
Jordan River	13	86%	58%
Utah Lake	13	92%	44%
Spanish Fork River	5	101%	29%
Six Creeks	12	86%	58%
Cottonwood Creeks	7	77%	55%

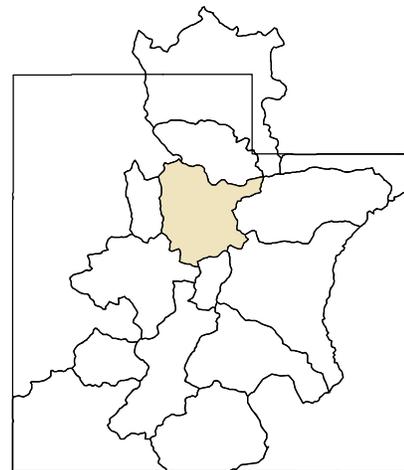


Provo & Jordan River Basins

- SNOTEL Site
- △ Forecast Point

% of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



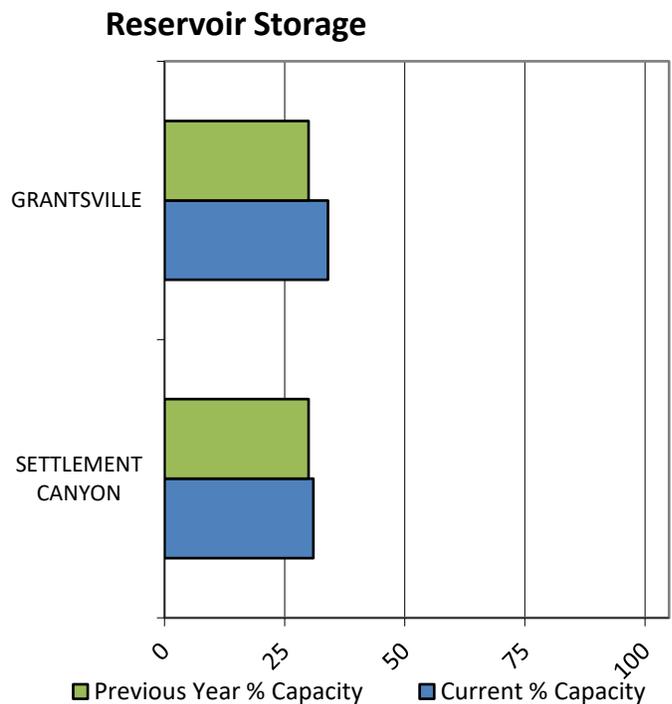
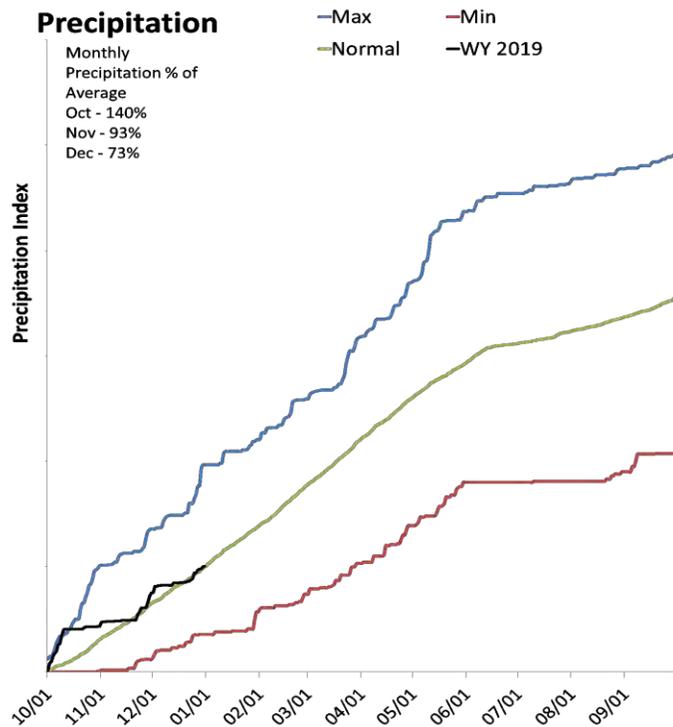
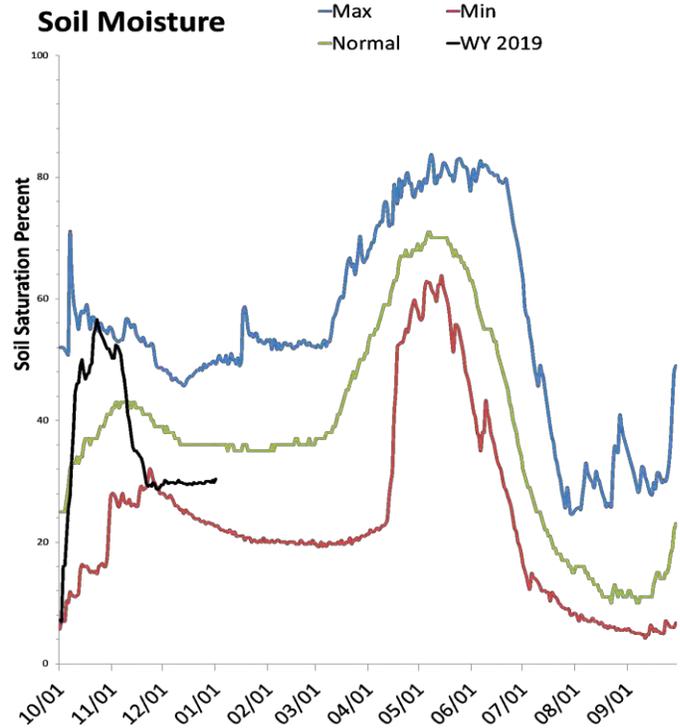
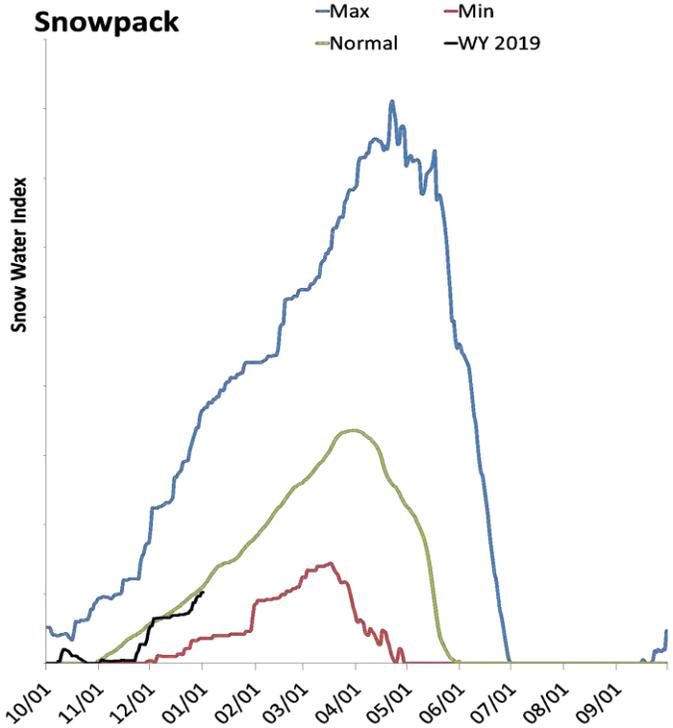
As of January 1, 2019:

- 97% of Normal SWE
- 118% of Normal Precipitation
- 87% of Normal Precipitation Last Month
- 51% Saturation Soil Moisture
- Provo & Jordan River Basins

Tooele Valley & West Desert Basins

January 1, 2019

Snowpack in the Tooele Valley & West Desert Basins is near normal at 93% of normal, compared to 33% last year. Precipitation in December was below average at 73%, which brings the seasonal accumulation (Oct-Dec) to 101% of average. Soil moisture is at 30% compared to 23% last year. Reservoir storage is at 34% of capacity, compared to 30% last year.



**Tooele Valley West Desert
Streamflow Forecasts - January 1, 2019**

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

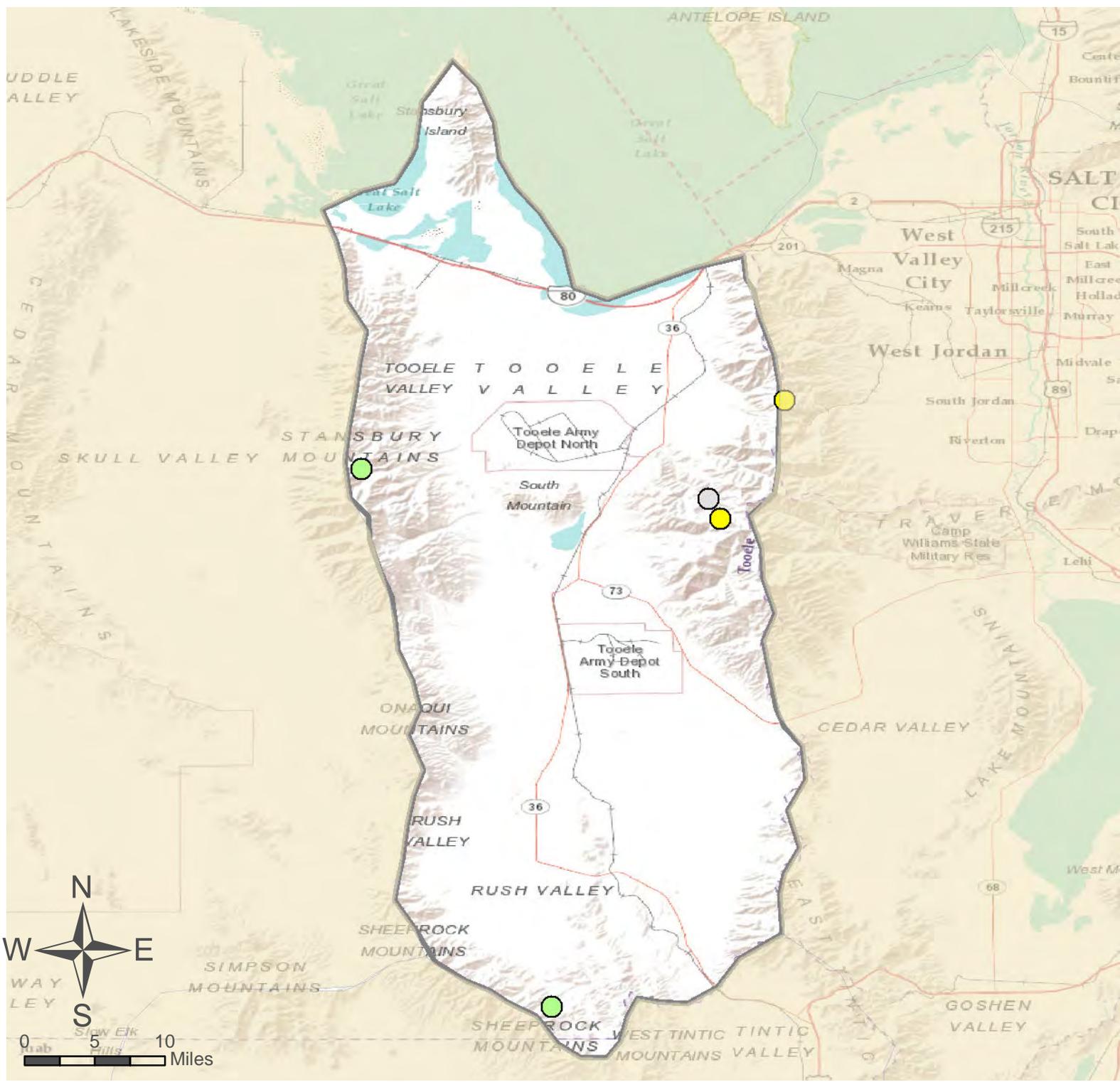
Tooele Valley West Desert	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
<hr/>								
Vernon Ck nr Vernon								
S Willow Ck nr Grantsville								
Dunn Ck nr Park Valley								
W Canyon Ck nr Cedar Fort								

NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT

- 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
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Settlement Canyon Reservoir	0.3	0.3	0.6	1.0
Grantsville Reservoir	1.1	1.0	1.5	3.3
Basin-wide Total	1.4	1.3	2.1	4.3
# of reservoirs	2	2	2	2

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Tooele Valley	3	90%	42%
Raft River	1	88%	79%
Deep Creek	0		
Northwestern Utah	2	97%	37%

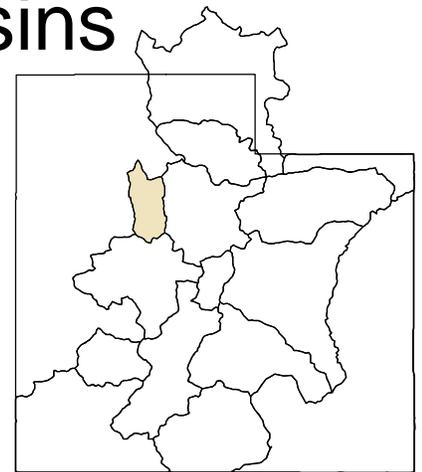


Tooele Valley & West Desert Basins

- SNOTEL Site
- △ Forecast Point

% of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



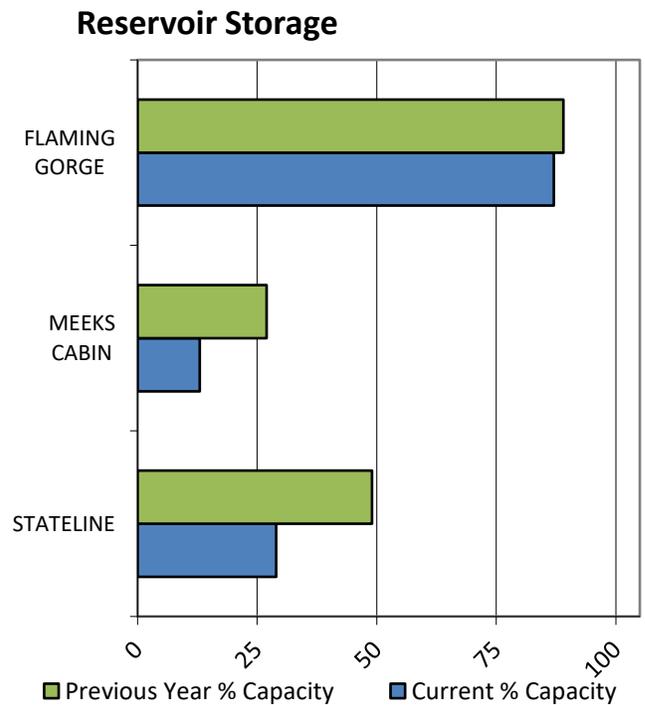
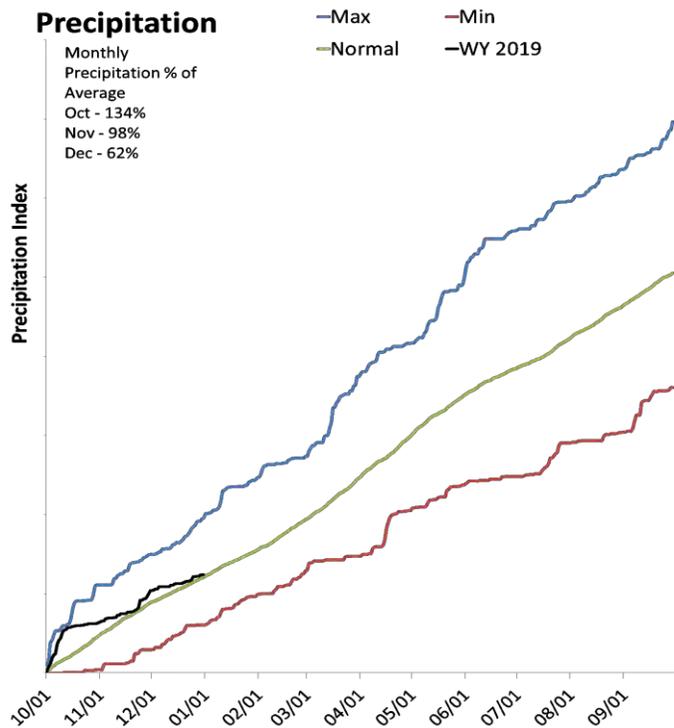
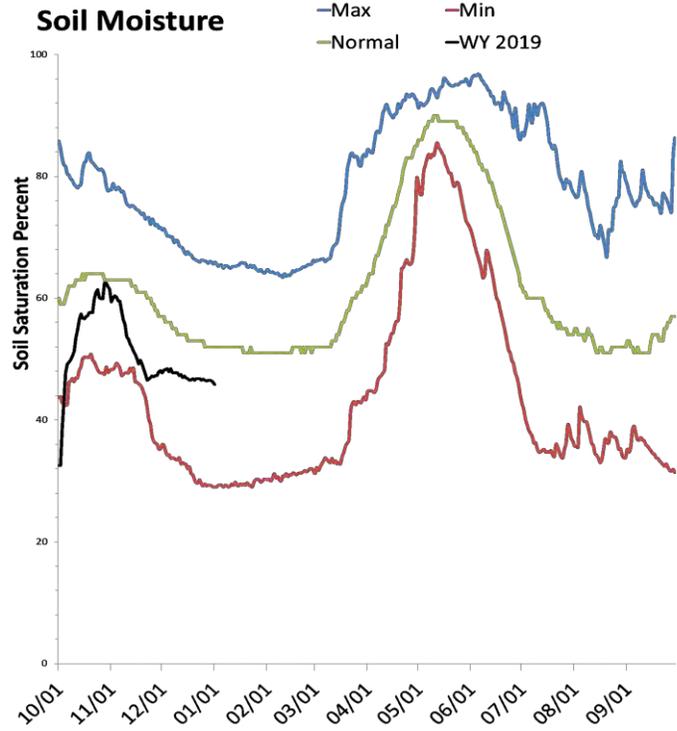
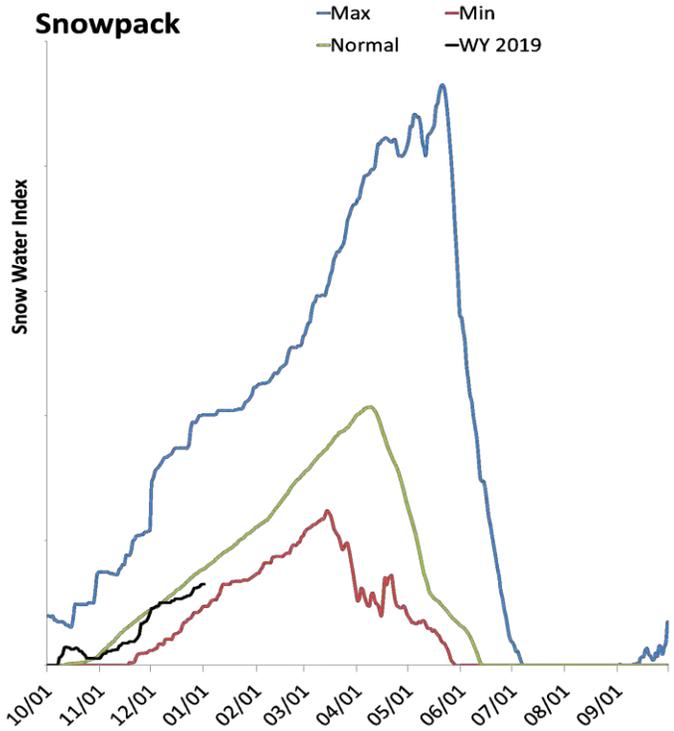
As of January 1, 2019:

- 93% of Normal SWE
- 101% of Normal Precipitation
- 73% of Normal Precipitation Last Month
- 30% Saturation Soil Moisture
- Tooele Valley & West Desert Basins

Northeastern Uinta Basin

January 1, 2019

Snowpack in the Northeastern Uinta Basin is below normal at 84% of normal, compared to 80% last year. Precipitation in December was much below average at 63%, which brings the seasonal accumulation (Oct-Dec) to 102% of average. Soil moisture is at 44% compared to 47% last year. Reservoir storage is at 86% of capacity, compared to 89% last year.



Northeastern Uintas Streamflow Forecasts - January 1, 2019

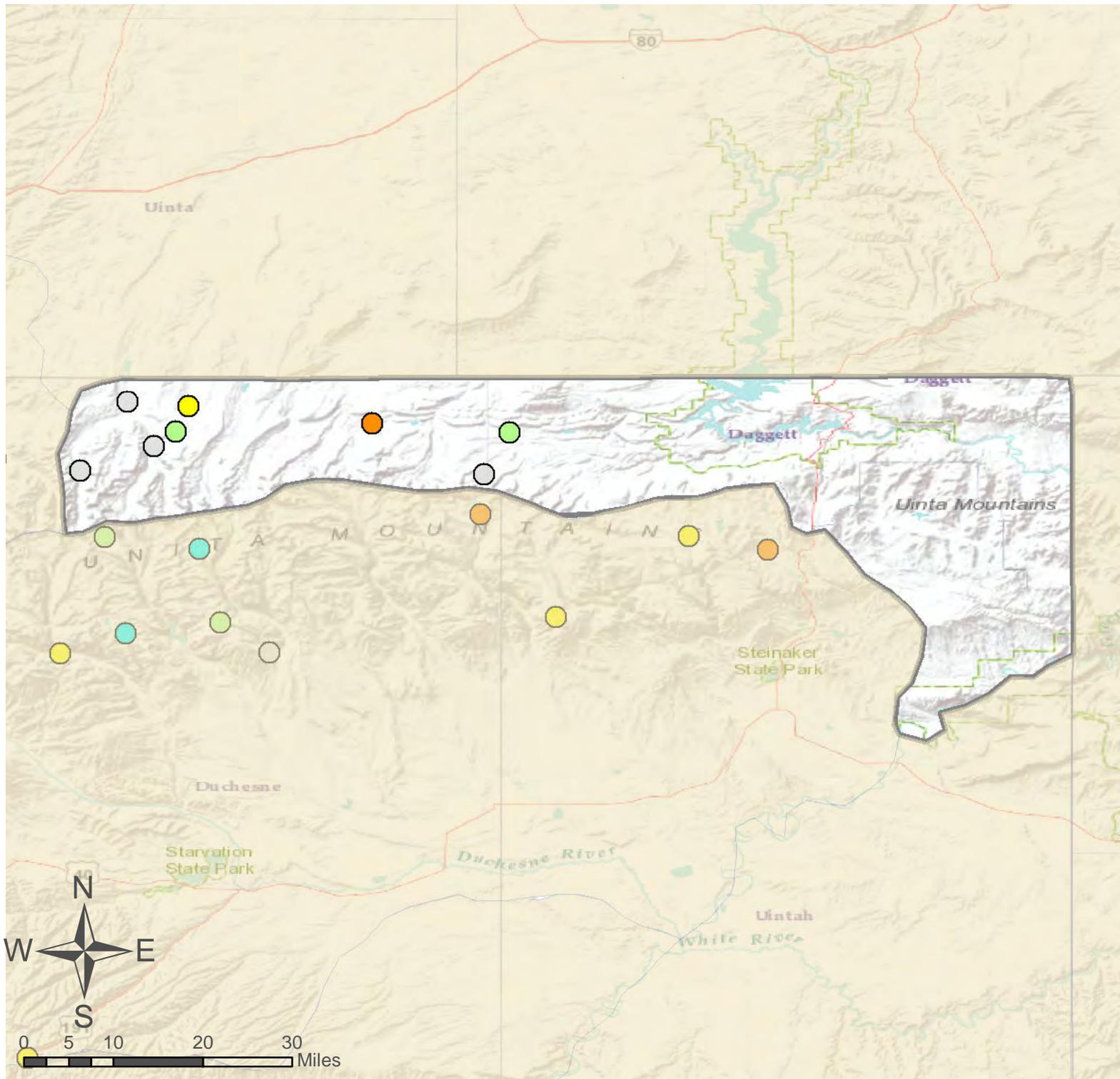
Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

Northeastern Uintas	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Blacks Fk nr Robertson								
EF of Smiths Fork nr Robertson ²								
Flaming Gorge Reservoir Inflow ²	NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT							
Ashley Ck nr Vernal								
Big Brush Ck ab Red Fleet Reservoir								

- 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
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Flaming Gorge Reservoir	3253.2	3343.2	3091.0	3749.0
Stateline Reservoir	3.5	5.8	5.7	12.0
Meeks Cabin Reservoir	4.1	8.7	9.9	32.5
Basin-wide Total	3260.7	3357.7	3106.6	3793.5
# of reservoirs	3	3	3	3

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Blacks Fork River	3	93%	93%
Upper Green	2	86%	90%
Ashley Brush Creeks	4	68%	42%

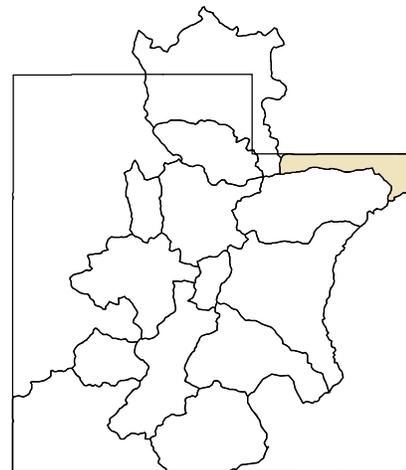


Northeastern Uinta Basin

- SNOTEL Site
- △ Forecast Point

% of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



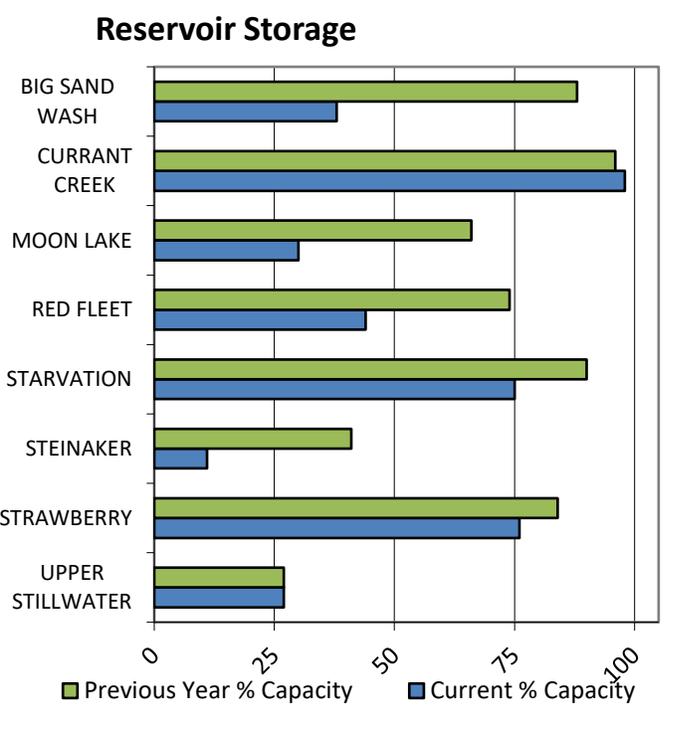
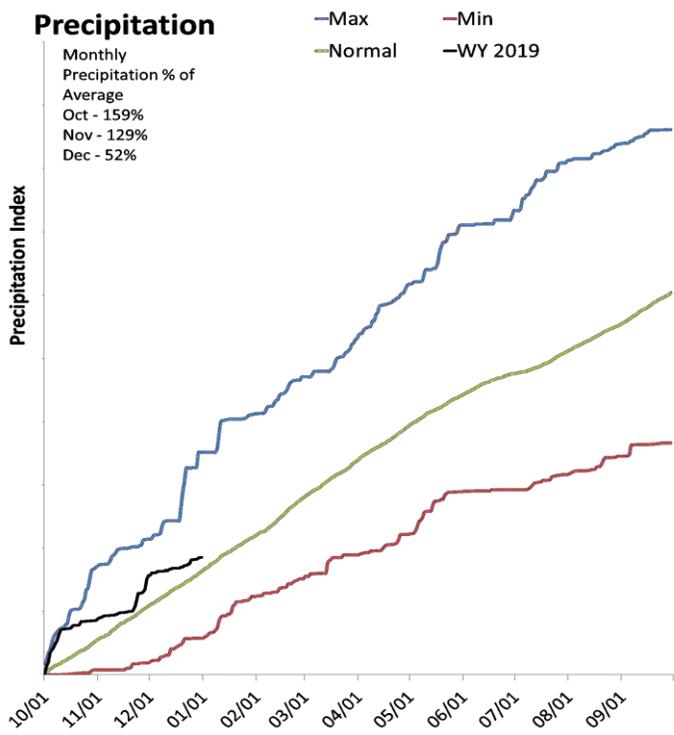
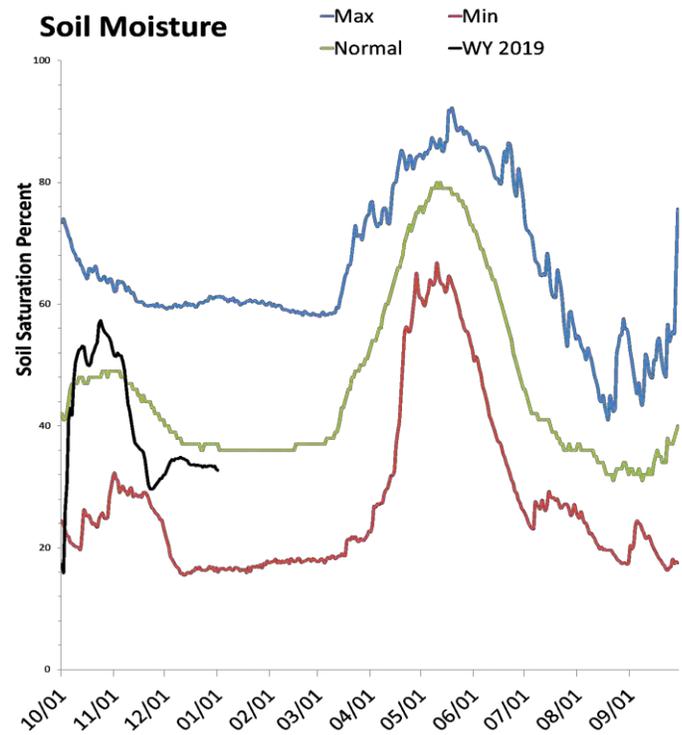
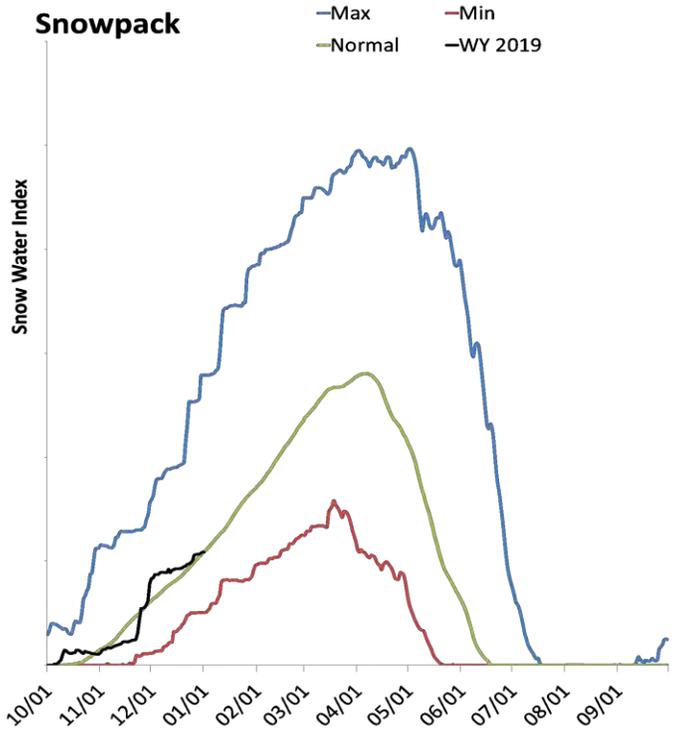
As of January 1, 2019:

- 84% of Normal SWE
- 102% of Normal Precipitation
- 63% of Normal Precipitation Last Month
- 44% Saturation Soil Moisture
- Northeastern Uinta Basin

Duchesne River Basin

January 1, 2019

Snowpack in the Duchesne River Basin is near average at 99% of normal, compared to 57% last year. Precipitation in December was much below average at 52%, which brings the seasonal accumulation (Oct-Dec) to 113% of average. Soil moisture is at 33% compared to 26% last year. Reservoir storage is at 72% of capacity, compared to 82% last year.



Duchesne River Streamflow Forecasts - January 1, 2019

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

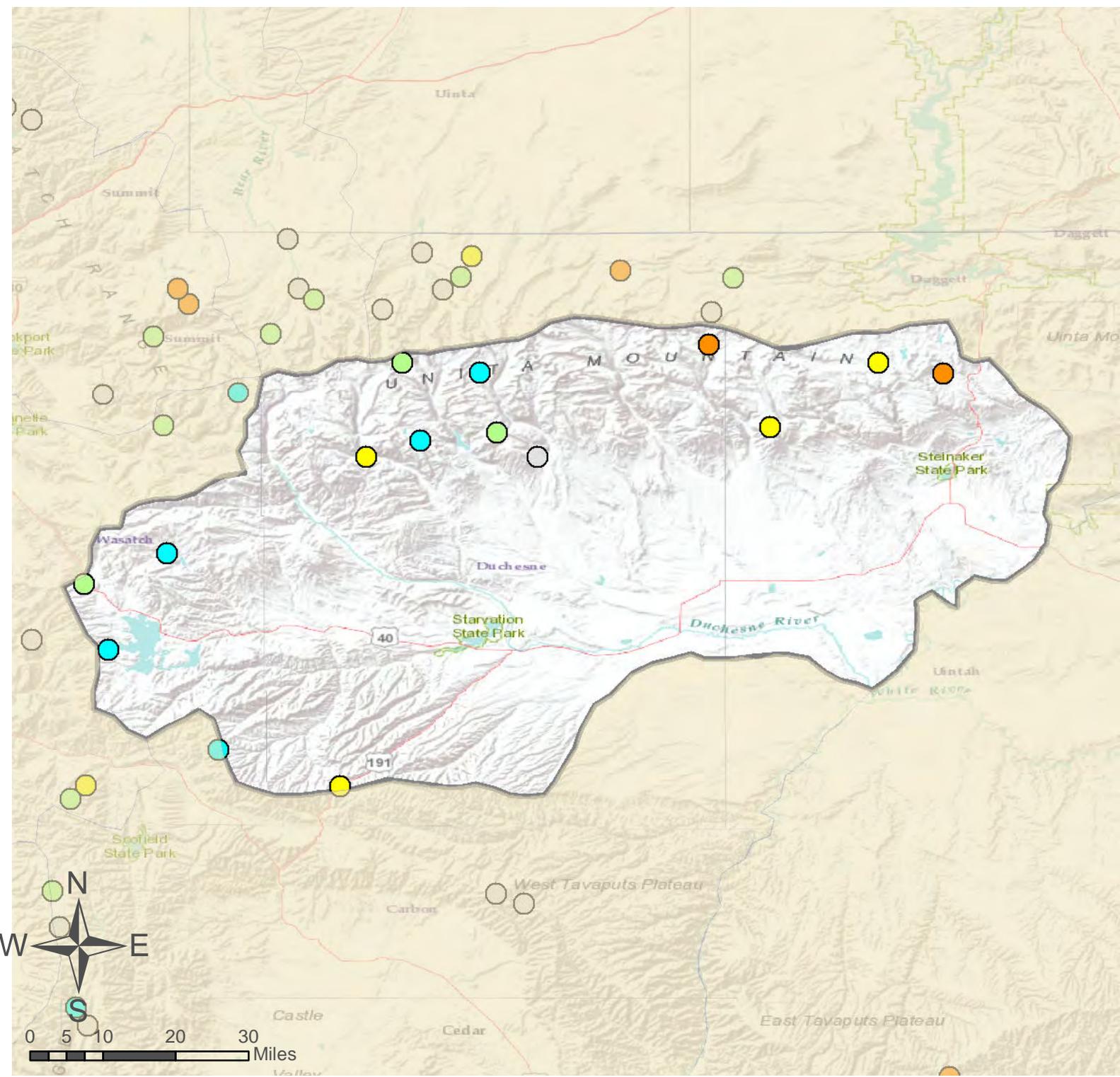
Duchesne River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
WF Duchesne R at VAT Diversion								
Duchesne R nr Tabiona ²								
Upper Stillwater Reservoir Inflow ²								
Rock Ck nr Mountain Home ²								
Duchesne R ab Knight Diversion ²								
Currant Ck Reservoir Inflow ²								
Strawberry R nr Soldier Springs ²								
Strawberry R nr Duchesne ²								
Lake Fork R ab Moon Lake Reservoir								
Lake Fk R BI Moon Lk nr Mountain Home ²								
Yellowstone R nr Altonah								
Duchesne R at Myton ²								
Uinta R bl Powerplant Diversion nr Neola ²								
Whiterocks R nr Whiterocks								
Duchesne R nr Randlett ²								
Ashley Ck nr Vernal								
Big Brush Ck ab Red Fleet Reservoir								

NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT

- 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
 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Steinaker Reservoir	3.8	13.7	20.0	33.4
Red Fleet Reservoir	11.3	19.1	17.5	25.7
Big Sand Wash Reservoir	9.6	22.7		25.7
Upper Stillwater Reservoir	8.8	8.7	10.0	32.5
Starvation Reservoir	123.4	148.4	134.1	164.1
Moon Lake Reservoir	10.6	23.5	22.4	35.8
Currant Creek Reservoir	15.2	14.9	14.9	15.5
Strawberry Reservoir	841.2	928.9	657.4	1105.9
Basin-wide Total	1014.3	1157.4	876.3	1412.9
# of reservoirs	7	7	7	7

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Strawberry River	5	104%	39%
Lakefork Yellowstone Rivers	6	106%	73%
Uinta Whiterocks River	2	68%	35%



Duchesne River Basin

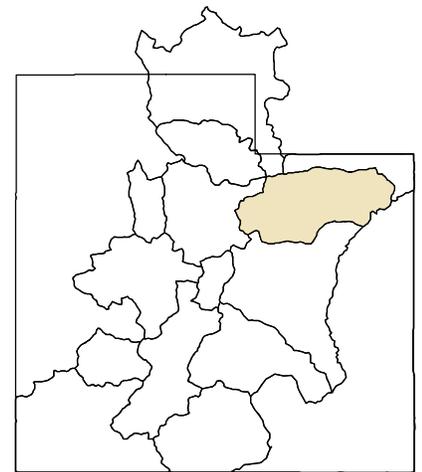
- SNOTEL Site
- △ Forecast Point

As of January 1, 2019:

99% of Normal SWE
 113% of Normal Precipitation
 52% of Normal Precipitation Last Month
 33% Saturation Soil Moisture
 Duchesne River Basin

% of Normal

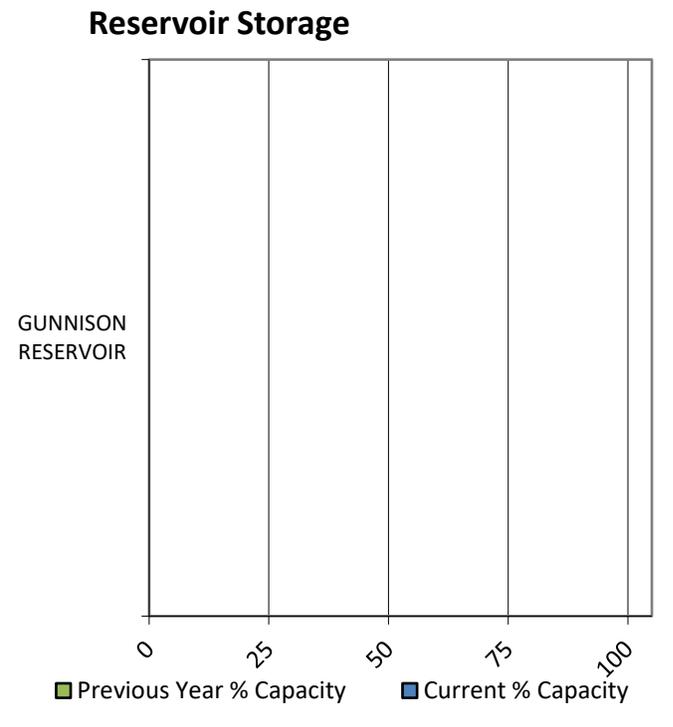
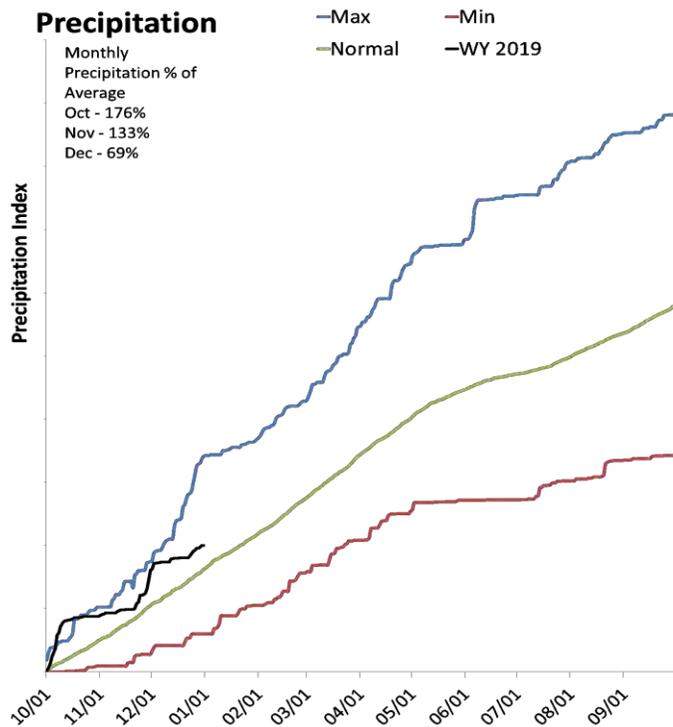
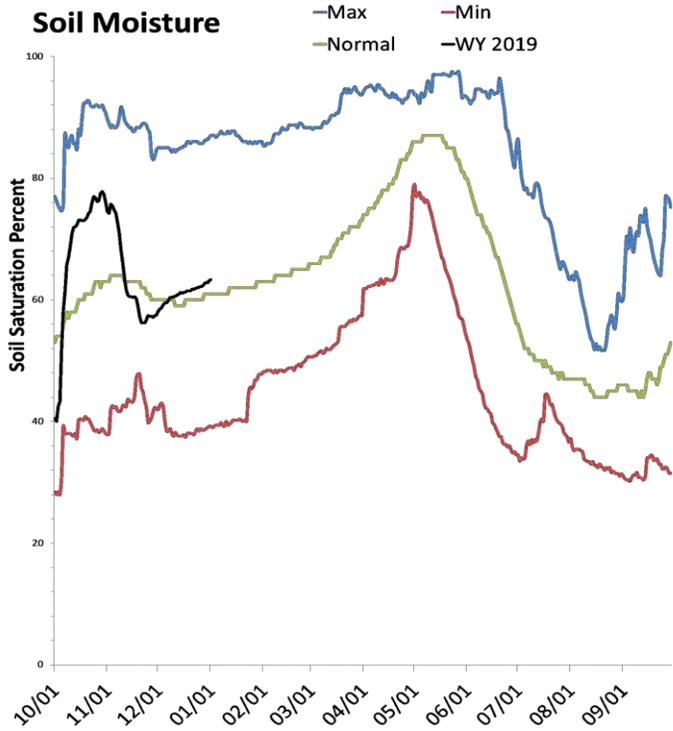
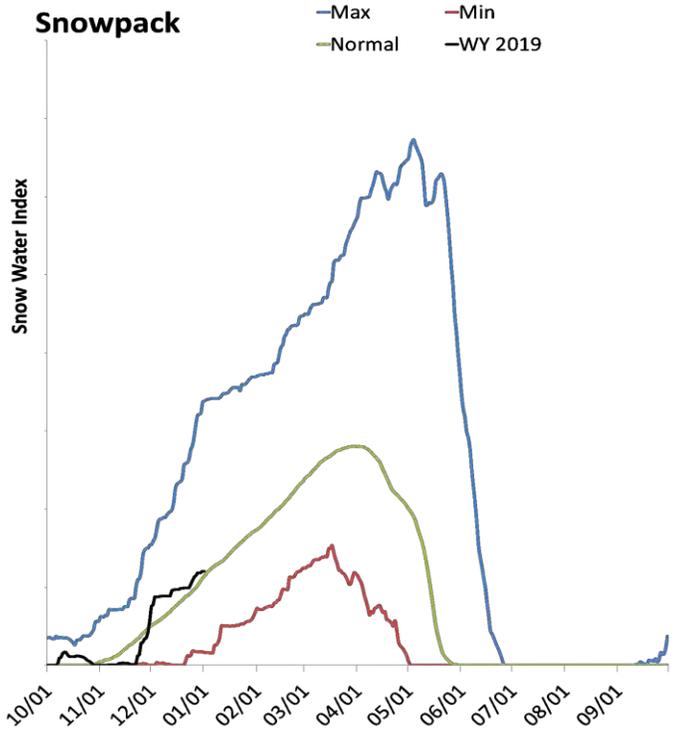
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



San Pitch River Basin

January 1, 2019

Snowpack in the San Pitch River Basin is near normal at 106% of normal, compared to 14% last year. Precipitation in December was much below average at 69%, which brings the seasonal accumulation (Oct-Dec) to 123% of average. Soil moisture is at 63% compared to 49% last year. Reservoir storage is at 0% of capacity, compared to 0% last year.



San Pitch River Streamflow Forecasts - January 1, 2019

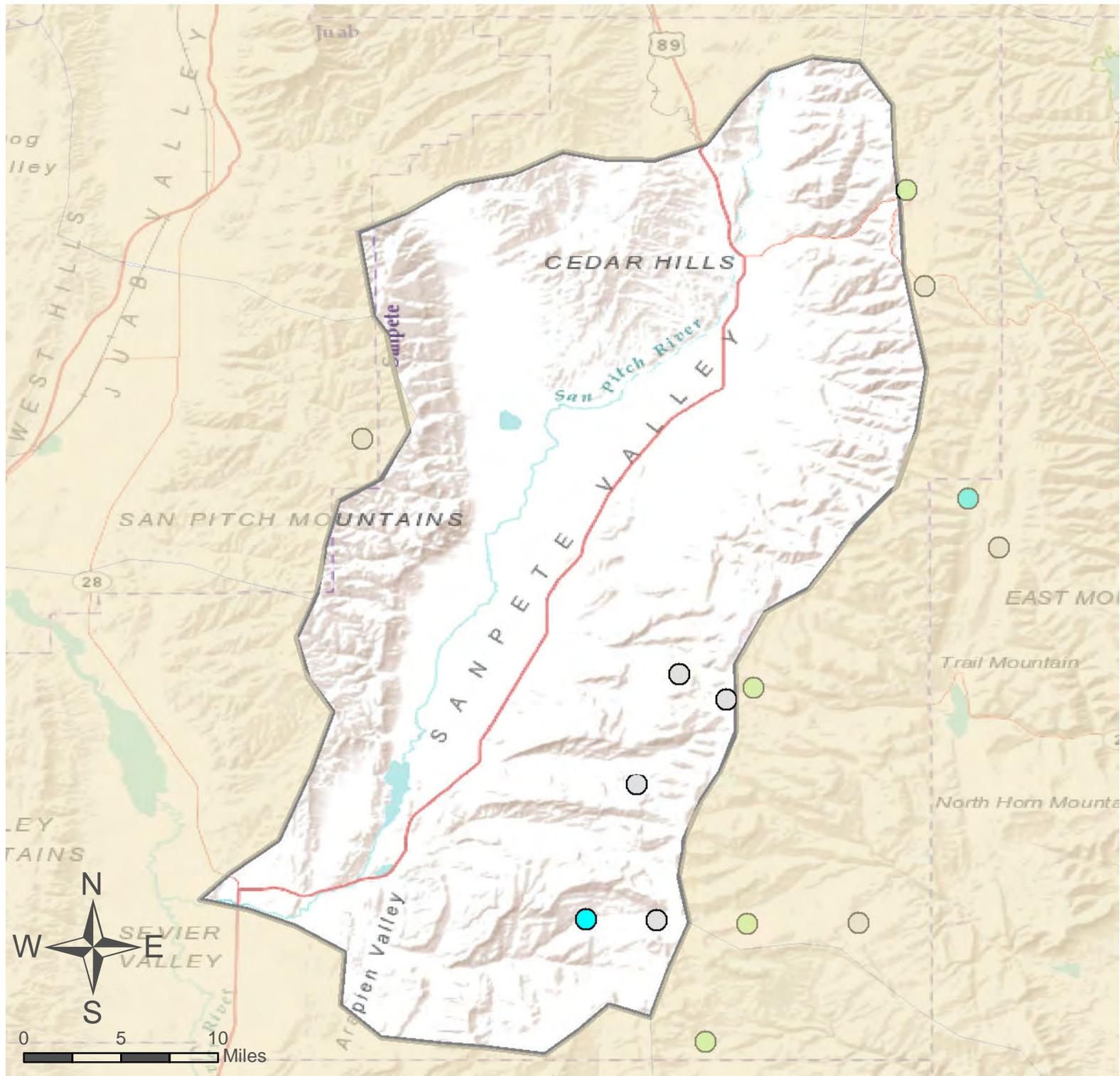
Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

San Pitch River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Manti Ck bl Dugway Ck nr Manti	NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT							
Sevier R nr Gunnison								

- 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
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Gunnison Reservoir	0.0	0.0	9.3	20.3
Basin-wide Total	0.0		9.3	20.3
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Upper San Pitch	2	107%	18%
Lower San Pitch	5	105%	13%

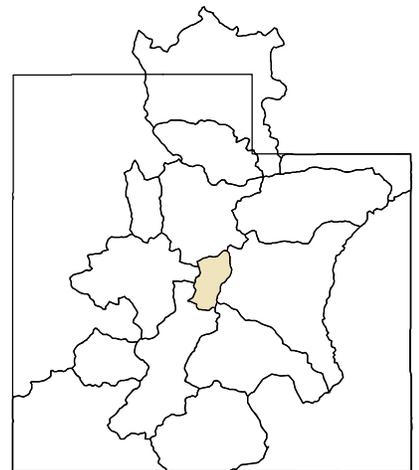


San Pitch River Basin

- SNOTEL Site
- △ Forecast Point

% of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



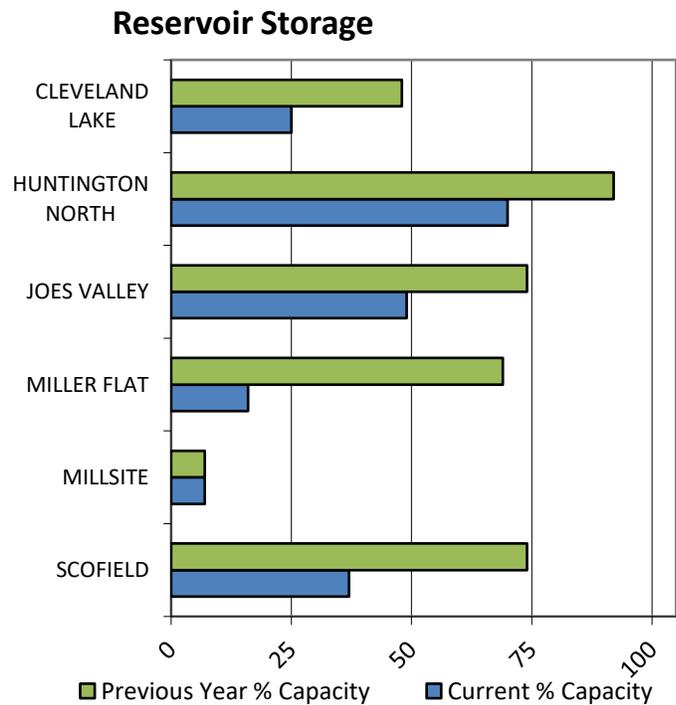
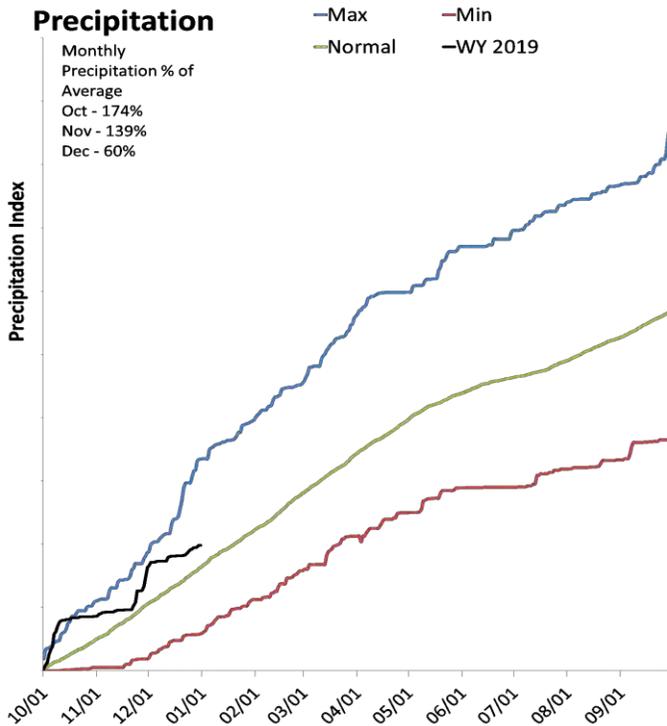
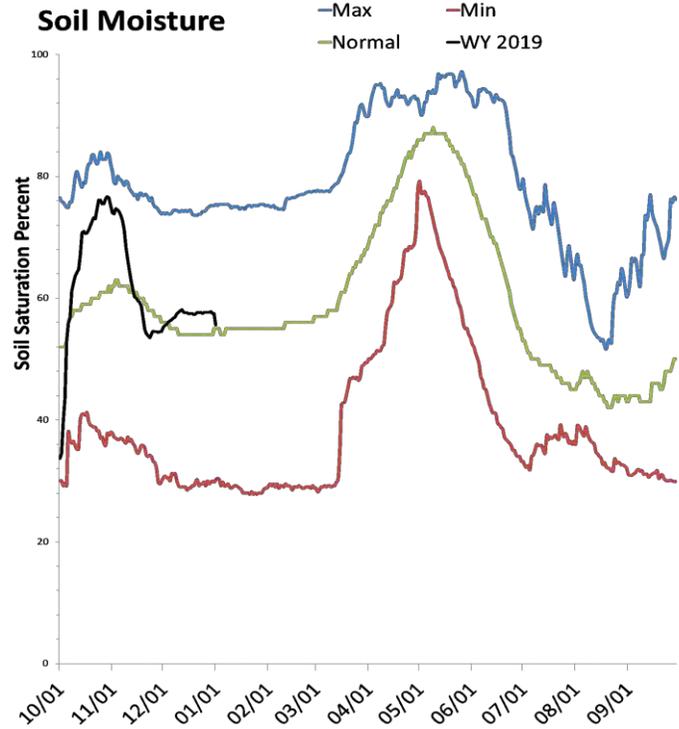
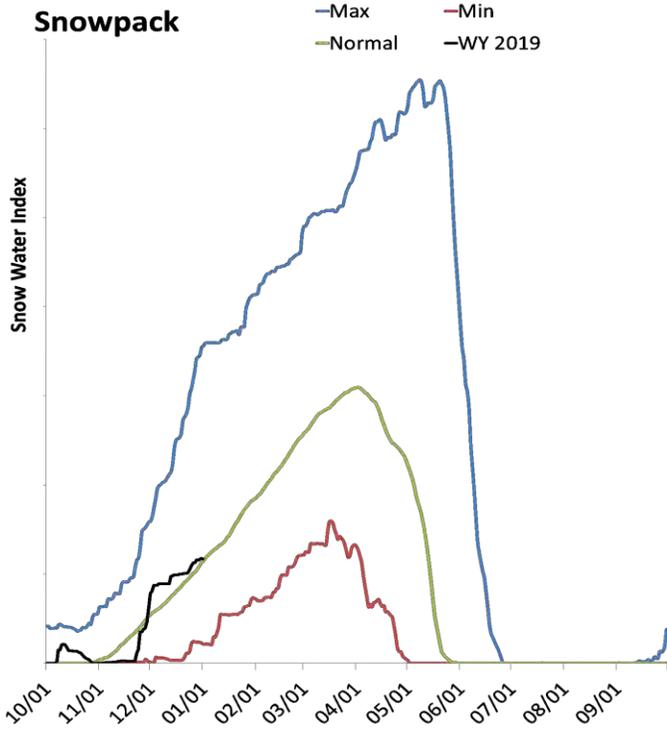
As of January 1, 2019:

- 106% of Normal SWE
- 123% of Normal Precipitation
- 69% of Normal Precipitation Last Month
- 63% Saturation Soil Moisture
- San Pitch River Basin

Price & San Rafael Basins

January 1, 2019

Snowpack in the Price & San Rafael Basins is near normal at 102% of normal, compared to 19% last year. Precipitation in December was much below average at 60%, which brings the seasonal accumulation (Oct-Dec) to 121% of average. Soil moisture is at 58% compared to 42% last year. Reservoir storage is at 40% of capacity, compared to 67% last year.



Price San Rafael Rivers Streamflow Forecasts - January 1, 2019

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

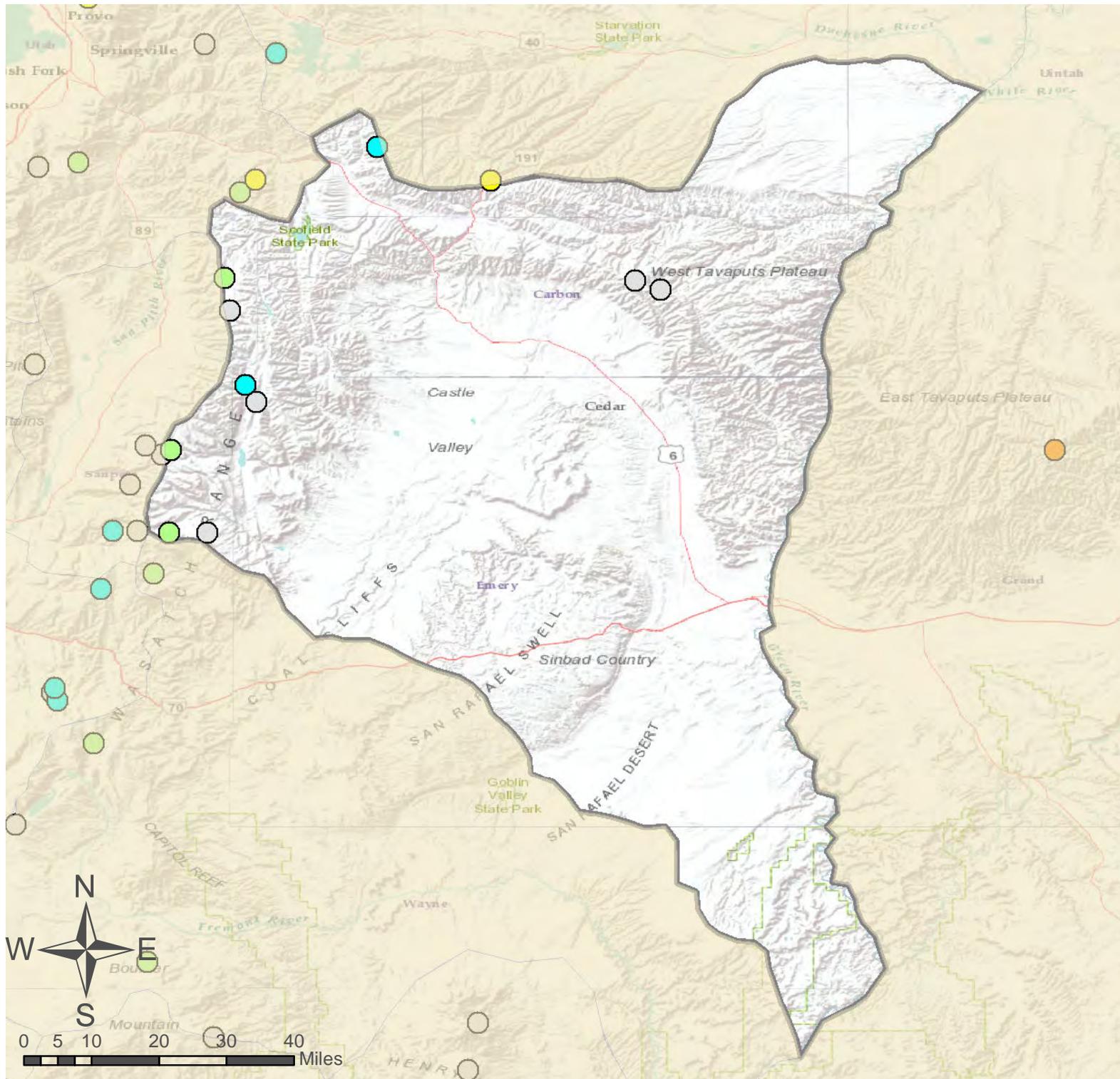
Price San Rafael Rivers	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Fish Ck ab Reservoir nr Scofield								
Price R nr Scofield Reservoir ²								
White R bl Tabbyune Creek								
Green R at Green River, UT ²								
Electric Lake Inflow ²								
Huntington Ck nr Huntington ²								
Joes Valley Reservoir Inflow ²								
Ferron Ck (Upper Station) nr Ferron								

NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT

- 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
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Joes Valley Reservoir	30.3	45.5	39.7	61.6
Millsite	1.2	1.2	10.0	16.7
Huntington North Reservoir	2.9	3.9	2.3	4.2
Cleveland Lake	1.3	2.6		5.4
Miller Flat Reservoir	0.8	3.6		5.2
Scofield Reservoir	24.3	48.4	28.5	65.8
Basin-wide Total	58.7	99.0	80.5	148.3
# of reservoirs	4	4	4	4

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Price River	4	102%	30%
San Rafael	4	100%	11%

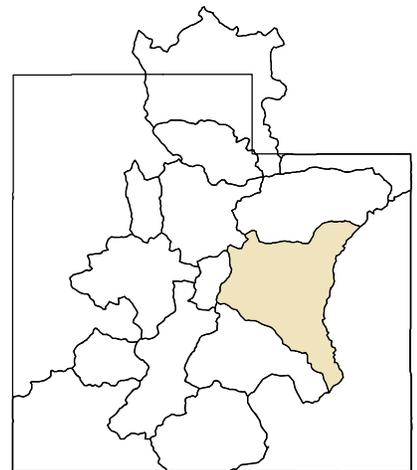


Price & San Rafael Basins

- SNOTEL Site
- △ Forecast Point

% of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



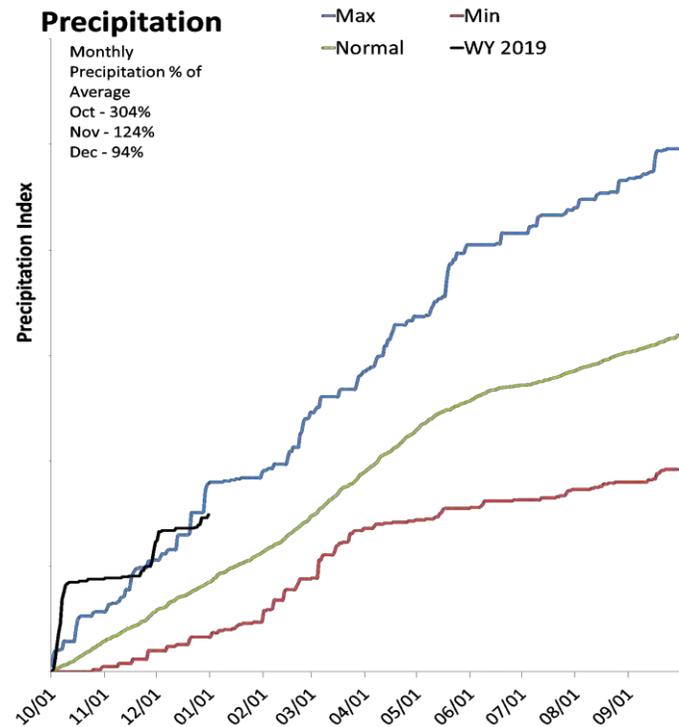
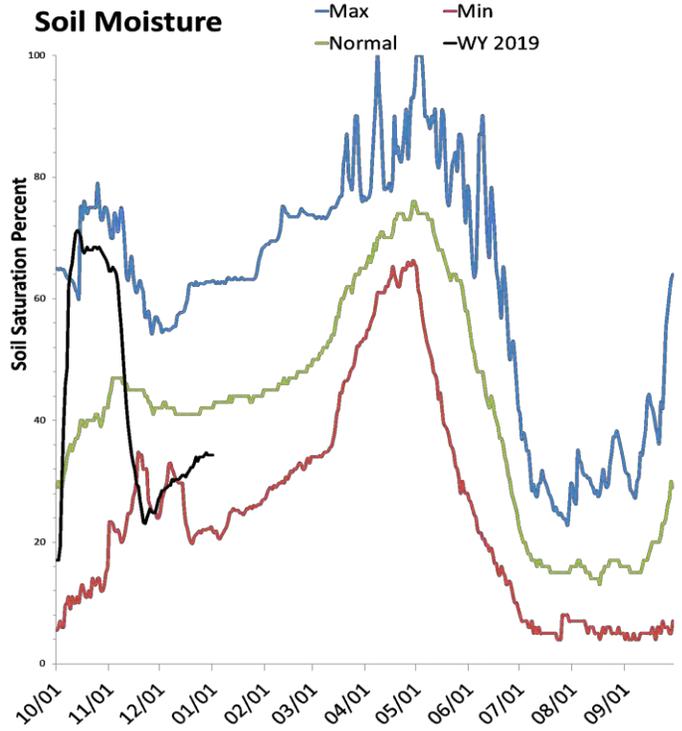
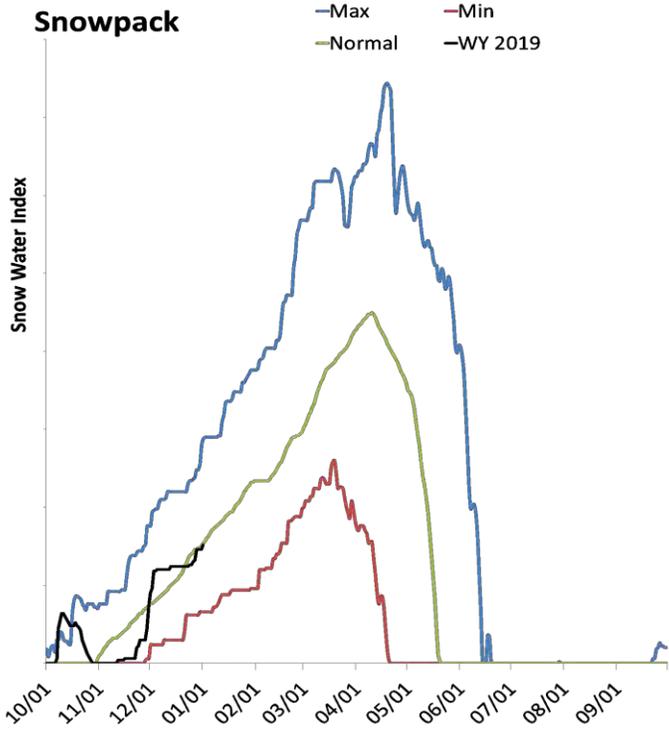
As of January 1, 2019:

- 102% of Normal SWE
- 121% of Normal Precipitation
- 60% of Normal Precipitation Last Month
- 58% Saturation Soil Moisture
- Price & San Rafael Basins

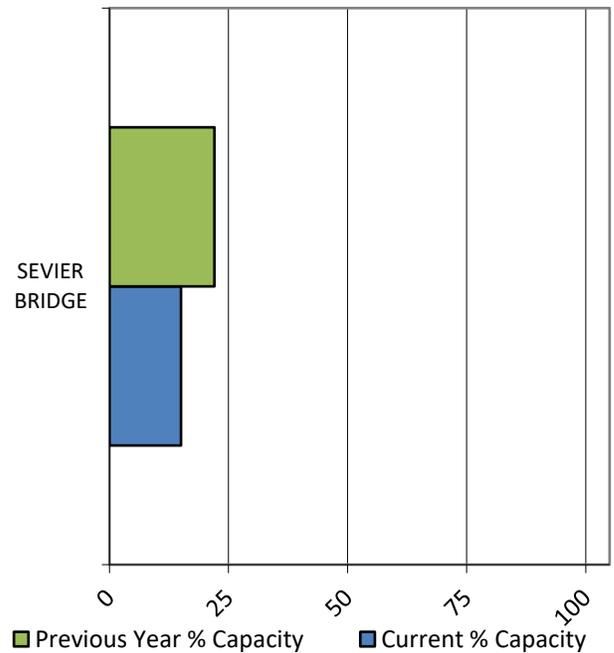
Lower Sevier Basin

January 1, 2019

Snowpack in the Lower Sevier Basin is near normal at 99% of normal, compared to 43% last year. Precipitation in December was near average at 93%, which brings the seasonal accumulation (Oct-Dec) to 175% of average. Soil moisture is at 34% compared to 22% last year. Reservoir storage is at 15% of capacity, compared to 22% last year.



Reservoir Storage



**Lower Sevier
Streamflow Forecasts - January 1, 2019**

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

Lower Sevier	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
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Chicken Ck nr Levan

Sevier R nr Gunnison

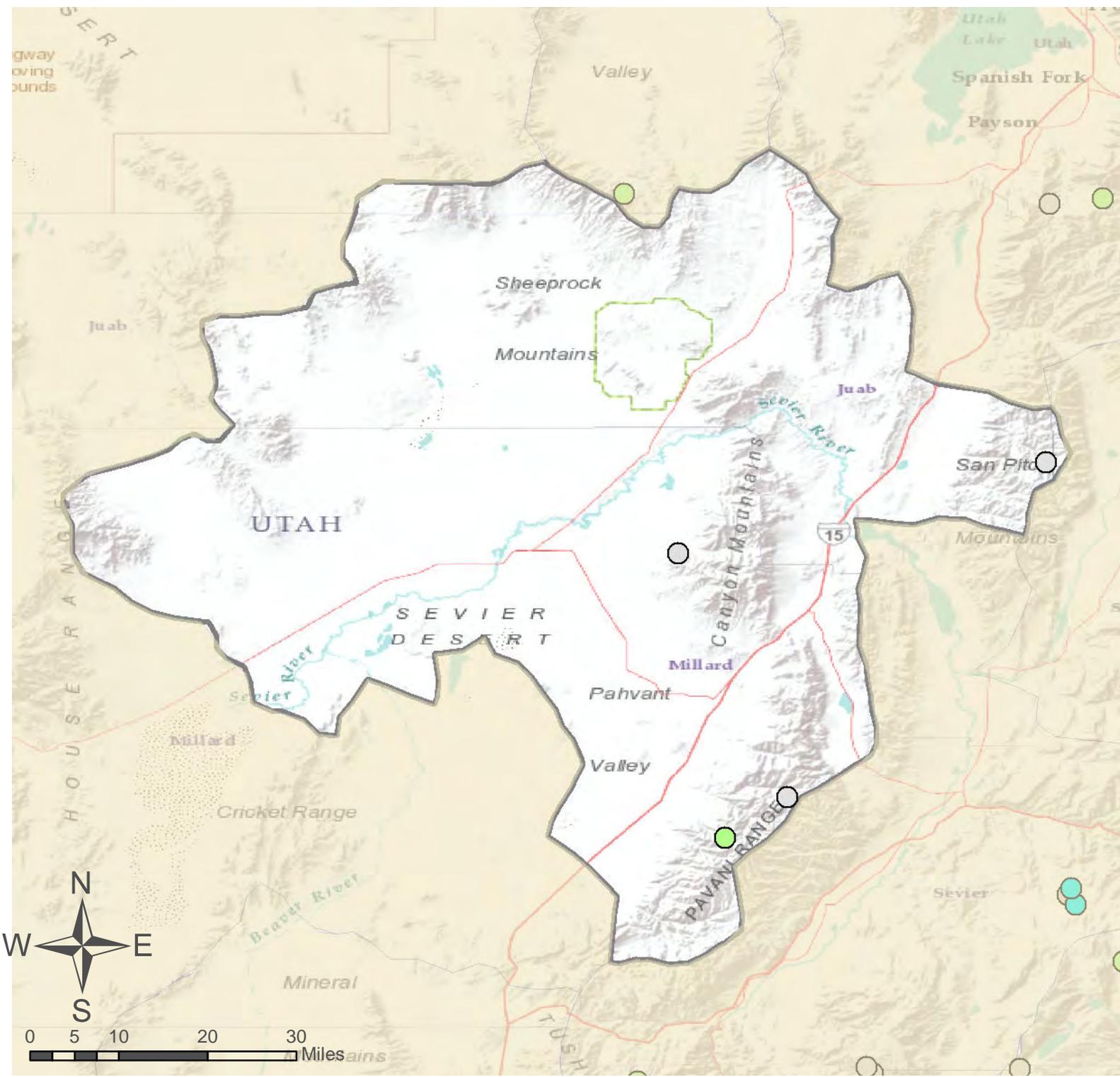
NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT

Oak Ck nr Oak City

- 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
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Sevier Bridge Reservoir	35.4	50.8	143.2	236.0
Basin-wide Total	35.4	50.8	143.2	236.0
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Lower Sevier	1	99%	43%



Lower Sevier Basin

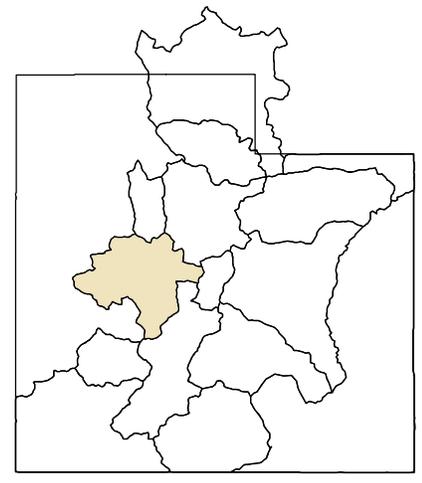
- SNOTEL Site
- △ Forecast Point

As of January 1, 2019:

- 99% of Normal SWE
- 175% of Normal Precipitation
- 93% of Normal Precipitation Last Month
- 34% Saturation Soil Moisture
- Lower Sevier Basin

% of Normal

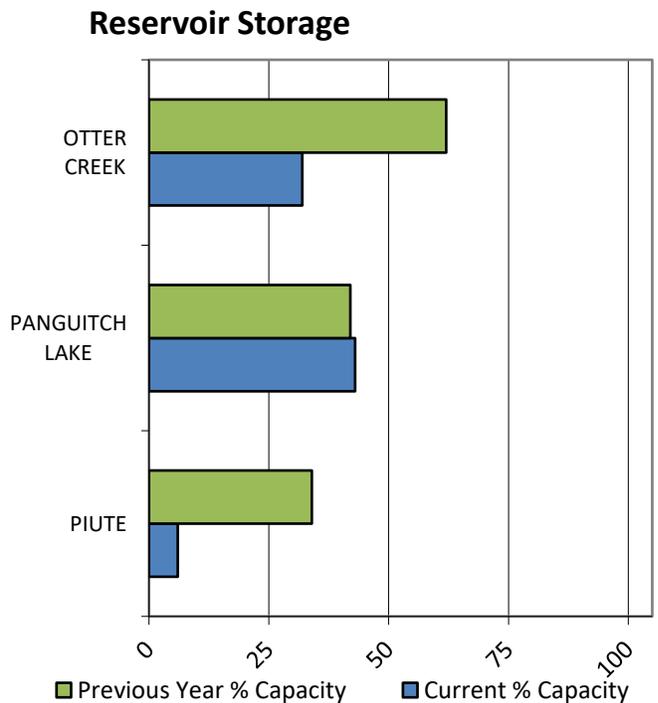
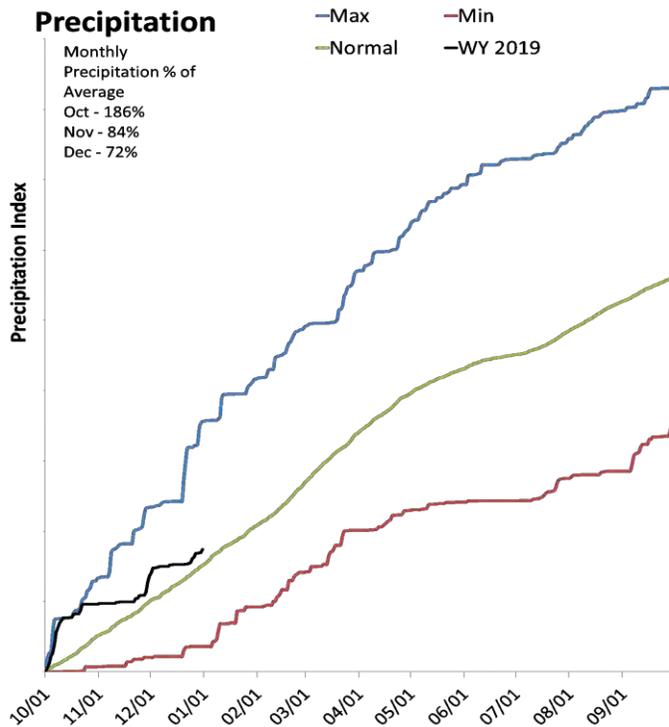
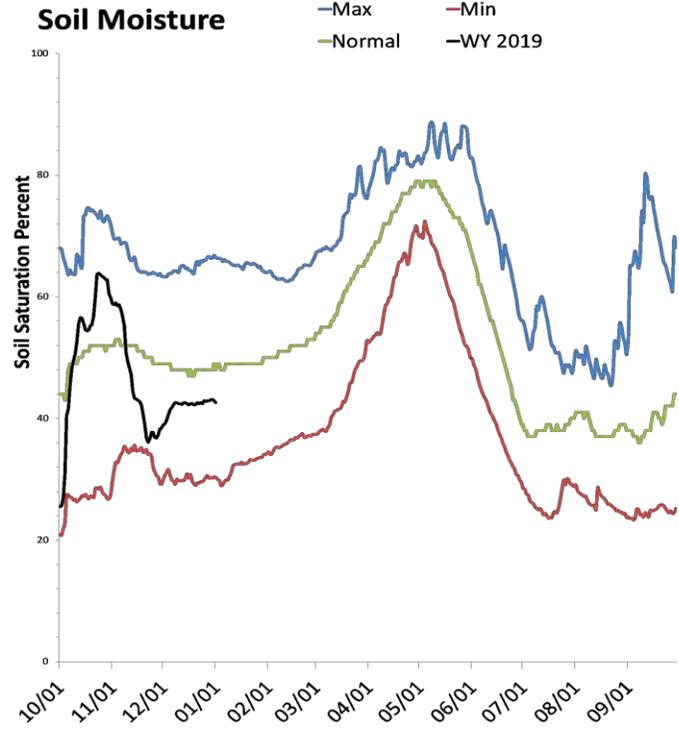
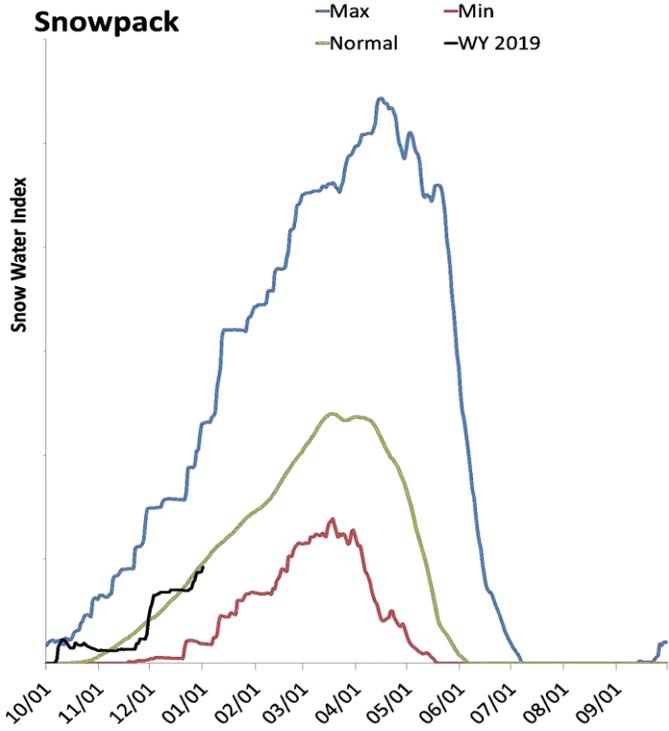
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



Upper Sevier Basin

January 1, 2019

Snowpack in the Upper Sevier Basin is near normal at 96% of normal, compared to 20% last year. Precipitation in December was below average at 72%, which brings the seasonal accumulation (Oct-Dec) to 114% of average. Soil moisture is at 42% compared to 31% last year. Reservoir storage is at 21% of capacity, compared to 45% last year.



Upper Sevier Streamflow Forecasts - January 1, 2019

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

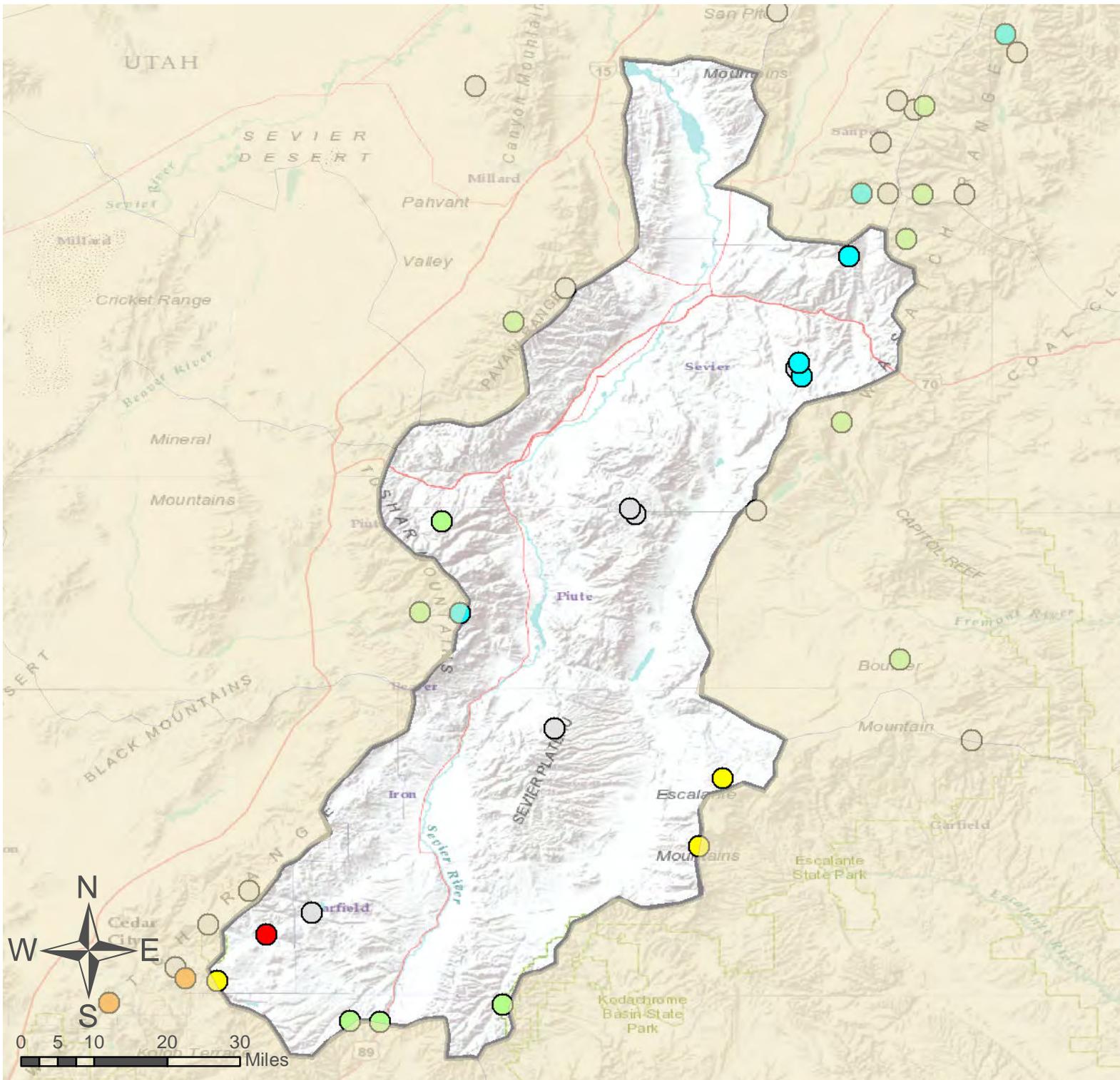
Upper Sevier	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Mammoth Ck nr Hatch								
Sevier R at Hatch								
EF Sevier R nr Kingston								
Sevier R nr Kingston								
Sevier R bl Piute Dam								
Clear Ck ab Diversions nr Sevier								
Salina Ck nr Emery								

NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT

- 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
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Piute Reservoir	4.5	24.2	42.0	71.8
Otter Creek Reservoir	16.8	32.5	32.1	52.5
Panguitch Lake	9.7	9.4	11.6	22.3
Basin-wide Total	31.0	66.1	85.7	146.6
# of reservoirs	3	3	3	3

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Upper Sevier	12	96%	20%
Middle Sevier	7	112%	25%
East Fork Sevier River	3	80%	7%

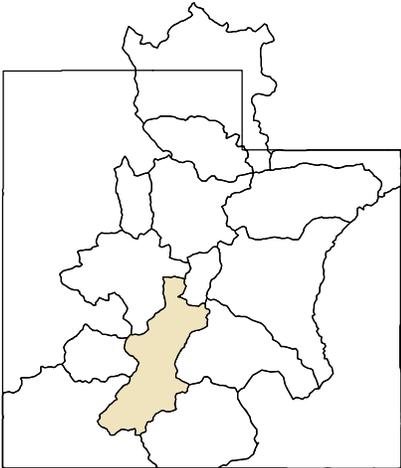


Upper Sevier Basin

- SNOTEL Site
- △ Forecast Point

% of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



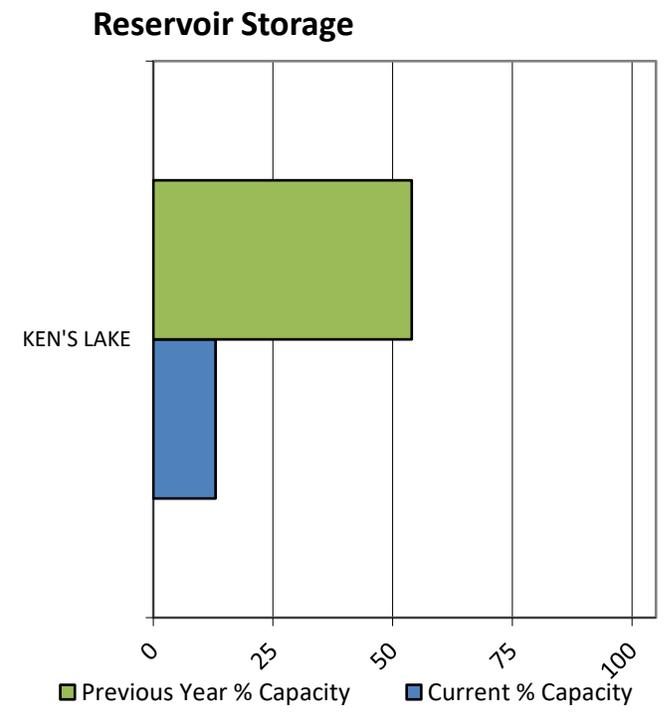
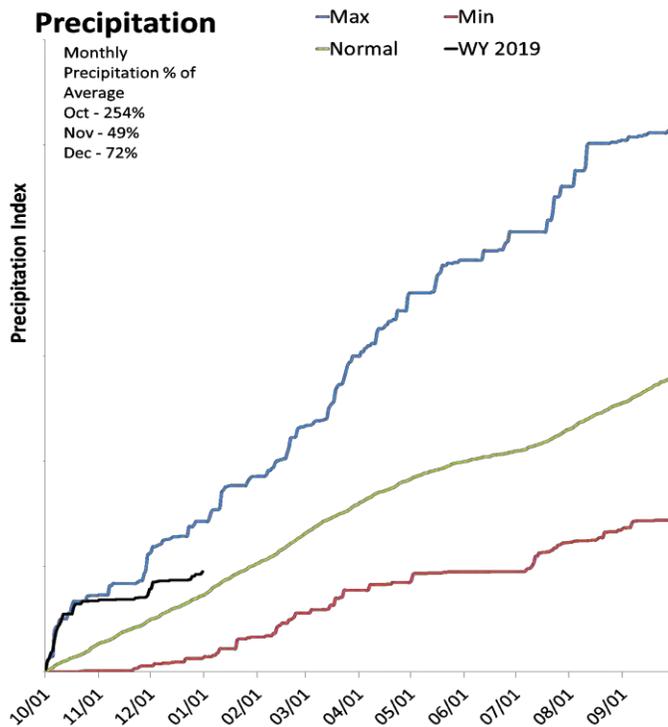
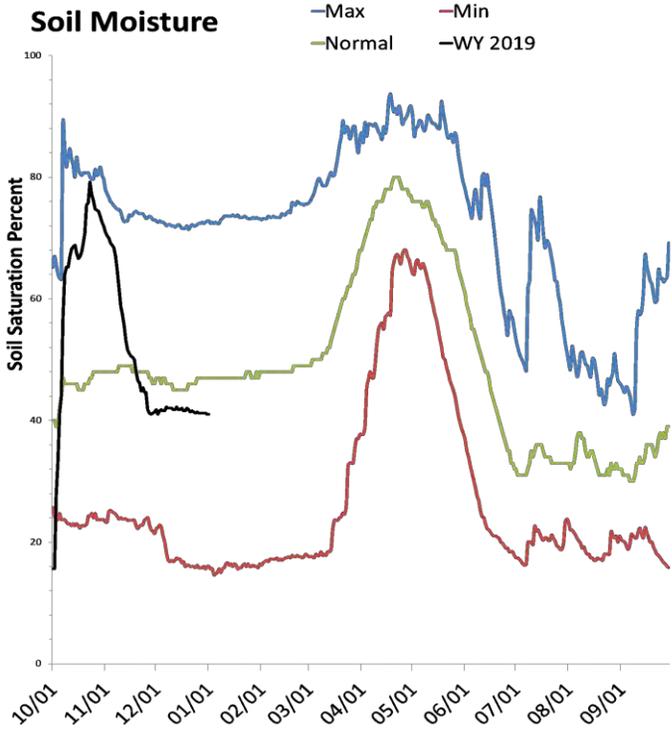
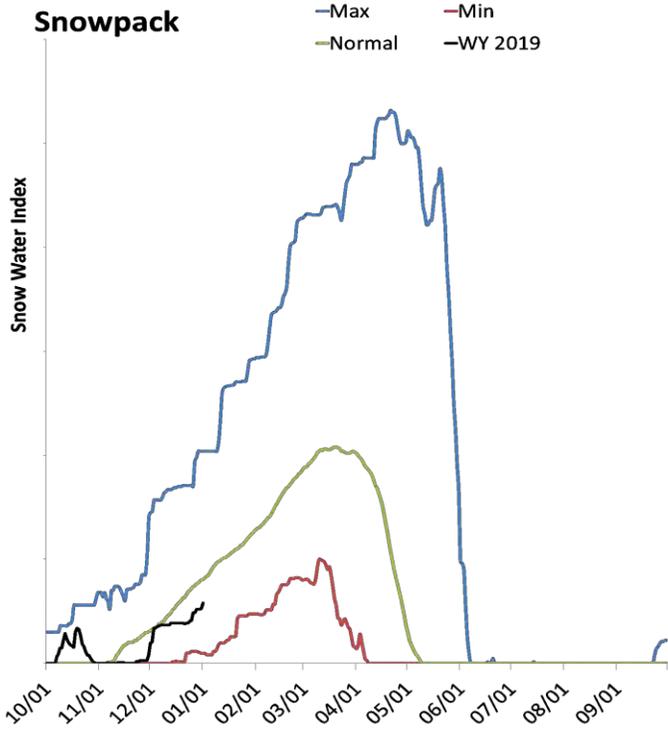
As of January 1, 2019:

- 96% of Normal SWE
- 114% of Normal Precipitation
- 72% of Normal Precipitation Last Month
- 42% Saturation Soil Moisture
- Upper Sevier Basin

Southeastern Utah

January 1, 2019

Snowpack in the Southeastern Utah is below normal at 72% of normal, compared to 12% last year. Precipitation in December was below average at 72%, which brings the seasonal accumulation (Oct-Dec) to 131% of average. Soil moisture is at 41% compared to 16% last year. Reservoir storage is at 13% of capacity, compared to 54% last year.



Southeastern Utah Streamflow Forecasts - January 1, 2019

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

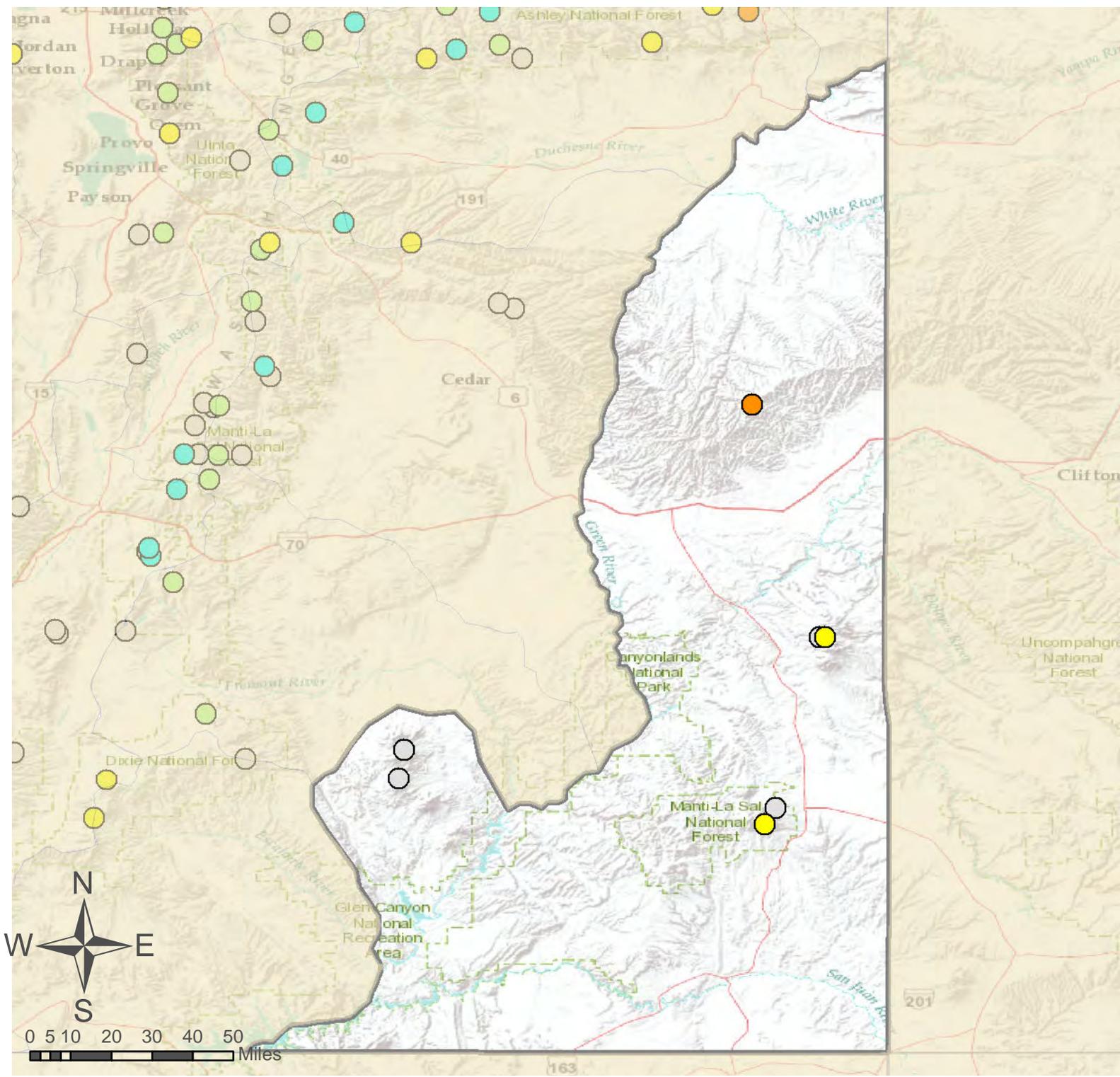
Southeastern Utah	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Mill Ck at Sheley Tunnel nr Moab								
South Ck ab Resv nr Monticello								
Colorado R nr Cisco ²								
San Juan R near Bluff ²								

NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT

- 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
 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Ken's Lake	0.3	1.2	1.0	2.3
Basin-wide Total	0.3	1.2	1.0	2.3
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Lasal Mountains	1	76%	17%
Lower San Juan	1	75%	5%
Lower Green	2	74%	26%
Henry Mountains	0		

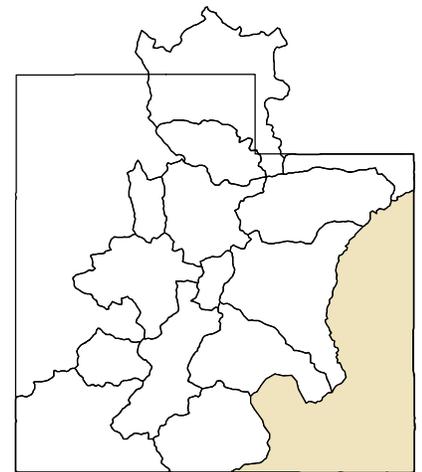


Southeastern Utah

- SNOTEL Site
- △ Forecast Point

% of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



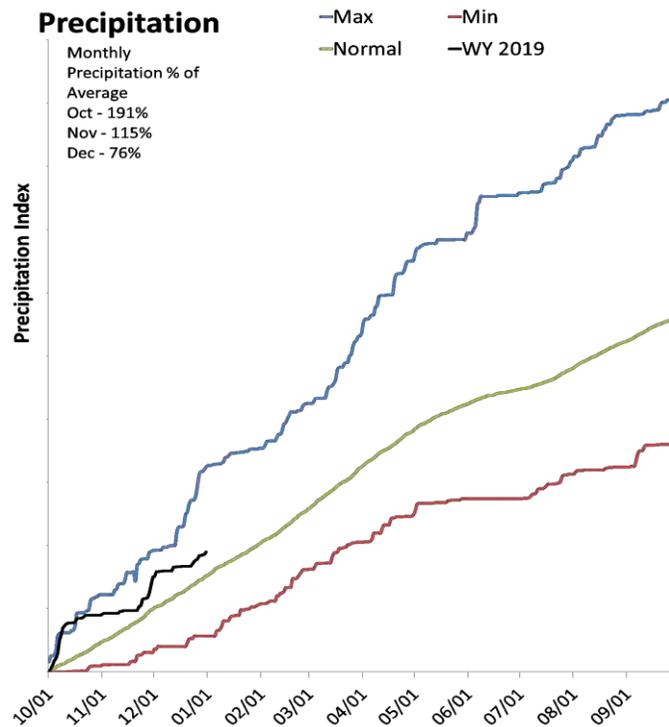
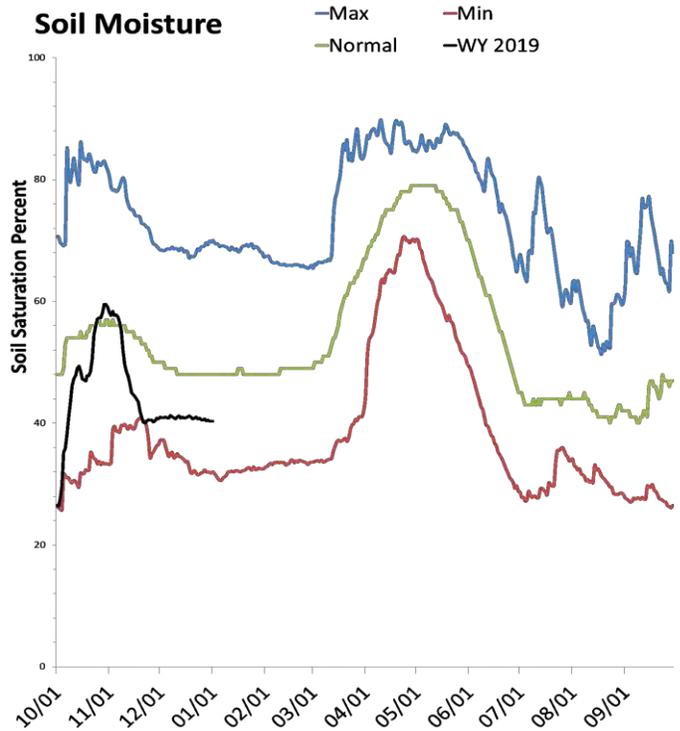
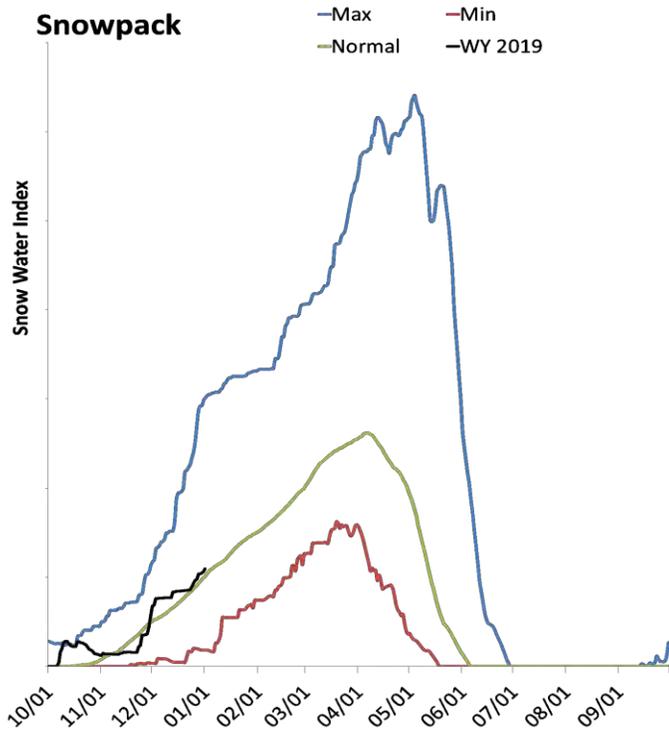
As of January 1, 2019:

- 72% of Normal SWE
- 131% of Normal Precipitation
- 72% of Normal Precipitation Last Month
- 41% Saturation Soil Moisture
- Southeastern Utah

Dirty Devil Basin

January 1, 2019

Snowpack in the Dirty Devil Basin is near normal at 109% of normal, compared to 18% last year. Precipitation in December was below average at 76%, which brings the seasonal accumulation (Oct-Dec) to 125% of average. Soil moisture is at 40% compared to 32% last year.



**Dirty Devil
Streamflow Forecasts - January 1, 2019**

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

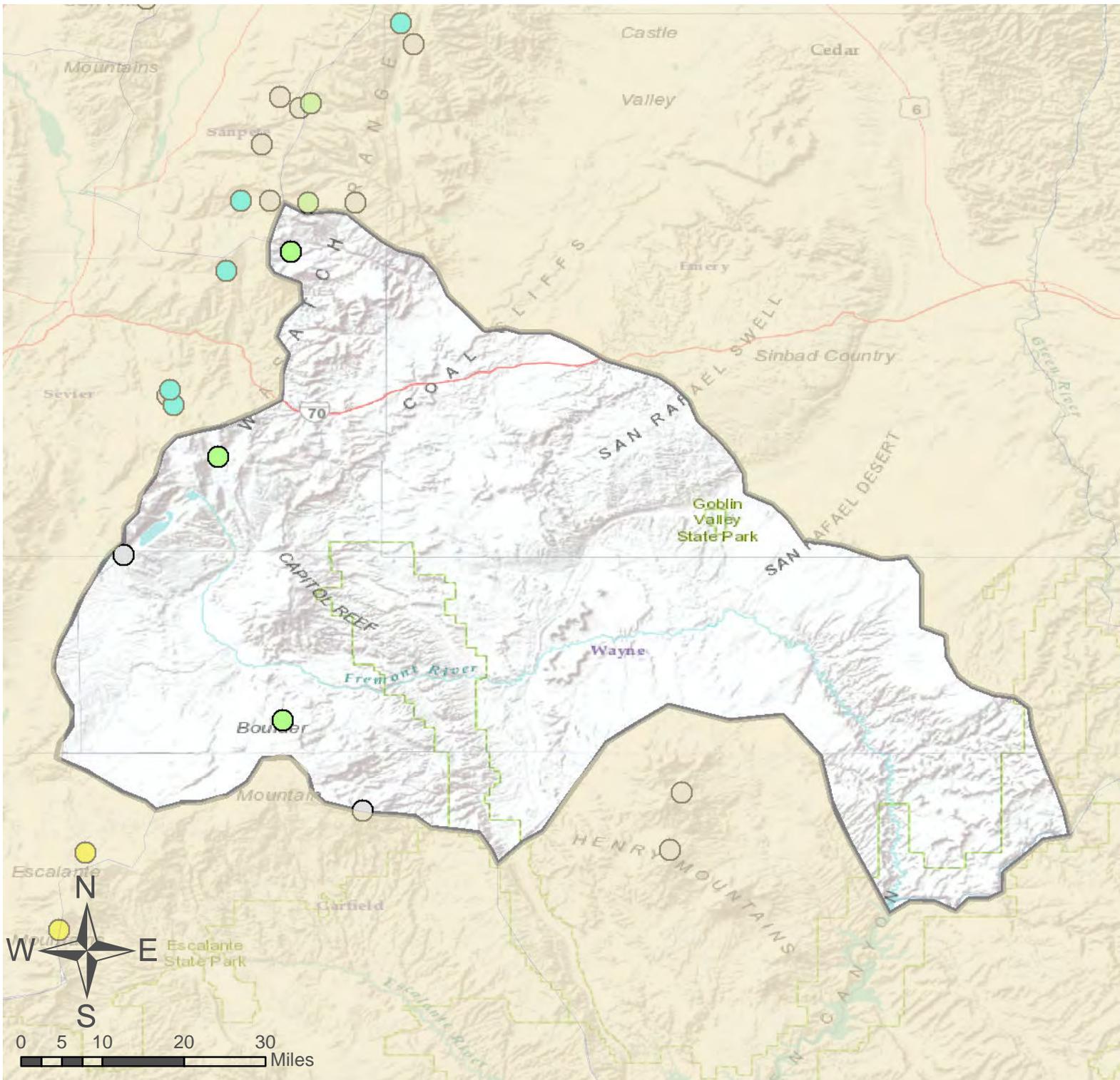
Dirty Devil	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Muddy Ck nr Emery								

Seven Mile Ck nr Fish Lake

NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT

- 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
- 3) Median value used in place of average

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Muddy Creek	3	104%	13%
Fremont River	3	115%	24%
Henry Mountains	0		



Dirty Devil Basin

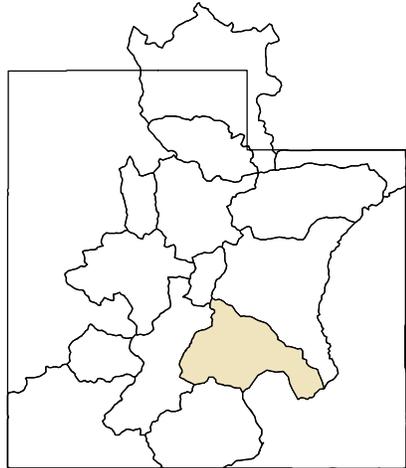
- SNOTEL Site
- △ Forecast Point

As of January 1, 2019:

- 109% of Normal SWE
- 125% of Normal Precipitation
- 76% of Normal Precipitation Last Month
- 40% Saturation Soil Moisture
- Dirty Devil Basin

% of Normal

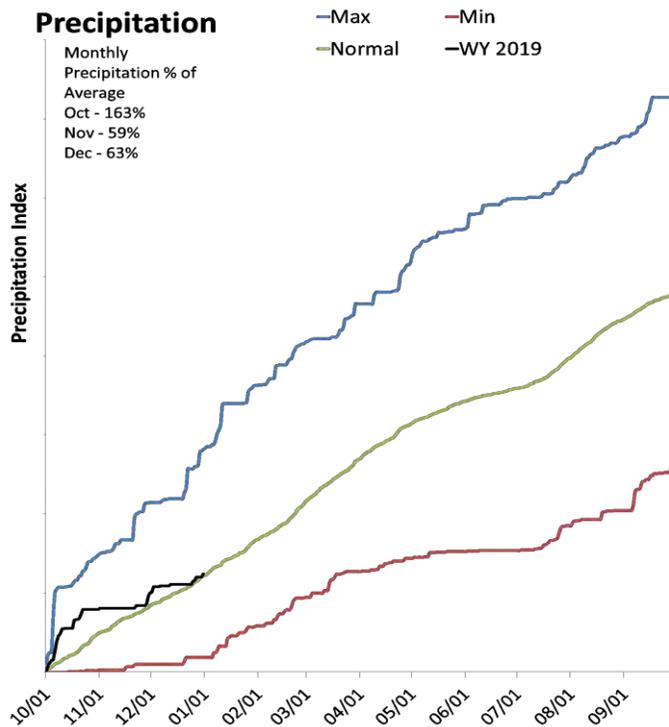
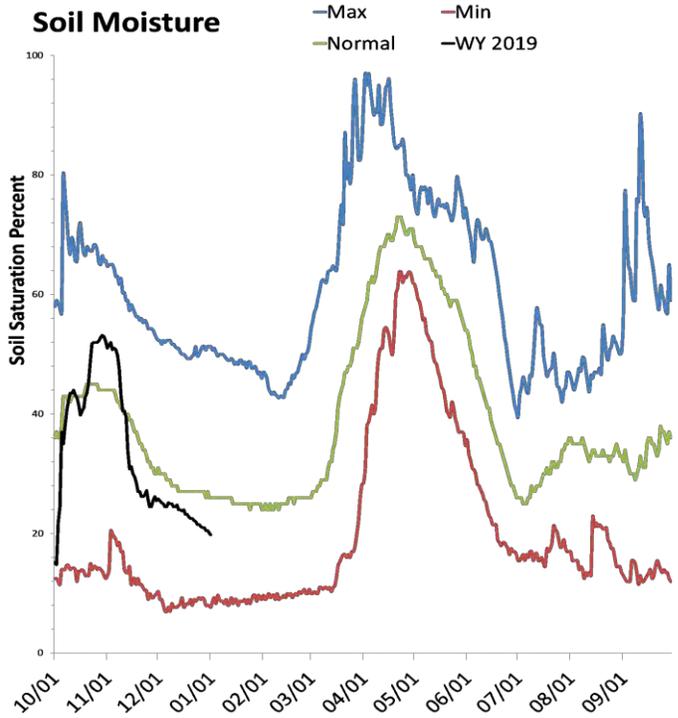
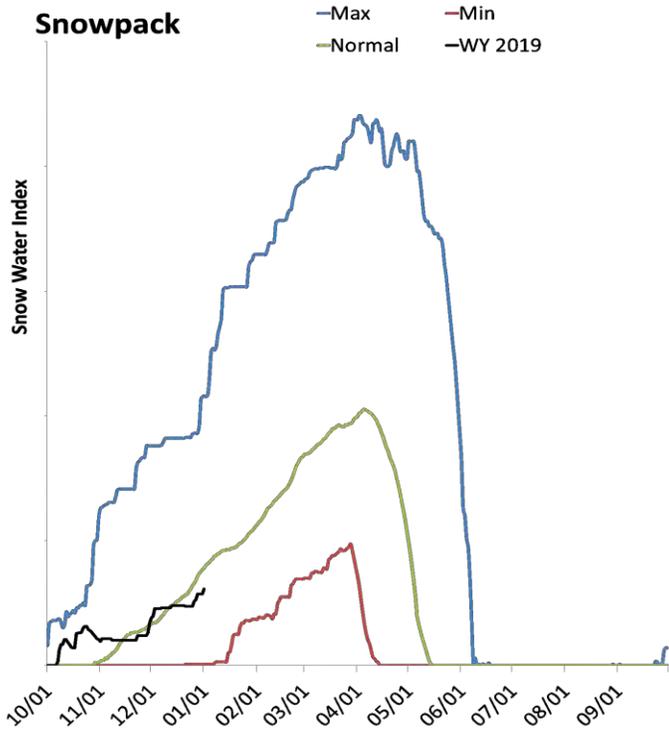
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



Escalante River Basin

January 1, 2019

Snowpack in the Escalante River Basin is below normal at 79% of normal, compared to 7% last year. Precipitation in December was much below average at 63%, which brings the seasonal accumulation (Oct-Dec) to 102% of average. Soil moisture is at 20% compared to 12% last year.



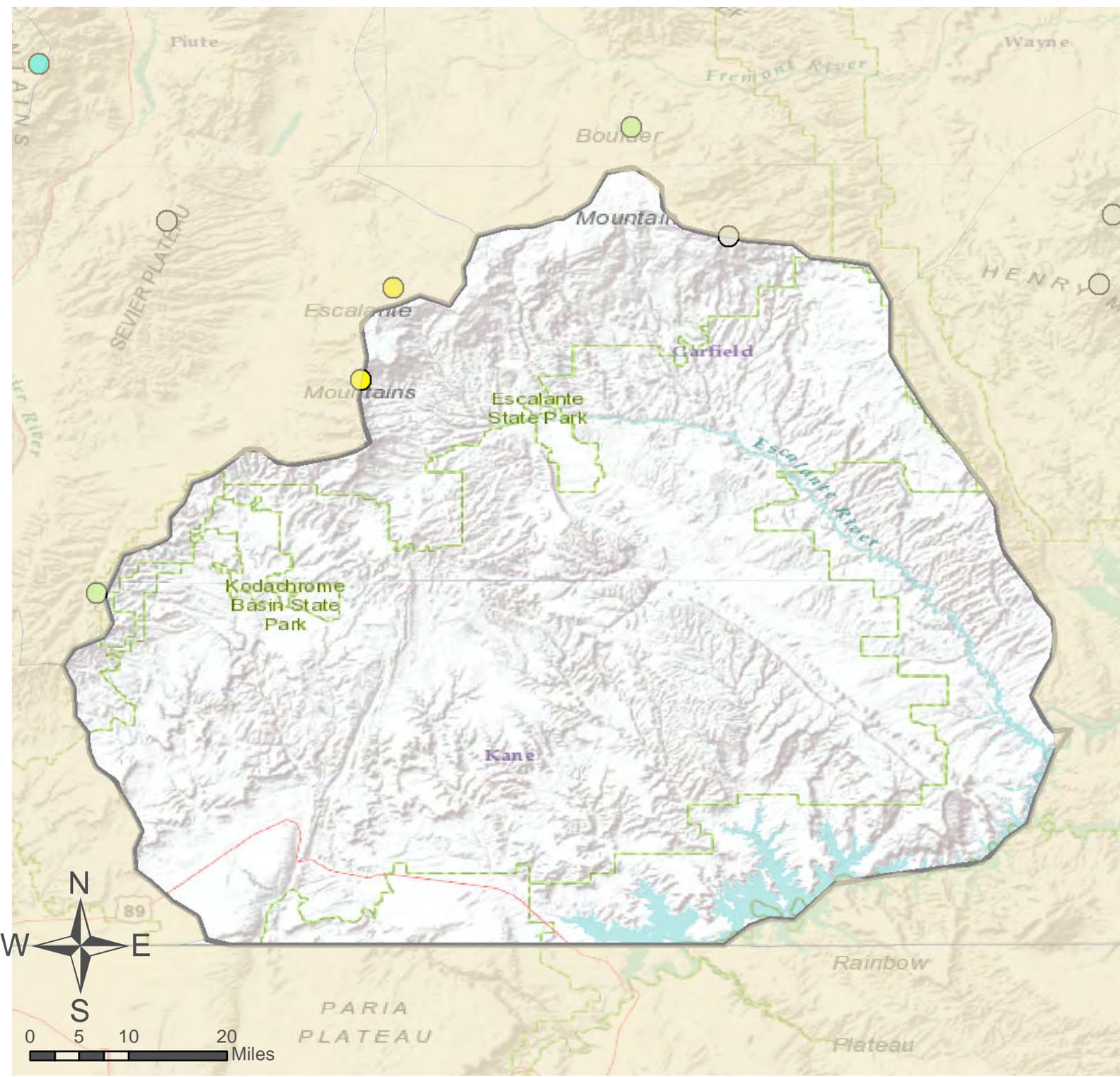
Escalante River Streamflow Forecasts - January 1, 2019

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

Escalante River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
<i>NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT</i>								

- 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
- 3) Median value used in place of average

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Escalante River	3	79%	7%
Paria River	2	84%	0%



Escalante River Basin

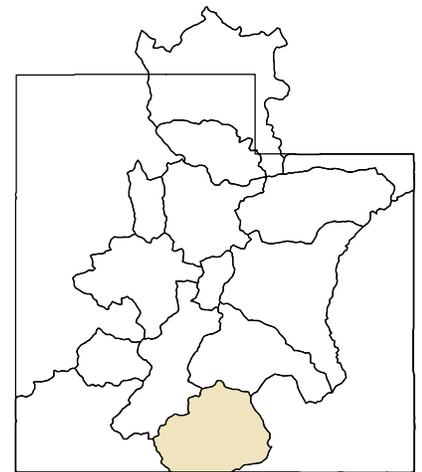
- SNOTEL Site
- △ Forecast Point

As of January 1, 2019:

79% of Normal SWE
 102% of Normal Precipitation
 63% of Normal Precipitation Last Month
 20% Saturation Soil Moisture
 Escalante River Basin

% of Normal

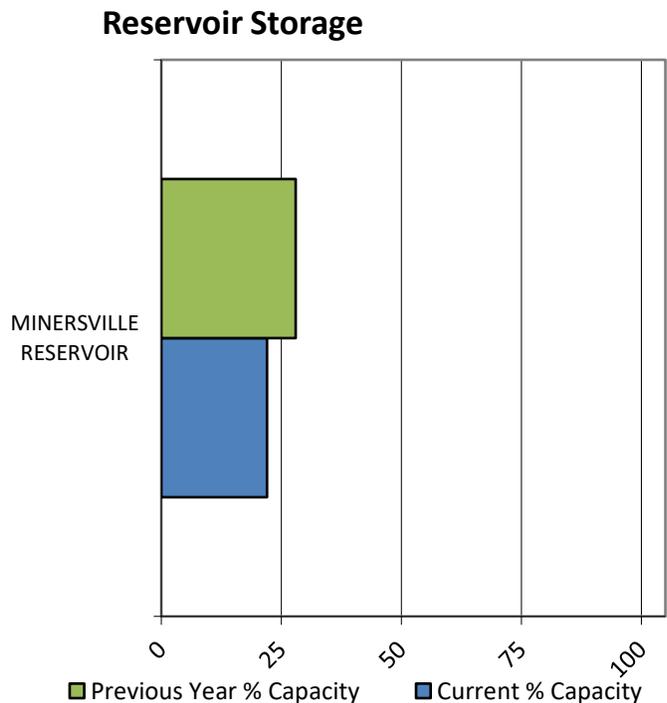
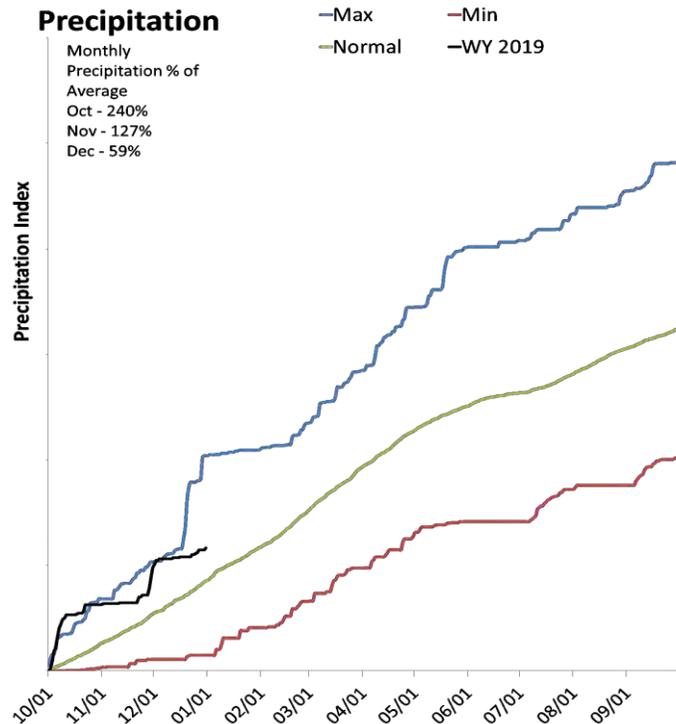
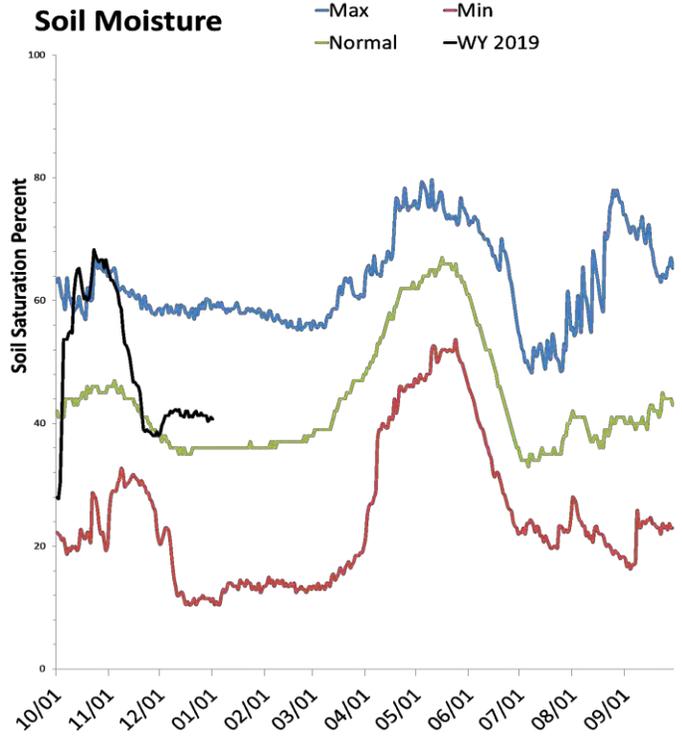
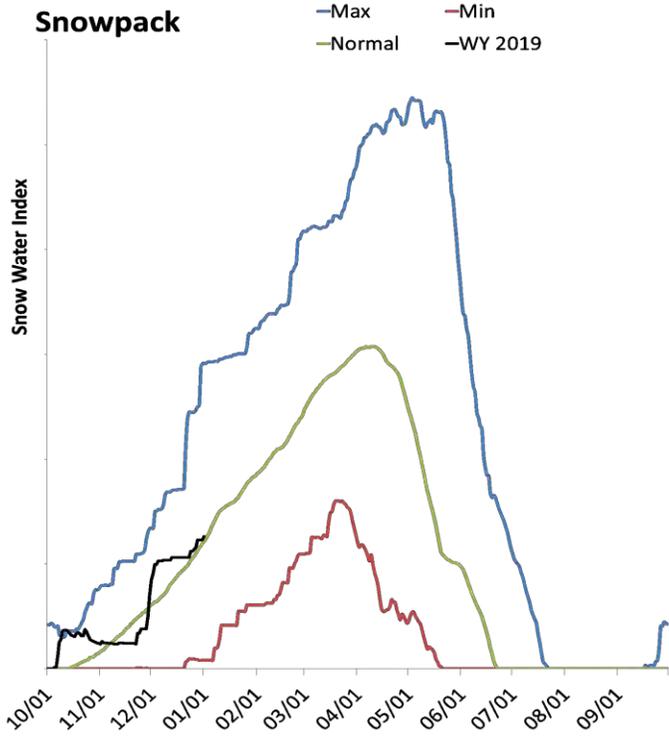
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



Beaver River Basin

January 1, 2019

Snowpack in the Beaver River Basin is near normal at 104% of normal, compared to 7% last year. Precipitation in December was much below average at 58%, which brings the seasonal accumulation (Oct-Dec) to 136% of average. Soil moisture is at 41% compared to 22% last year. Reservoir storage is at 22% of capacity, compared to 28% last year.



Beaver River Streamflow Forecasts - January 1, 2019

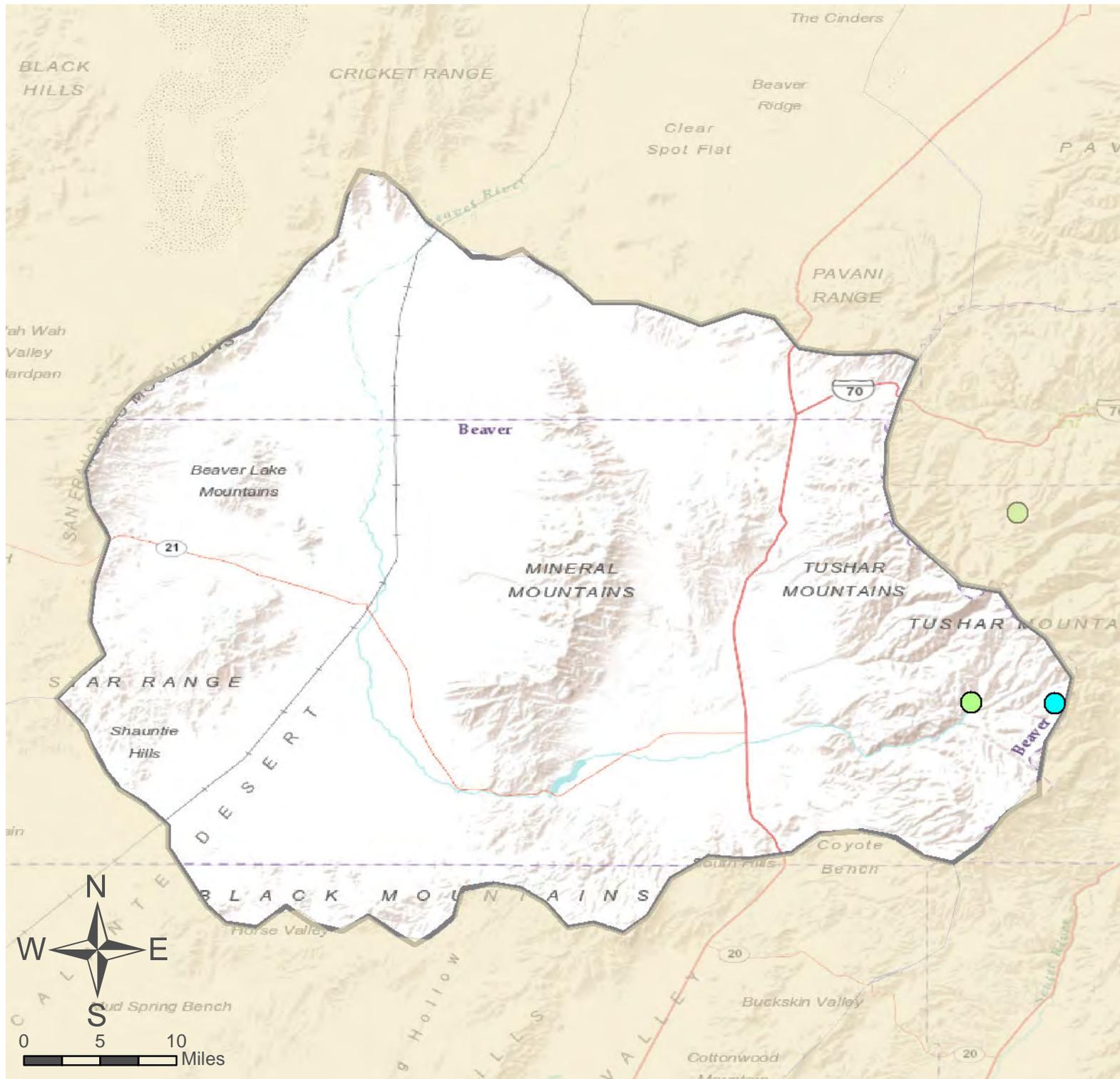
Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

Beaver River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Beaver R nr Beaver	NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT							

- 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
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Minersville Reservoir	5.2	6.5	11.8	23.3
Basin-wide Total	5.2	6.5	11.8	23.3
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Beaver River	3	104%	7%



Beaver River Basin

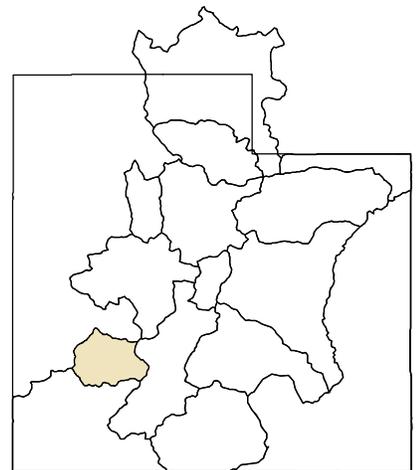
- SNOTEL Site
- △ Forecast Point

As of January 1, 2019:

104% of Normal SWE
 136% of Normal Precipitation
 58% of Normal Precipitation Last Month
 41% Saturation Soil Moisture
 Beaver River Basin

% of Normal

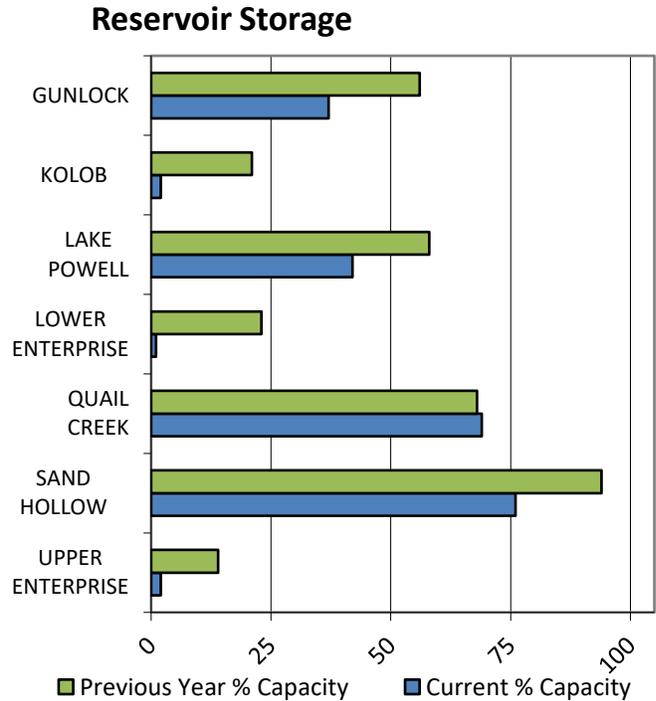
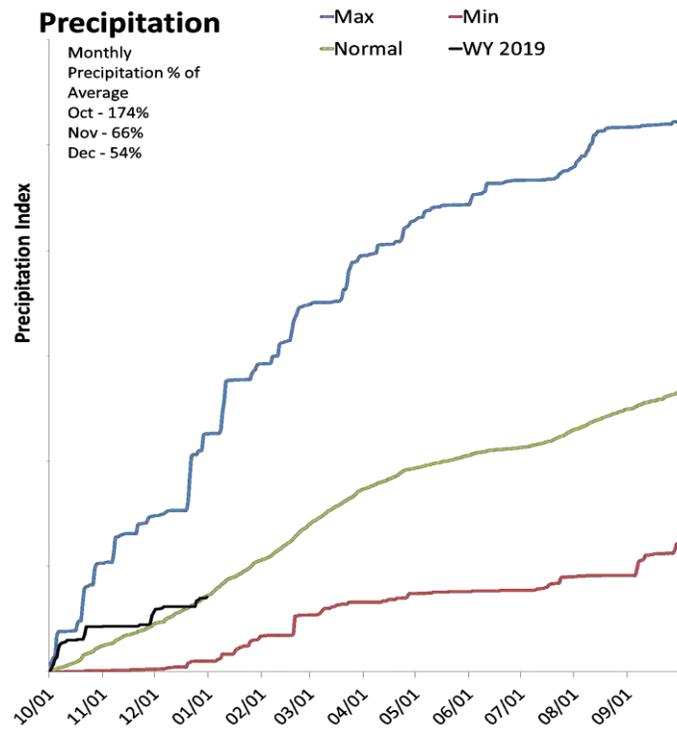
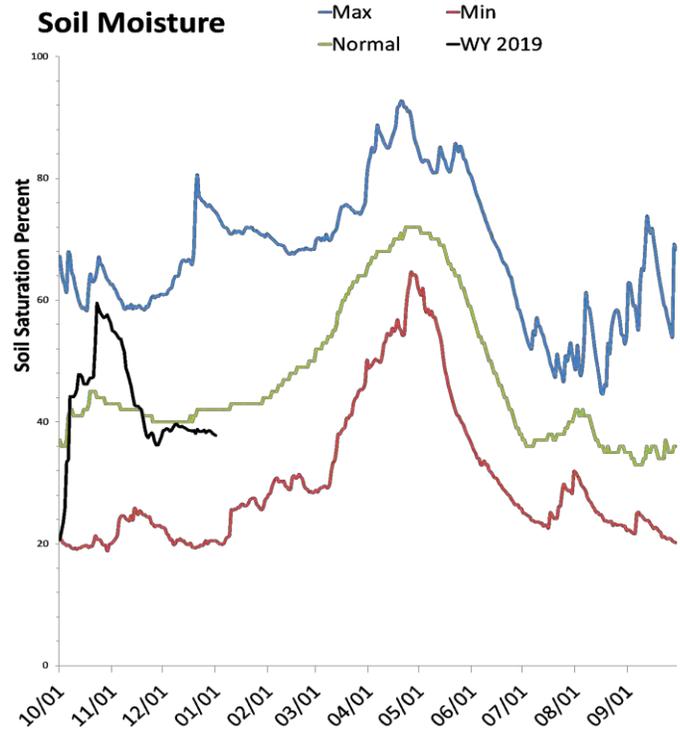
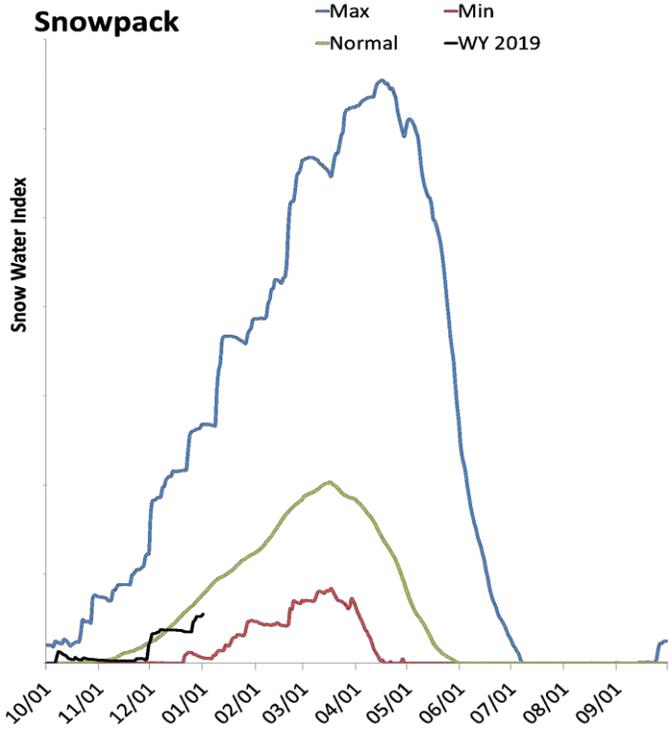
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



Southwestern Utah

January 1, 2019

Snowpack in the Southwestern Utah is below normal at 71% of normal, compared to 8% last year. Precipitation in December was much below average at 54%, which brings the seasonal accumulation (Oct-Dec) to 98% of average. Soil moisture is at 38% compared to 22% last year. Reservoir storage is at 42% of capacity, compared to 58% last year.



Southwestern Utah Streamflow Forecasts - January 1, 2019

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

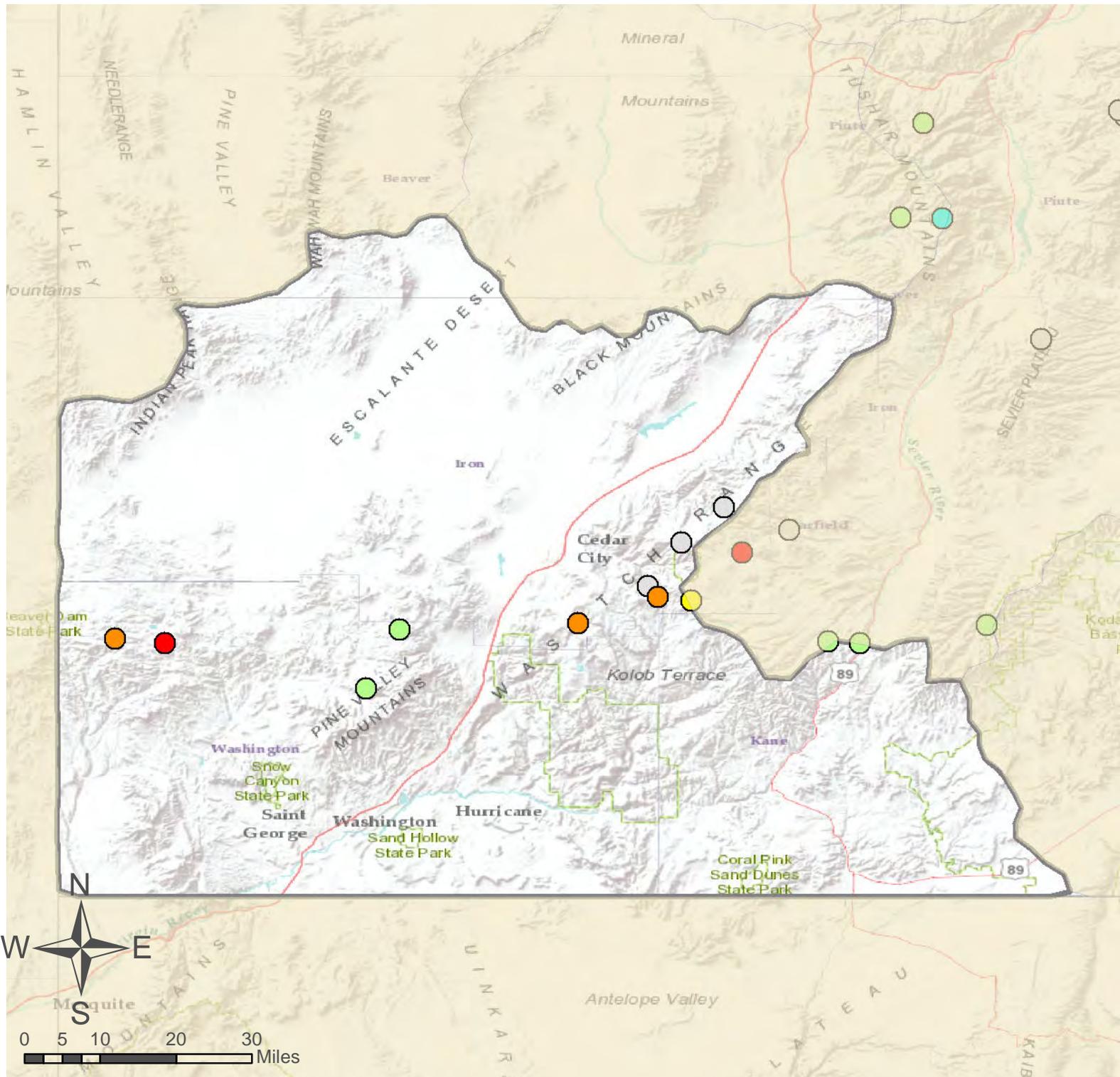
Southwestern Utah	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Lake Powell Inflow ²								
Virgin R nr Hurricane								
Virgin R at Virgin								
Santa Clara R nr Pine Valley								
Coal Ck nr Cedar City								

NO FORECASTS AVAILABLE FOR JANUARY 1 REPORT

- 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
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Lake Powell	10098.9	14067.6	17745.0	24322.0
Lower Enterprise	0.0	0.6	0.5	2.6
Upper Enterprise	0.2	1.4	2.8	10.0
Kolob Reservoir	0.1	1.2		5.6
Gunlock	3.8	5.8	6.2	10.4
Sand Hollow Reservoir	38.0	47.1		50.0
Quail Creek	27.6	27.1	25.3	40.0
Basin-wide Total	10130.6	14102.6	17779.8	24385.0
# of reservoirs	5	5	5	5

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
Upper Virgin	8	77%	10%
Lower Virgin	2	53%	11%
Coal Parowan Creeks	4	63%	5%

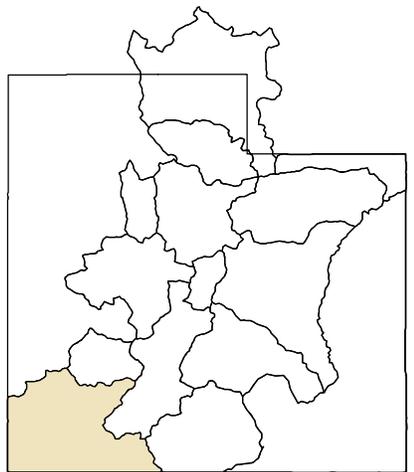


Southwestern Utah

- SNOTEL Site
- △ Forecast Point

% of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%
- No Normal



As of January 1, 2019:

- 71% of Normal SWE
- 98% of Normal Precipitation
- 54% of Normal Precipitation Last Month
- 38% Saturation Soil Moisture
- Southwestern Utah

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<https://www.nrcs.usda.gov/wps/portal/nrcs/main/ut/snow/>

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Utah Water Supply Outlook Report

Natural Resources Conservation Service
Salt Lake City, UT

