



Utah Climate and Water Report

November 1, 2018



Upper Emigration Canyon, Utah

Photo by Jordan Clayton

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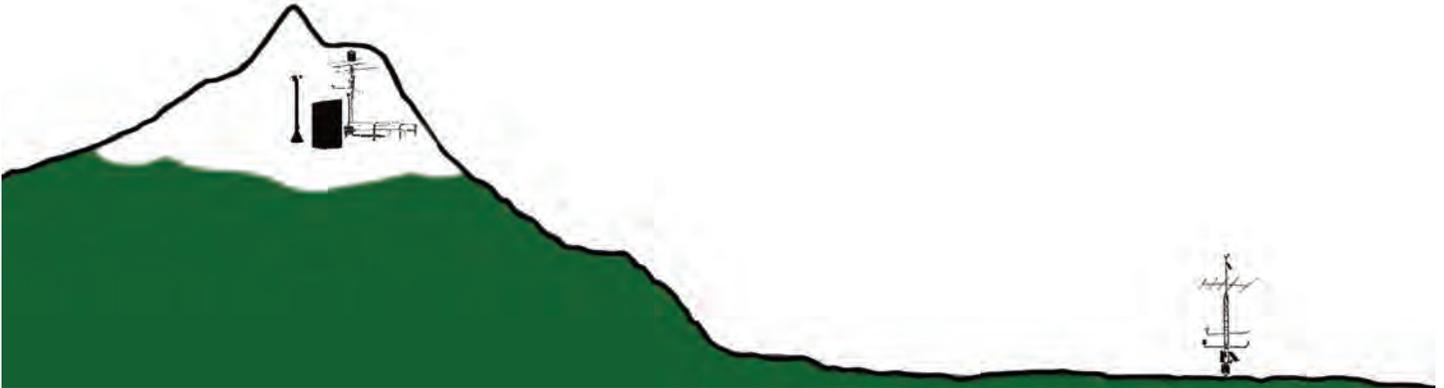
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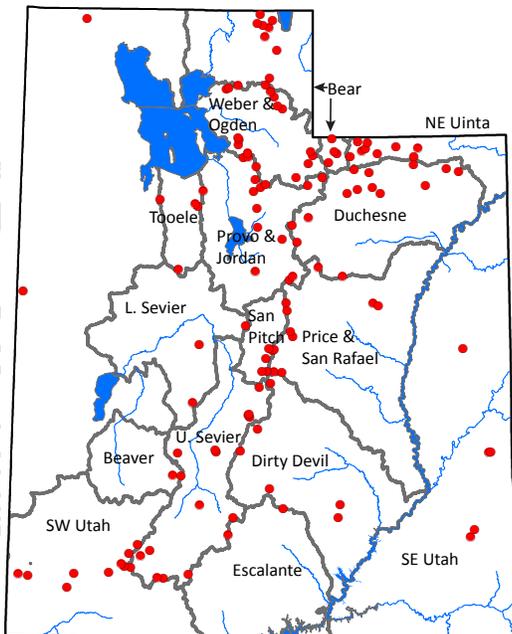
Utah Climate and Water Report

The purpose of the Climate and Water Report is to provide a snapshot of current and immediate past climatic conditions and other information useful to agricultural and water user interests in Utah. The report utilizes data from several sources that represent specific parameters (streamflow data from the United States Geological Survey, reservoir data from the Bureau of Reclamation, and other sources), geography including high elevation United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Snowpack Telemetry (SNOTEL) data, and agriculturally important data from the USDA-NRCS Soil Climate Analysis Network (SCAN). Data on precipitation, soil moisture, soil temperature, reservoir storage, and streamflow are analyzed and presented. These data analyses can be used to increase irrigation efficiency and agricultural production. As with all data and analyses, there are limitations due to data quality, quantity, and spatial application.



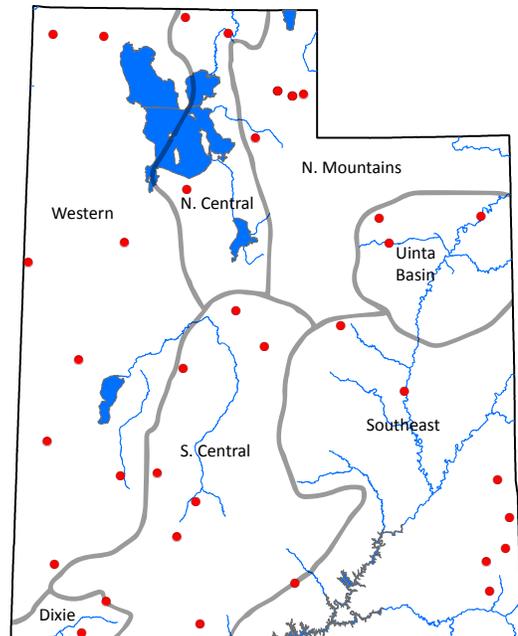
SNOTEL

- Mountainous areas
- High elevation (>6,000 ft)
- Water supply forecasting
- Installed where snow pack represents the water supply



SCAN

- Agricultural and range lands
- Mid elevation (3 – 7,000 ft).
- Irrigation efficiency and rangeland productivity
- Installed on spatially representative soils



Utah General Summary

November 1, 2018

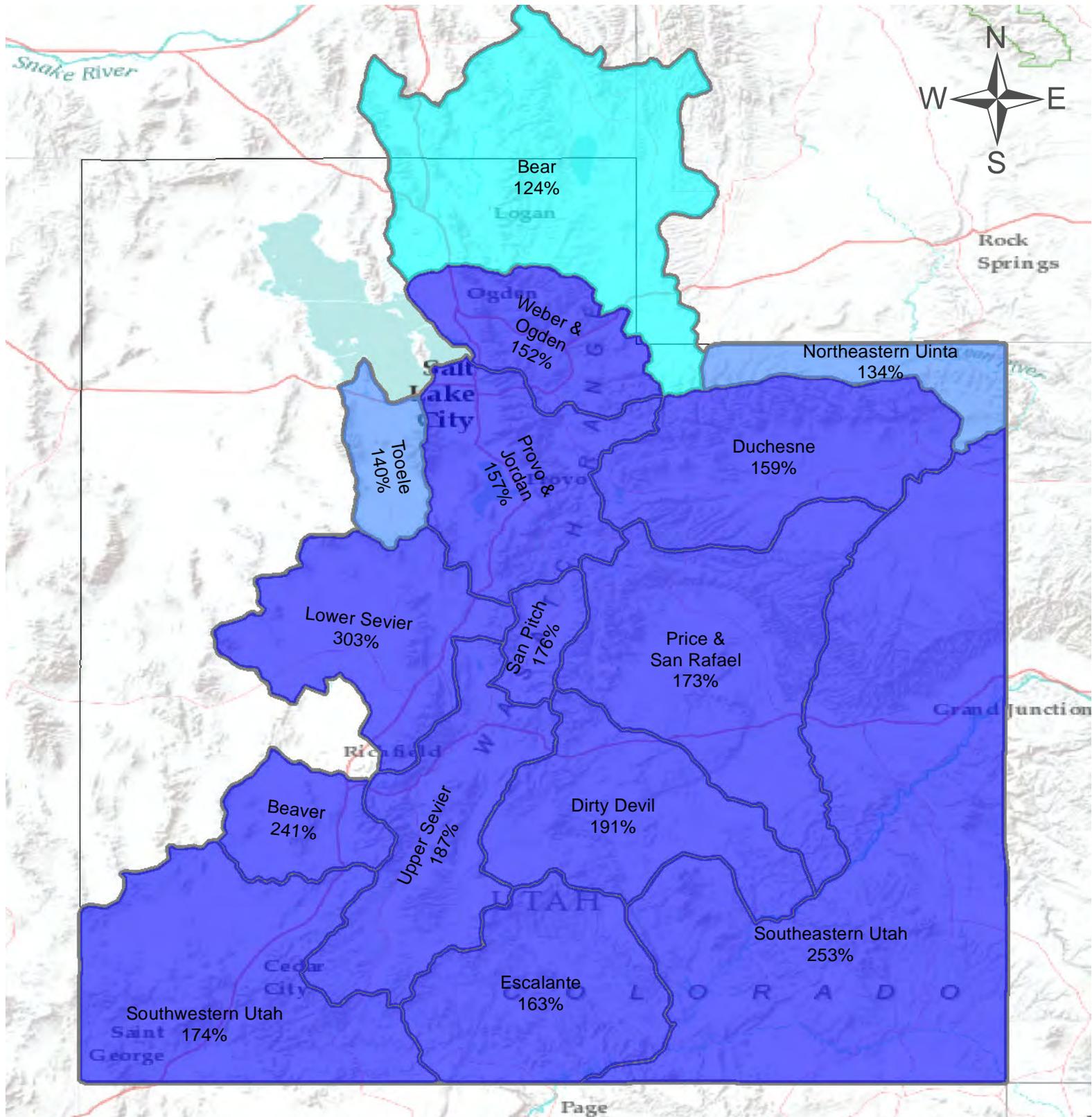
*This report has been reorganized to better reflect two distinct geographic areas being monitored – the low elevation valley sites (**Soil Climate Analysis Network**) that are critical for agricultural production and operations, and the high elevation mountainous areas where water supply is generated (**SNOWTElemetry**). Most of the graphs have been updated to utilize daily data versus the old monthly bar charts so that the timing and distribution of precipitation and other events can be seen. The timing distribution of precipitation can be as important as the overall amount in an agricultural context. These graphs are hyperlinked so that the user can simply click on the graph and be taken to the most recent version on the Snow Survey web page. Questions, comments and suggestions are welcome and should be directed to troy.brosten@ut.usda.gov.*

Current Valley Conditions (SCAN)

What a different a (water) year makes! Utah's valley locations received a whopping 2.6 inches of precipitation on average in October. The only benefit to the drought, is that had soil moisture levels been higher, last month's storms could have produced more serious flooding. Needless to say, soil moisture levels rose rapidly during the month from very low to above normal levels. Soil moisture conditions in the Western and Dixie region are the driest, as the area received the least monthly precipitation at 1.8 inches. Southeast Utah, perhaps the area most effected by drought, received 2.8 inches of precipitation, which, if the trend continues, will help the area dig out from its Exceptional Drought (D4) status. Overall, soil moisture levels are better than this time last year. Both soil and air temperatures are now trending slightly below normal, down from much higher than normal at the beginning of the month.

Current Mountain Conditions (SNOTEL)

Water year 2018 ended with a whimper and water year 2019 started with a bang! Precipitation in October was a welcome relief from the prior three months of hot, dry, and smoky weather. October precipitation across the state ranged from 124% on the Bear River to 303% on the Lower Sevier Basin bringing the state precipitation average to 160%. We've started to accumulate snow at our high elevation sites and, thanks to recent storm activity, soil moisture values have increased significantly to 60% across the state. The not so good news is that most reservoirs are 10% to 20% lower than normal this time of year due to heavy use over the summer months. The seasonal climate outlook from the Climate Prediction Center (NOAA) suggests an El Niño will form over the next couple months and continue throughout the winter which will improve chances for above normal precipitation in the south and equal chances in Northern Utah. Now what we really need is a nice big snowpack to pay back our water debt with interest (fingers crossed) and with saturated soils going into the winter months an improved springtime runoff efficiency would certainly help make the payments.



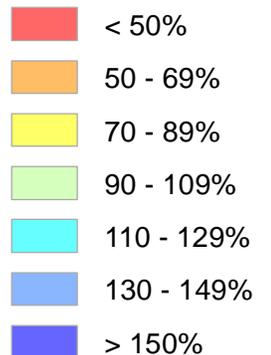
Statewide Precipitation

As of November 1, 2018:

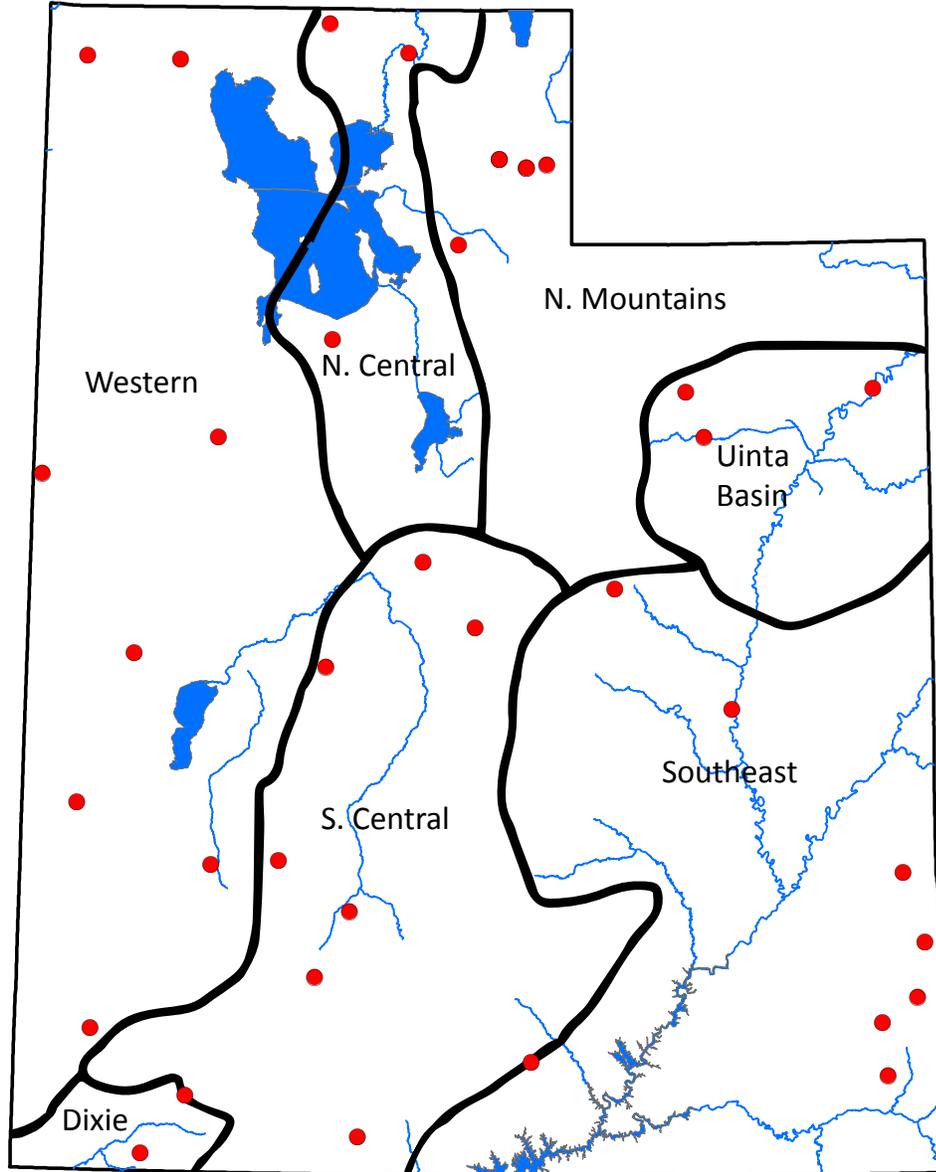
160% of Normal Precipitation

160% of Normal Precipitation Last Month

% of Normal



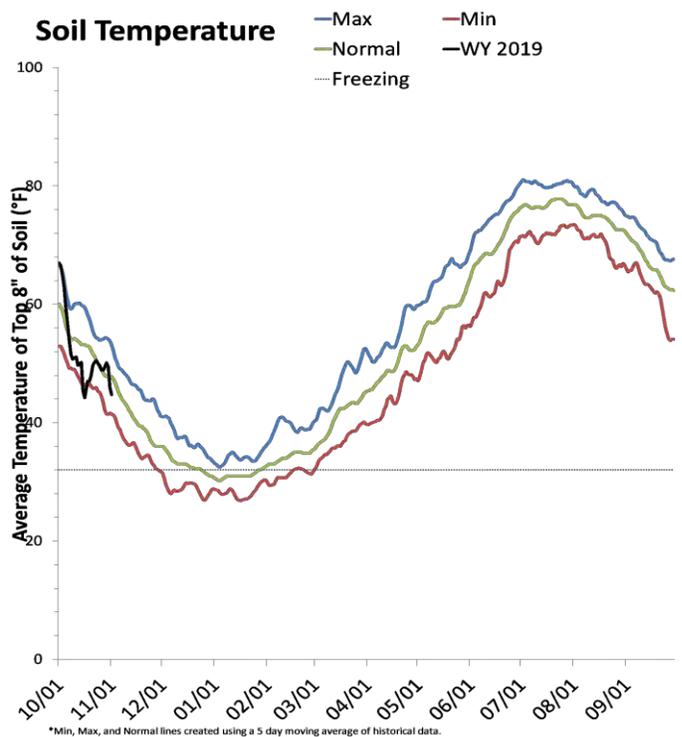
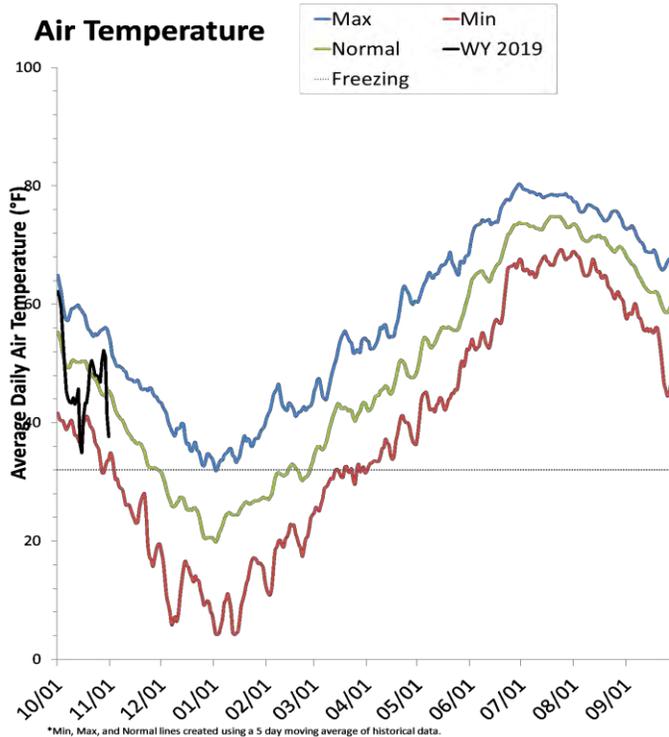
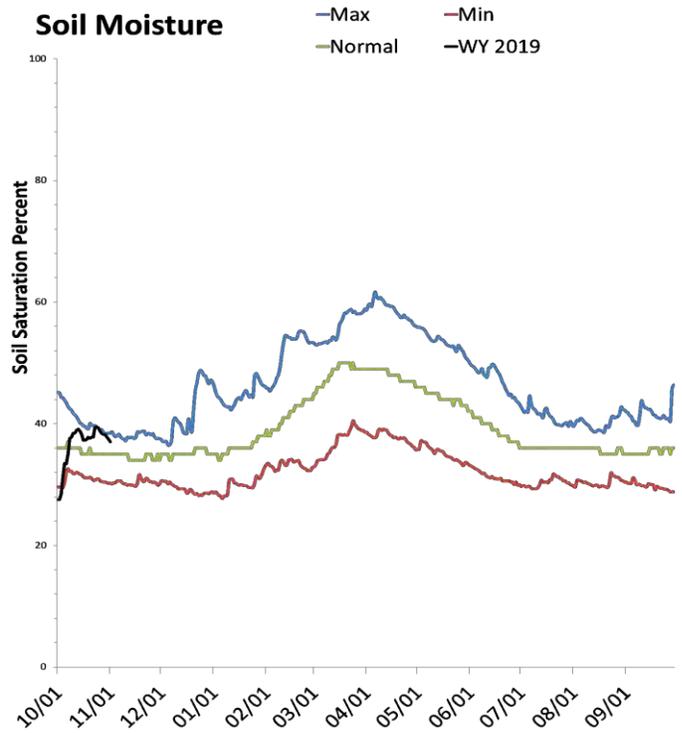
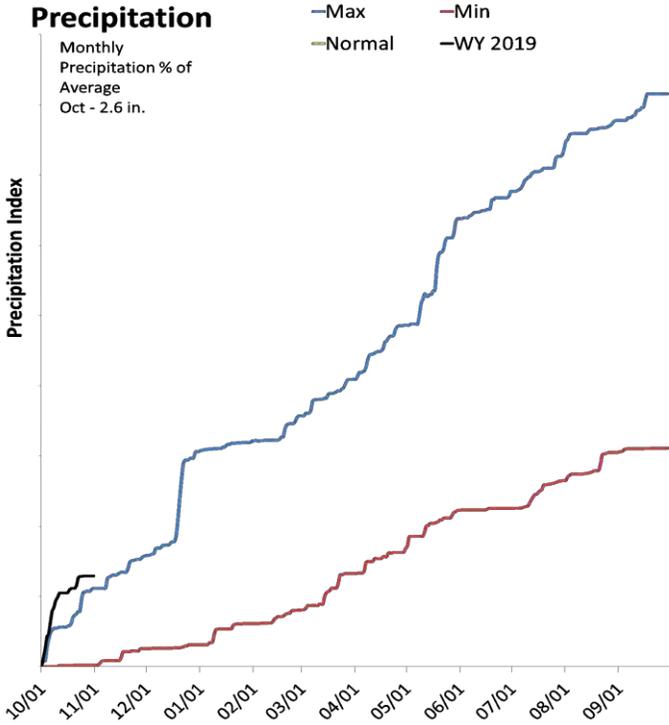
SCAN portion of report



Statewide SCAN

November 1, 2018

The average precipitation at SCAN sites within Utah was 2.6 inches in October, which brings the seasonal accumulation (Oct-Oct) to 2.6 inches. Soil moisture is at 38% compared to 31% last year.



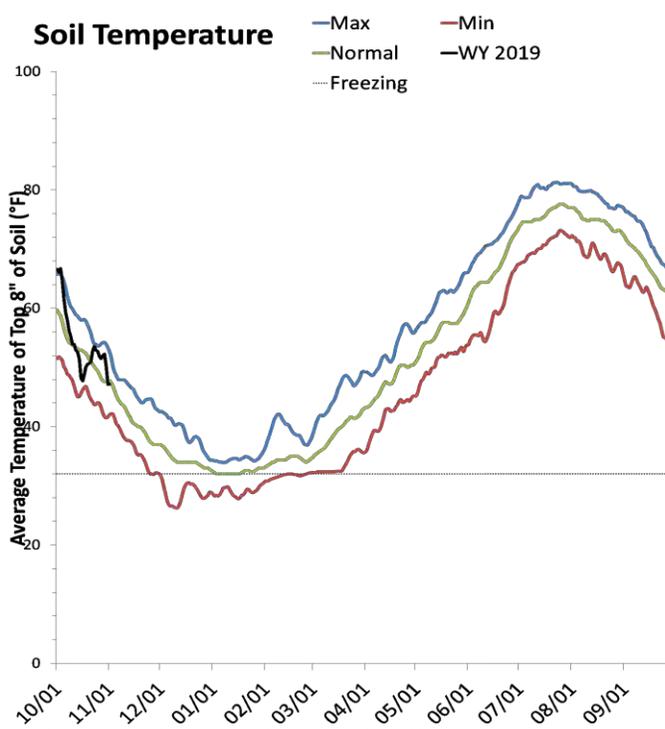
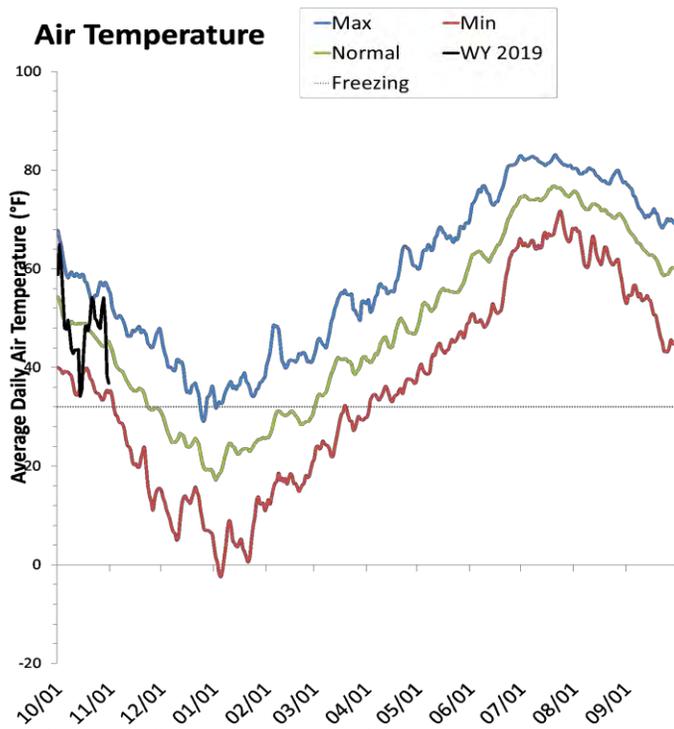
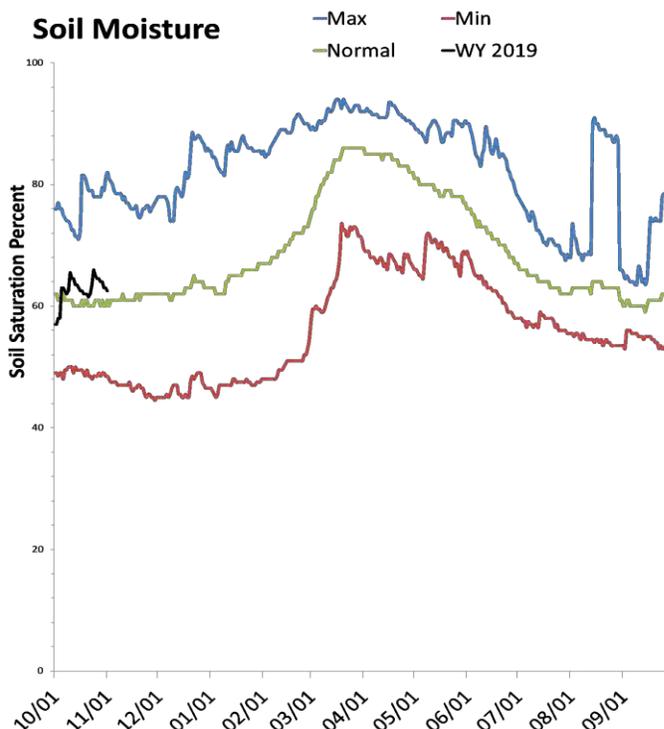
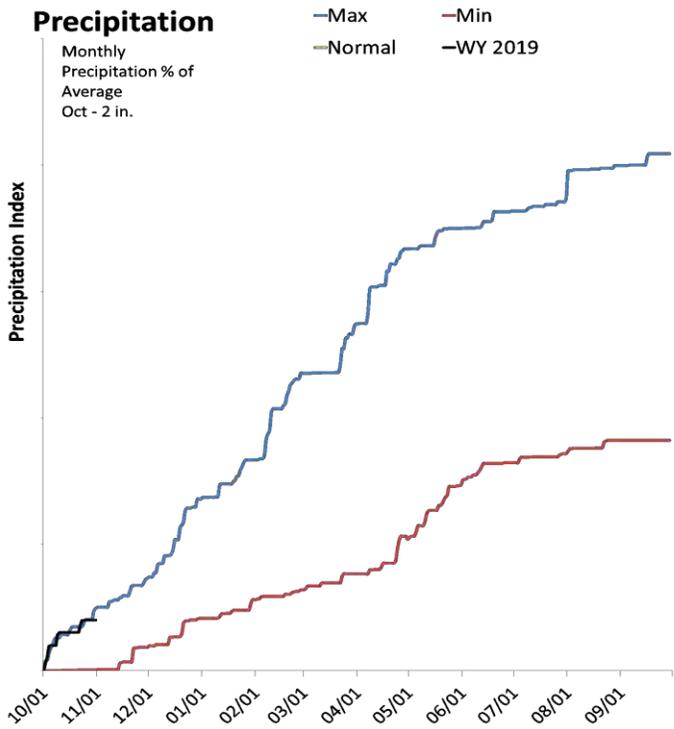
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

*Min, Max, and Normal lines created using a 5 day moving average of historical data.

North Central

November 1, 2018

The average precipitation in October at SCAN sites within the basin was 2 inches, which brings the seasonal accumulation (Oct-Oct) to 2 inches. Soil moisture is at 63% compared to 64% last year.



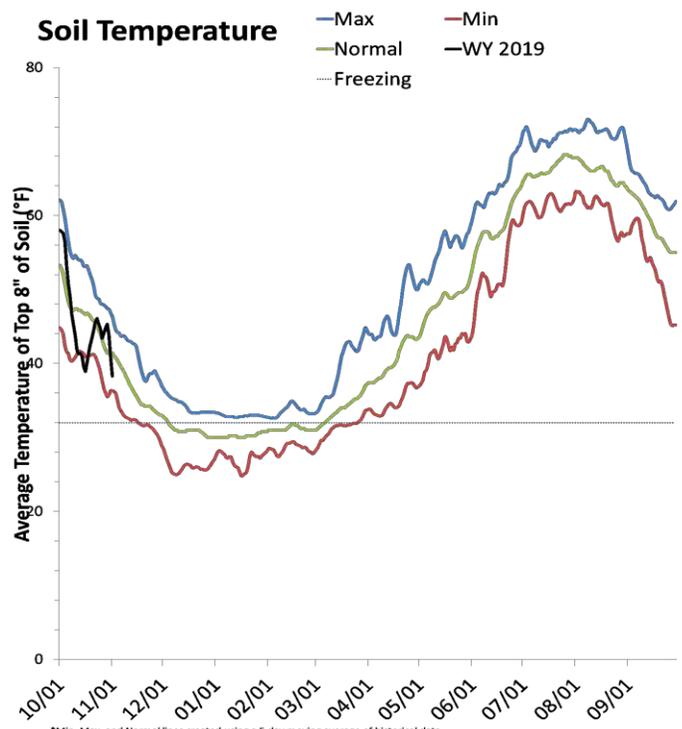
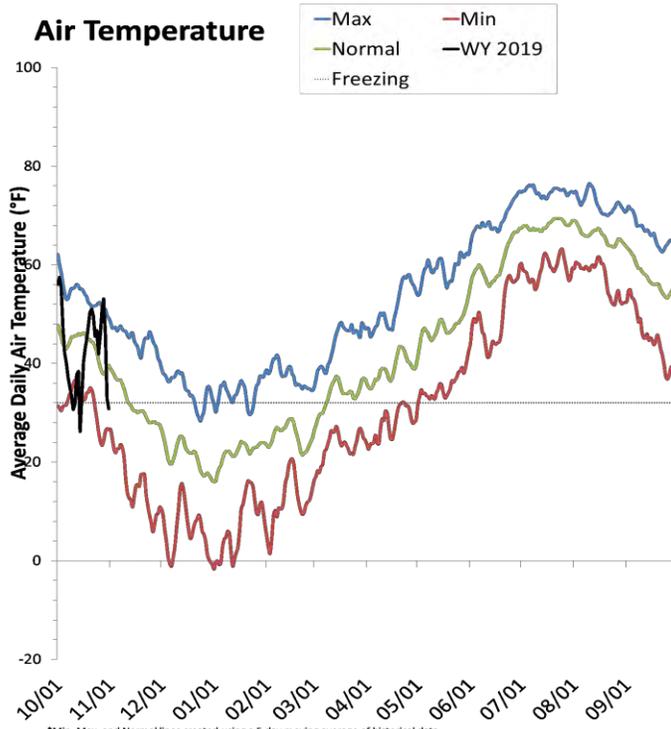
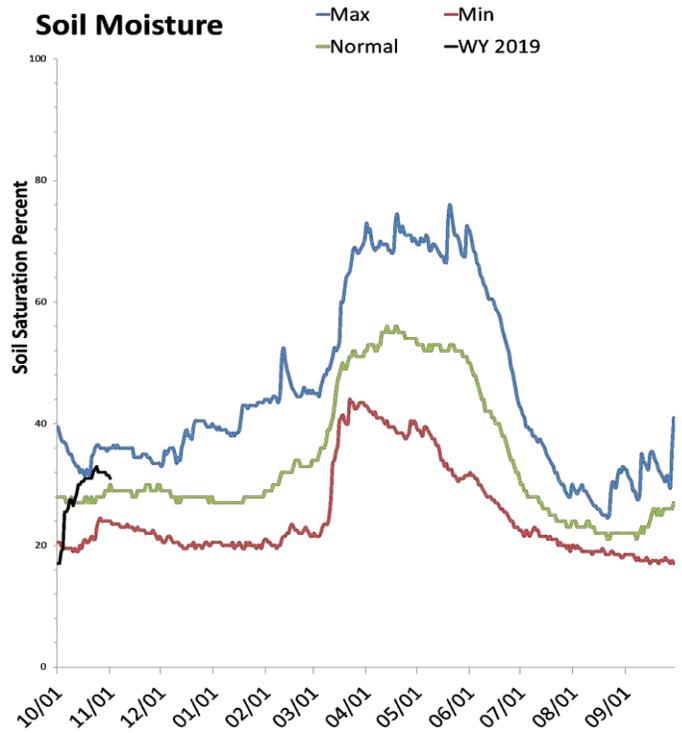
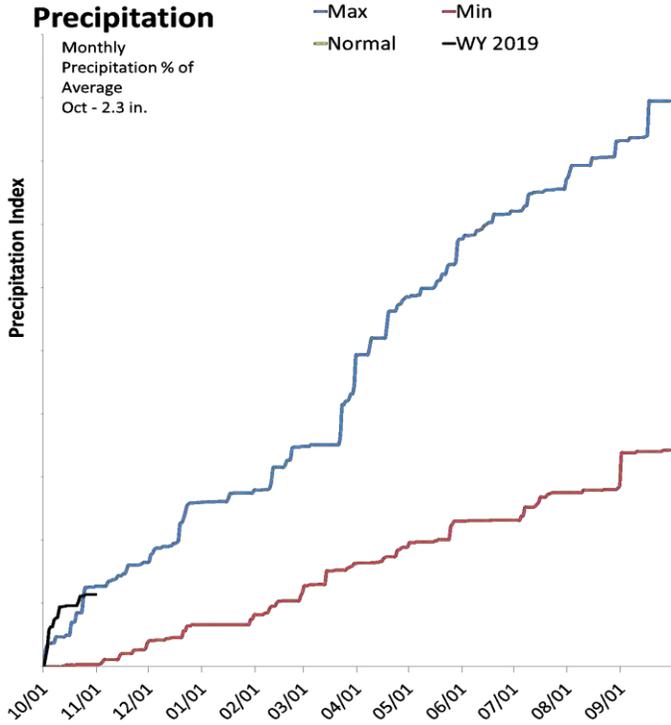
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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Northern Mountains

November 1, 2018

The average precipitation in October at SCAN sites within the basin was 2.3 inches, which brings the seasonal accumulation (Oct-Oct) to 2.3 inches. Soil moisture is at 32% compared to 38% last year.



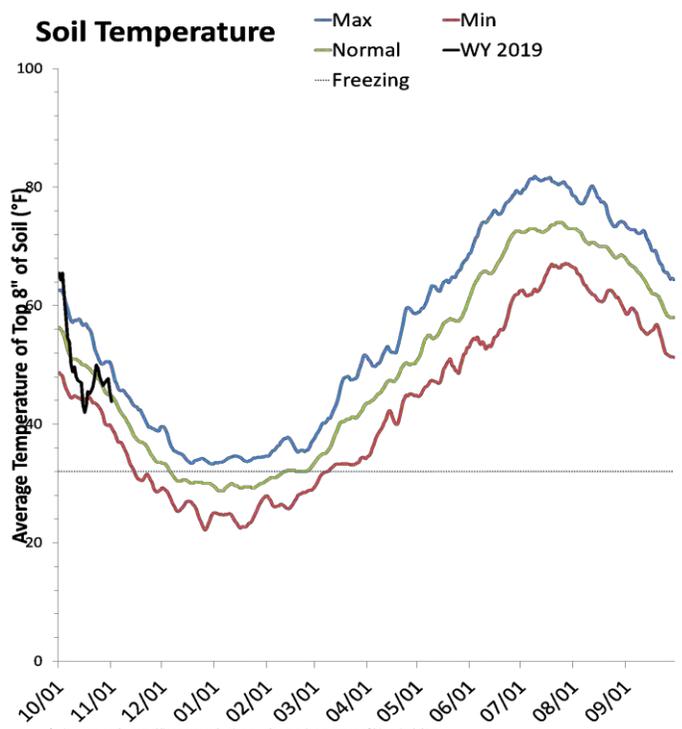
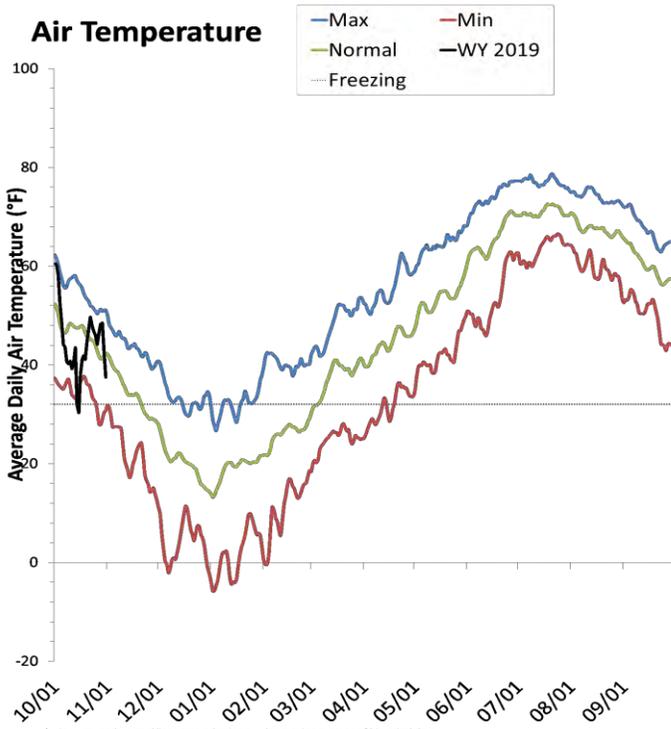
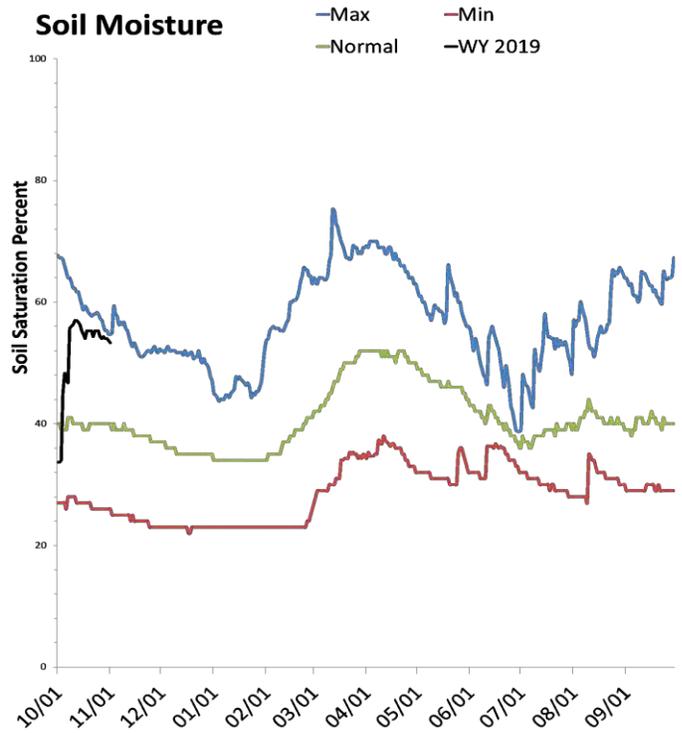
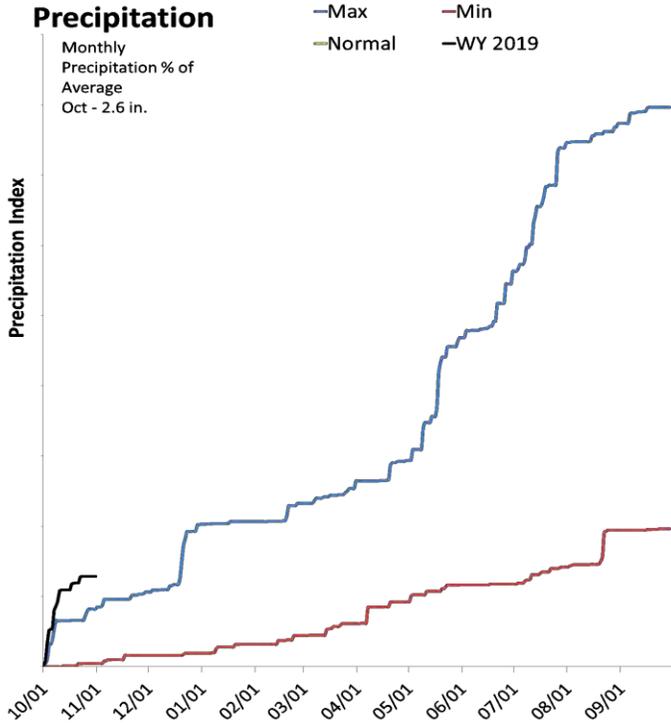
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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Uinta Basin

November 1, 2018

The average precipitation in October at SCAN sites within the basin was 2.6 inches, which brings the seasonal accumulation (Oct-Oct) to 2.6 inches. Soil moisture is at 53% compared to 33% last year.



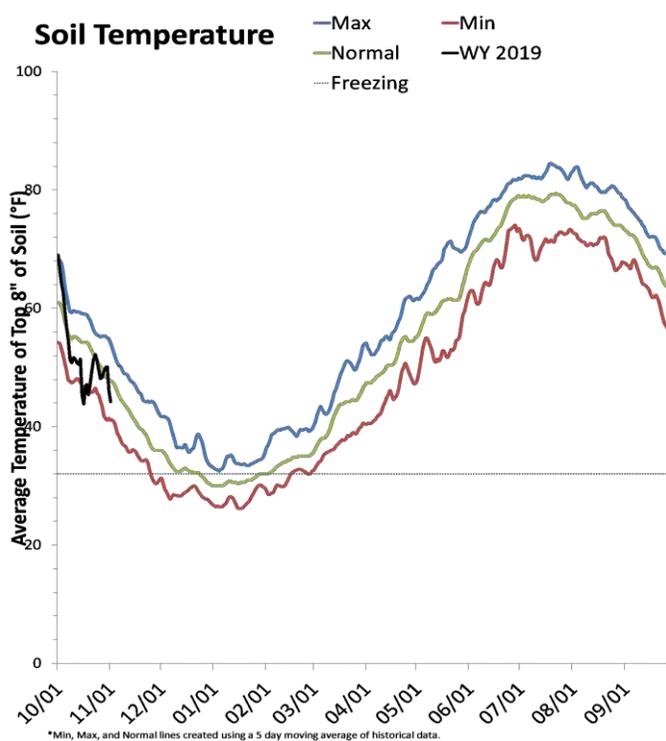
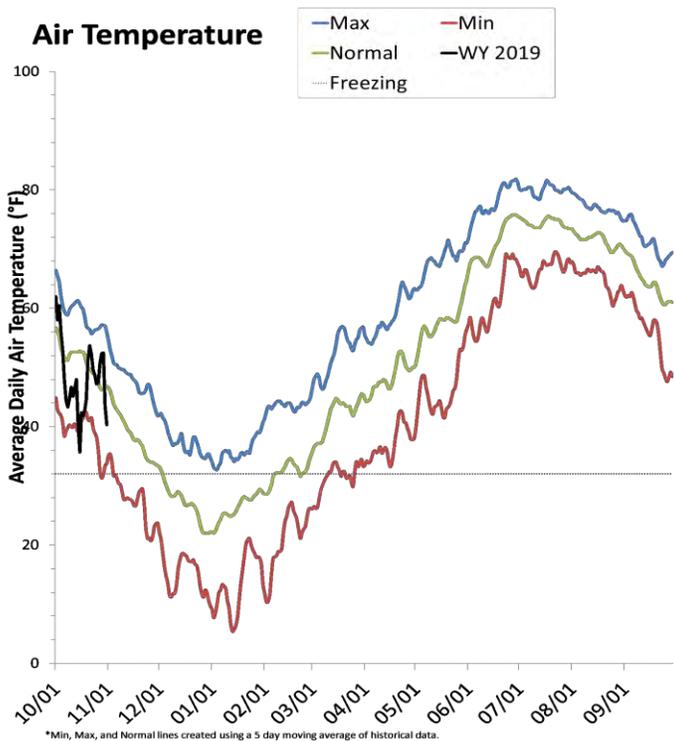
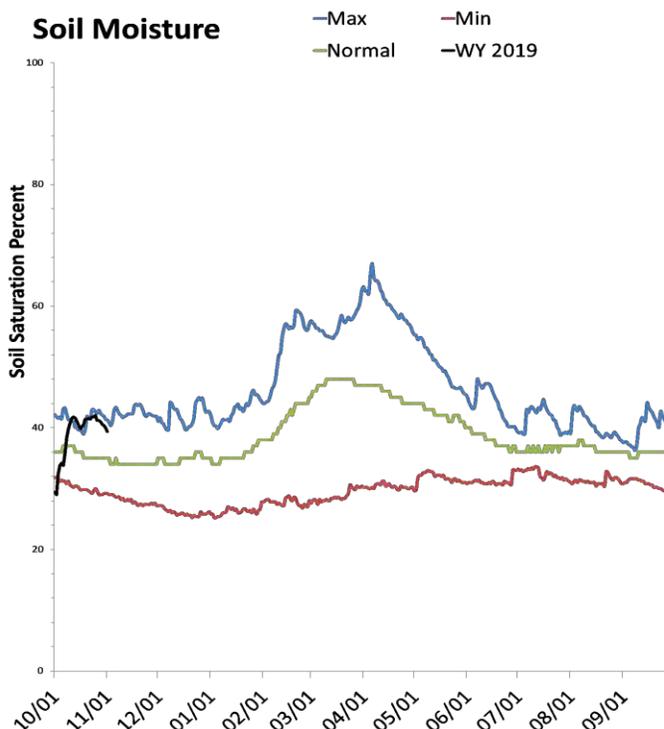
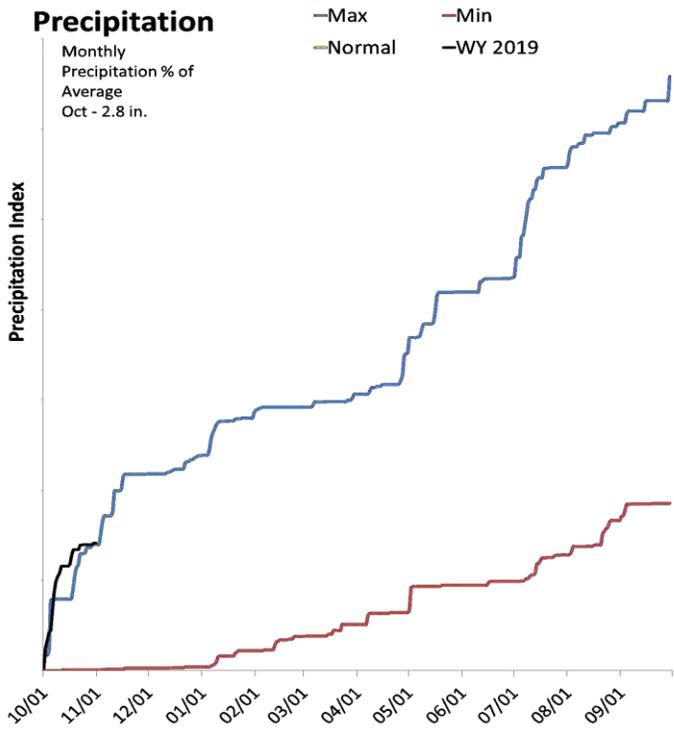
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

*Min, Max, and Normal lines created using a 5 day moving average of historical data.

Southeast

November 1, 2018

The average precipitation in October at SCAN sites within the basin was 2.8 inches, which brings the seasonal accumulation (Oct-Oct) to 2.8 inches. Soil moisture is at 39% compared to 33% last year.



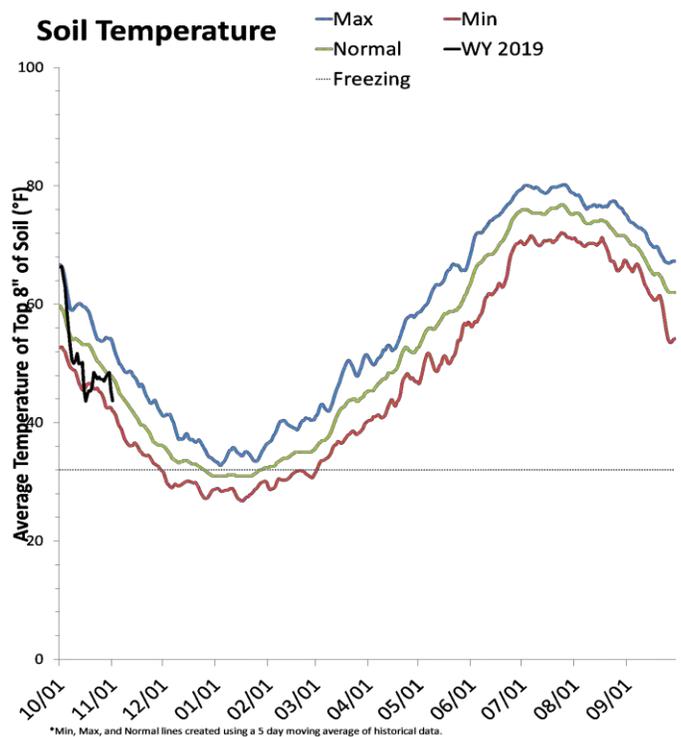
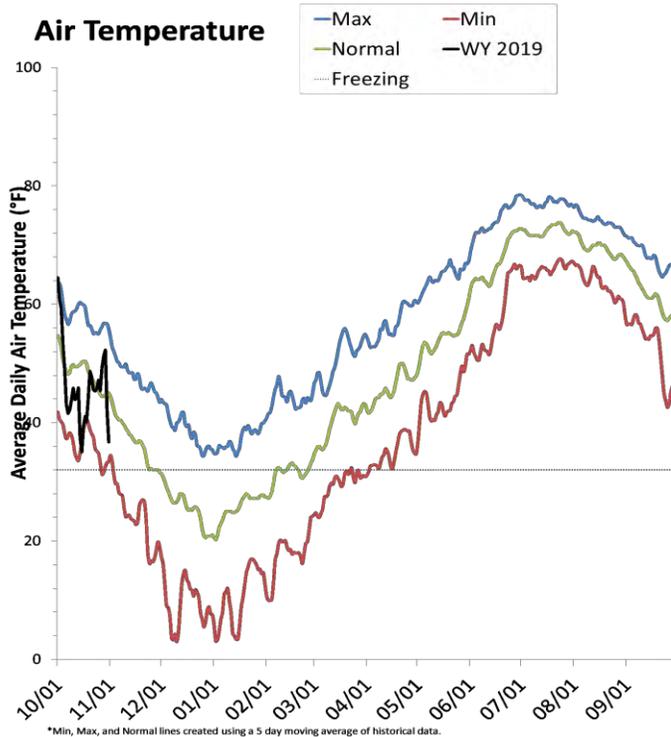
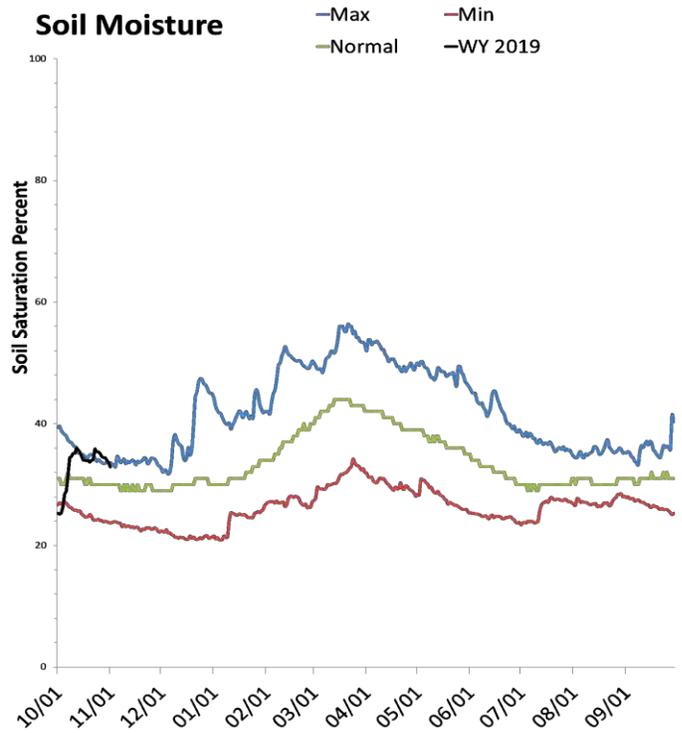
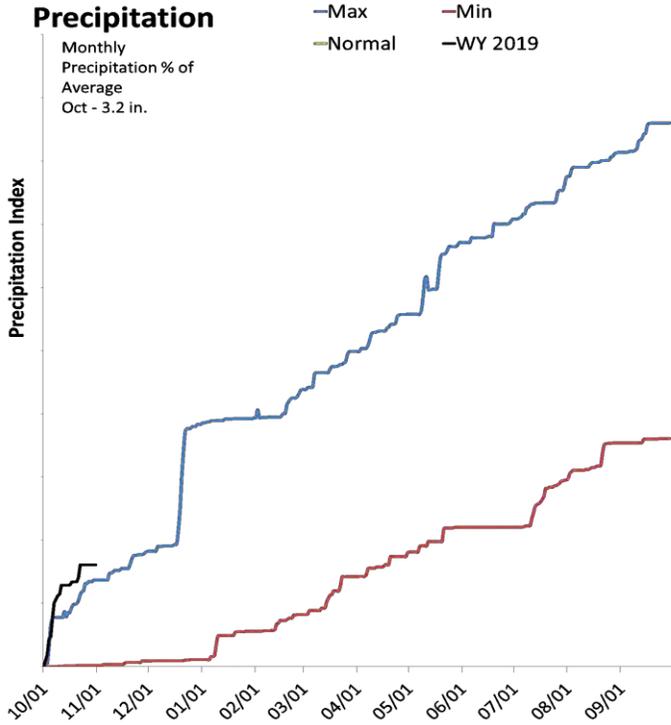
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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South Central

November 1, 2018

The average precipitation in October at SCAN sites within the basin was 3.2 inches, which brings the seasonal accumulation (Oct-Oct) to 3.2 inches. Soil moisture is at 35% compared to 26% last year.



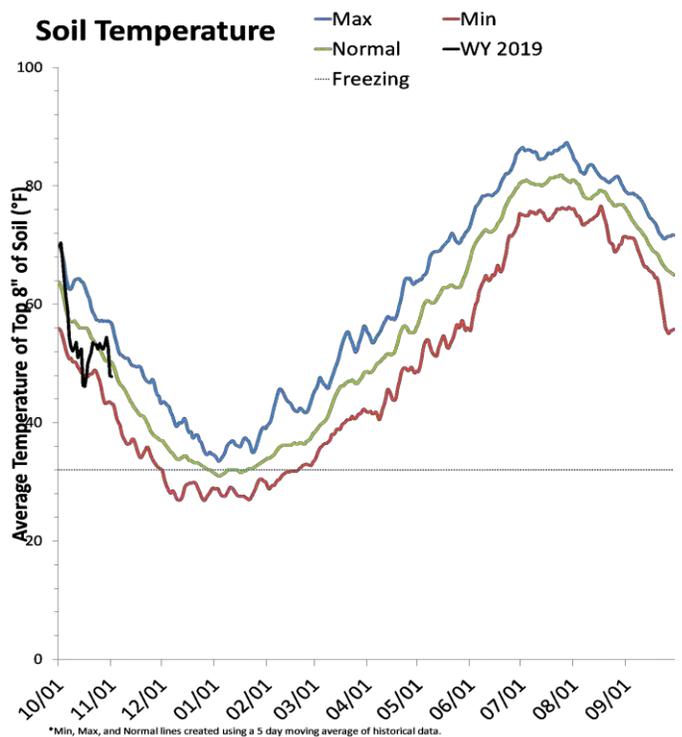
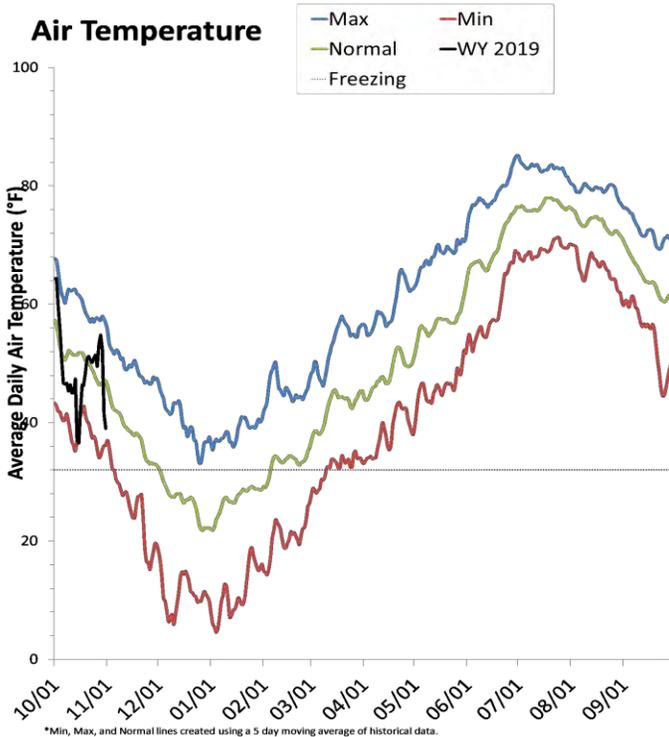
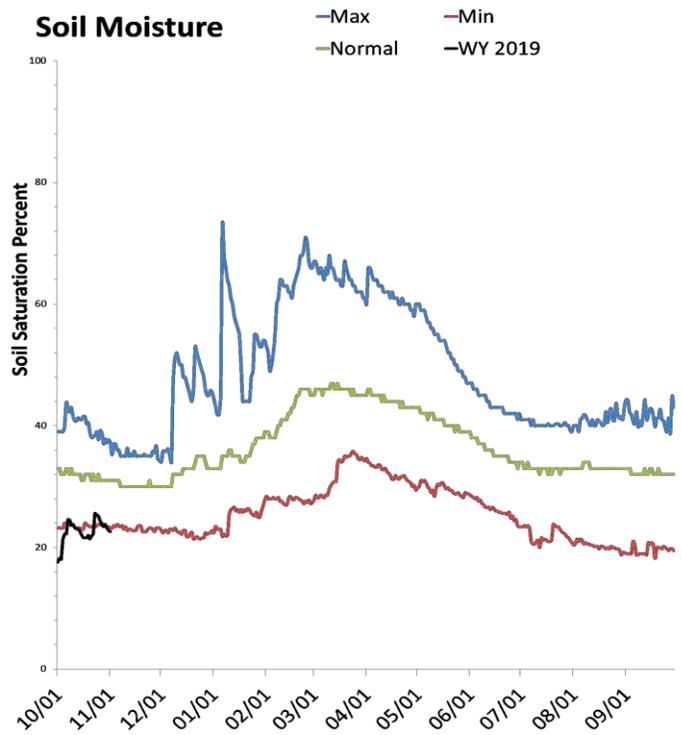
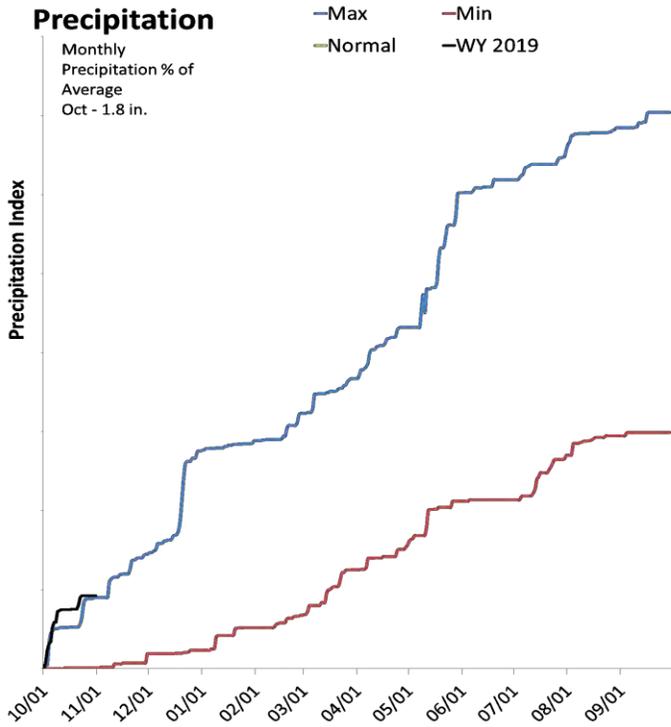
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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Western and Dixie

November 1, 2018

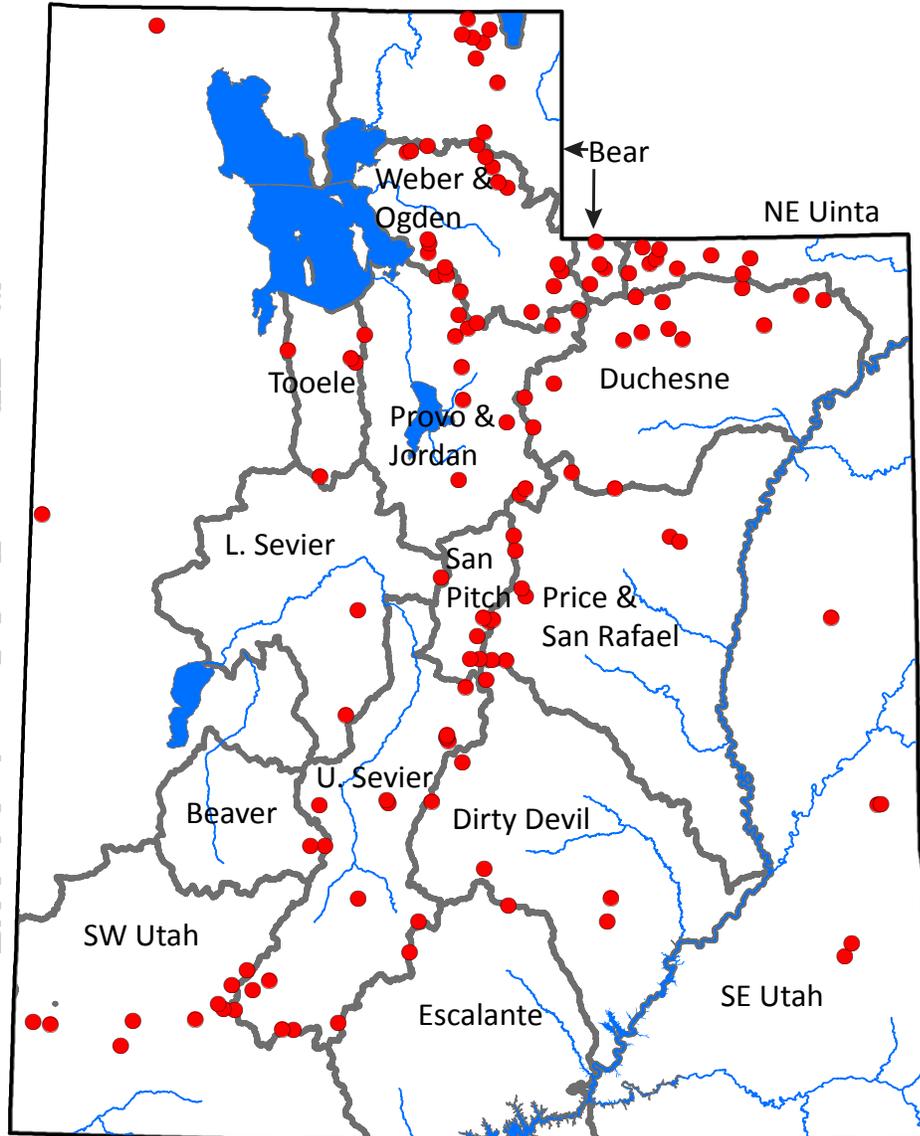
The average precipitation in October at SCAN sites within the basin was 1.8 inches, which brings the seasonal accumulation (Oct-Oct) to 1.8 inches. Soil moisture is at 22% compared to 23% last year.



*Min, Max, and Normal lines created using a 5 day moving average of historical data.

*Min, Max, and Normal lines created using a 5 day moving average of historical data.

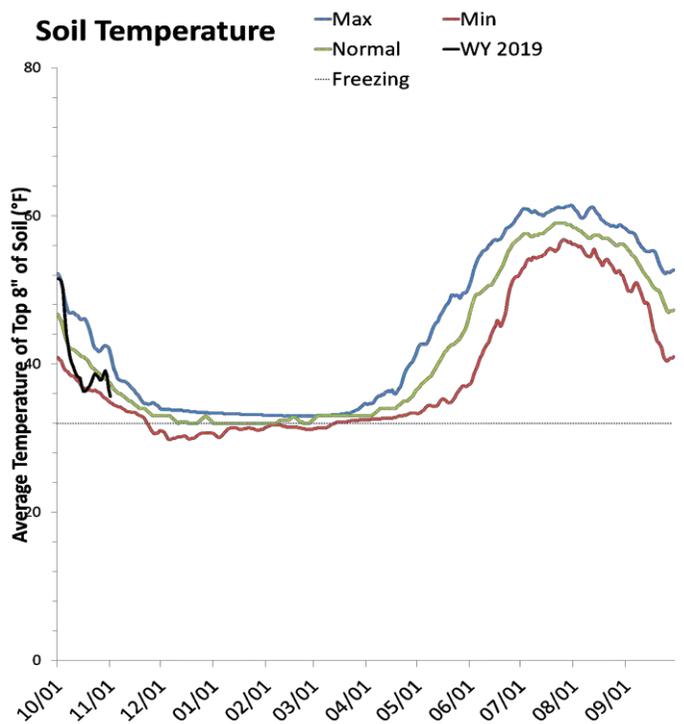
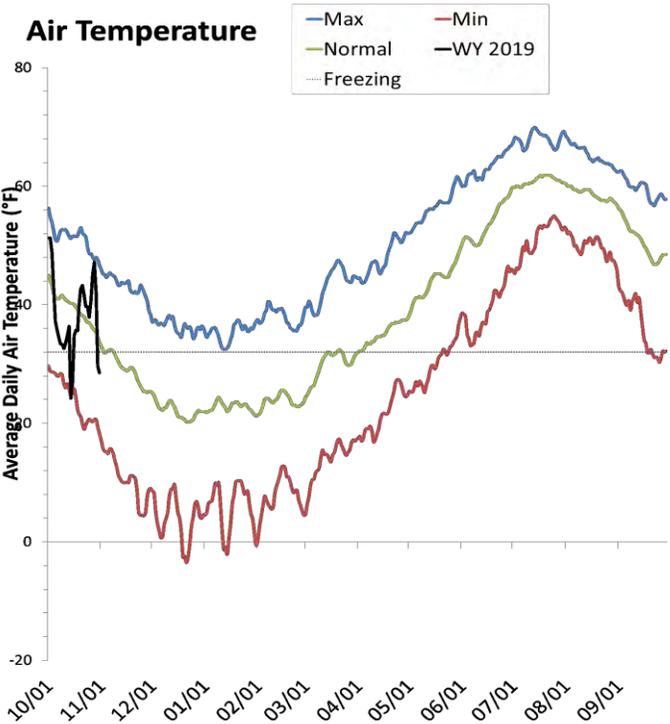
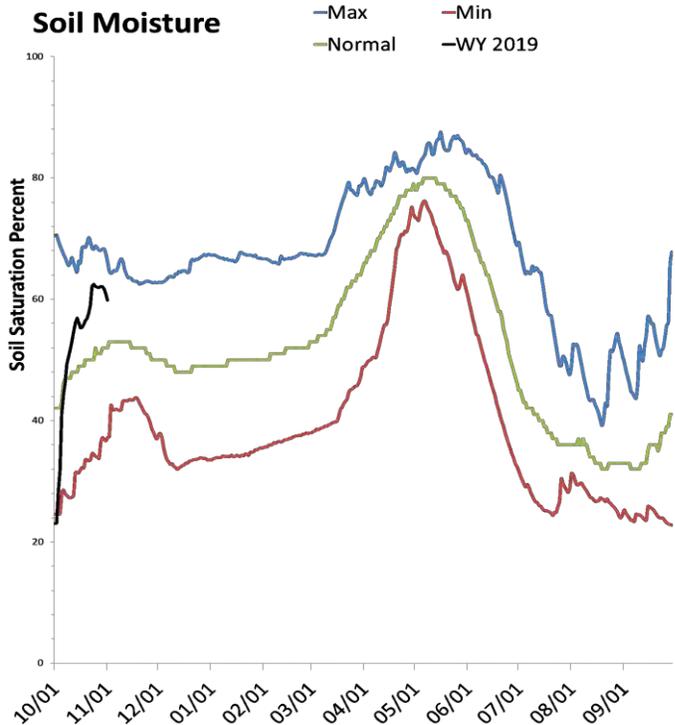
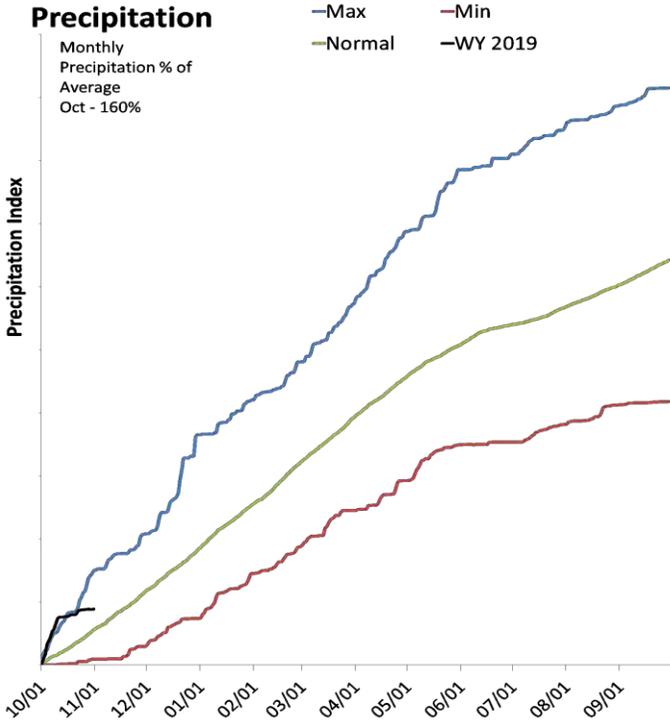
SNOTEL portion of report



Statewide SNOTEL

November 1, 2018

Precipitation at SNOTEL sites during October was much above average at 160%, which brings the seasonal accumulation (Oct-Oct) to 160% of average. Soil moisture is at 60% compared to 48% last year. Reservoir storage is at 55% of capacity, compared to 71% last year.



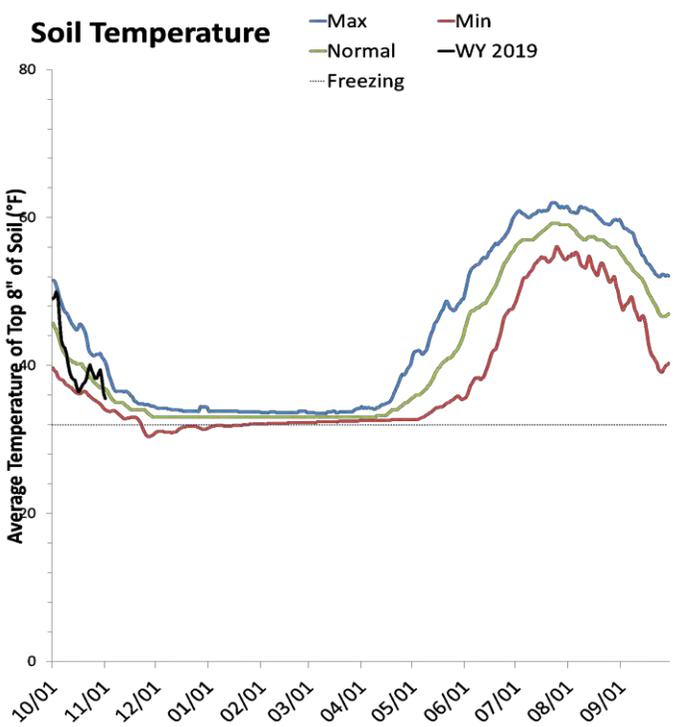
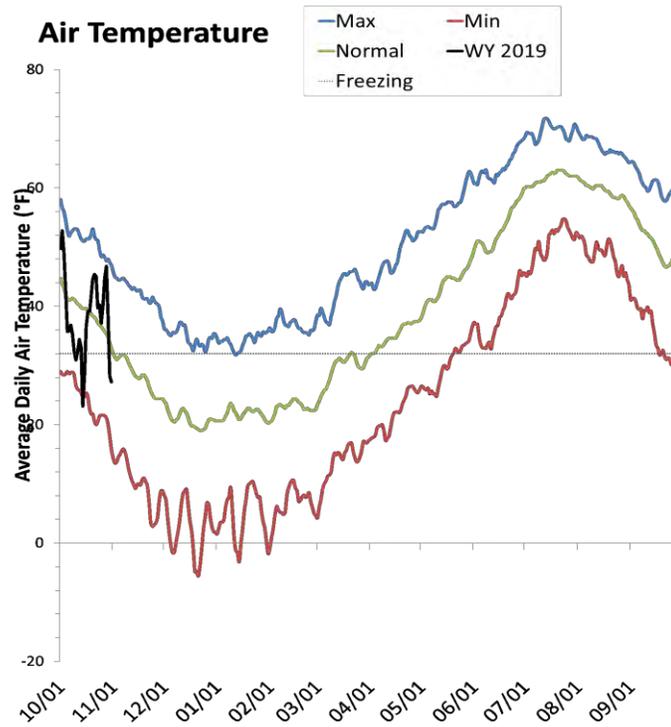
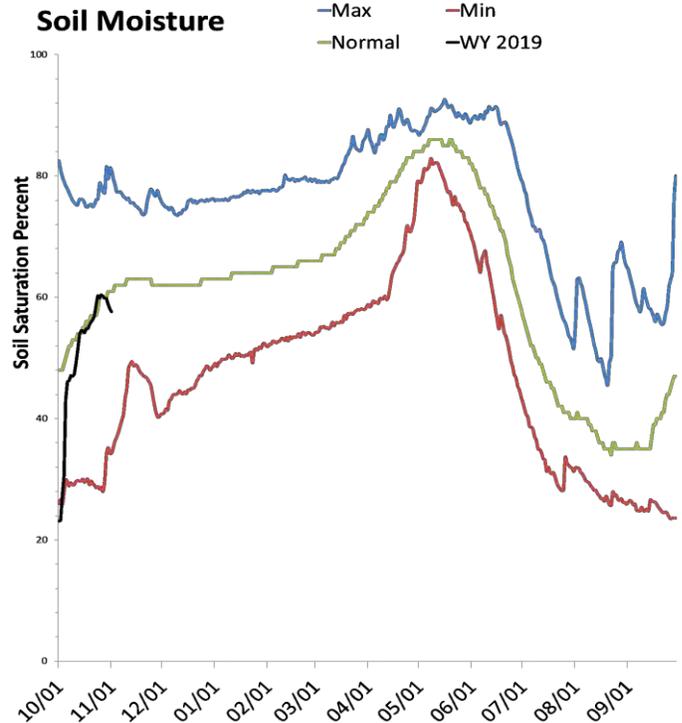
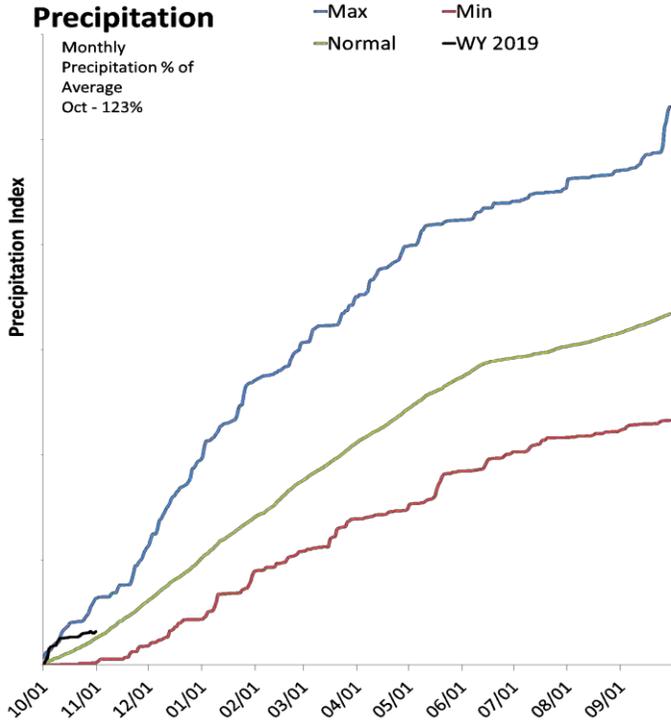
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

*Min, Max, and Normal lines created using a 5 day moving average of historical data.

Bear River Basin

November 1, 2018

Precipitation in October was above average at 124%, which brings the seasonal accumulation (Oct-Oct) to 124% of average. Soil moisture is at 58% compared to 63% last year. Reservoir storage is at 60% of capacity, compared to 83% last year. The water availability index for the Bear River is 69%, 38% for Woodruff Narrows and 52% for the Little Bear.



*Min, Max, and Normal lines created using a 5 day moving average of historical data.

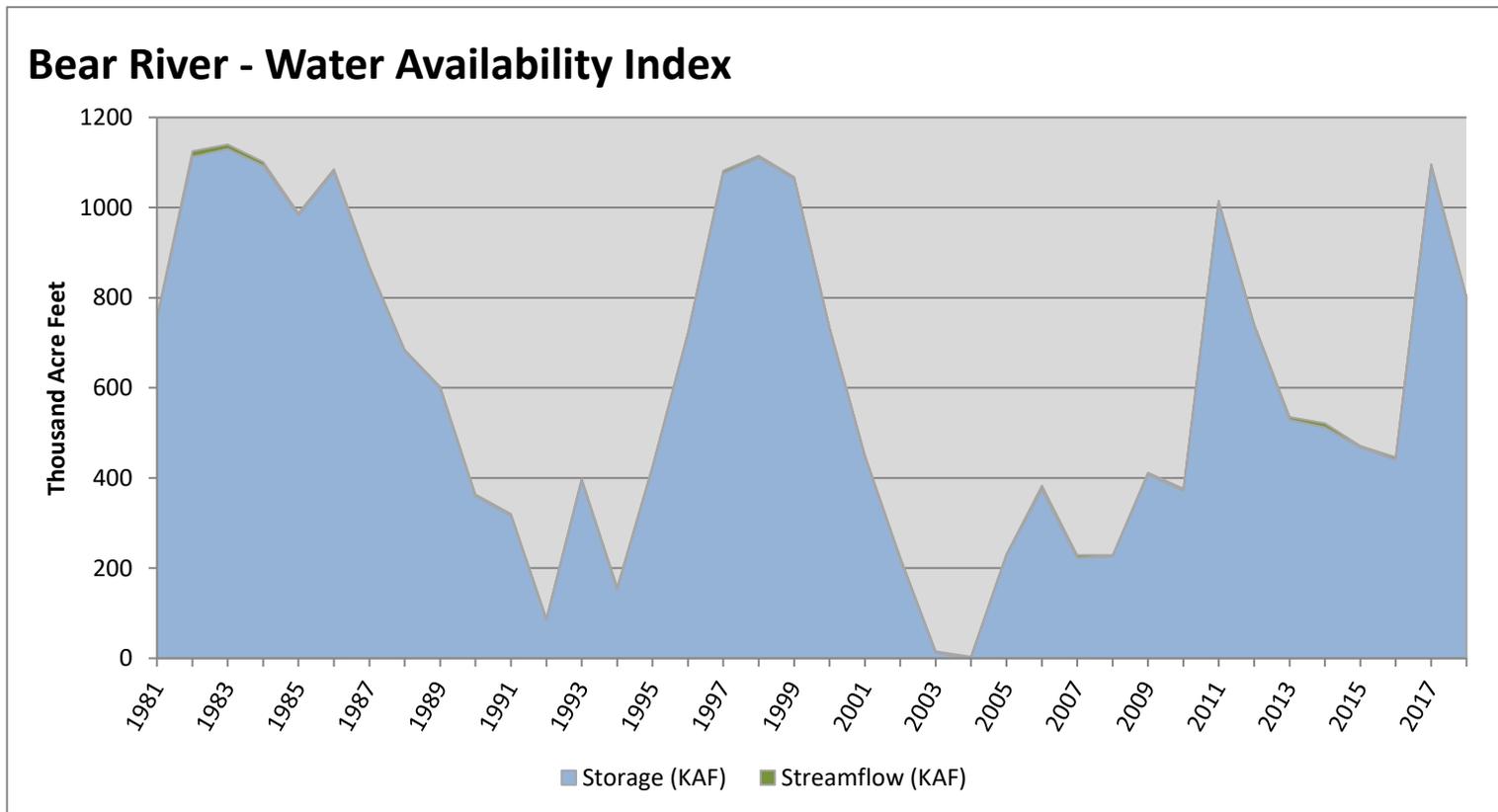
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Bear River	798.18	3.74	801.92	69	1.6	12, 81, 87, 85

^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.

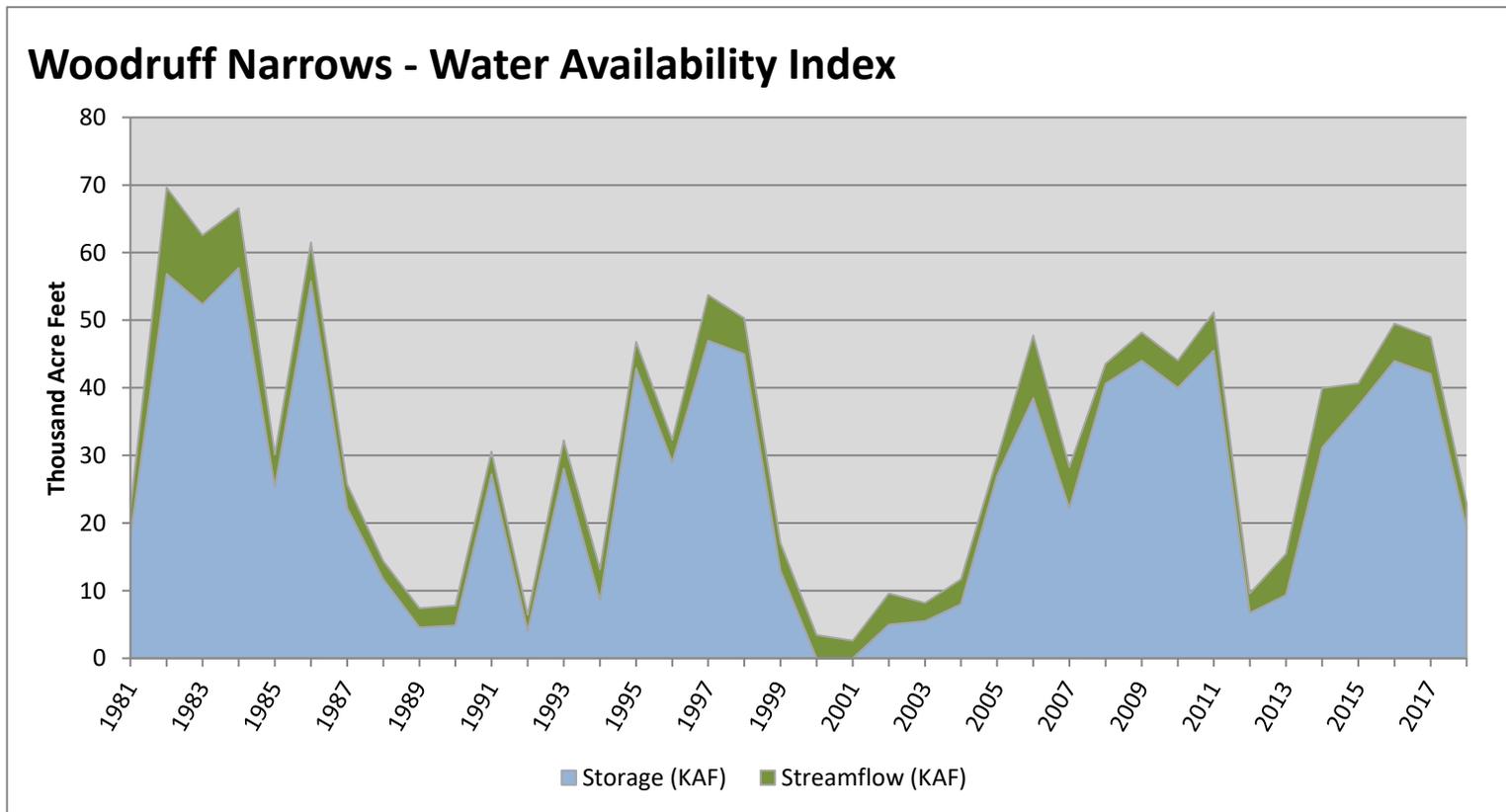


November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Woodruff Narrows	19.17	3.74	22.91	38	-0.96	99, 81, 87, 07

^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.

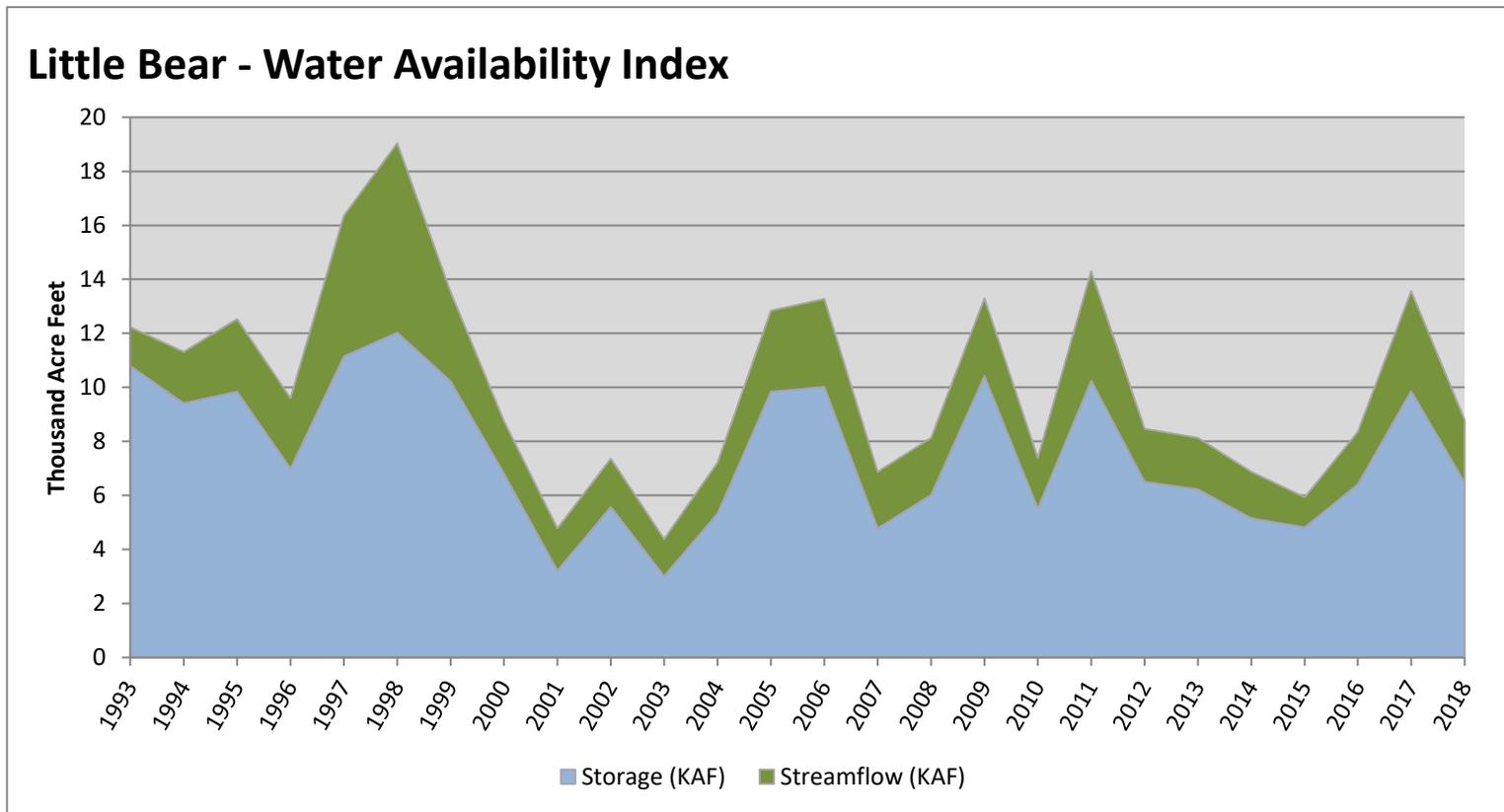


November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Little Bear	6.47	2.33	8.80	52	0.15	12, 00, 96, 94

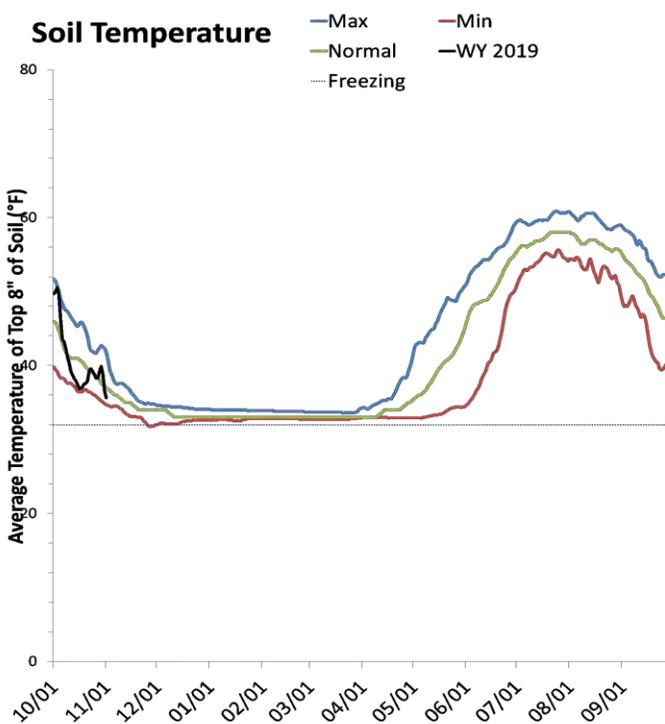
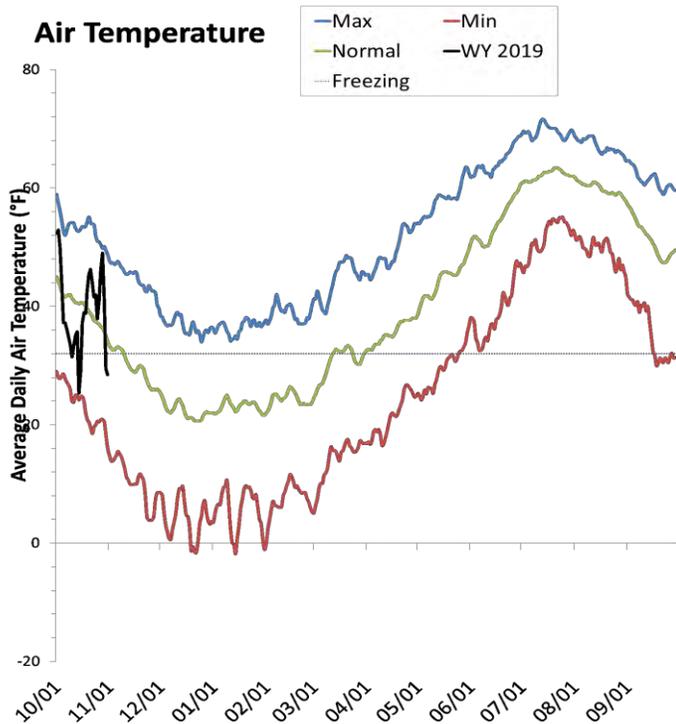
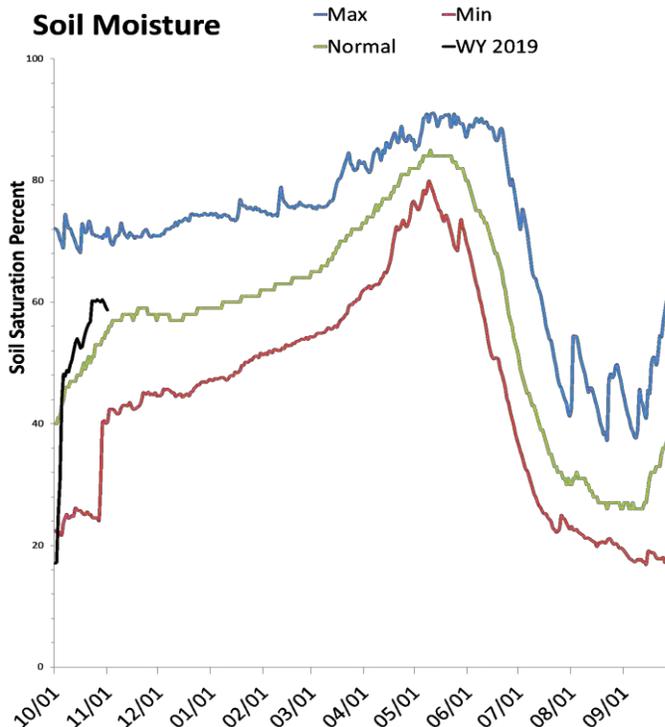
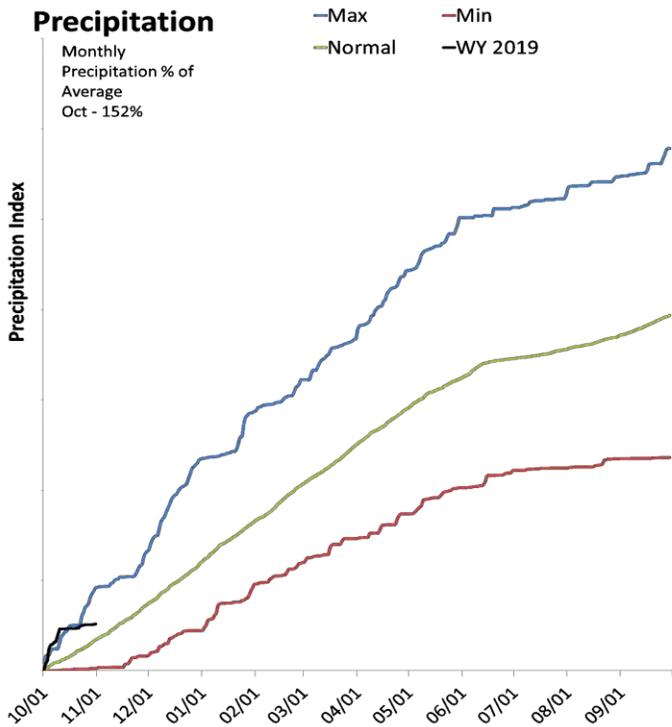
^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Weber & Ogden River Basins

November 1, 2018

Precipitation in October was much above average at 152%, which brings the seasonal accumulation (Oct-Oct) to 152% of average. Soil moisture is at 58% compared to 52% last year. Reservoir storage is at 46% of capacity, compared to 70% last year. The water availability index for the Ogden River is 33% and 17% for the Weber River.



*Min, Max, and Normal lines created using a 5 day moving average of historical data.

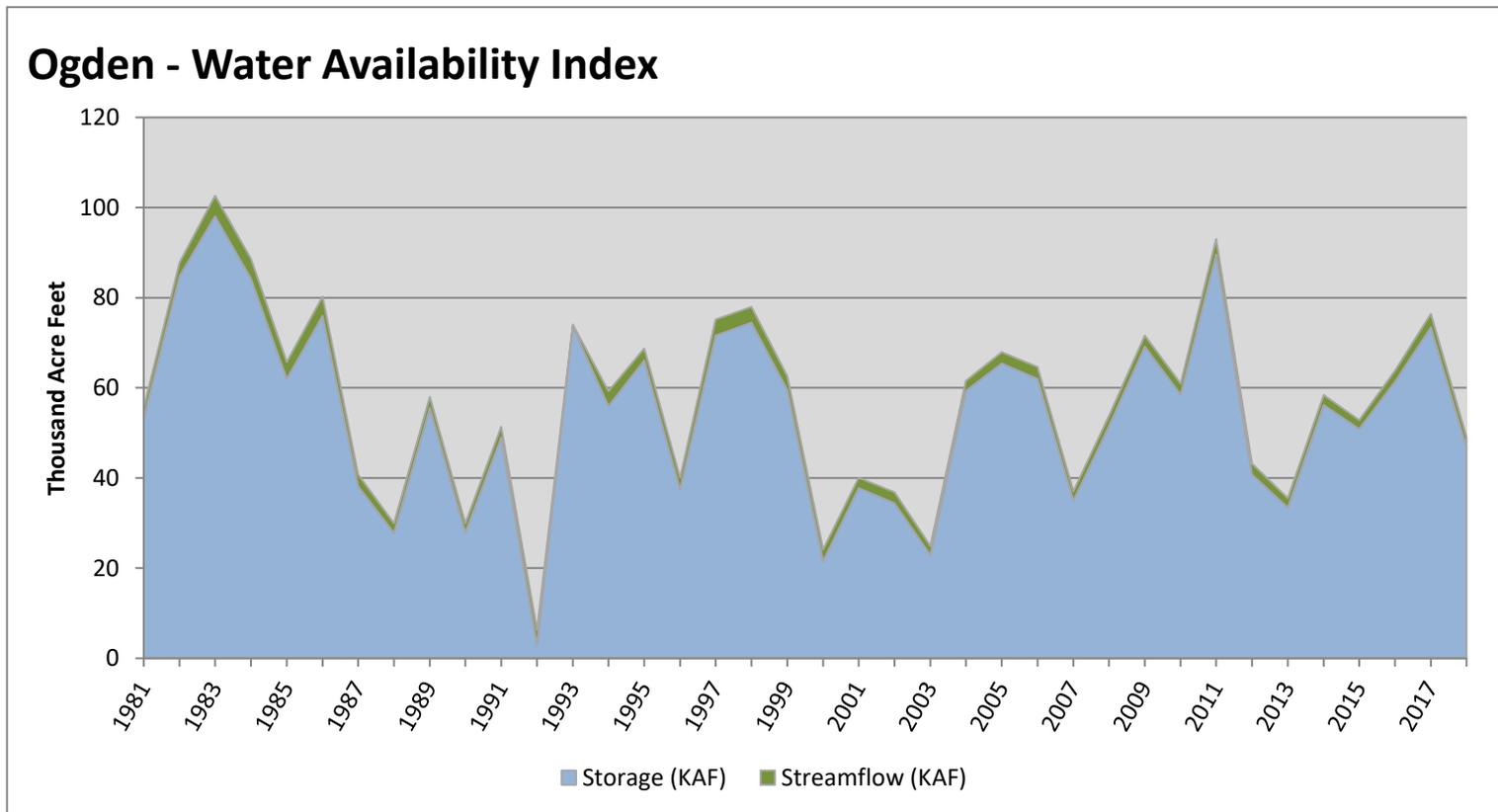
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Ogden	46.78	2.39	49.17	33	-1.39	87, 12, 91, 15

^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.

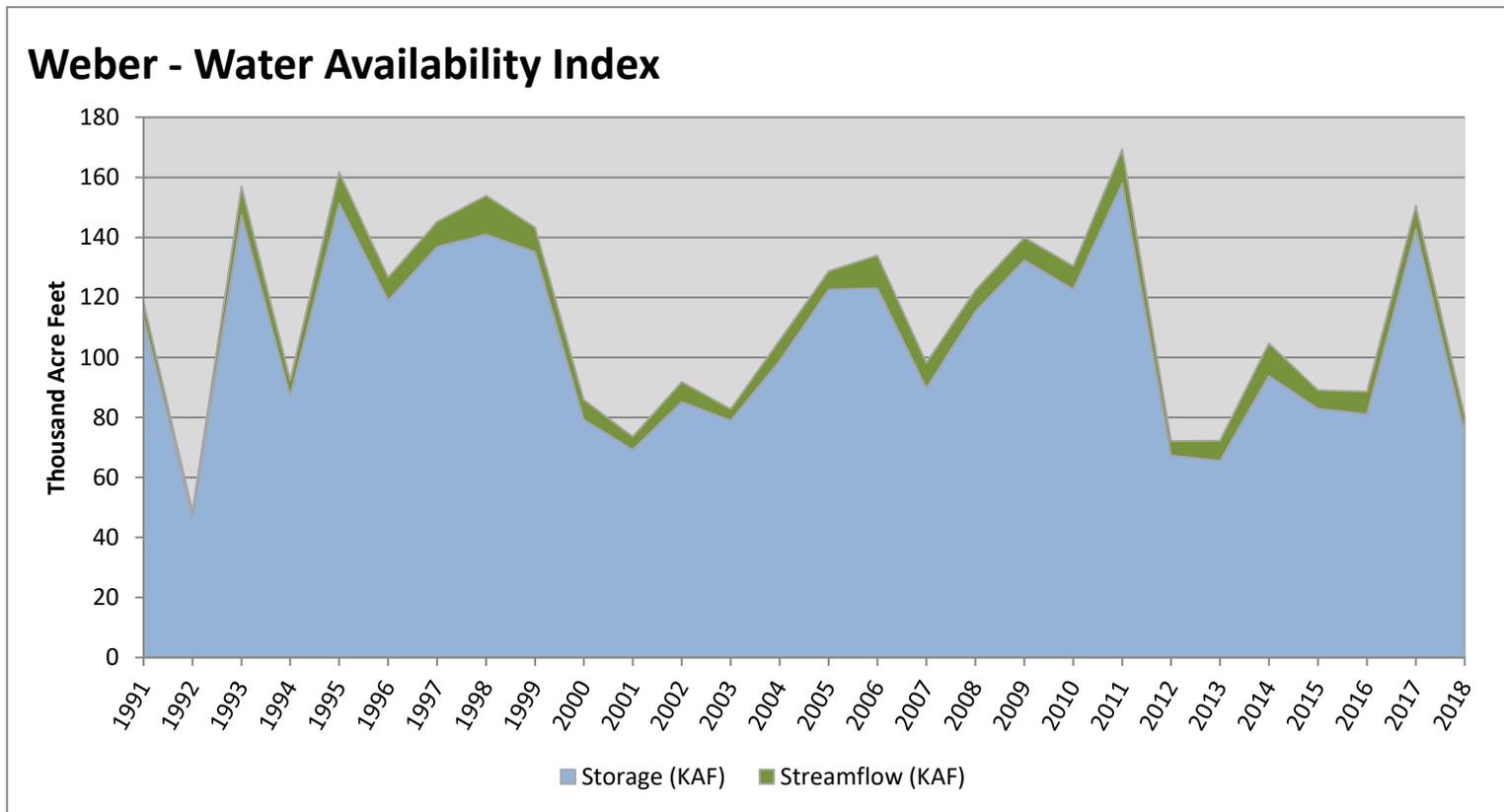


November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Weber	74.62	5.78	80.40	17	-2.73	13, 01, 03, 00

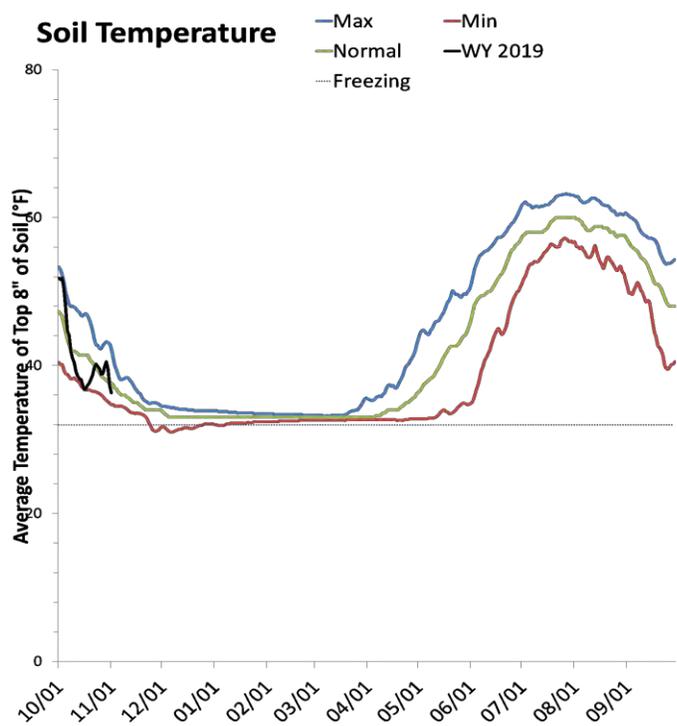
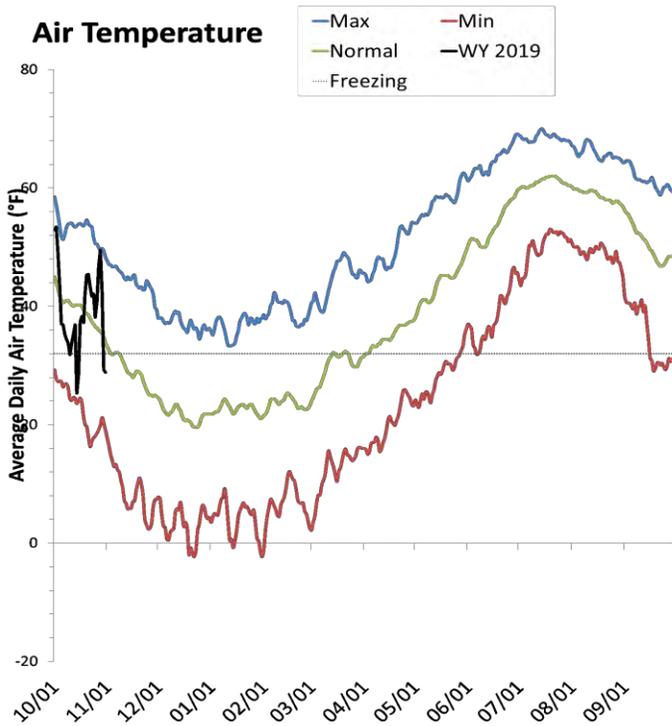
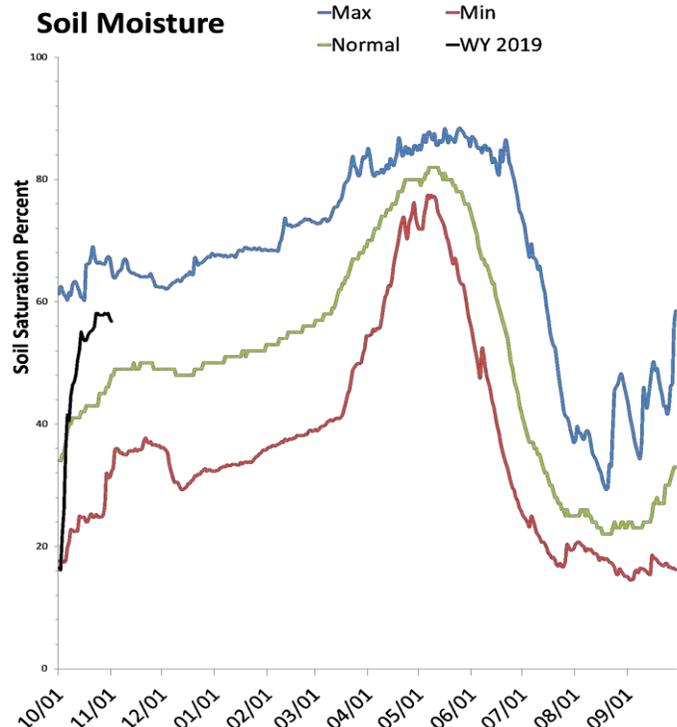
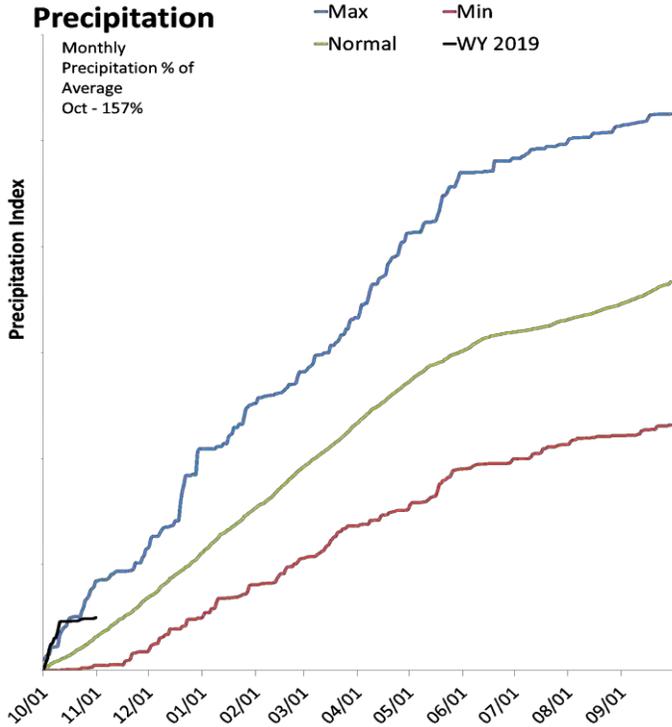
^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Provo & Jordan River Basins

November 1, 2018

Precipitation in October was much above average at 157%, which brings the seasonal accumulation (Oct-Oct) to 157% of average. Soil moisture is at 57% compared to 42% last year. Reservoir storage is at 64% of capacity, compared to 75% last year. The water availability index for the Provo River is 29%.



*Min, Max, and Normal lines created using a 5 day moving average of historical data.

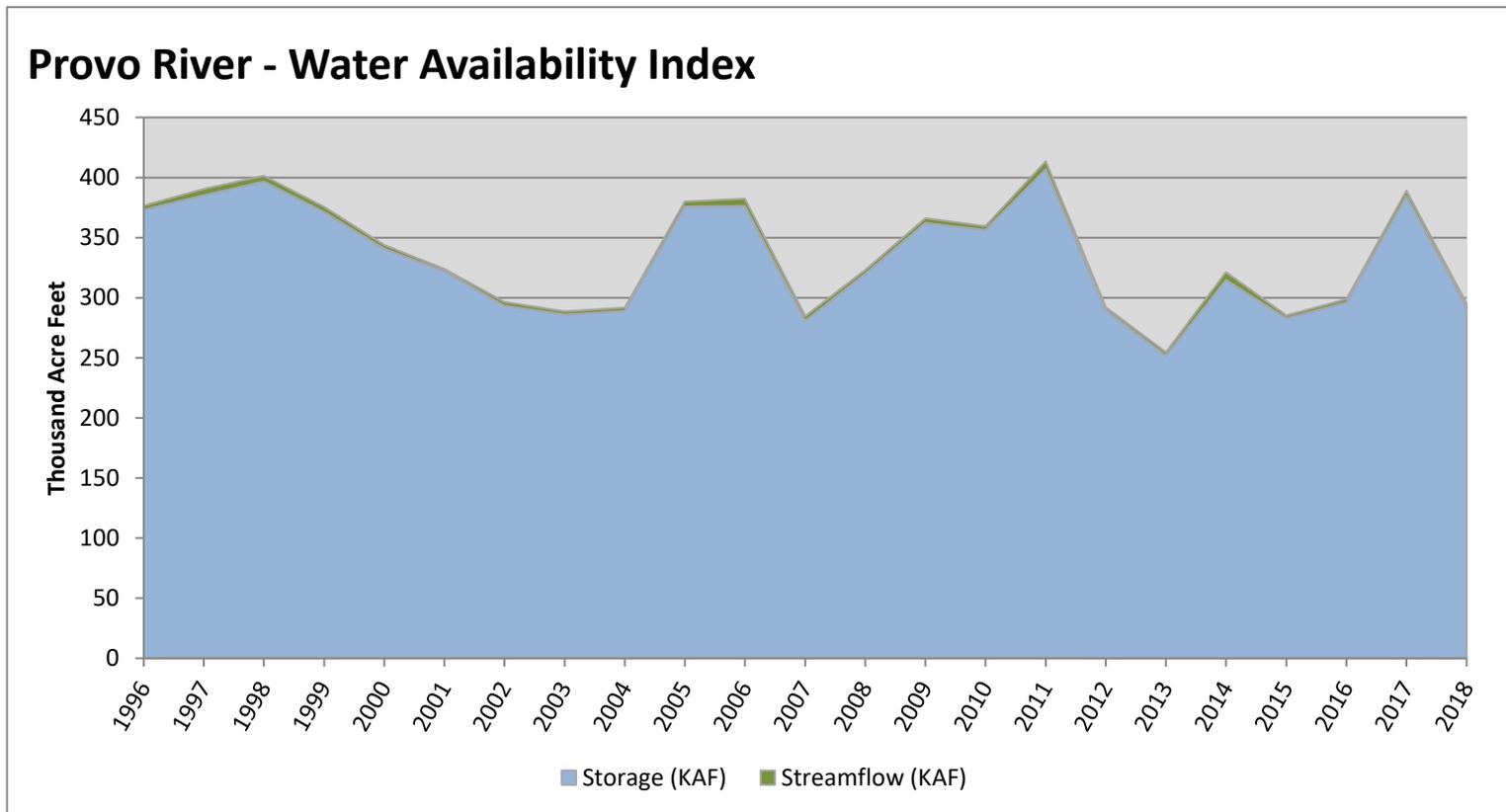
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Provo River	292.20	3.07	295.27	29	-1.74	04, 12, 02, 16

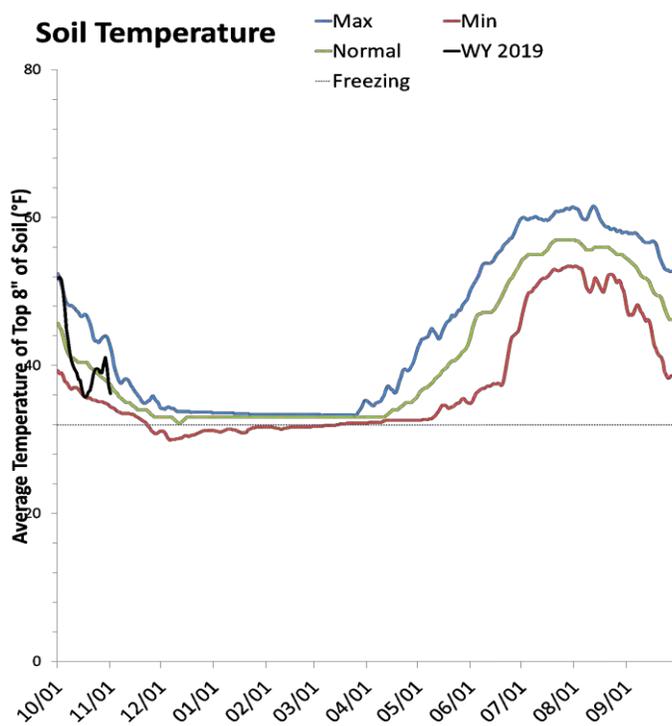
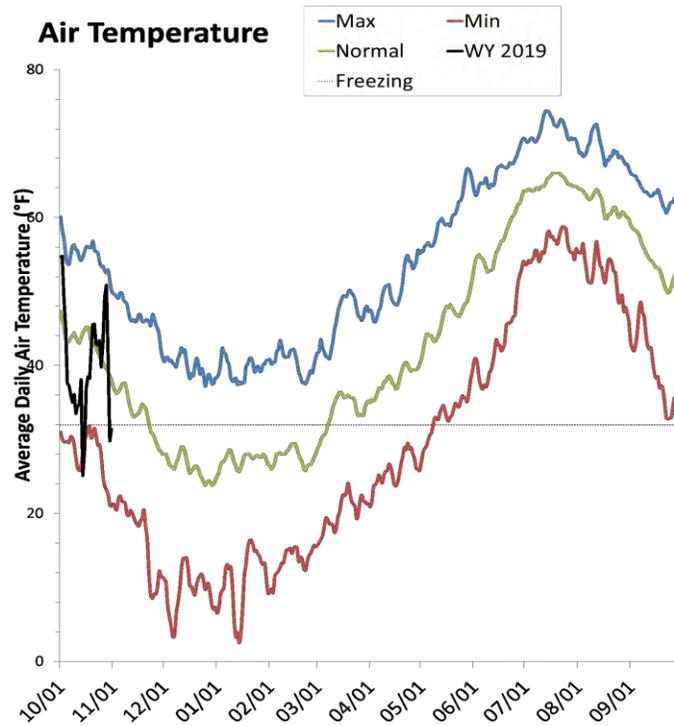
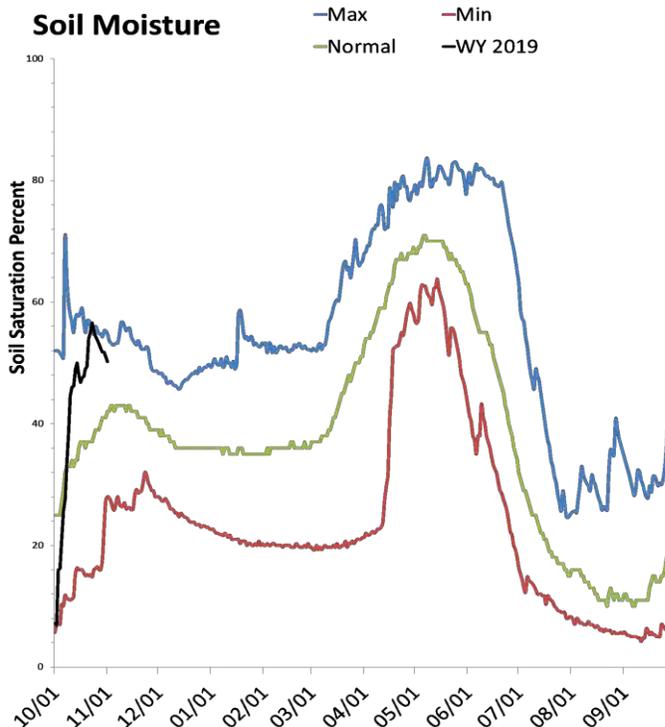
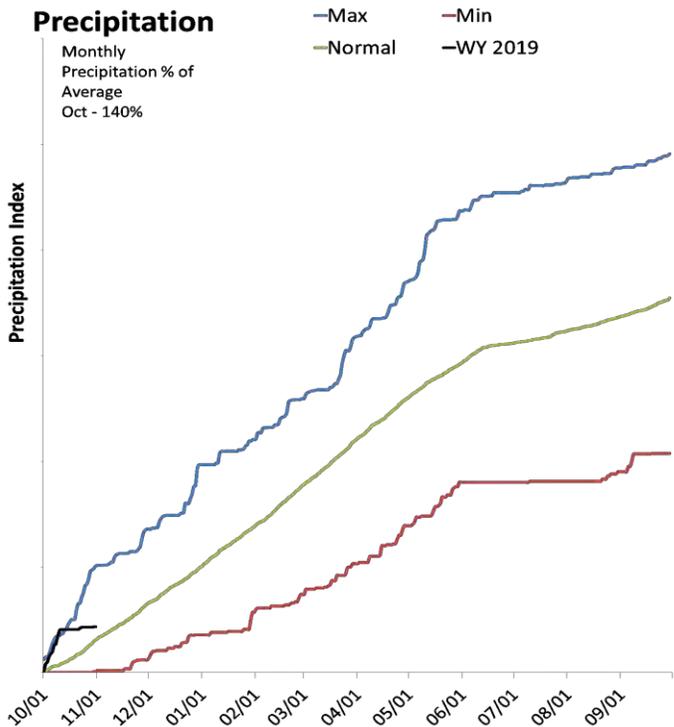
^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Tooele Valley & West Desert Basins

November 1, 2018

Precipitation in October was much above average at 140%, which brings the seasonal accumulation (Oct-Oct) to 140% of average. Soil moisture is at 50% compared to 29% last year. Reservoir storage is at 29% of capacity, compared to 30% last year.



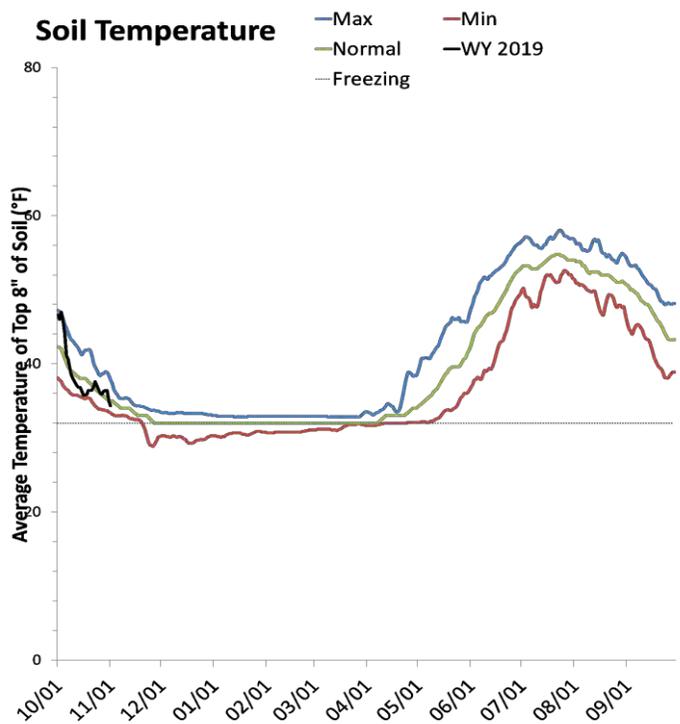
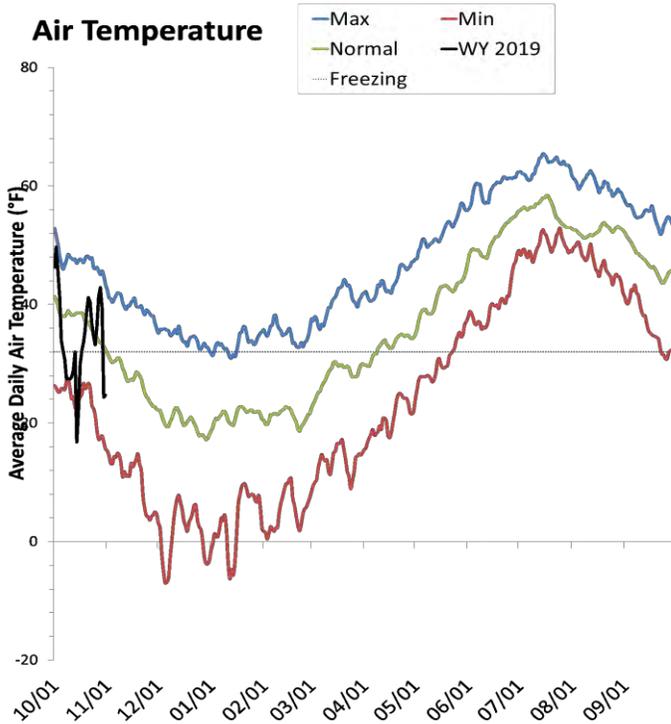
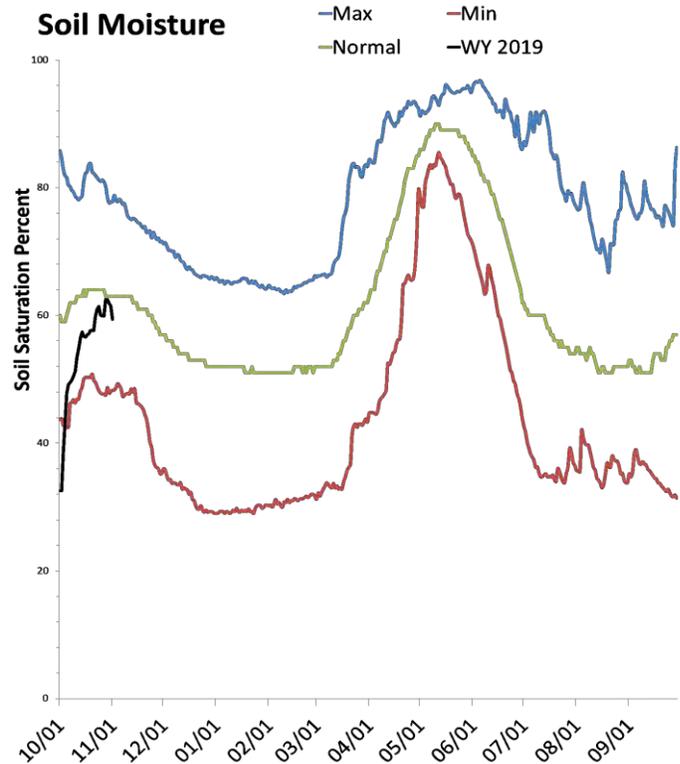
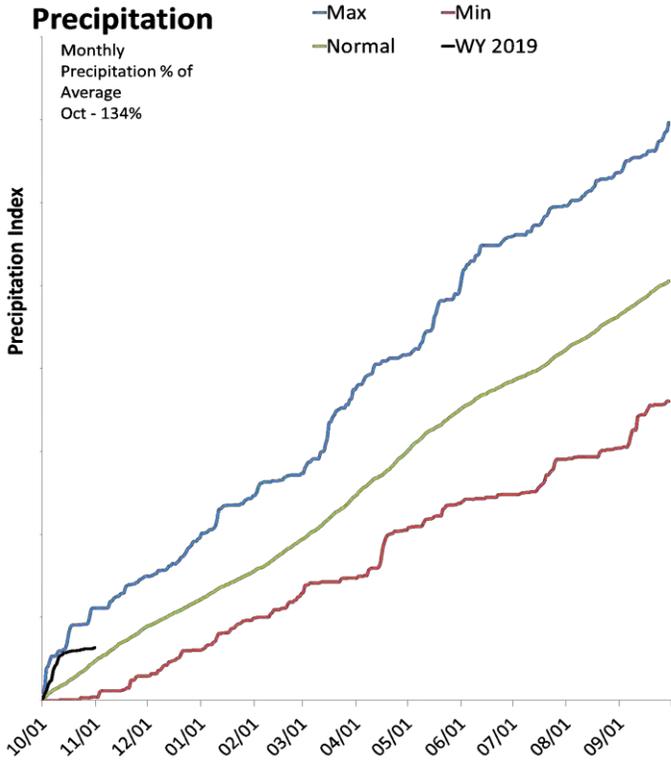
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

*Min, Max, and Normal lines created using a 5 day moving average of historical data.

Northeastern Uinta Basin

November 1, 2018

Precipitation in October was much above average at 134%, which brings the seasonal accumulation (Oct-Oct) to 134% of average. Soil moisture is at 60% compared to 66% last year. Reservoir storage is at 88% of capacity, compared to 92% last year. The water availability index for Blacks Fork is 17% and 20% for Smiths Creek.



*Min, Max, and Normal lines created using a 5 day moving average of historical data.

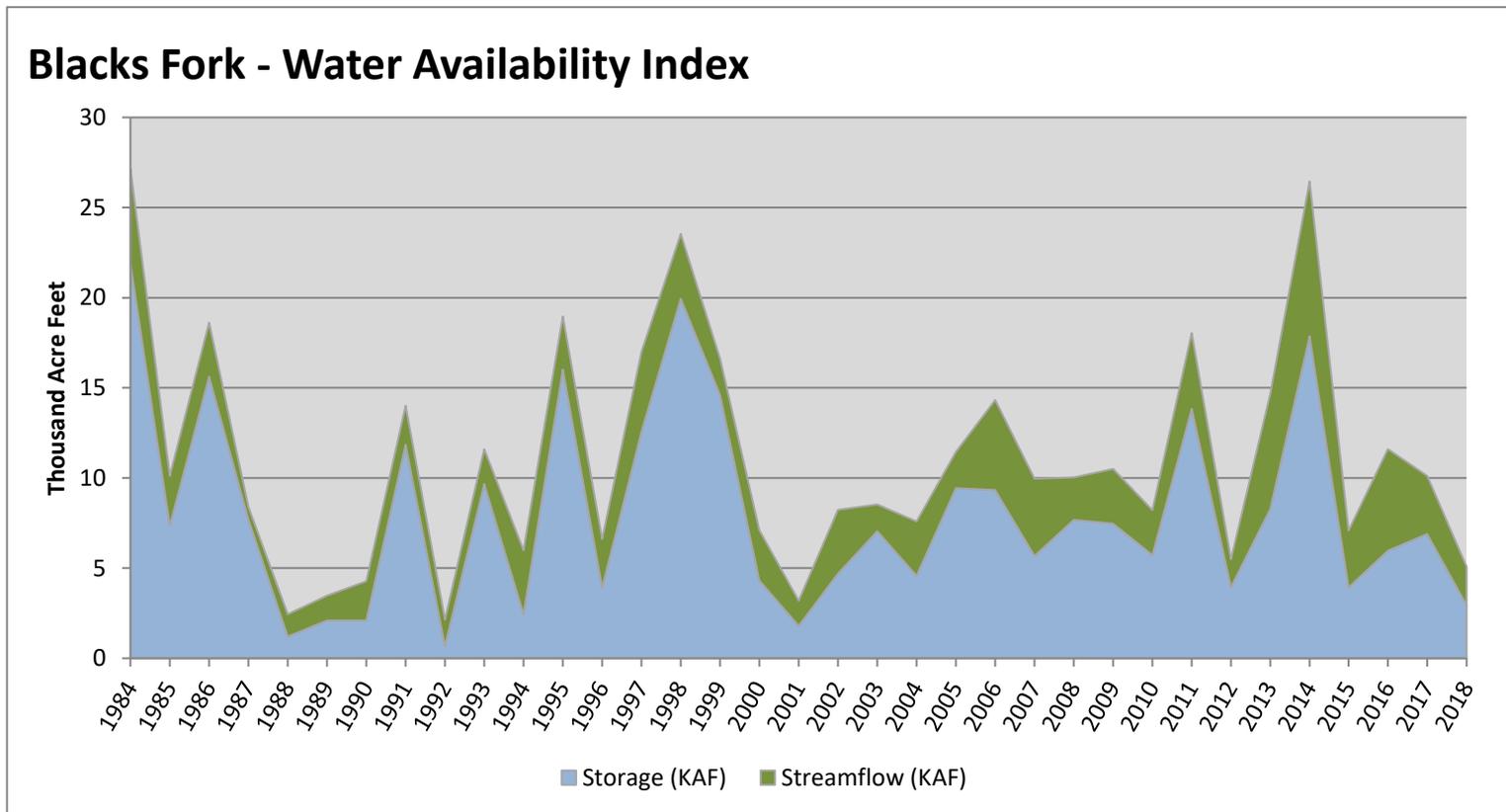
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Blacks Fork	2.93	2.14	5.07	17	-2.78	89, 90, 12, 94

^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.

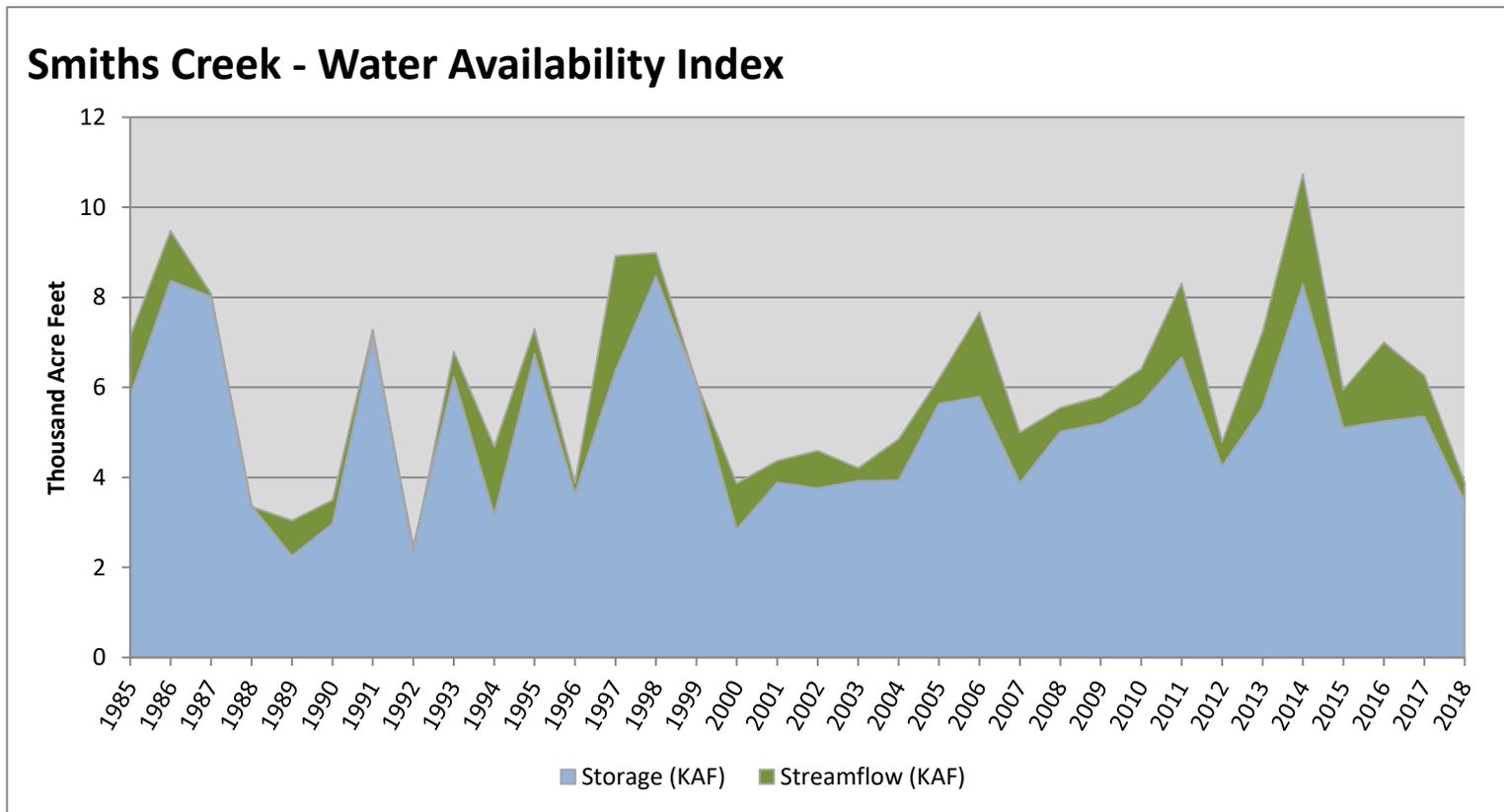


November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Smiths Creek	3.47	0.42	3.89	20	-2.5	00, 96, 03, 01

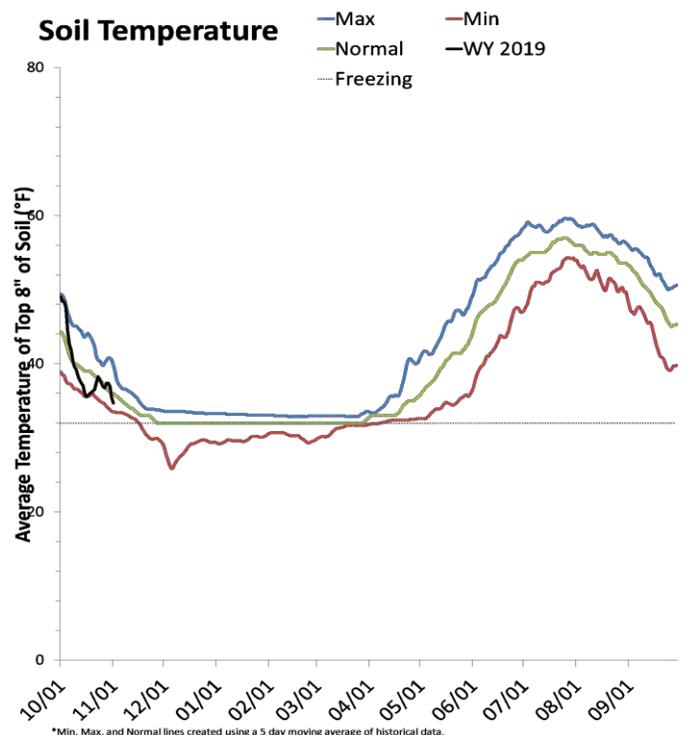
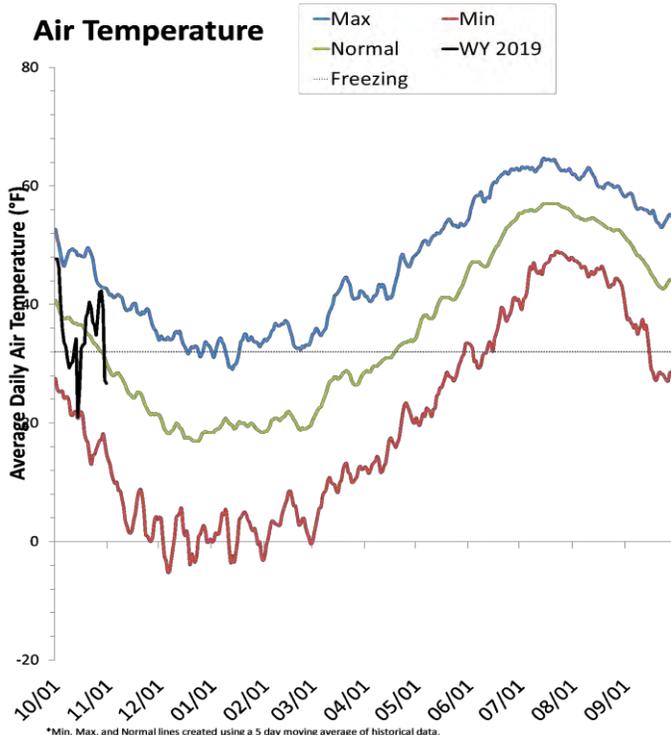
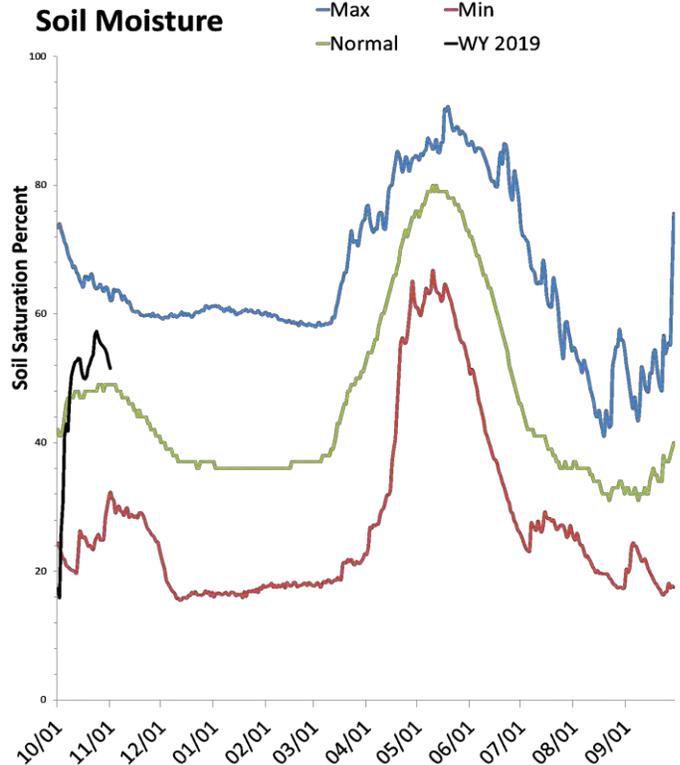
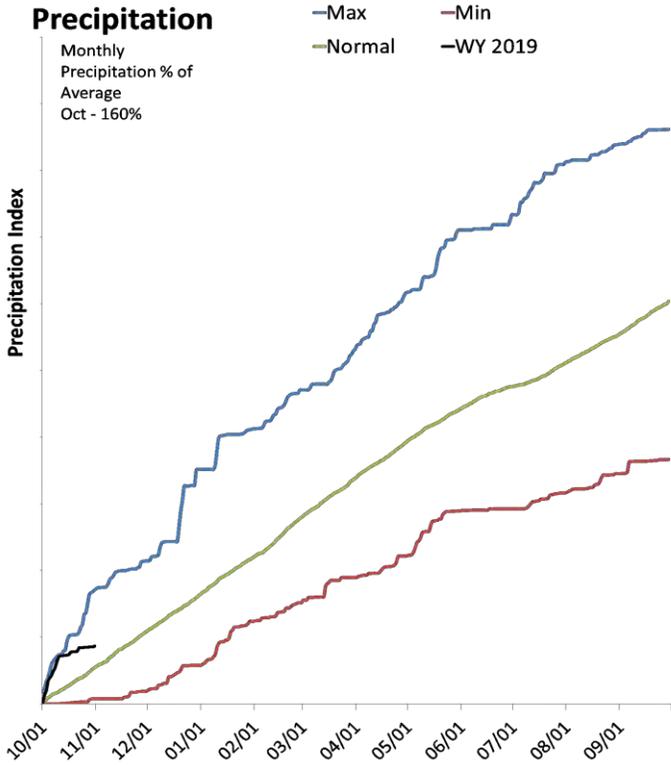
^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Duchesne River Basin

November 1, 2018

Precipitation in October was much above average at 160%, which brings the seasonal accumulation (Oct-Oct) to 159% of average. Soil moisture is at 51% compared to 41% last year. Reservoir storage is at 72% of capacity, compared to 81% last year. The water availability index for the Western Uintas is 28% and 3% for the Eastern Uintas.



*Min, Max, and Normal lines created using a 5 day moving average of historical data.

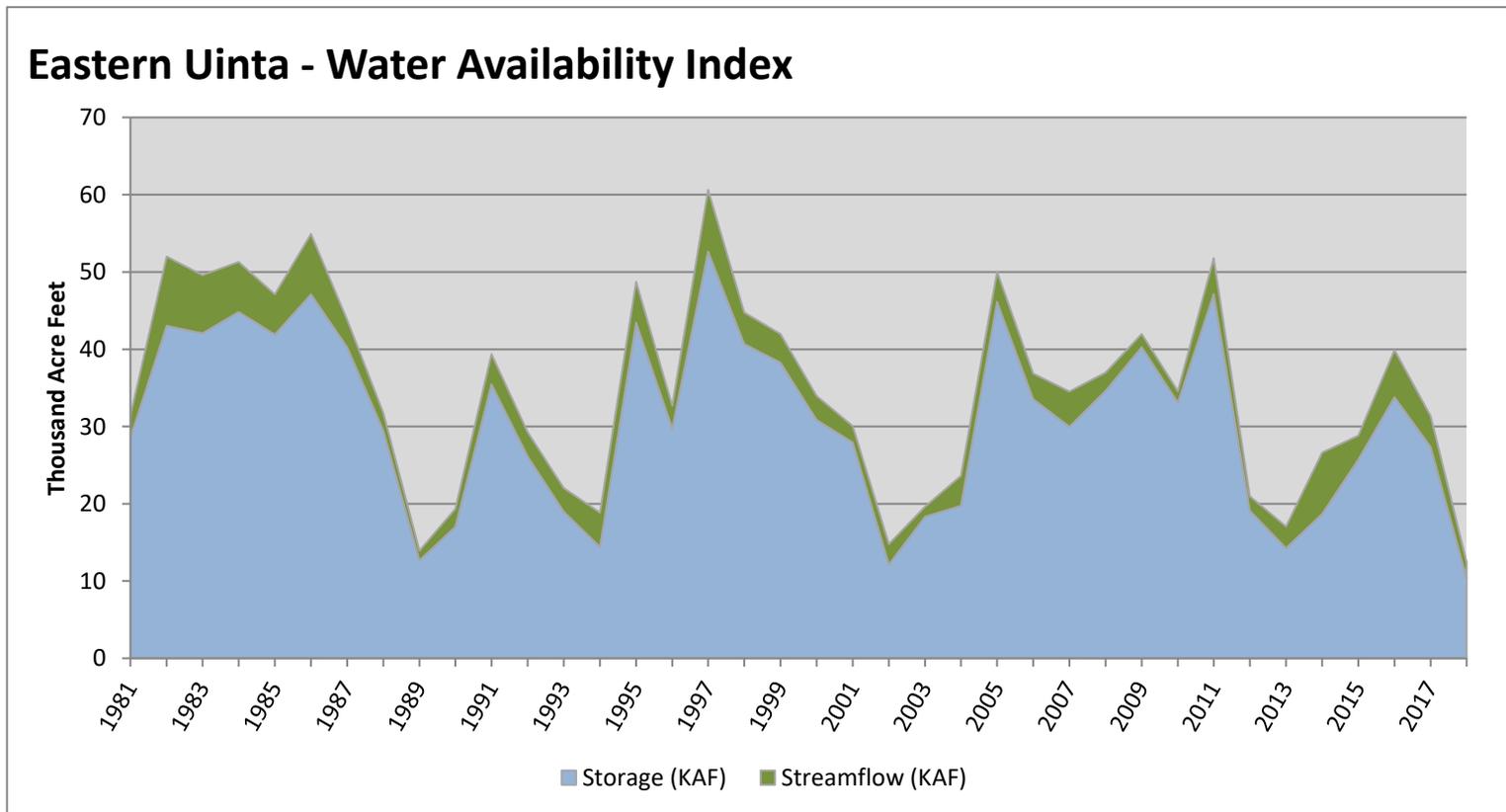
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Eastern Uinta	10.35	2.08	12.43	3	-3.95	89, 02, 13, 94

^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.

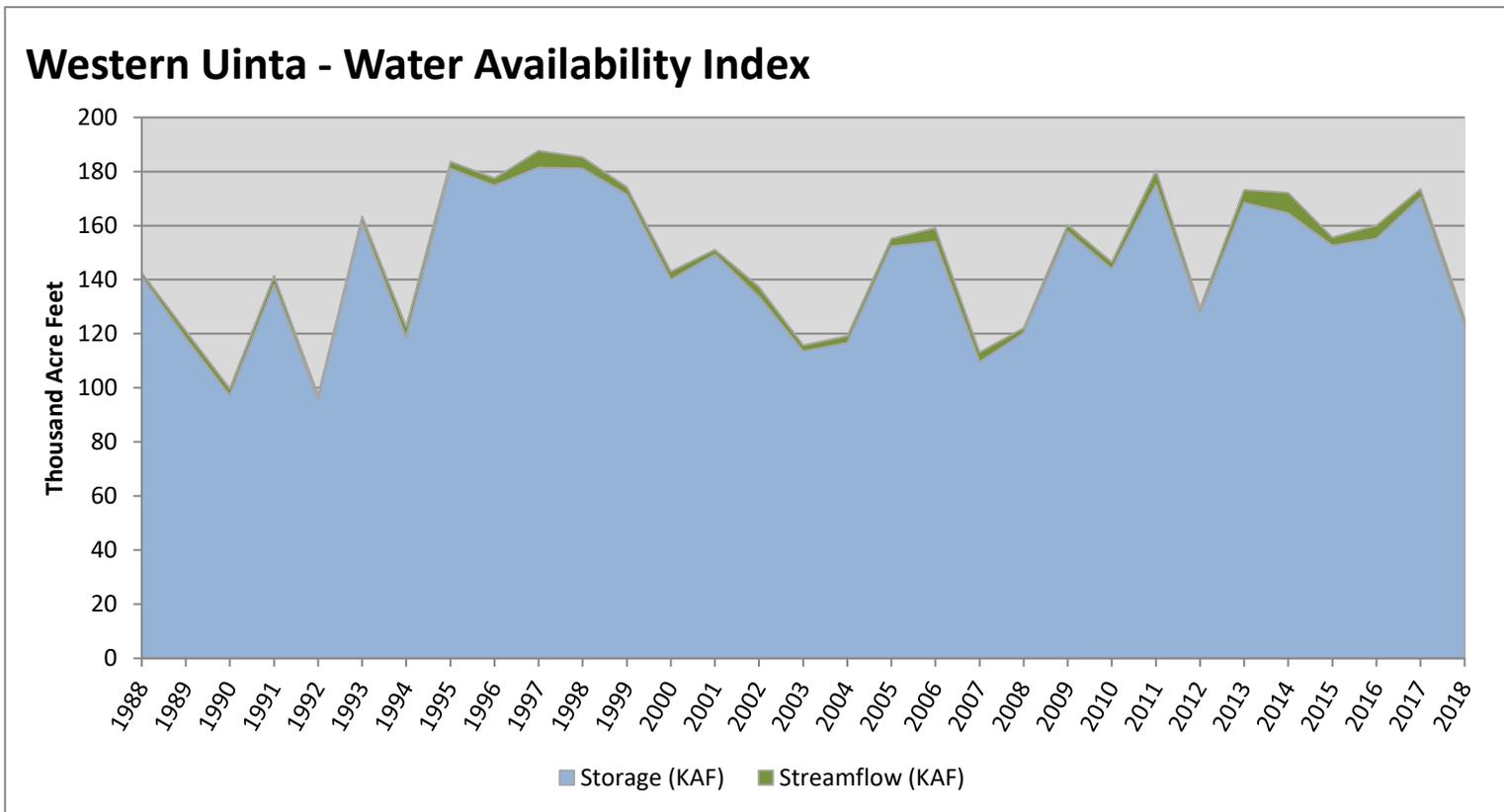


November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Western Uinta	123.04	2.59	125.63	28	-1.82	08, 94, 12, 02

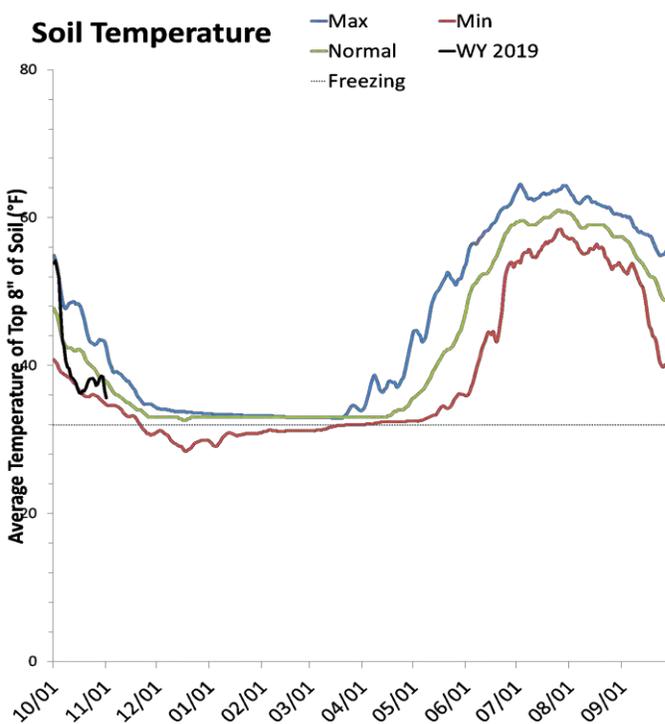
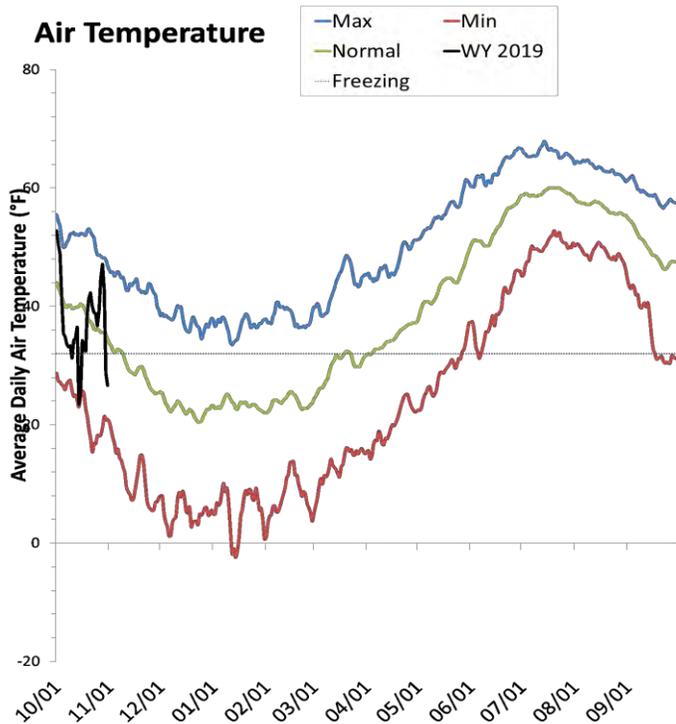
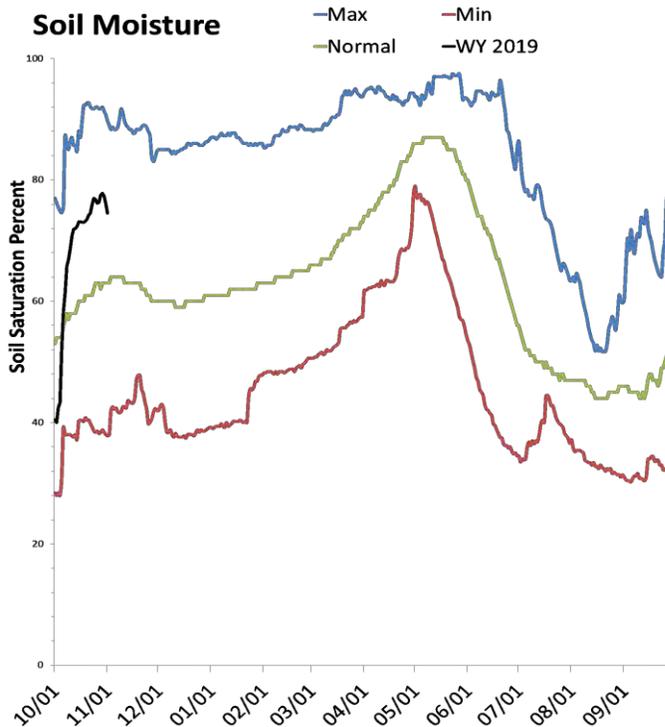
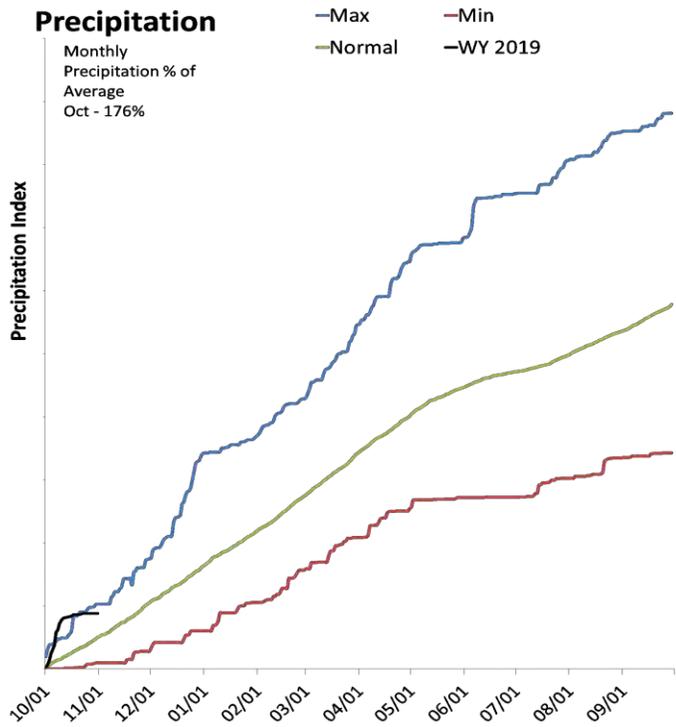
^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



San Pitch River Basin

November 1, 2018

Precipitation in October was much above average at 176%, which brings the seasonal accumulation (Oct-Oct) to 176% of average. Soil Moisture is at 75% compared to 65% last year. Reservoir storage is at 0% of capacity, compared to 0% last year. The water availability index for the San Pitch is 3%.



*Min, Max, and Normal lines created using a 5 day moving average of historical data.

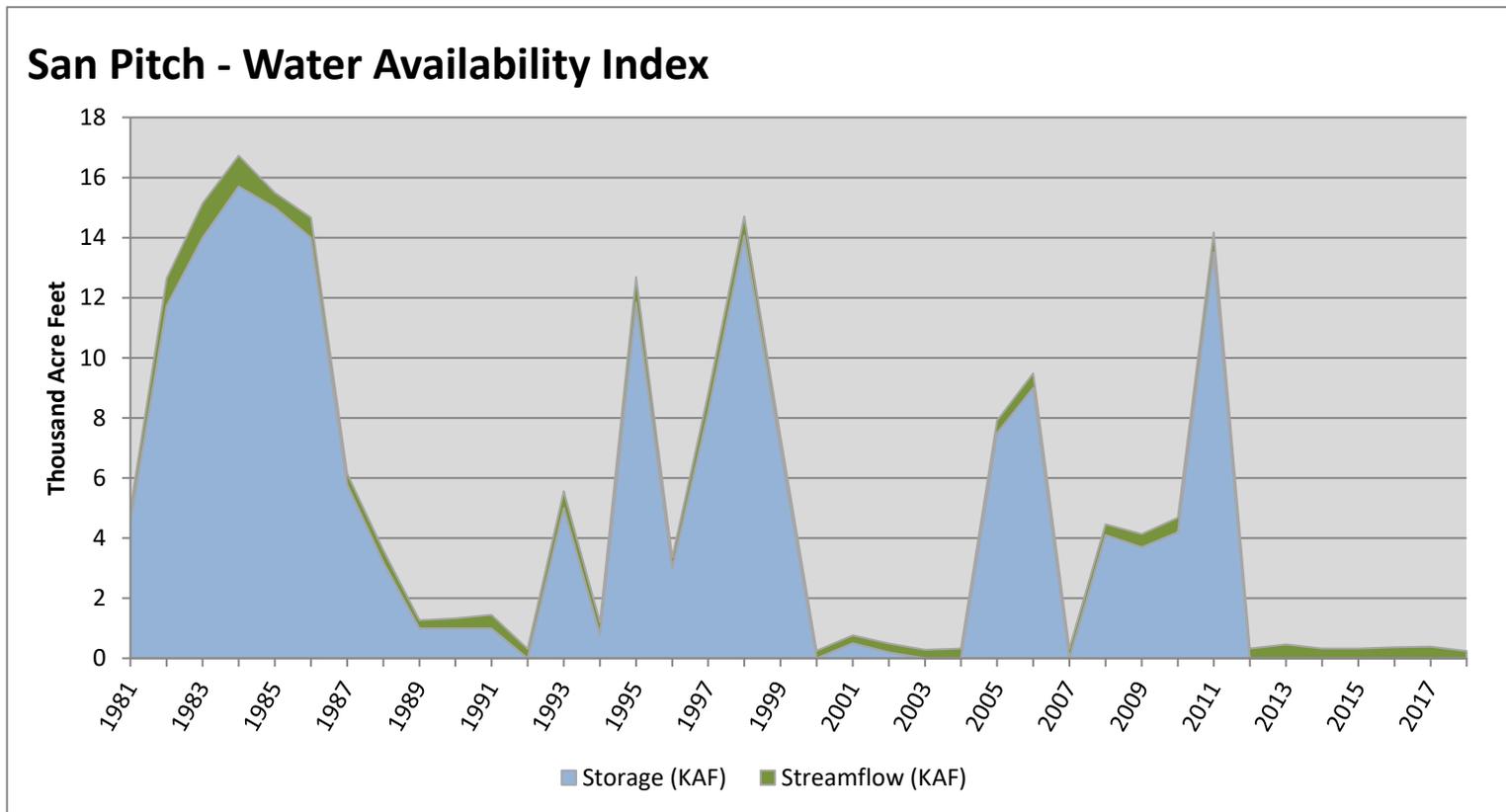
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
San Pitch	0.00	0.24	0.24	3	-3.95	00, 03, 92, 04

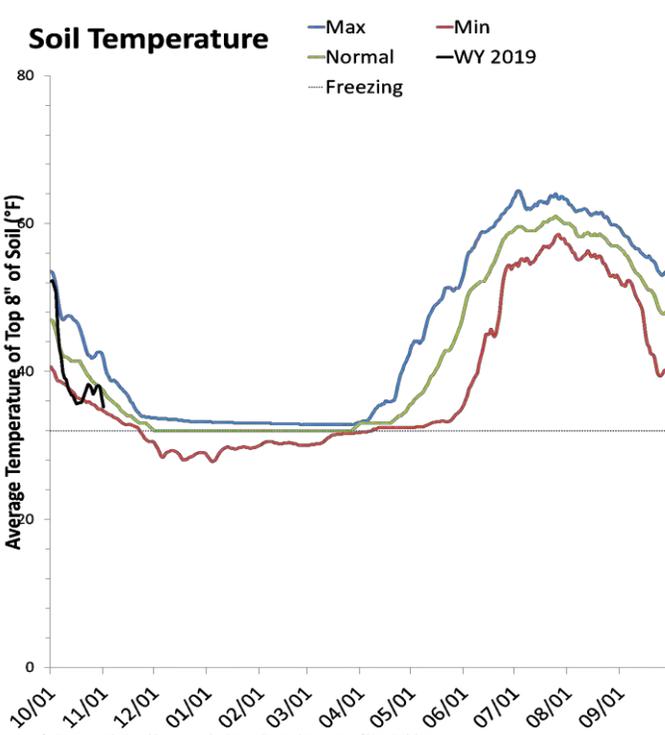
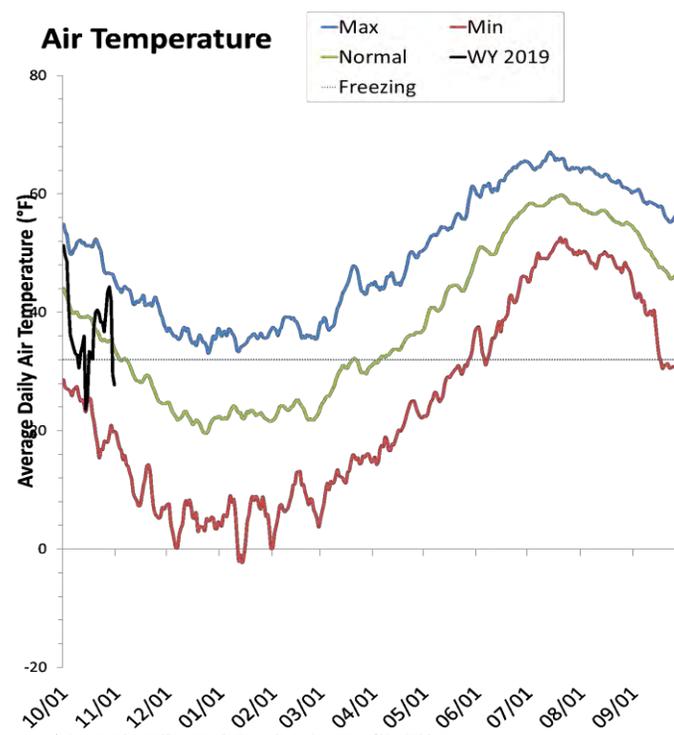
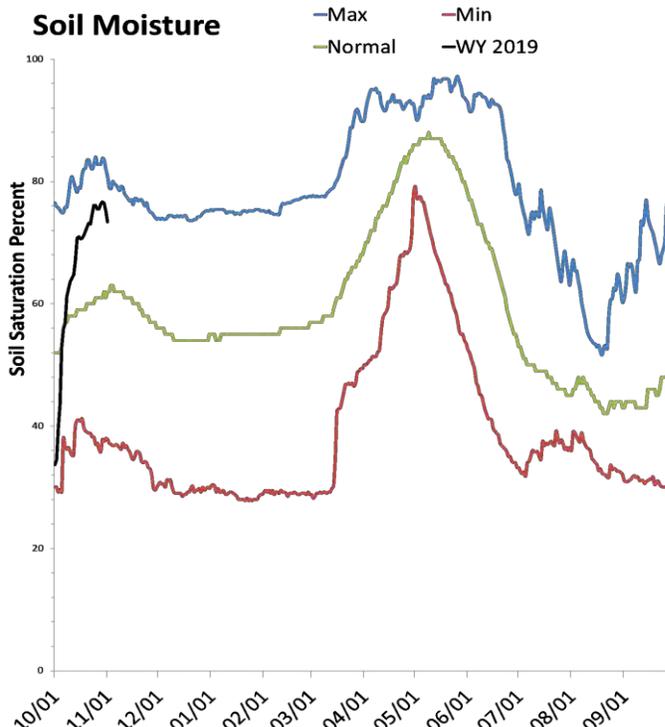
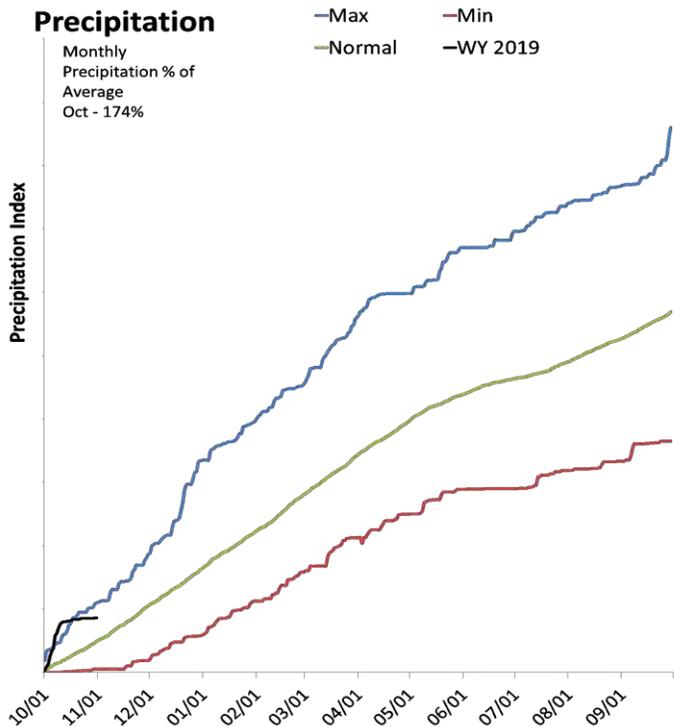
^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Price & San Rafael Basins

November 1, 2018

Precipitation in October was much above average at 173%, which brings the seasonal accumulation (Oct-Oct) to 173% of average. Soil moisture is at 74% compared to 56% last year. Reservoir storage is at 37% of capacity, compared to 65% last year. The water availability index for the Price River is 49%, and 18% for Joe's Valley.

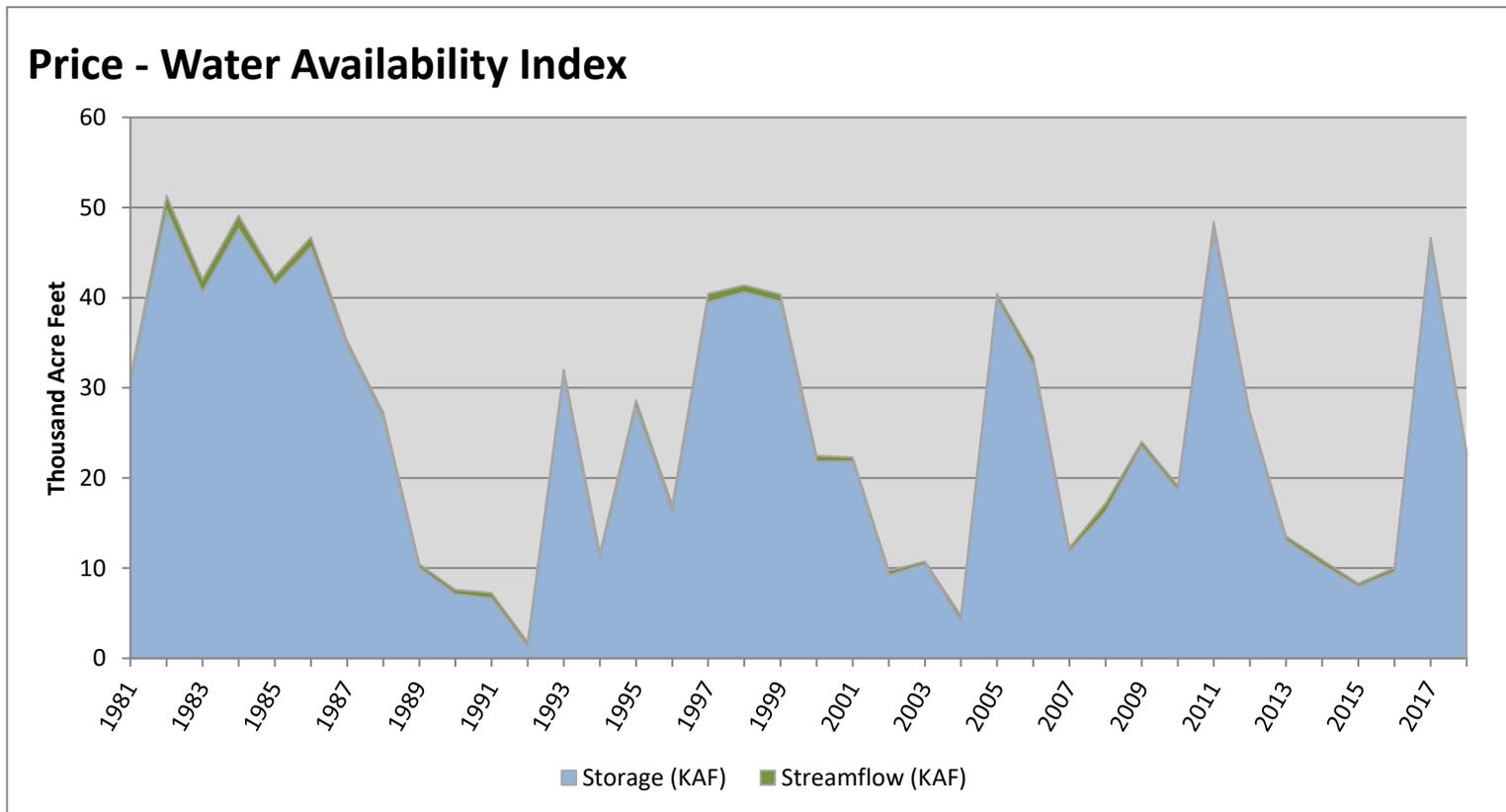


November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Price	22.43	0.46	22.89	49	-0.11	01, 00, 09, 88

^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.

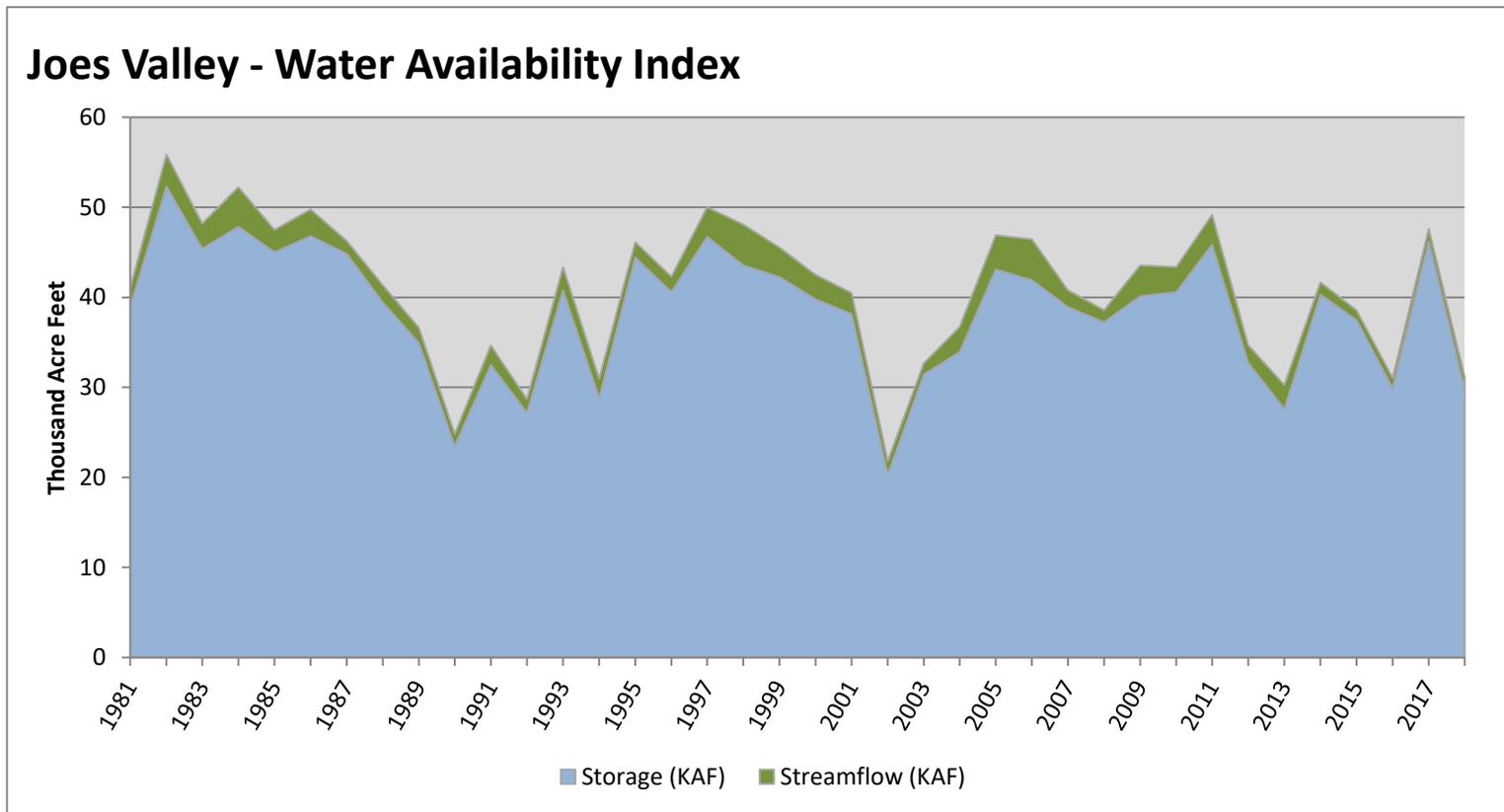


November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Joos Valley	29.74	1.40	31.14	18	-2.67	94, 16, 03, 91

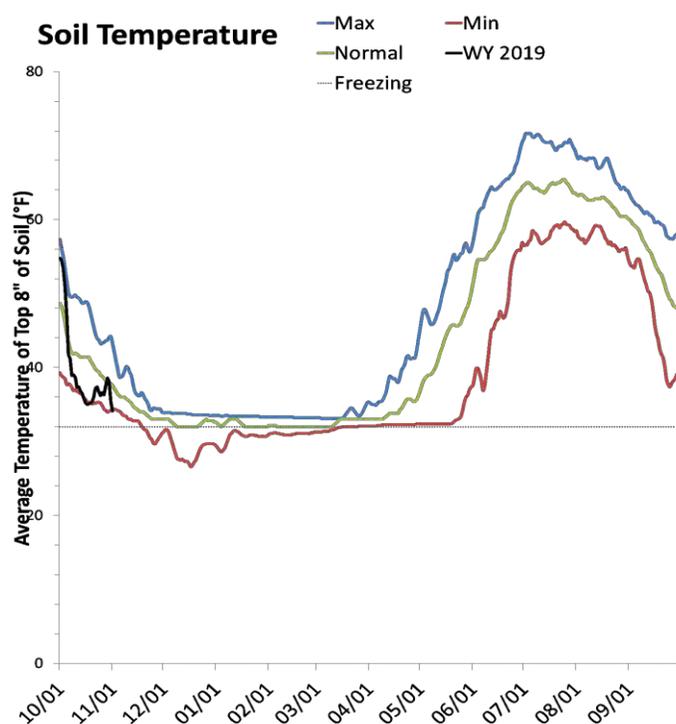
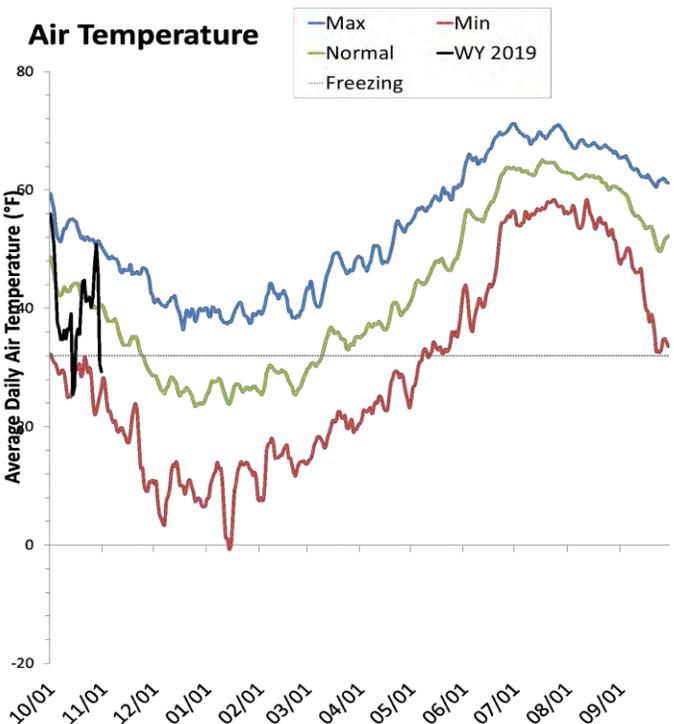
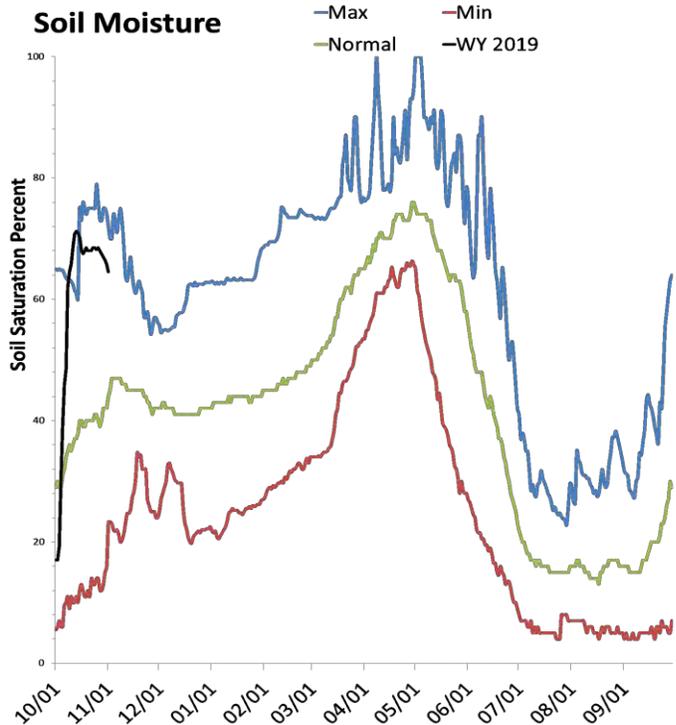
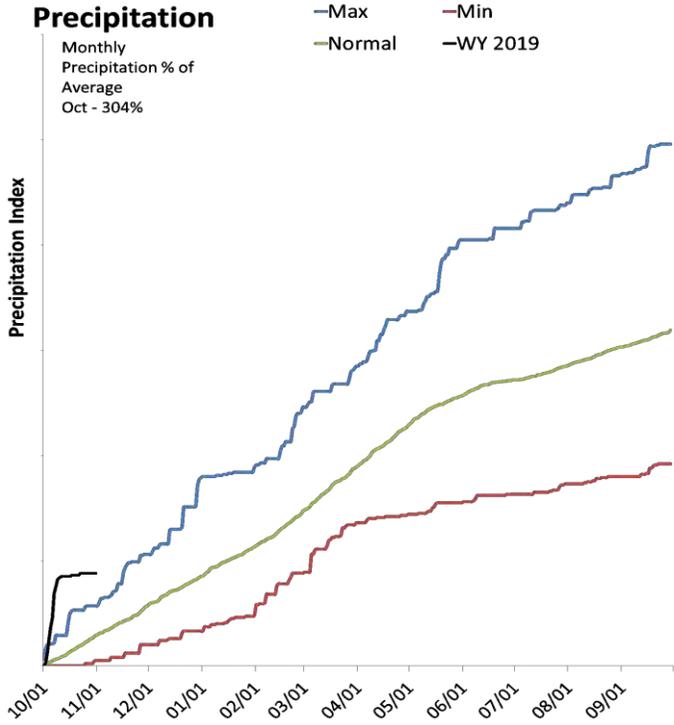
^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Lower Sevier Basin

November 1, 2018

Precipitation in October was much above average at 303%, which brings the seasonal accumulation (Oct-Oct) to 303% of average. Soil moisture is at 62% compared to 52% last year. Reservoir storage is at 7% of capacity, compared to 11% last year. The water availability index for the Lower Sevier is 10%.



*Min, Max, and Normal lines created using a 5 day moving average of historical data.

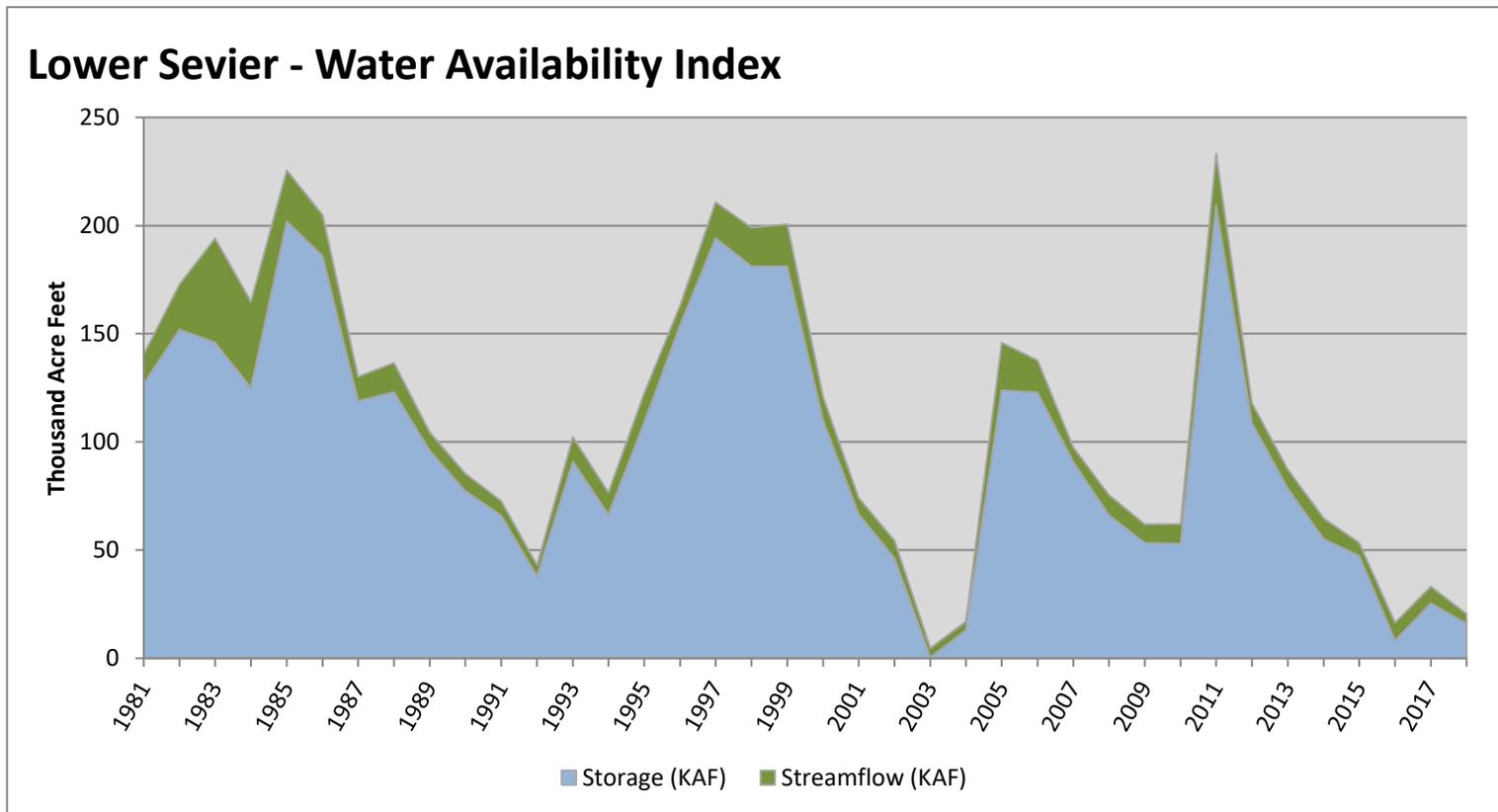
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Lower Sevier	15.98	4.57	20.55	10	-3.31	16, 04, 17, 92

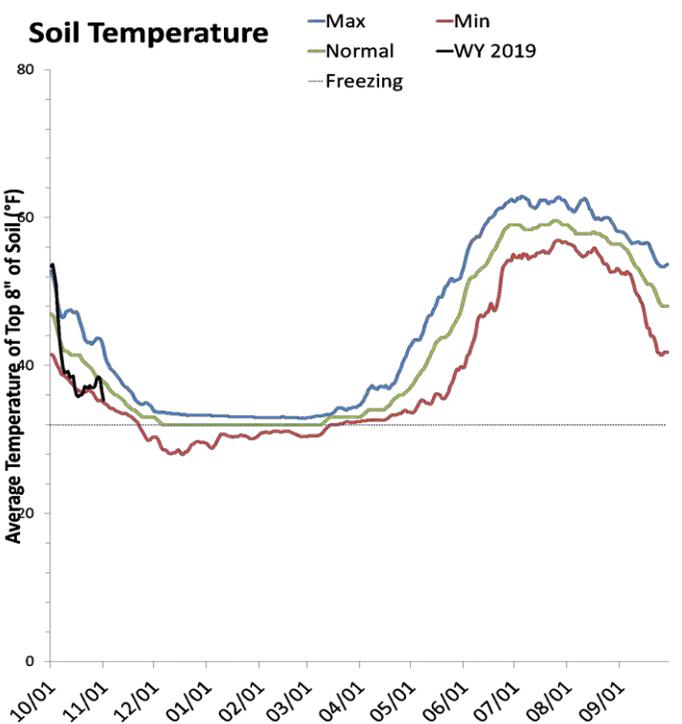
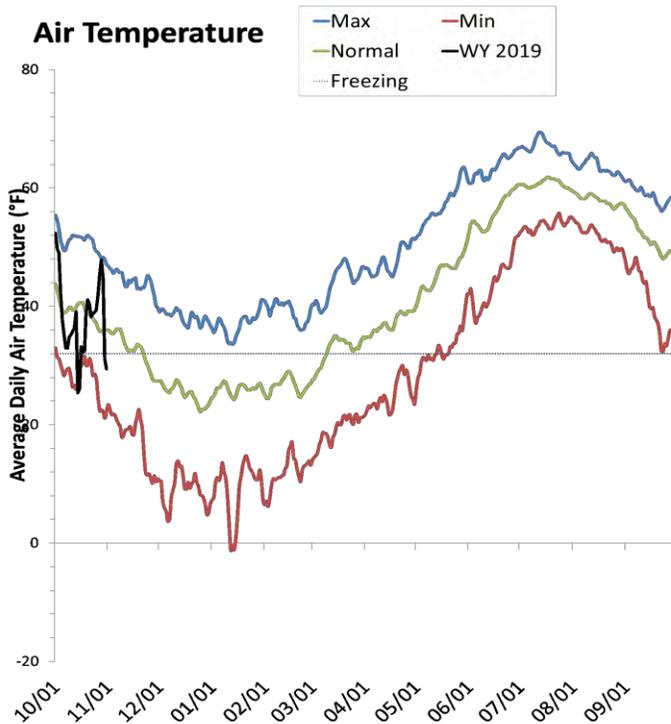
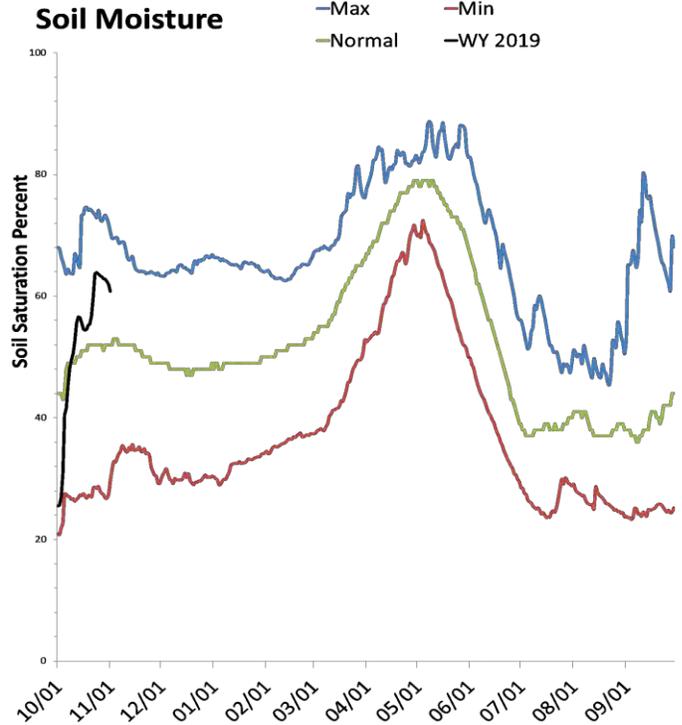
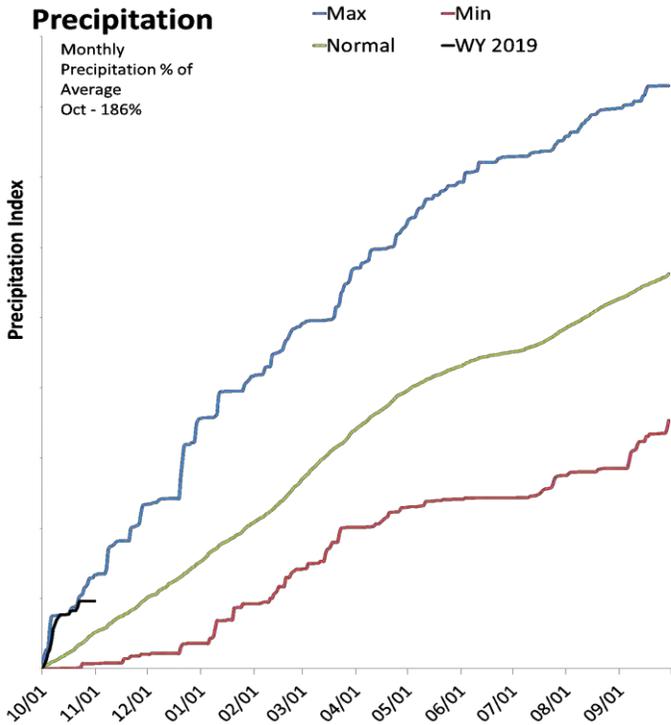
^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Upper Sevier Basin

November 1, 2018

Precipitation in October was much above average at 187%, which brings the seasonal accumulation (Oct-Oct) to 187% of average. Soil moisture is at 59% compared to 48% last year. Reservoir storage is at 14% of capacity, compared to 33% last year. The water availability index for the Upper Sevier is 10%.



*Min, Max, and Normal lines created using a 5 day moving average of historical data.

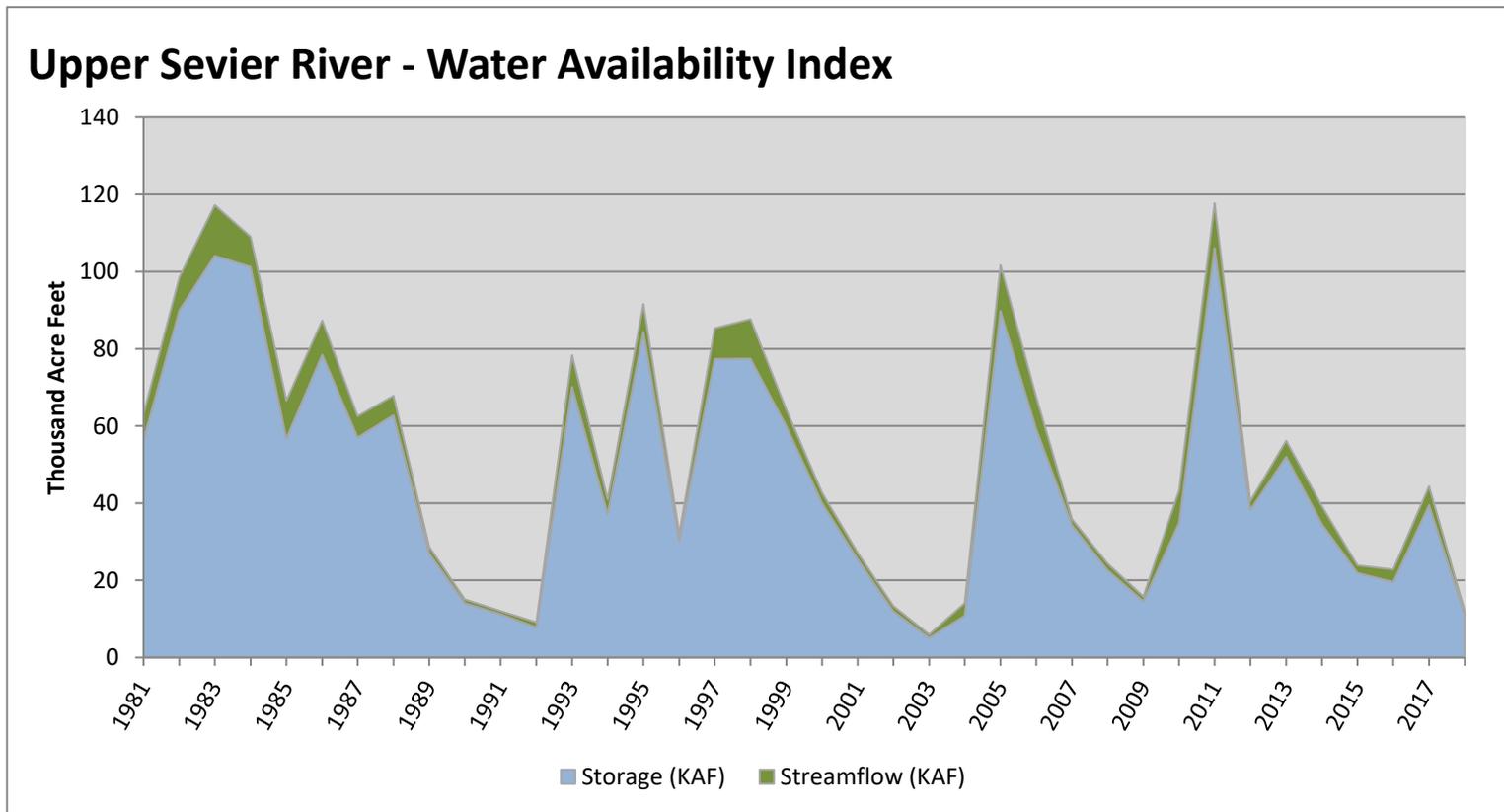
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Upper Sevier River	11.08	0.99	12.07	10	-3.31	92, 91, 02, 04

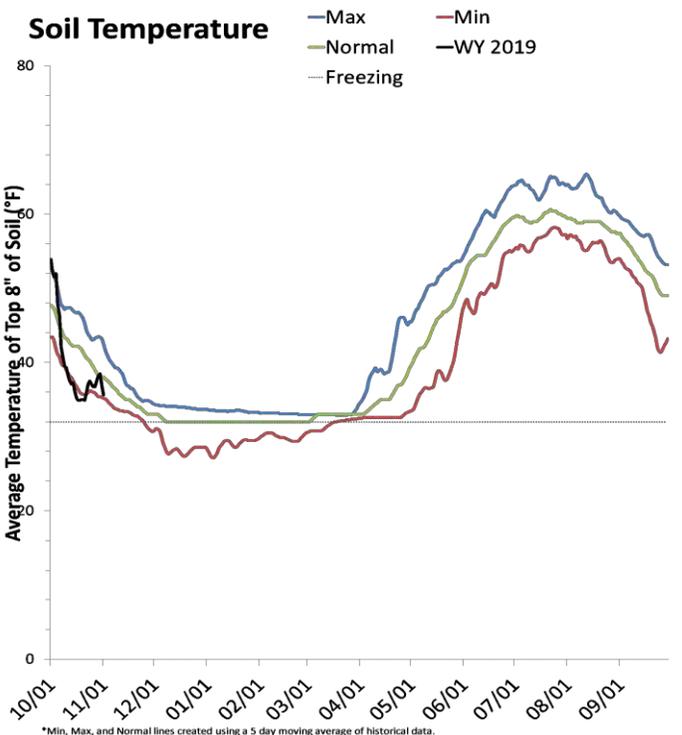
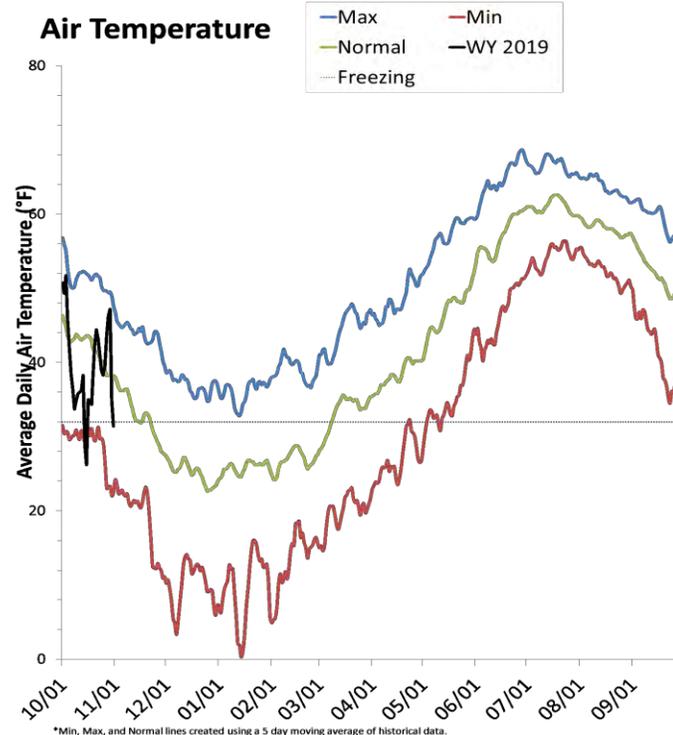
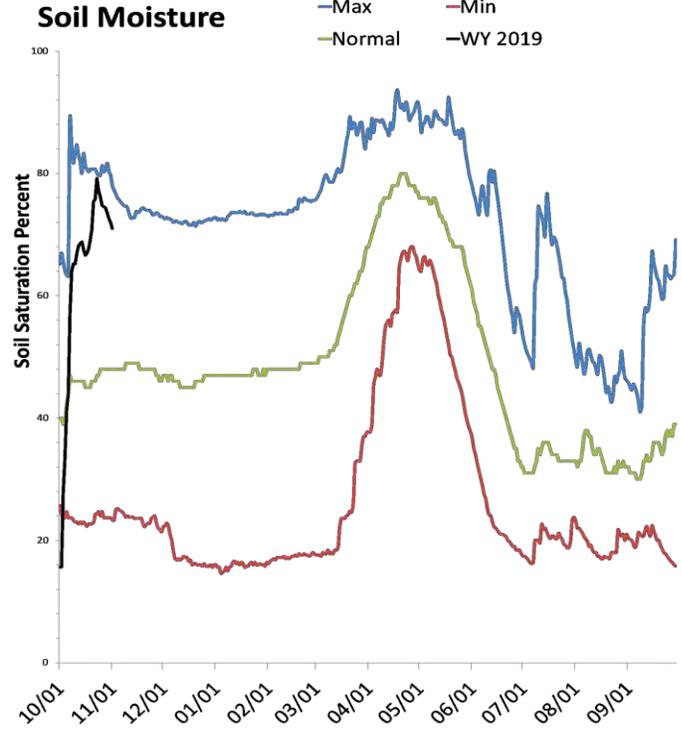
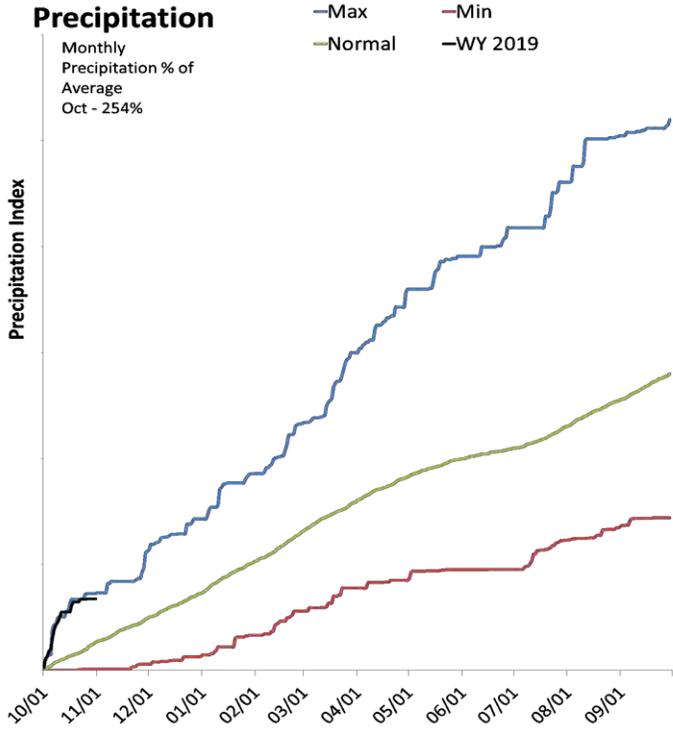
^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Southeastern Utah

November 1, 2018

Precipitation in October was much above average at 253%, which brings the seasonal accumulation (Oct-Oct) to 253% of average. Soil moisture is at 71% compared to 26% last year. Reservoir storage is at 10% of capacity, compared to 46% last year. The water availability index for Moab is 19%.



*Min, Max, and Normal lines created using a 5 day moving average of historical data.

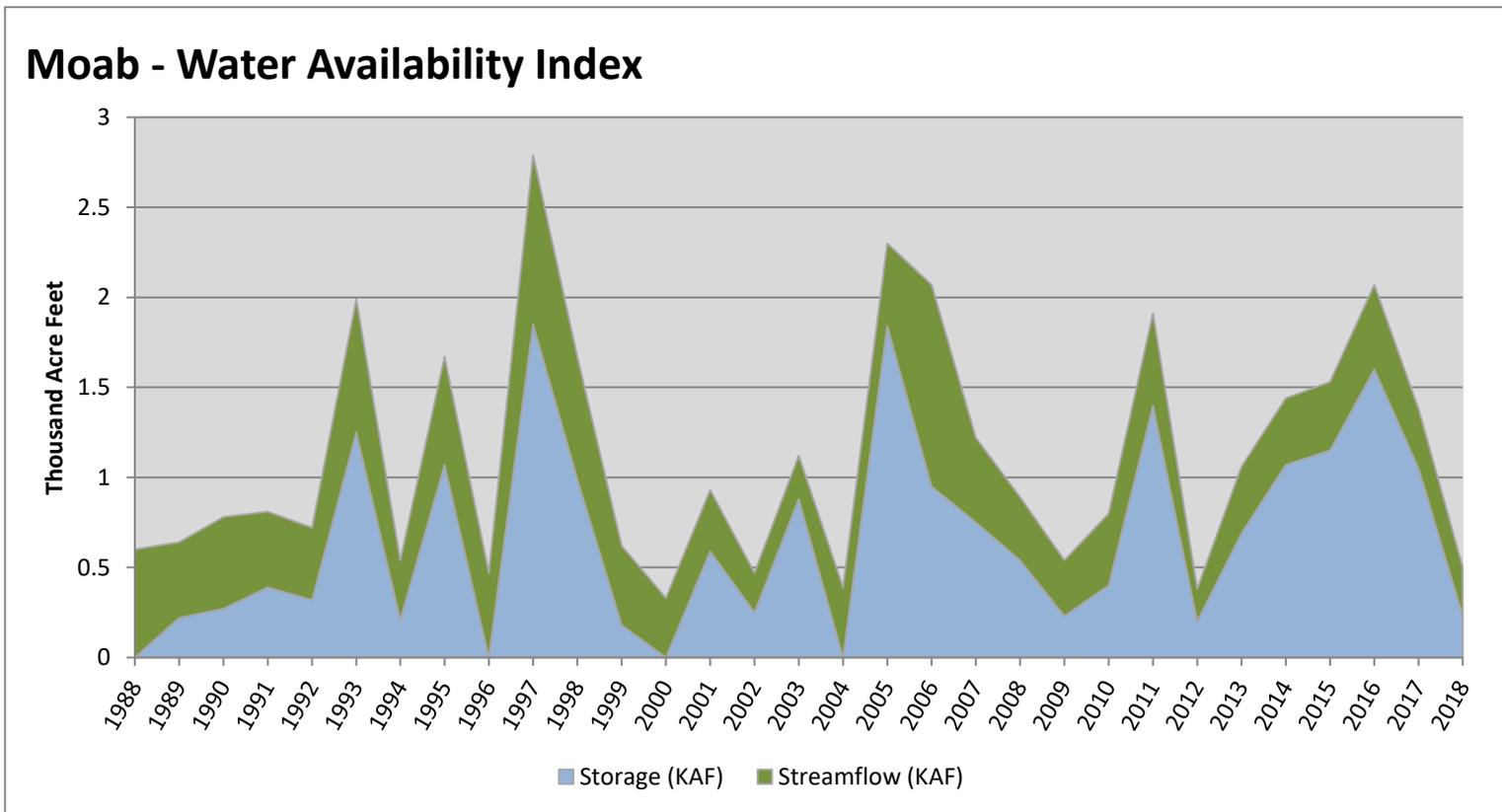
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Moab	0.23	0.27	0.50	19	-2.6	96, 02, 94, 09

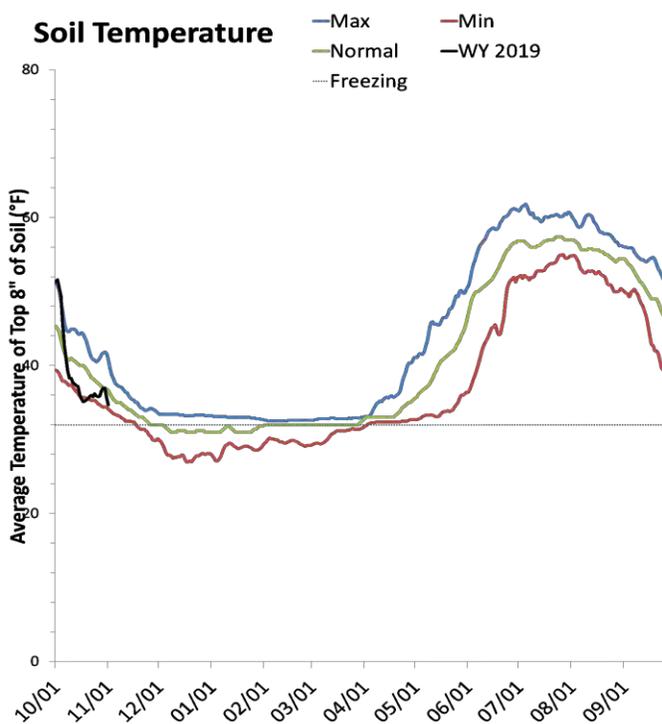
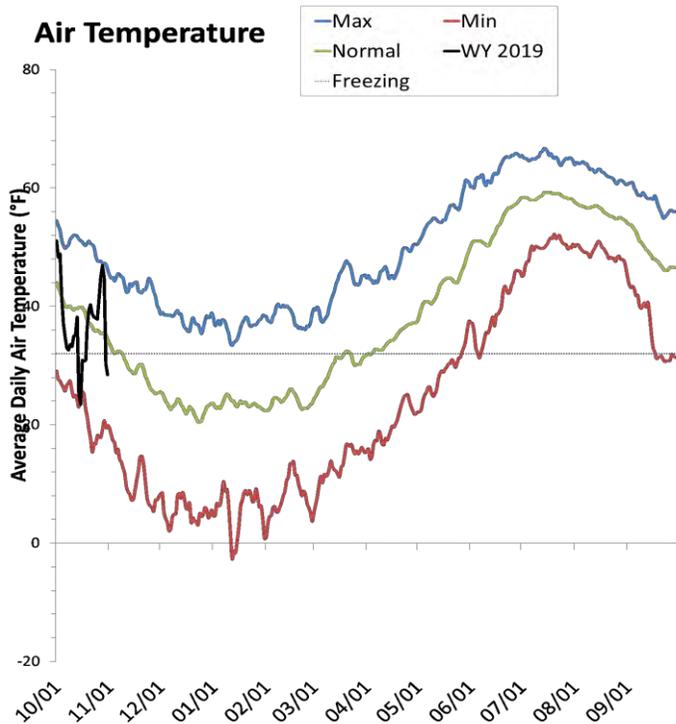
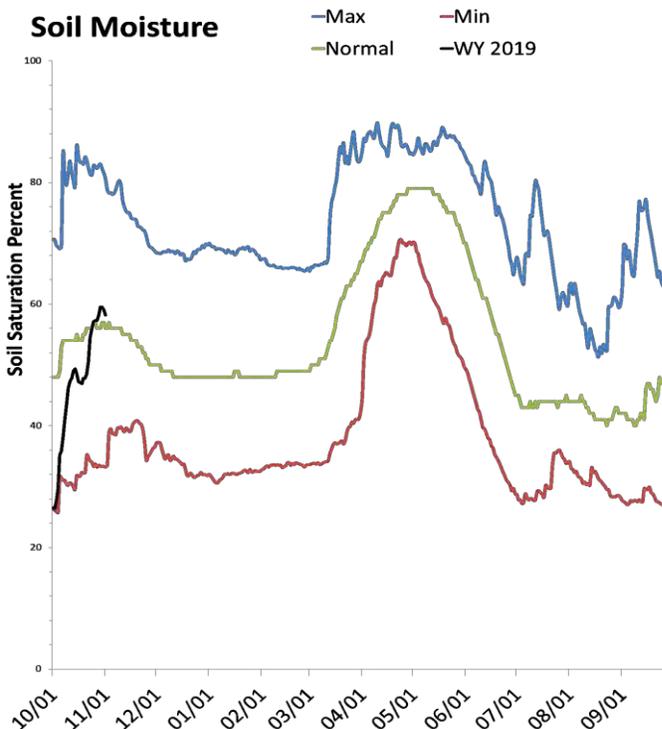
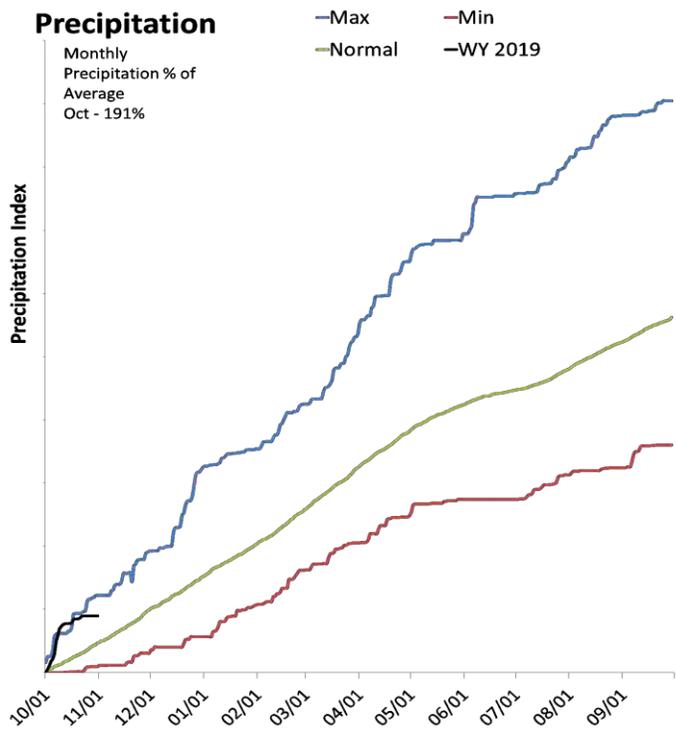
^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Dirty Devil Basin

November 1, 2018

Precipitation in October was much above average at 191%, which brings the seasonal accumulation (Oct-Oct) to 191% of average. Soil moisture is at 58% compared to 46% last year.



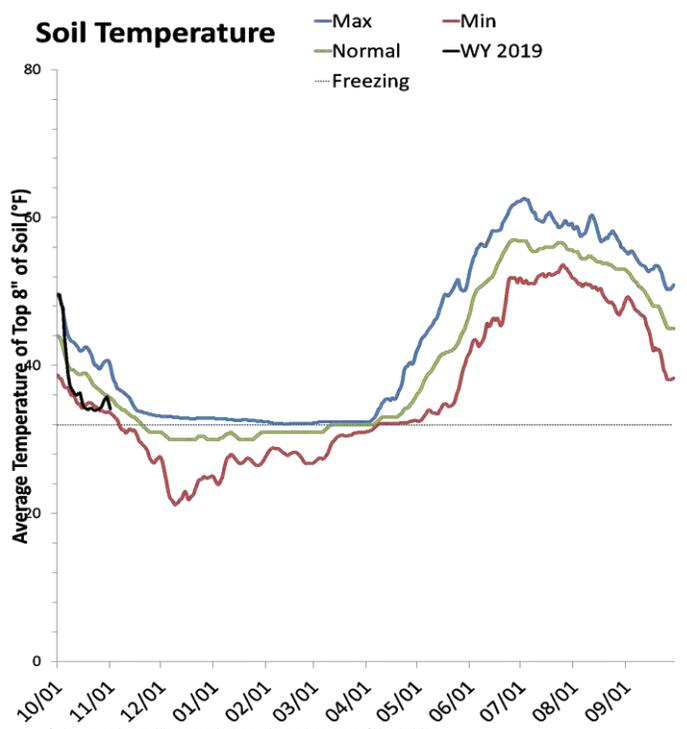
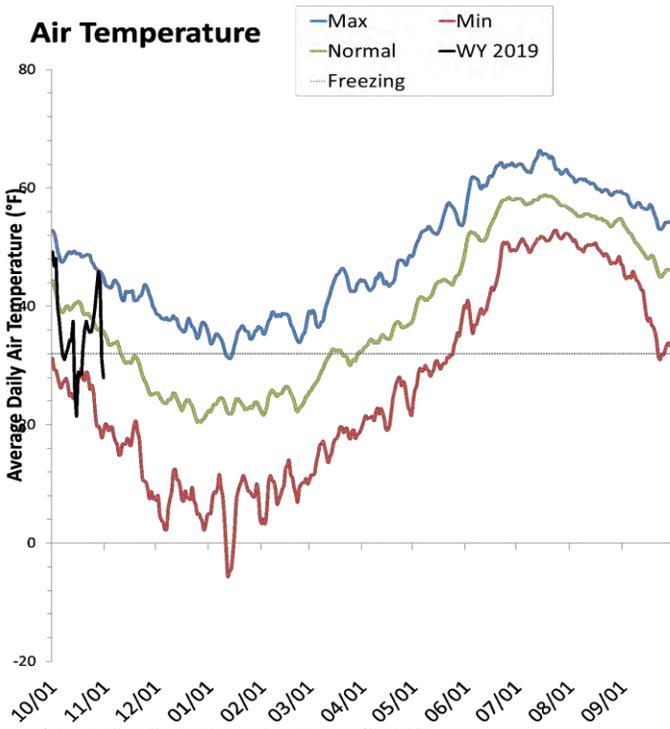
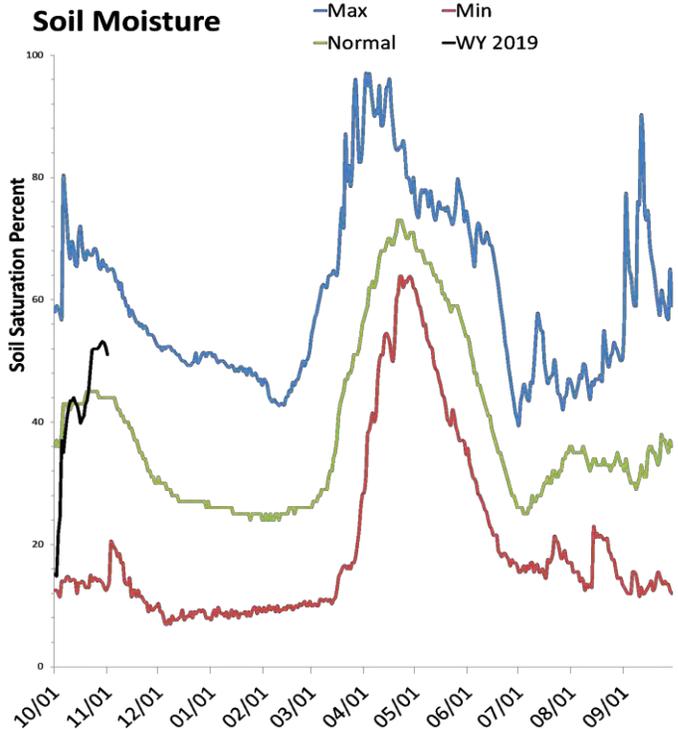
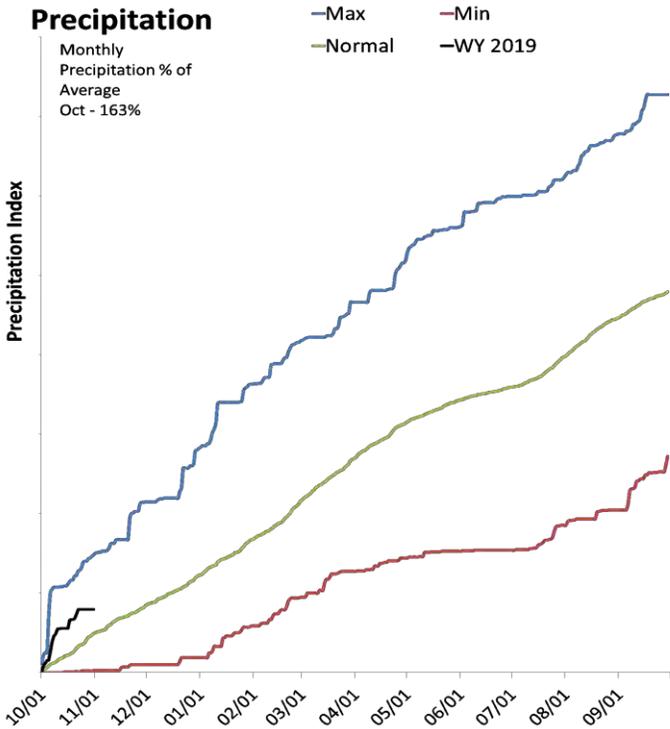
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

*Min, Max, and Normal lines created using a 5 day moving average of historical data.

Escalante River Basin

November 1, 2018

Precipitation in October was much above average at 163%, which brings the seasonal accumulation (Oct-Oct) to 163% of average. Soil moisture is at 52% compared to 26% last year.



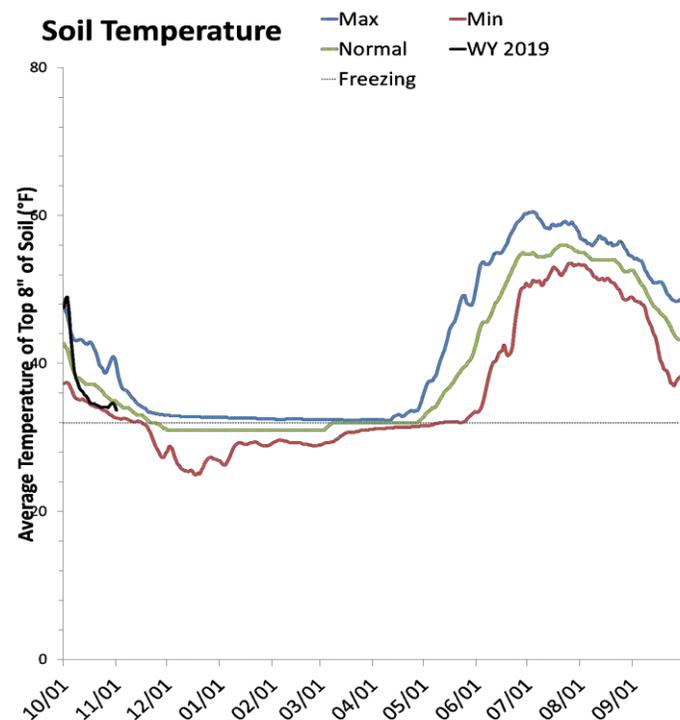
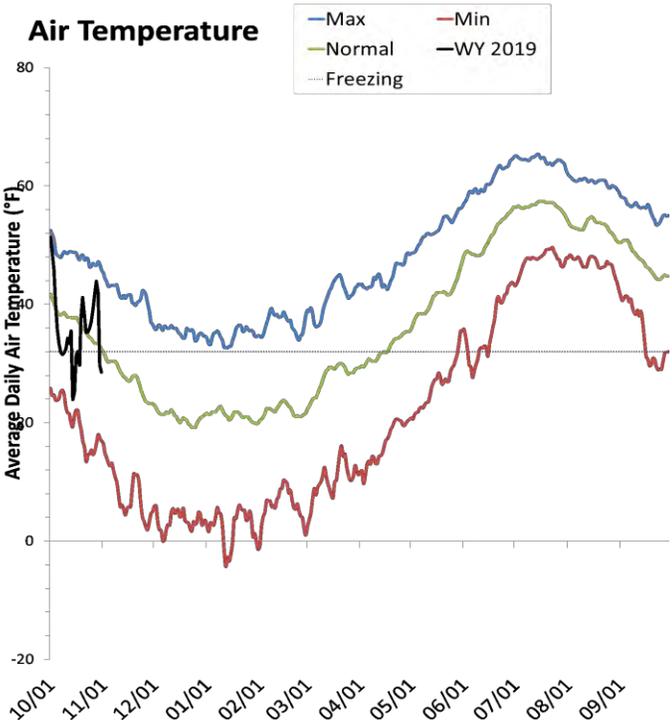
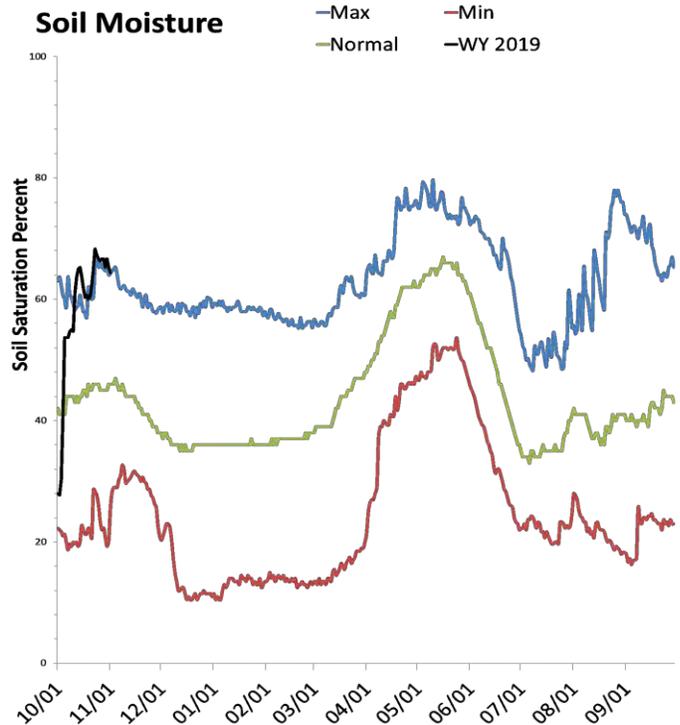
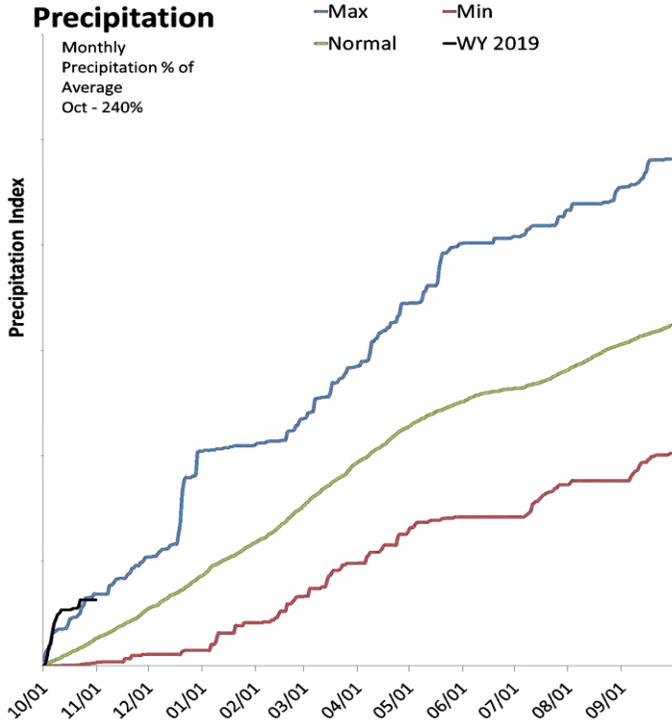
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

*Min, Max, and Normal lines created using a 5 day moving average of historical data.

Beaver River Basin

November 1, 2018

Precipitation in October was much above average at 241%, which brings the seasonal accumulation (Oct-Oct) to 241% of average. Soil moisture is at 64% compared to 53% last year. Reservoir storage is at 11% of capacity, compared to 20% last year. The water availability index for the Beaver River is 10%.



*Min, Max, and Normal lines created using a 5 day moving average of historical data.

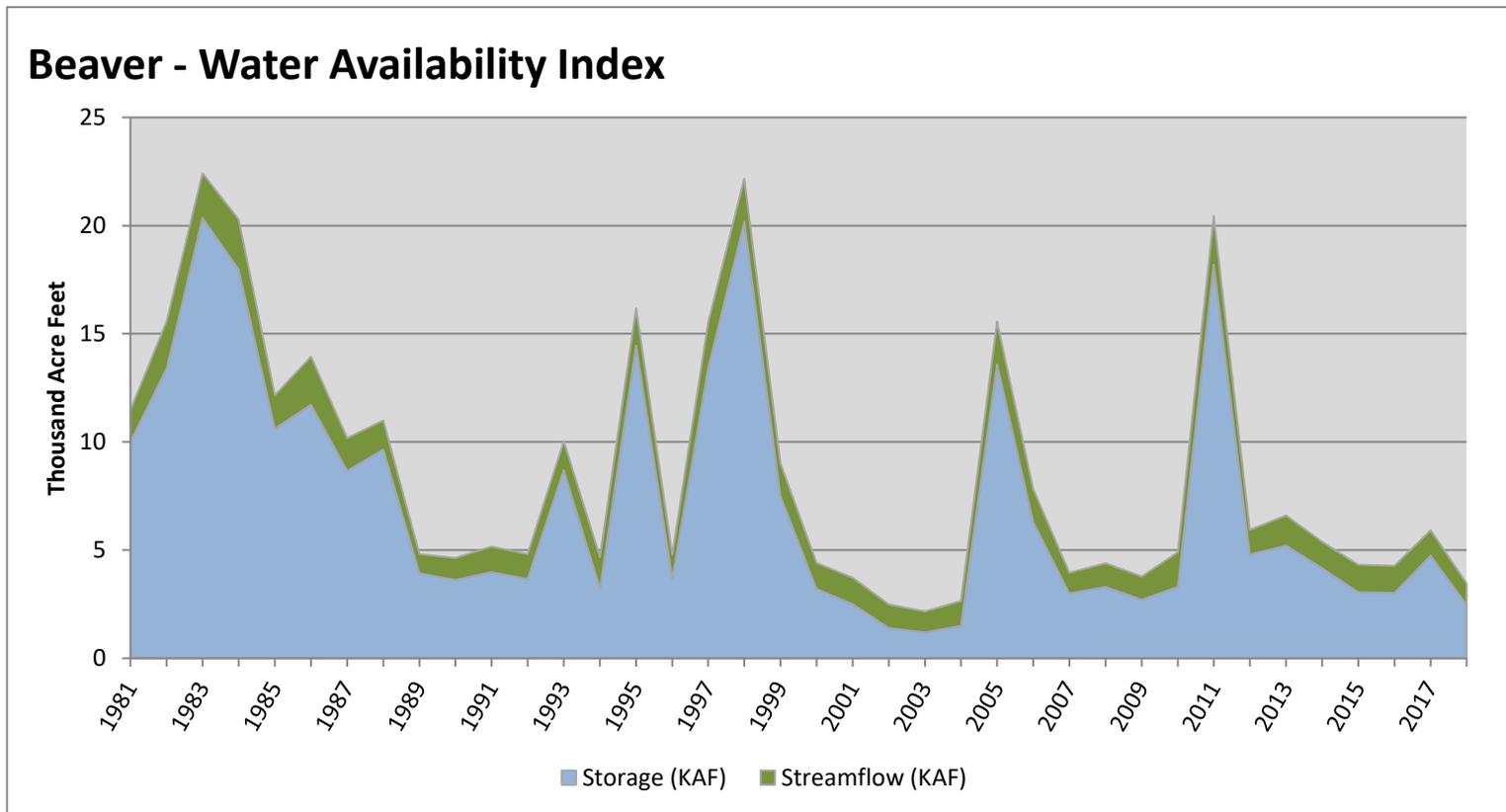
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Beaver	2.46	1.00	3.46	10	-3.31	02, 04, 01, 09

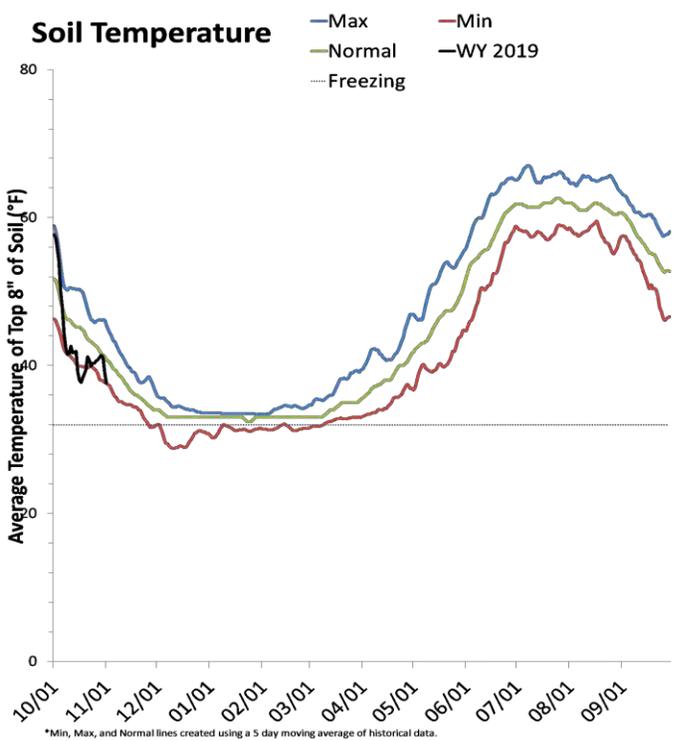
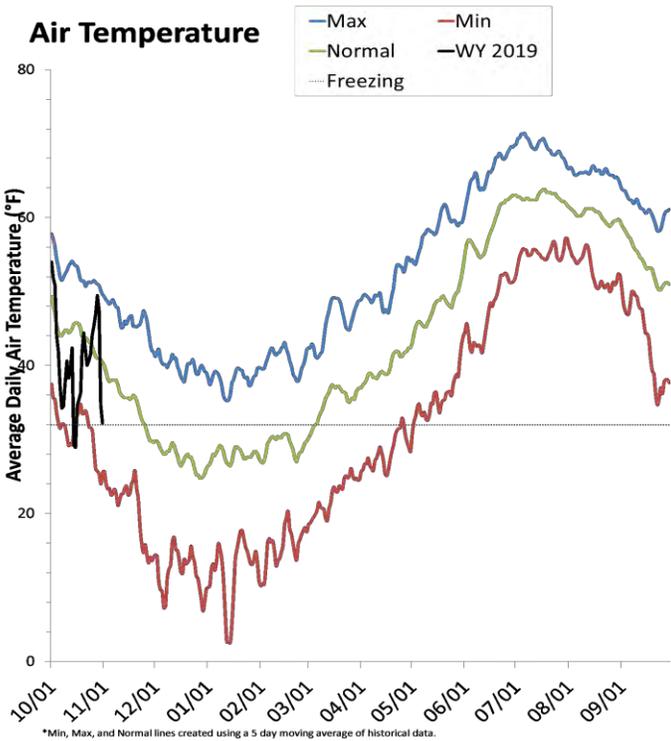
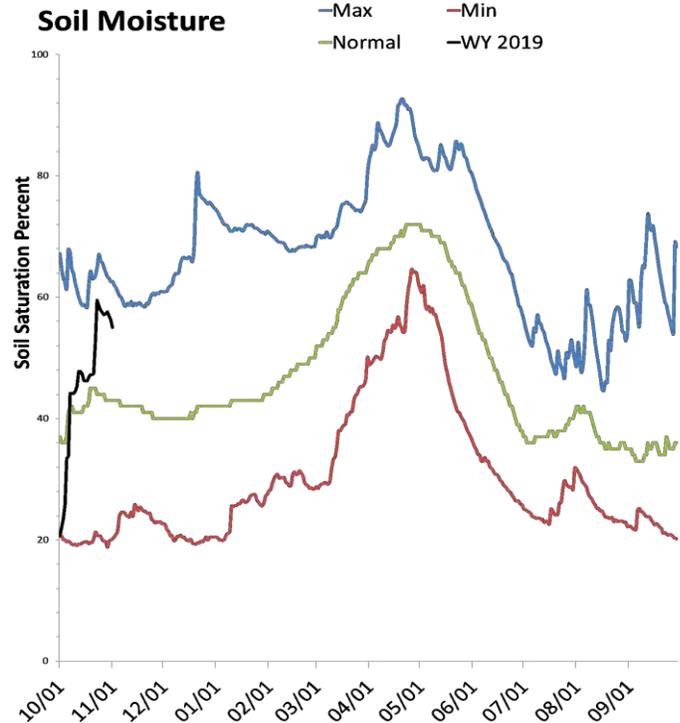
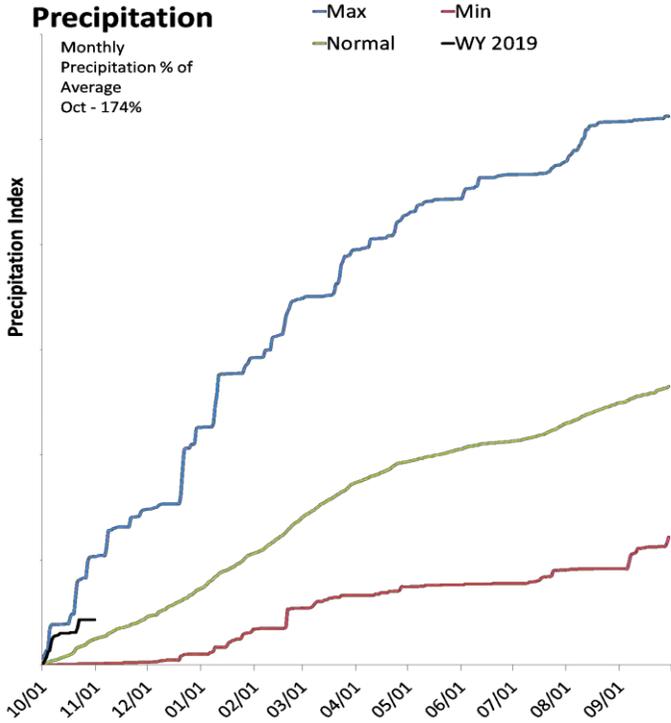
^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Southwestern Utah

November 1, 2018

Precipitation in October was much above average at 174%, which brings the seasonal accumulation (Oct-Oct) to 174% of average. Soil moisture is at 56% compared to 30% last year. Reservoir storage is at 45% of capacity, compared to 60% last year. The water availability index for the Virgin River is 45%.



*Min, Max, and Normal lines created using a 5 day moving average of historical data.

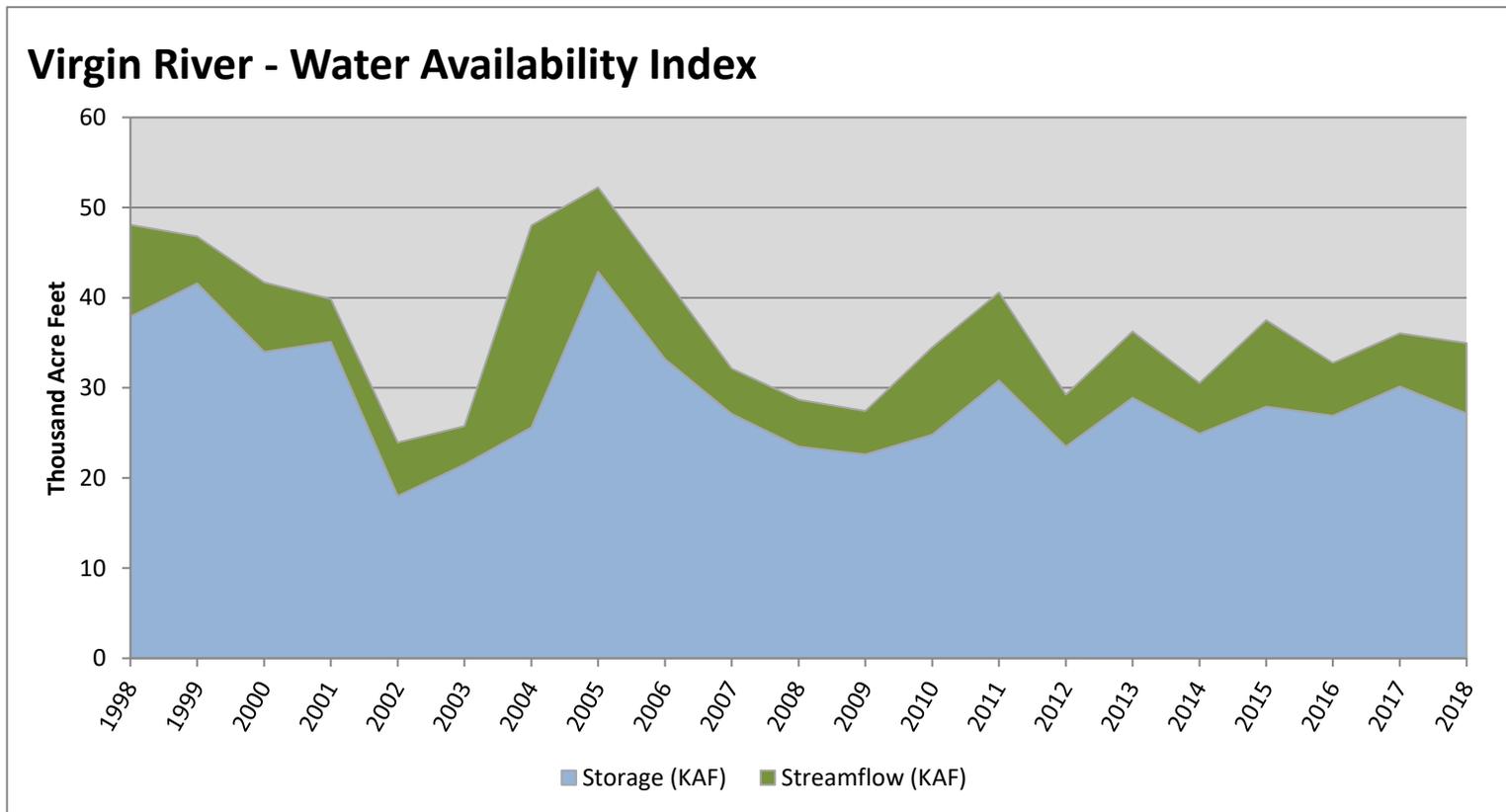
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

November 1, 2018

Water Availability Index

Basin or Region	Oct EOM [*] Storage	October Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Virgin River	27.15	7.82	34.97	45	-0.38	16, 10, 17, 13

^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



November 1, 2018

Water Availability Index

Basin or Region	Oct EOM* Storage	October Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Bear River	798	3.7	802	69	1.6	12, 81, 87, 85
Woodruff Narrows	19.2	3.7	22.9	38	-1.0	99, 81, 87, 07
Little Bear	6.5	2.3	8.8	52	0.2	12, 00, 96, 94
Ogden	46.8	2.4	49.2	33	-1.4	87, 12, 91, 15
Weber	74.6	5.8	80.4	17	-2.7	13, 01, 03, 00
Provo River	292.2	3.1	295.3	29	-1.7	04, 12, 02, 16
Western Uinta	123.0	2.6	125.6	28	-1.8	08, 94, 12, 02
Eastern Uinta	10.4	2.1	12.4	3	-4.0	89, 02, 13, 94
Blacks Fork	2.9	2.1	5.1	17	-2.8	89, 90, 12, 94
Price	22.4	0.5	22.9	49	-0.1	01, 00, 09, 88
Smiths Creek	3.5	0.4	3.9	20	-2.5	00, 96, 03, 01
Joes Valley	29.7	1.4	31.1	18	-2.7	94, 16, 03, 91
Moab	0.2	0.3	0.5	19	-2.6	96, 02, 94, 09
Upper Sevier River	11.1	1.0	12.1	10	-3.3	92, 91, 02, 04
San Pitch	0.0	0.2	0.2	3	-4.0	00, 03, 92, 04
Lower Sevier	16.0	4.6	20.6	10	-3.3	16, 04, 17, 92
Beaver	2.5	1.0	3.5	10	-3.3	02, 04, 01, 09
Virgin River	27.2	7.8	35.0	45	-0.4	16, 10, 17, 13

*EOM, end of month; # WAI, water availibilty index; ^KAF, thousand acre-feet.

What is a Water Availability Index?

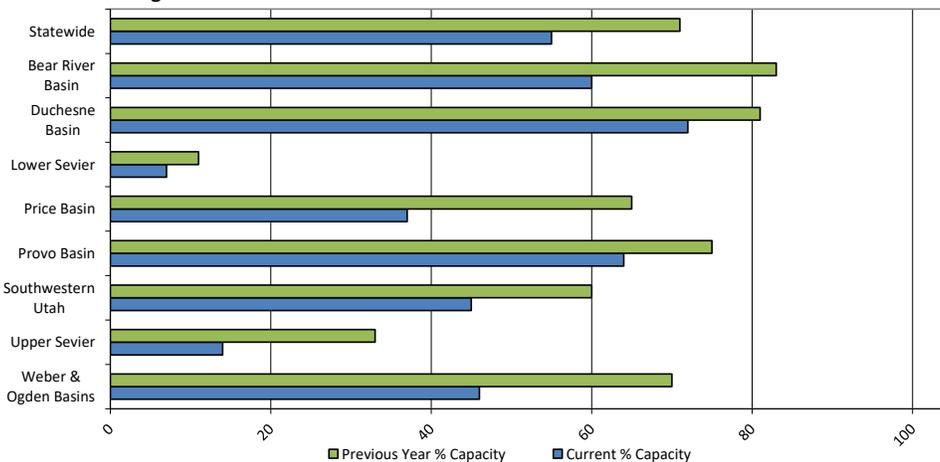
The Water Availability Index (WAI) is an observed hydrologic indicator of current surface water availability within a watershed. The index is calculated by combining current reservoir storage with the previous months streamflow. WAI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry) with a value of zero (0) indicating median water supply as compared to historical analysis. WAI's are calculated in this fashion to be consistent with other hydroclimatic indicators such as the Palmer Drought Index and the Precipitation index.

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

For more information on the WAI go to: www.ut.nrcs.usda.gov/snow/ on the water supply page. The entire period of historical record for reservoir storage and streamflow is available.

Reservoir Storage Summary for the end of October 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Big Sand Wash Reservoir	2.8	11.6		25.7	11%	45%			
Causey Reservoir	3.1	3.4	2.6	7.1	43%	48%	37%	117%	132%
Cleveland Lake	1.2	2.4		5.4	22%	44%			
Currant Creek Reservoir	15.0	14.7	14.7	15.5	97%	95%	95%	102%	100%
Deer Creek Reservoir	91.9	126.1	93.3	149.7	61%	84%	62%	98%	135%
East Canyon Reservoir	25.3	36.2	32.0	49.5	51%	73%	65%	79%	113%
Echo Reservoir	11.9	29.1	29.7	73.9	16%	39%	40%	40%	98%
Grantsville Reservoir	1.0	1.0	0.8	3.3	29%	30%	25%	114%	119%
Gunlock	4.0	6.6	5.2	10.4	38%	63%	50%	76%	126%
Gunnison Reservoir	0.0	0.0	6.0	20.3	0%	0%	30%	0%	0%
Huntington North Reservoir	1.9	2.3	1.4	4.2	44%	55%	33%	135%	167%
Hyrum Reservoir	6.5	9.9	8.0	15.3	42%	64%	52%	81%	123%
Joes Valley Reservoir	29.7	46.2	39.2	61.6	48%	75%	64%	76%	118%
Jordanelle Reservoir	200.3	258.5	248.3	314.0	64%	82%	79%	81%	104%
Ken's Lake	0.2	1.1	0.7	2.3	10%	46%	30%	34%	154%
Kolob Reservoir	0.1	5.1		5.6	1%	91%			
Lost Creek Reservoir	13.9	17.6	12.5	22.5	62%	78%	56%	111%	140%
Lower Enterprise	0.0	0.8	0.4	2.6	1%	31%	14%	7%	216%
Miller Flat Reservoir	0.8	3.4		5.2	16%	66%			
Millsite	1.2	1.2	9.4	16.7	7%	7%	56%	12%	12%
Minersville Reservoir	2.5	4.7	8.6	23.3	11%	20%	37%	29%	55%
Moon Lake Reservoir	8.0	19.9	18.2	35.8	22%	56%	51%	44%	109%
Otter Creek Reservoir	8.8	25.6	25.0	52.5	17%	49%	48%	35%	102%
Panguitch Lake	9.7	9.4	11.4	22.3	43%	42%	51%	85%	83%
Pineview Reservoir	43.7	70.0	51.3	110.1	40%	64%	47%	85%	136%
Piute Reservoir	2.3	13.9	25.3	71.8	3%	19%	35%	9%	55%
Porcupine Reservoir	5.3	10.8	3.9	11.3	47%	96%	35%	136%	277%
Quail Creek	23.2	23.6	22.3	40.0	58%	59%	56%	104%	106%
Red Fleet Reservoir	10.4	17.9	16.8	25.7	40%	69%	65%	62%	106%
Rockport Reservoir	21.0	55.0	37.8	60.9	35%	90%	62%	56%	145%
Sand Hollow Reservoir	37.5	43.0		50.0	75%	86%			
Scofield Reservoir	22.4	46.1	26.3	65.8	34%	70%	40%	85%	175%
Settlement Canyon Reservoir	0.3	0.3	0.5	1.0	27%	31%	46%	58%	67%
Sevier Bridge Reservoir	16.0	25.4	110.2	236.0	7%	11%	47%	15%	23%
Smith And Morehouse Reservoir	2.4	4.7	3.6	8.1	30%	58%	44%	68%	132%
Starvation Reservoir	105.7	133.1	126.3	164.1	64%	81%	77%	84%	105%
Stateline Reservoir	3.5	5.3	5.7	12.0	29%	45%	48%	61%	94%
Steinaker Reservoir	-3.7	9.5	15.6	33.4	-11%	29%	47%	-24%	61%
Strawberry Reservoir	844.0	920.7	656.2	1105.9	76%	83%	59%	129%	140%
Upper Enterprise	0.2	1.6	1.9	10.0	2%	16%	19%	12%	84%
Upper Stillwater Reservoir	9.3	17.4	14.4	32.5	29%	53%	44%	65%	121%
Utah Lake	425.8	515.4	683.2	870.9	49%	59%	78%	62%	75%
Willard Bay	129.5	168.1	131.1	215.0	60%	78%	61%	99%	128%
Woodruff Creek	0.5	1.2	1.1	4.0	13%	30%	28%	45%	107%
Woodruff Narrows Reservoir	19.2	42.1	23.3	57.3	33%	73%	41%	82%	181%
Meeks Cabin Reservoir	2.9	6.9	9.1	32.5	9%	21%	28%	32%	76%
Bear Lake	798.2	1090.7	595.7	1302.0	61%	84%	46%	134%	183%
Basin-wide Total	2920.5	3784.2	3113.4	5339.7	55%	71%	58%	94%	122%
# of reservoirs	41.0	41.0	41.0	41.0	41	41	41	41	41
# of reservoirs	42	42	42	42	42	42	42	42	42

Reservoir Storage



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Utah Climate and Water Report

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