



Utah Climate and Water Report

October 1, 2018



Santaquin Meadows SNOTEL, UT

Bald Mountain Fire in the background.

Photo by Brendan Waterman

Report Contents

1) Statewide Hydrologic Summary

- a) Utah General Summary
 - Supporting Documents

2) Climate and Water Information – SCAN

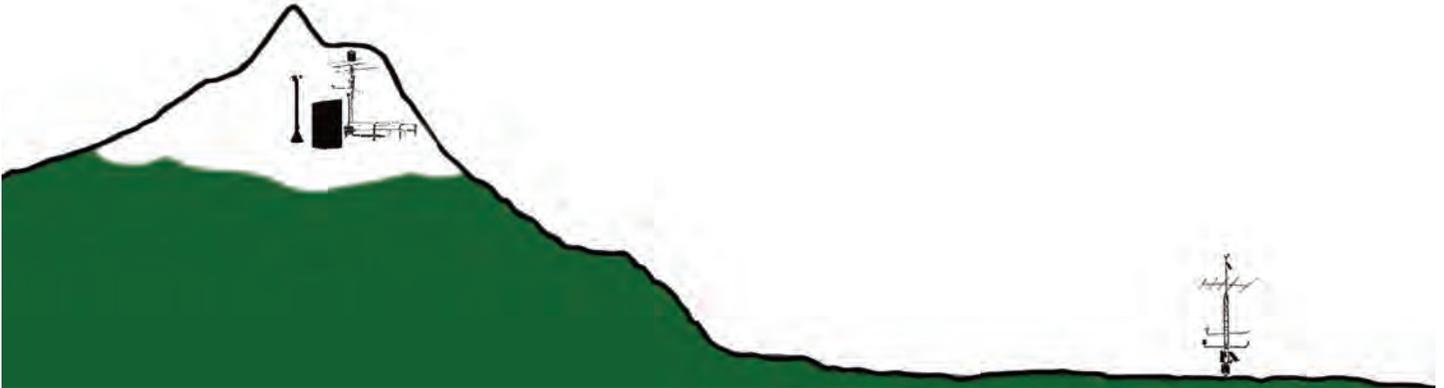
- a) Statewide SCAN
- b) Southeast
- c) South Central
- d) Western and Dixie
- e) Uinta Basin
- f) North Central
- g) Northern Mountains

3) Climate and Water Information – SNOTEL

- a) Statewide SNOTEL
- b) Bear River Basin
 - Water Availability Indices
- c) Weber & Ogden River Basins
 - Water Availability Indices
- d) Provo & Jordan River Basins
 - Water Availability Index
- e) Tooele Valley & West Desert Basins
- f) Northeastern Uinta Basin
 - Water Availability Indices
- g) Duchesne River Basins
 - Water Availability Indices
- h) San Pitch River Basin
 - Water Availability Index
- i) Price & San Rafael Basins
 - Water Availability Indices
- j) Lower Sevier Basin
 - Water Availability Index
- k) Upper Sevier Basin
 - Water Availability Index
- l) Southeastern Utah
 - Water Availability Index
- m) Dirty Devil
- n) Escalante River Basin
 - Water Availability Index
- o) Beaver River Basin
 - Water Availability Index
- p) Southwestern Utah
 - Water Availability Index

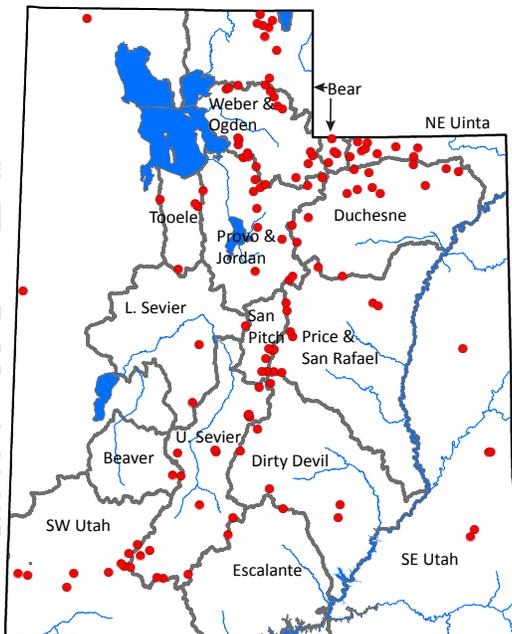
Utah Climate and Water Report

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.



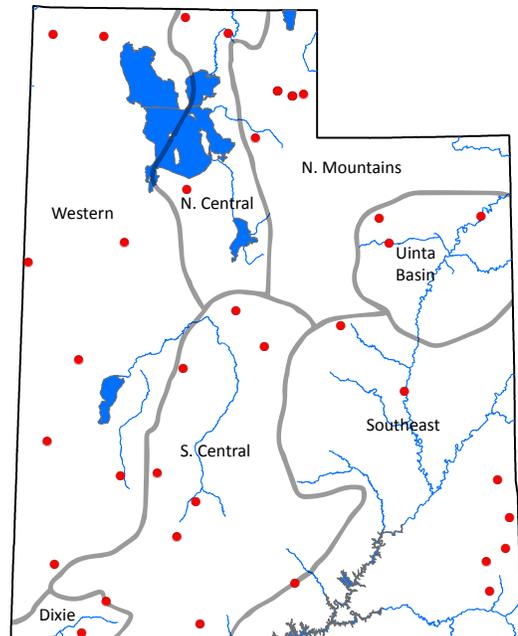
SNOTEL

- 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

October 1, 2018

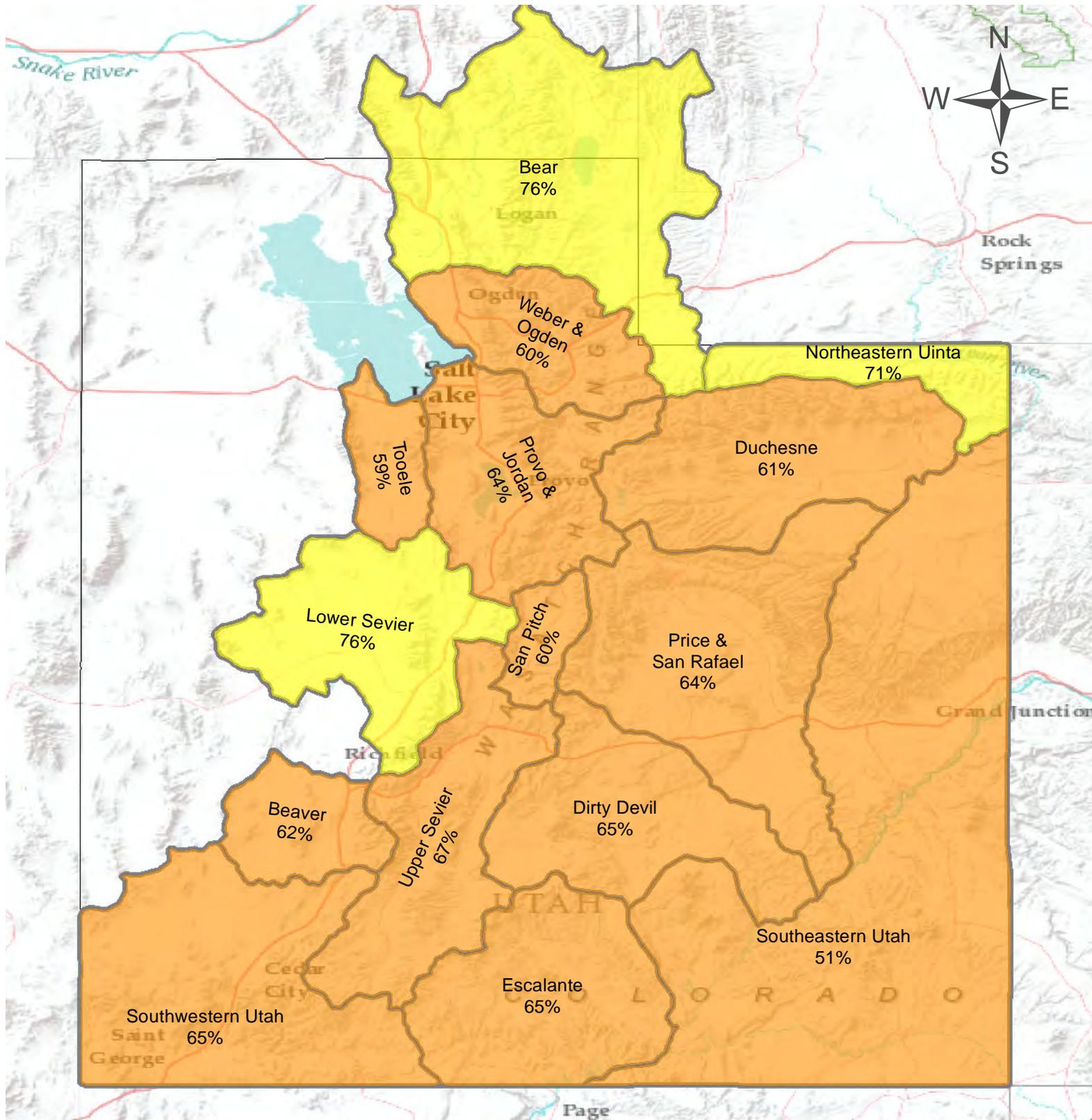
This report has been reorganized to better reflect two distinct geographic areas being monitored – the low elevation valley sites (Soil Climate Analysis Network) that are critical for agricultural production and operations, and the high elevation mountainous areas where water supply is generated (SNOWTElemetry). 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 Randy.Julander@ut.usda.gov.

Current Valley Conditions (SCAN)

September was a dry end to a very dry water year in Utah's valley locations. With monsoonal moisture that was limited in scope and duration and a very dry winter, Water Year 2018 is one that won't be missed. An average of just 0.1 inches of precipitation fell at Utah's SCAN sites in September. Unlike previous months, rainfall in September favored Southeast Utah, with 0.4 inches. This is still a tiny amount of precipitation and did not help the region to achieve any gains against the persistent drought which is in the most extreme category of D4 - Exceptional Drought. On average, statewide soil temperatures ended up warmer than normal. Soil moisture levels deteriorated during September, finishing the water year at 28%, the lowest level for the last ~15 years. This is consistent with the latest Drought Monitor data for Utah which has the entire state listed in the Moderate to Exceptional Drought categories.

Current Mountain Conditions (SNOTEL)

Water year (WY) 2018 started out with a whimper and ended with a dry hoarse moan. In summary, about half the snowpack of a normal winter was followed by four months of hot summer temperatures with abundant forest fires and little rain. September set a record low for monthly precipitation at many of our SNOTEL sites. Sites that did not break a record low ranged from 3% to 20% of average. This amounted to less than half an inch of rain, as reported by the SNOTEL network, across Utah for the month of September. Going back to June through September, we find the precipitation average (period of record) ranged from 20% to 50% across the state except for Southwestern Utah which received some relief in the form of seasonal monsoonal moisture. Cumulative precipitation for WY2018 ranged from 76% on the Bear River Basin to 51% in Southeastern Utah with most basins reporting in the 60% range. Reservoirs have seen heavy use with little to no water left in the bank to add to next year's water levels. Across the state reservoir storage is at 54% of capacity compared to 70% last year. Soil moisture is at 23% compared to 55% last year. The one bit of good news is the NOAA one-month outlook forecasts above normal precipitation across Utah. Hopefully this wet pattern will continue into the fall and winter.



Statewide Precipitation

As of October 1, 2018:

65% of Normal Precipitation

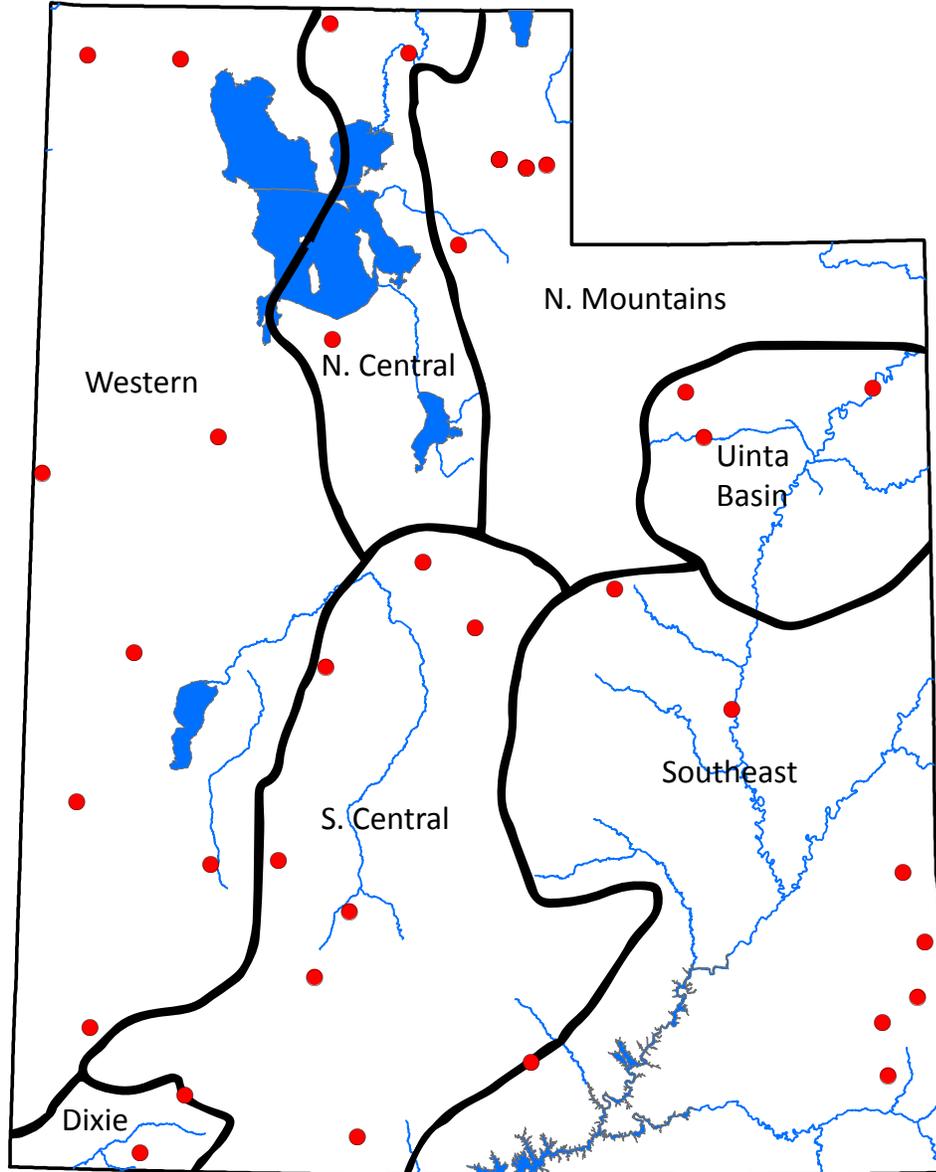
14% of Normal Precipitation Last Month

% of Normal

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

0 10 20 40 60 80 100 Miles

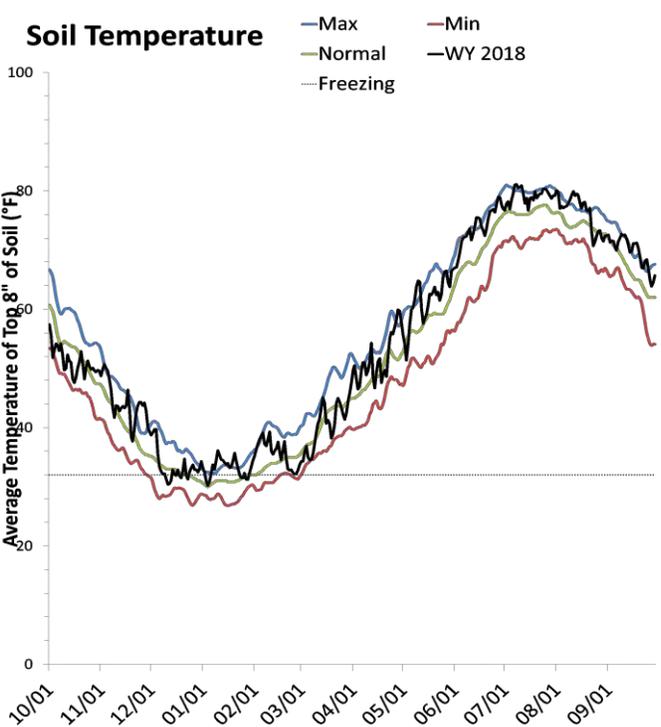
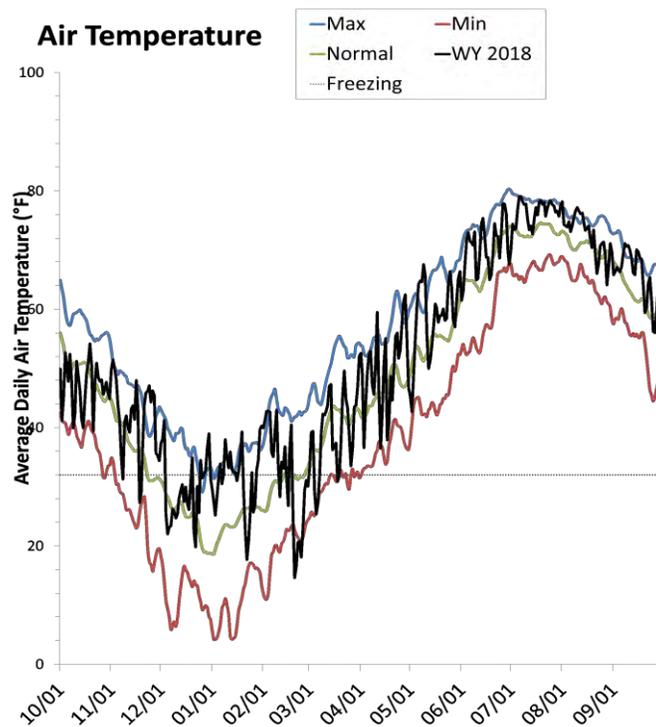
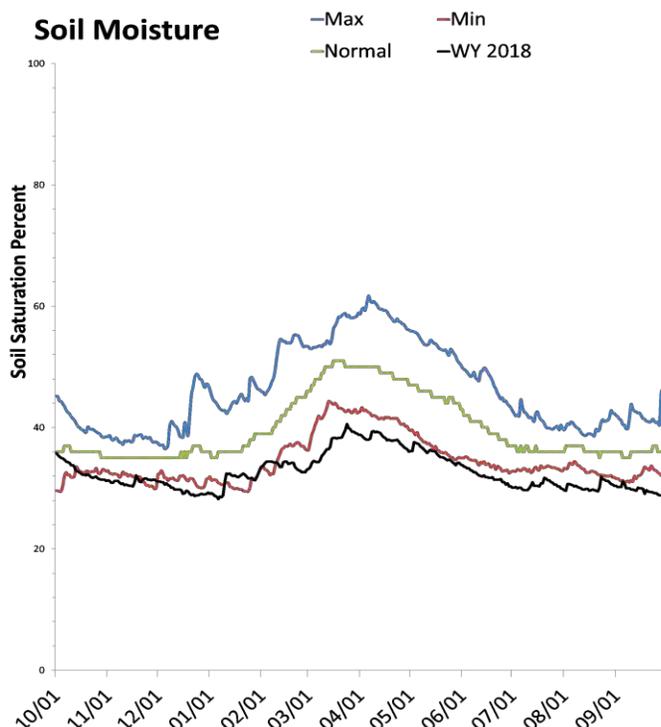
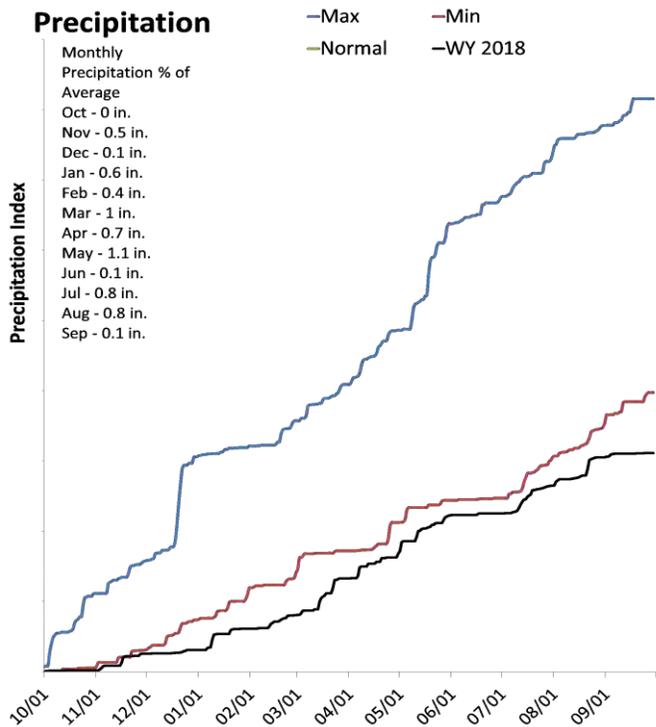
SCAN portion of report



Statewide SCAN

October 1, 2018

The average precipitation at SCAN sites within Utah was 0.1 inches in September, which brings the seasonal accumulation (Oct-Sep) to 6.2 inches. Soil moisture is at 28% compared to 36% last year.



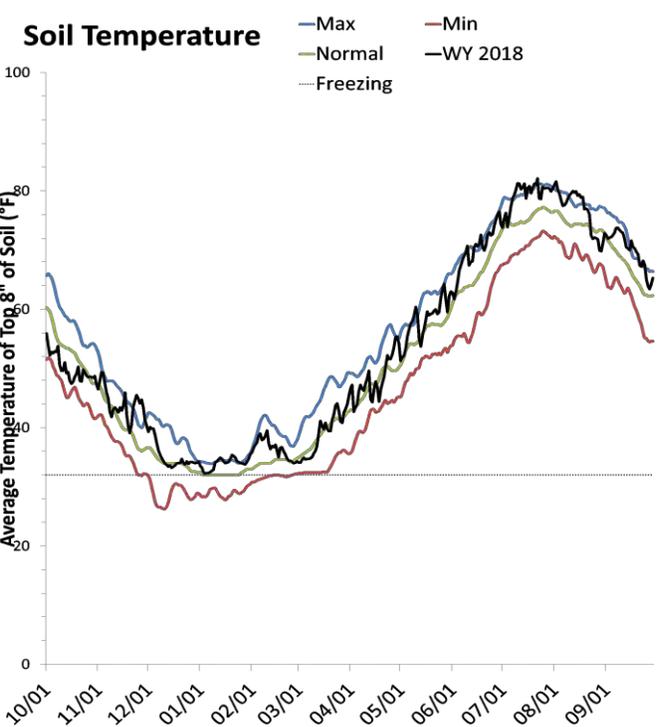
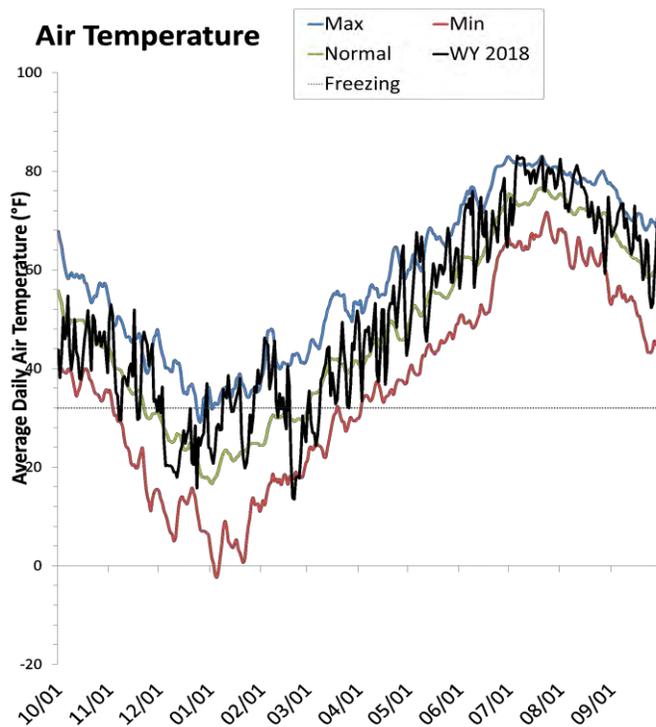
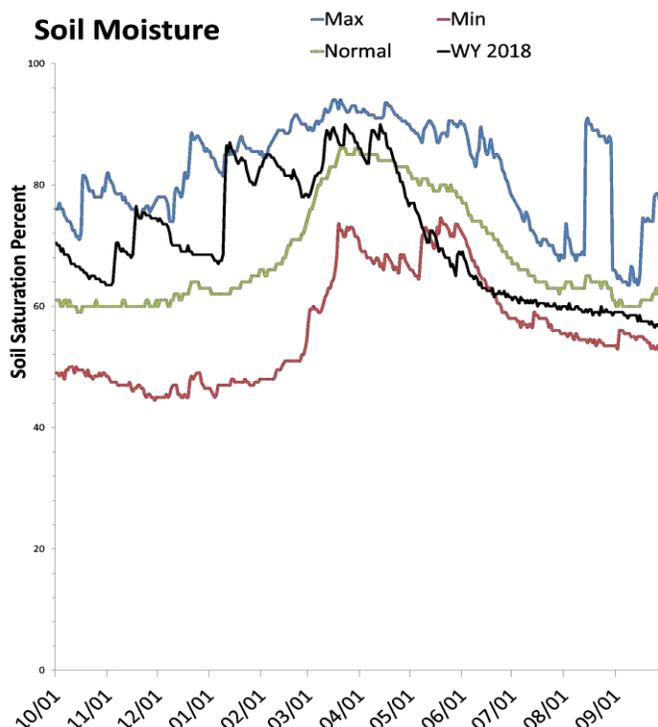
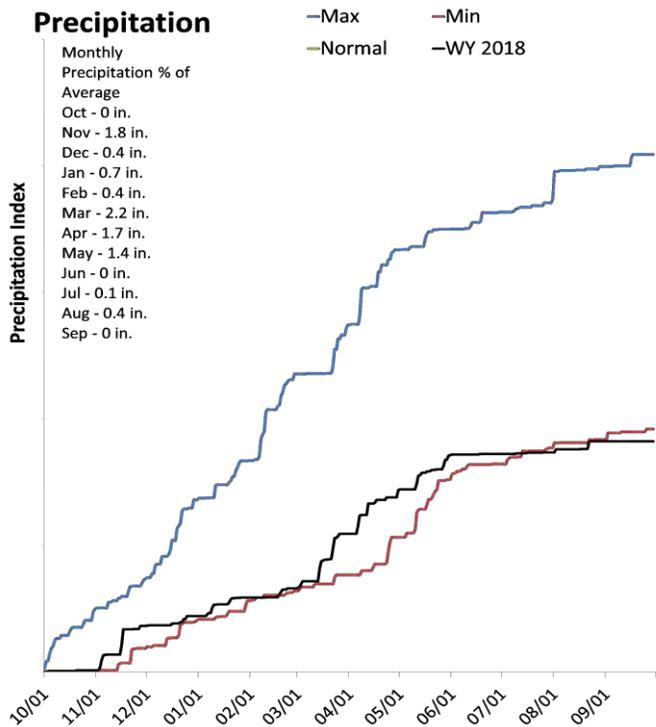
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

North Central

October 1, 2018

The average precipitation in September at SCAN sites within the basin was 0 inches, which brings the seasonal accumulation (Oct-Sep) to 9.1 inches. Soil moisture is at 57% compared to 70% last year.



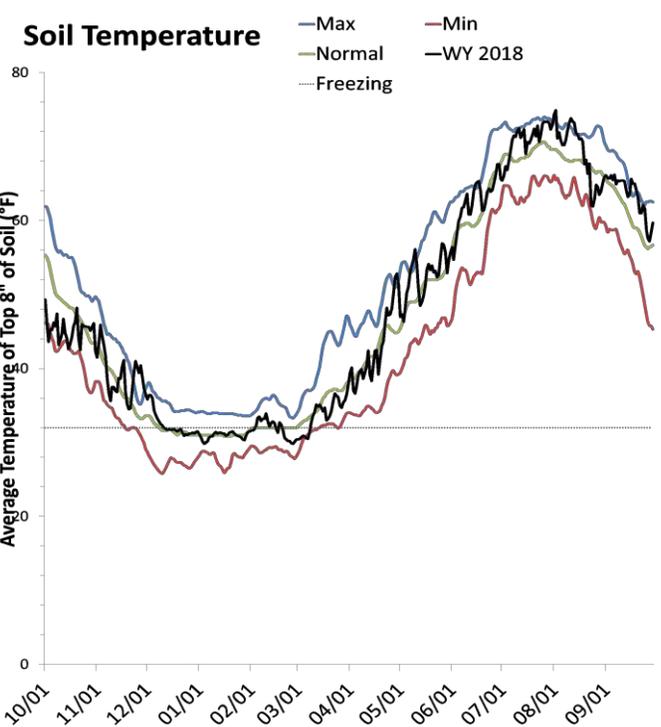
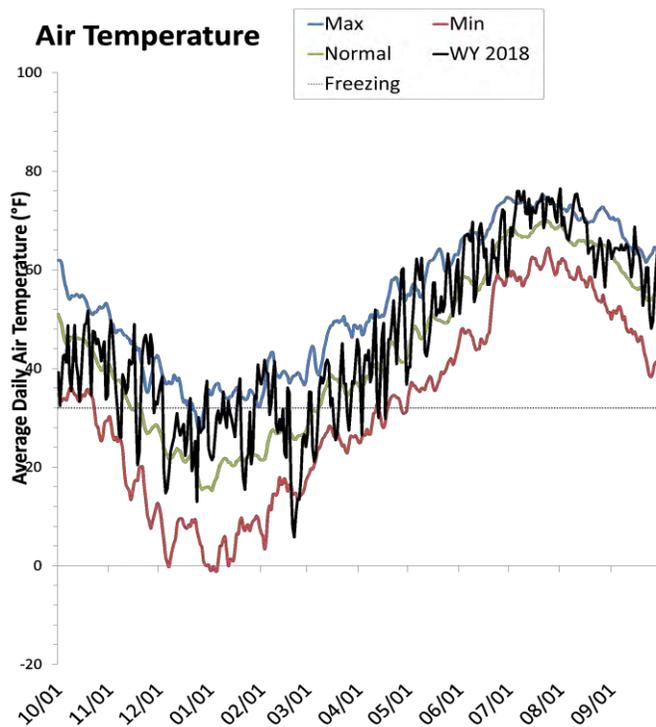
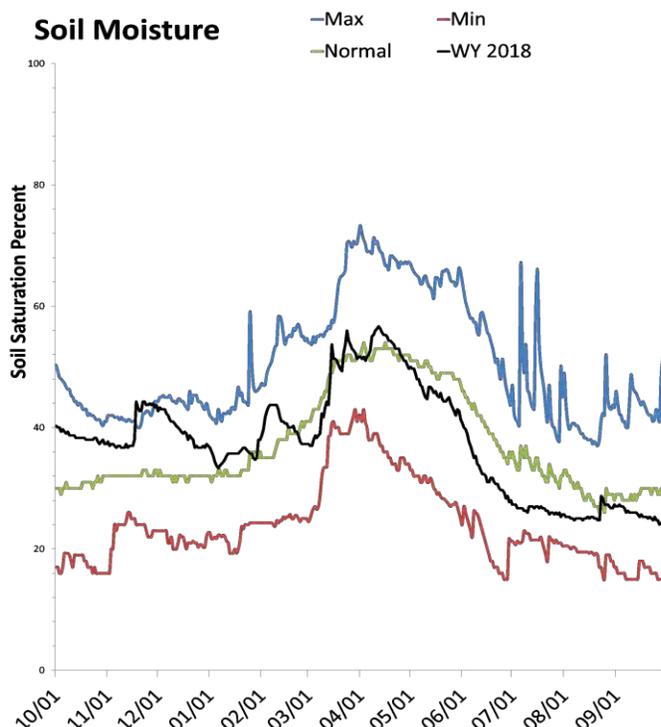
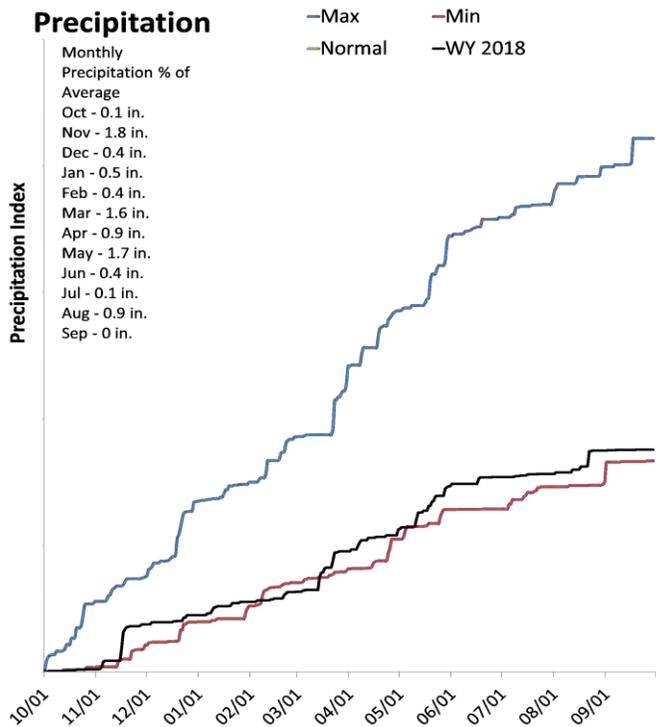
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Northern Mountains

October 1, 2018

The average precipitation in September at SCAN sites within the basin was 0 inches, which brings the seasonal accumulation (Oct-Sep) to 8.8 inches. Soil moisture is at 25% compared to 40% last year.



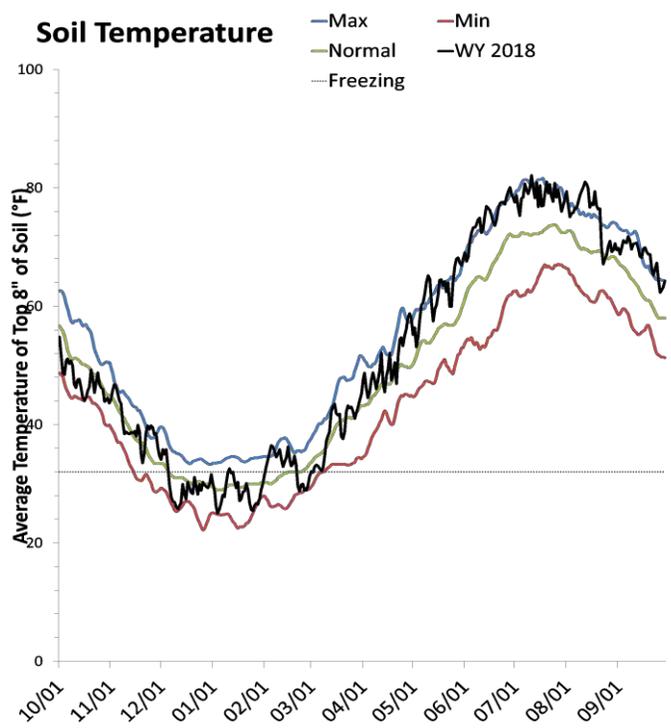
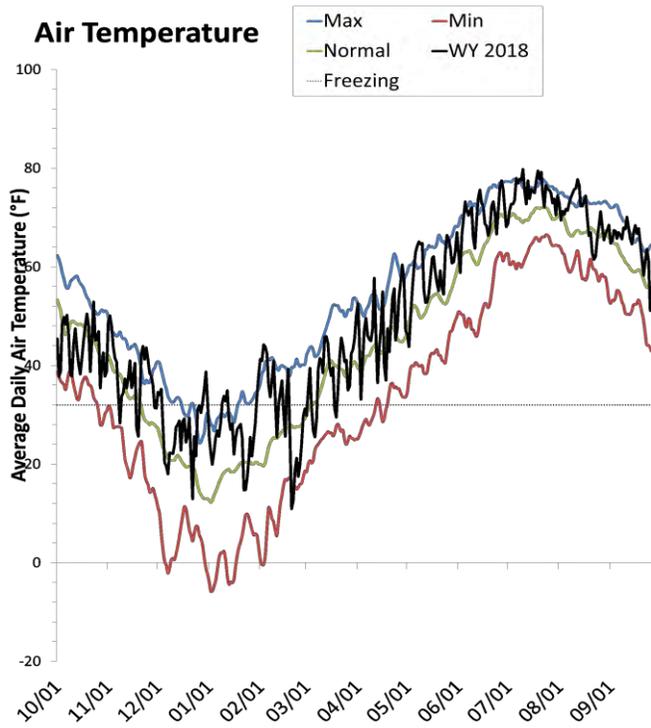
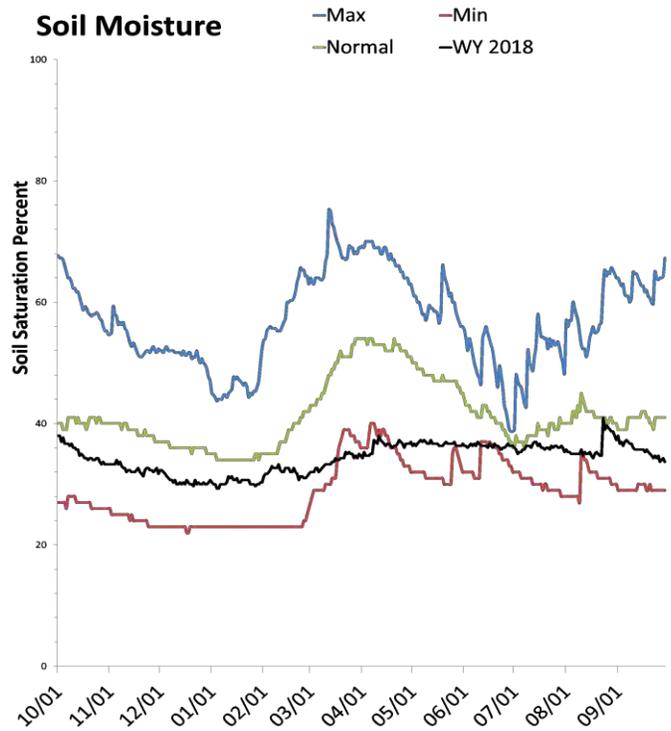
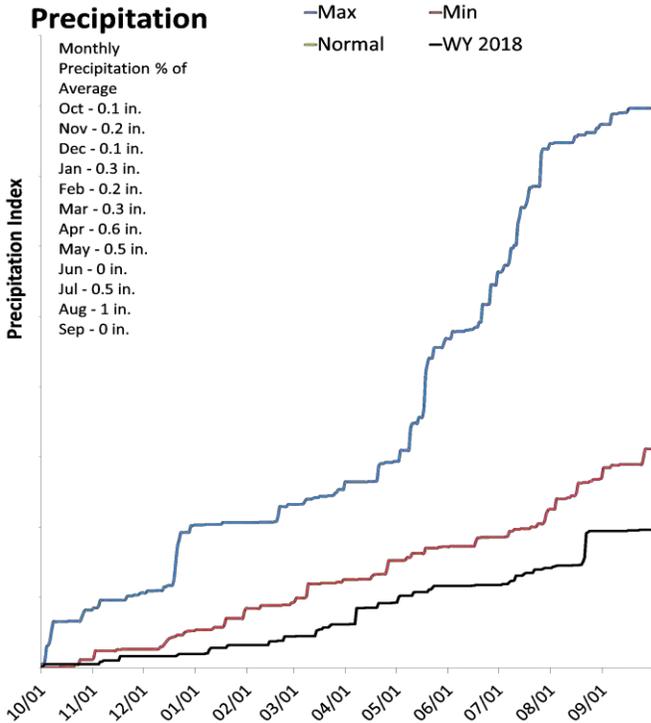
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Uinta Basin

October 1, 2018

The average precipitation in September at SCAN sites within the basin was 0 inches, which brings the seasonal accumulation (Oct-Sep) to 3.9 inches. Soil moisture is at 34% compared to 38% last year.



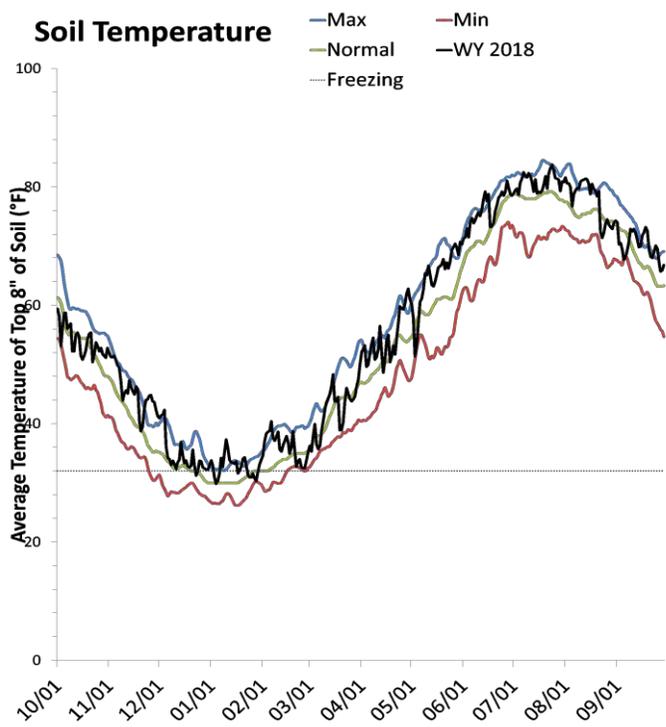
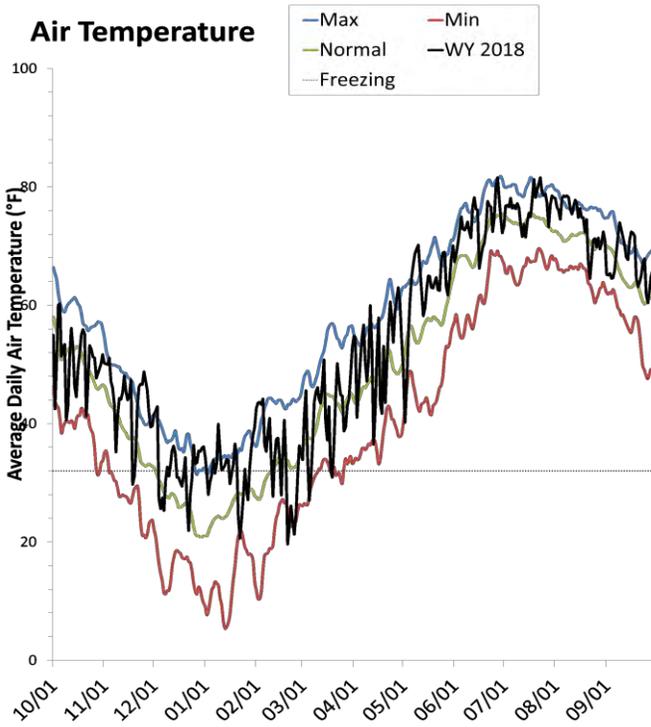
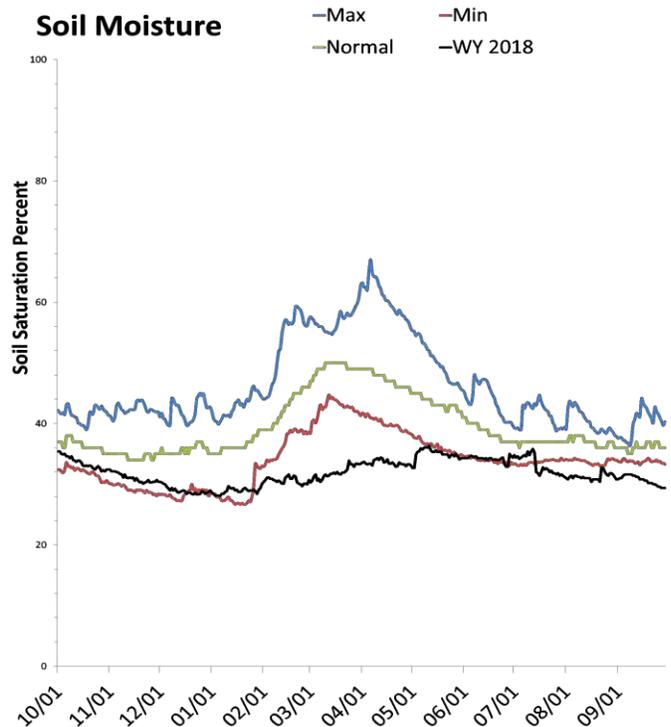
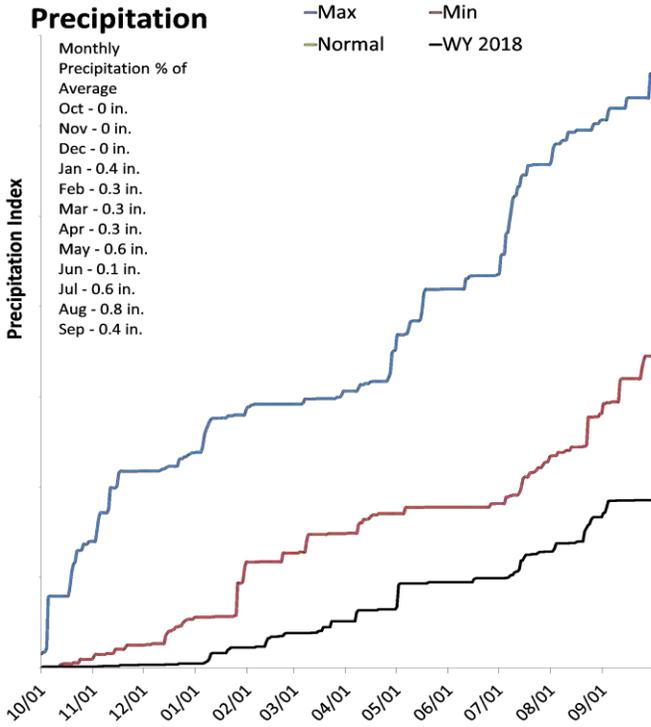
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Southeast

October 1, 2018

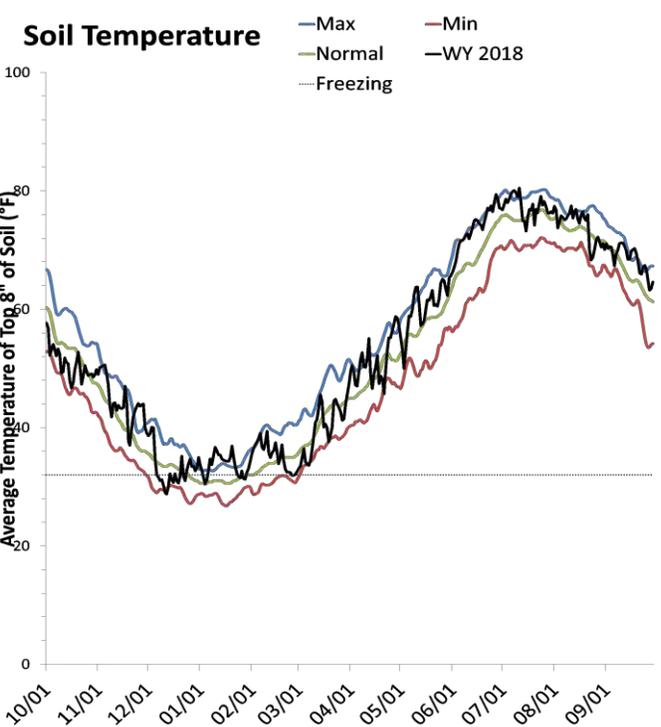
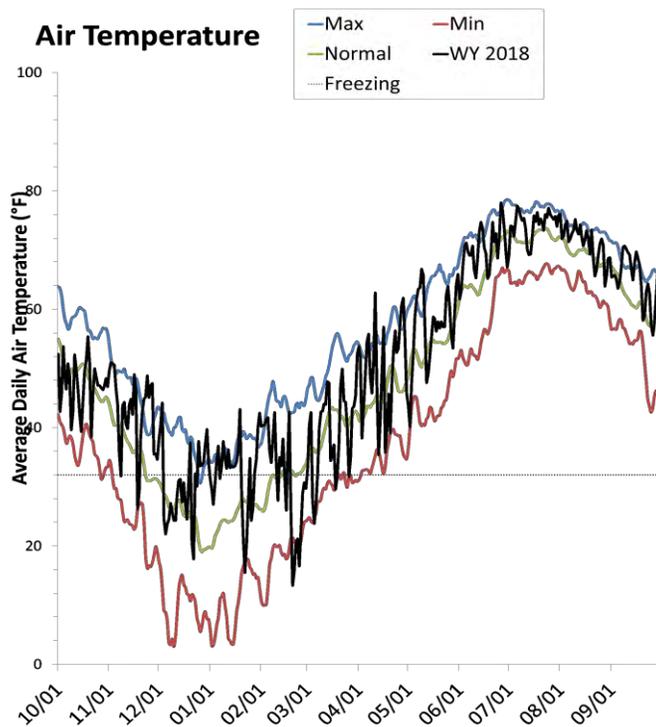
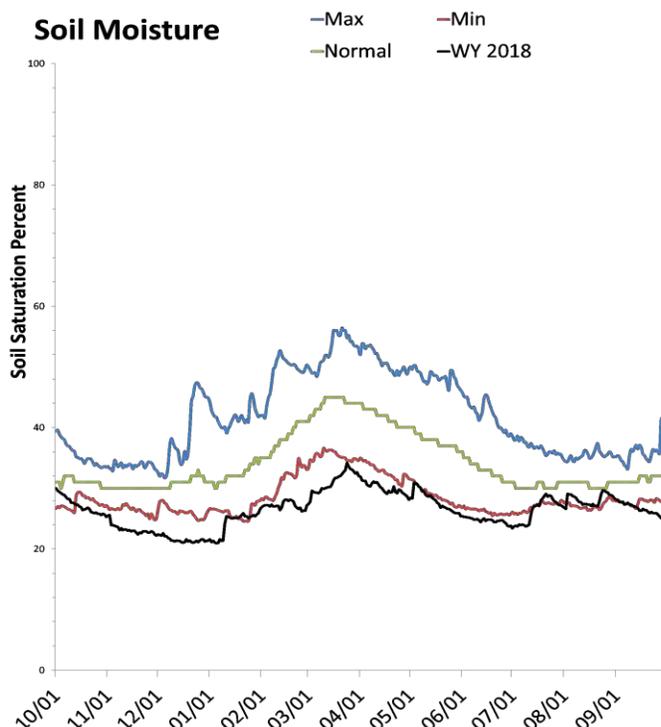
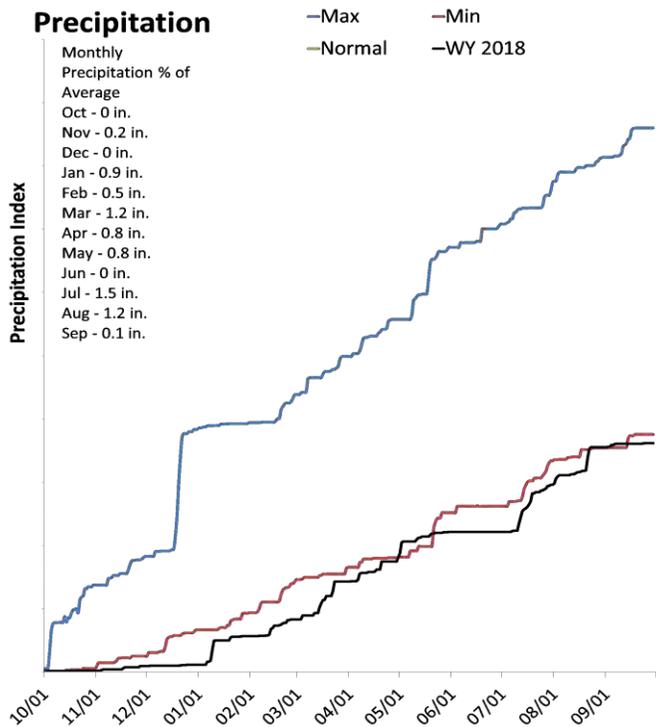
The average precipitation in September at SCAN sites within the basin was 0.4 inches, which brings the seasonal accumulation (Oct-Sep) to 3.7 inches. Soil moisture is at 29% compared to 35% last year.



South Central

October 1, 2018

The average precipitation in September at SCAN sites within the basin was 0.1 inches, which brings the seasonal accumulation (Oct-Sep) to 7.2 inches. Soil moisture is at 26% compared to 30% last year.



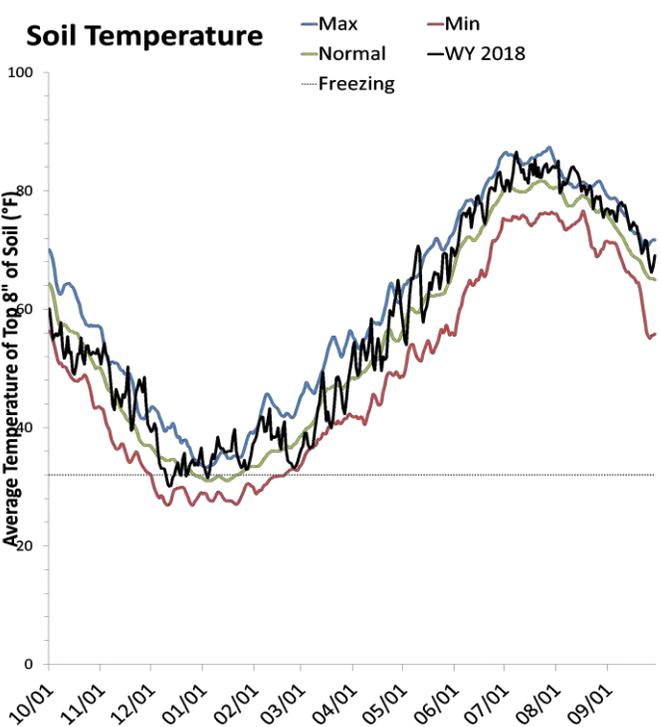
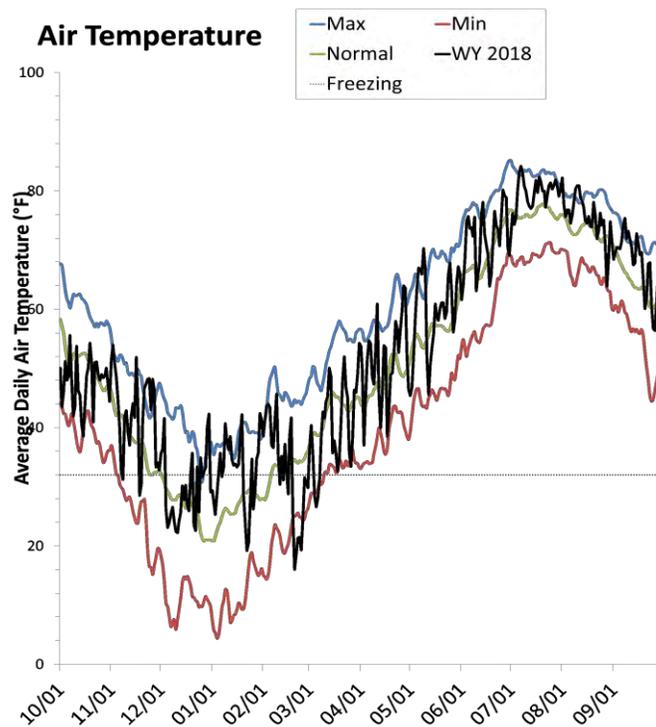
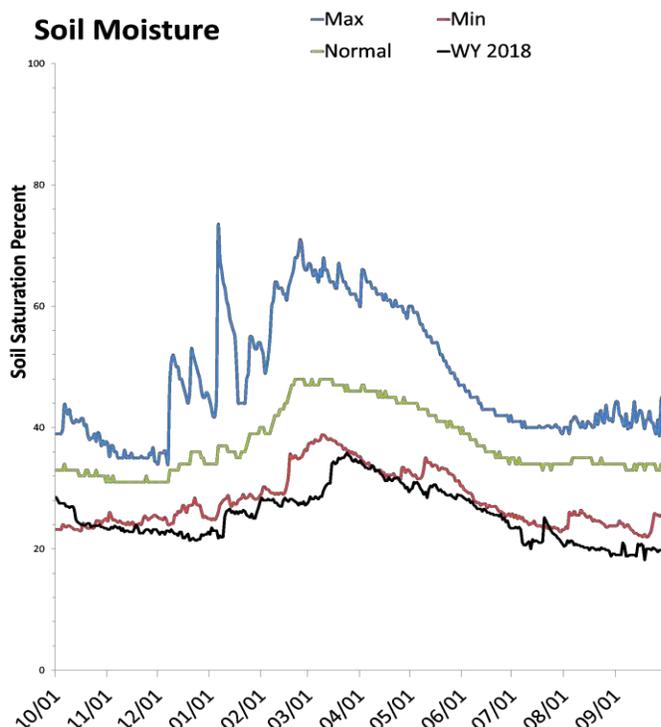
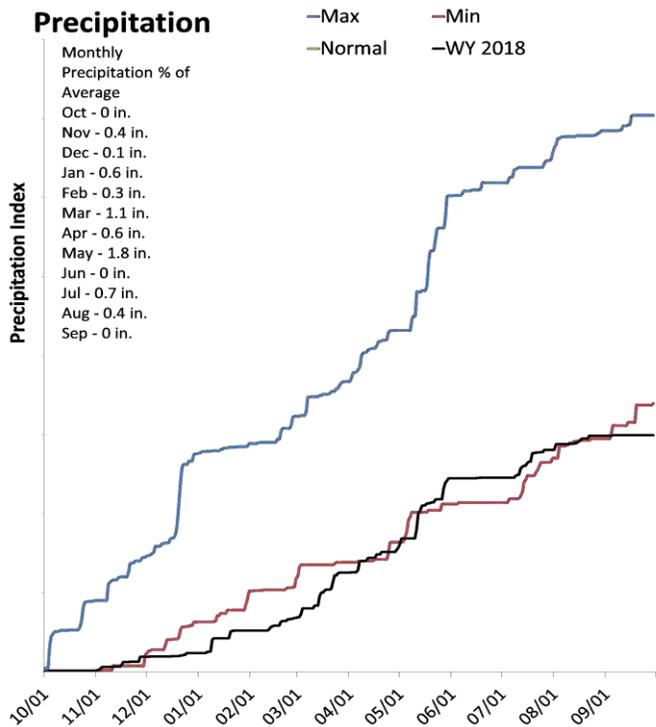
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Western and Dixie

October 1, 2018

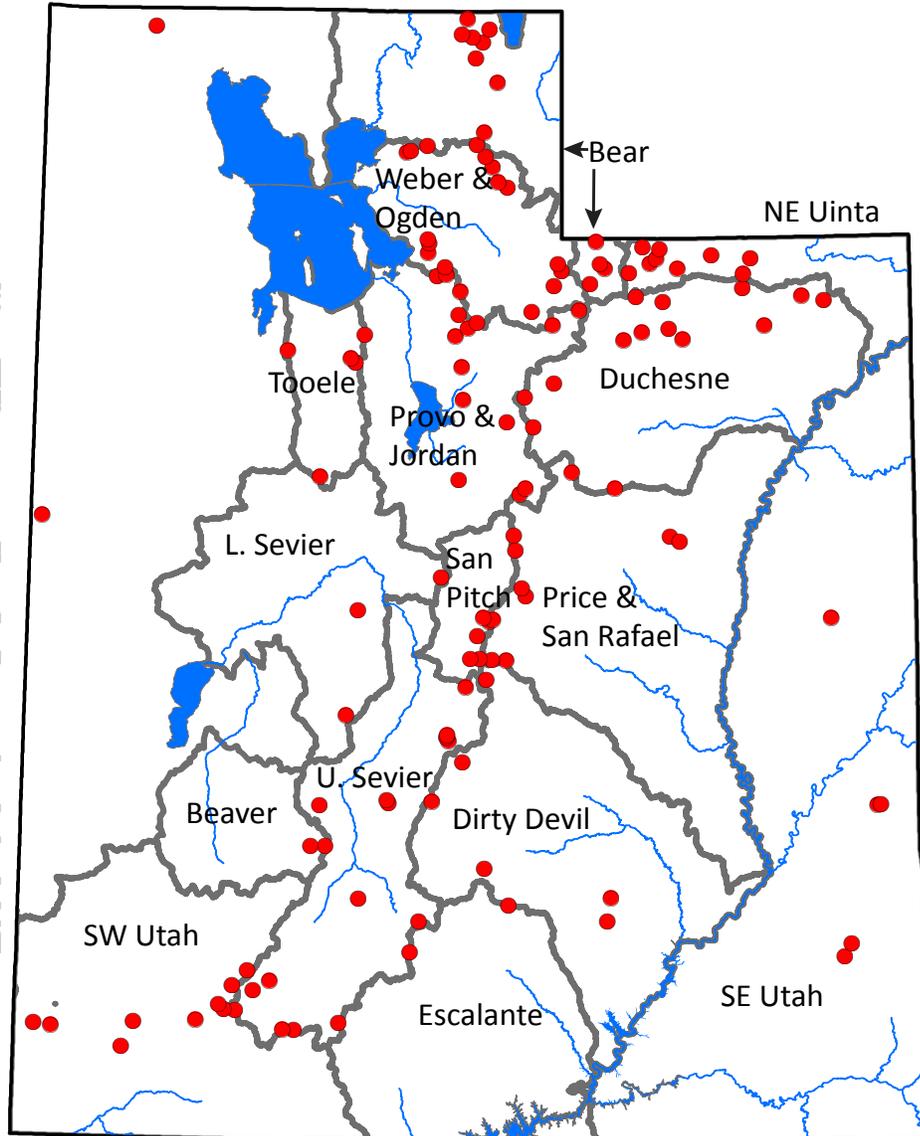
The average precipitation in September at SCAN sites within the basin was 0 inches, which brings the seasonal accumulation (Oct-Sep) to 6 inches. Soil moisture is at 18% compared to 28% last year.



*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.

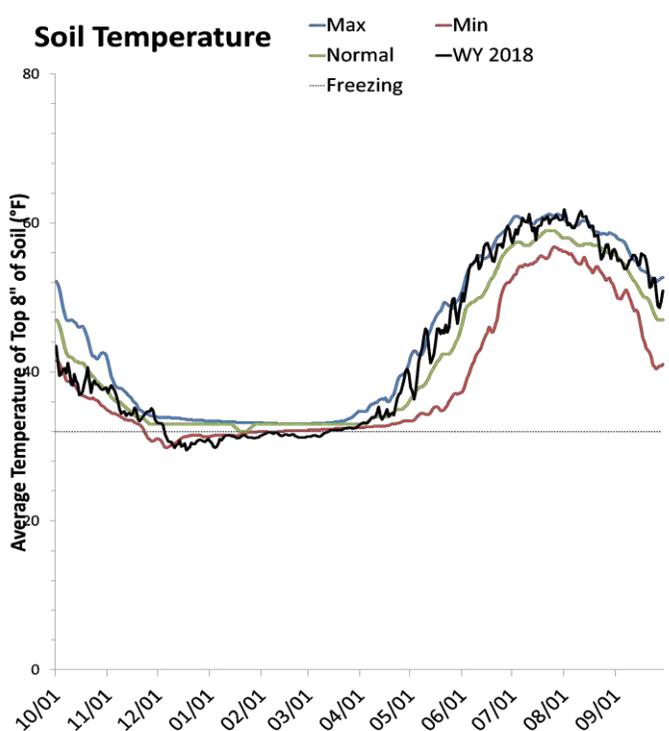
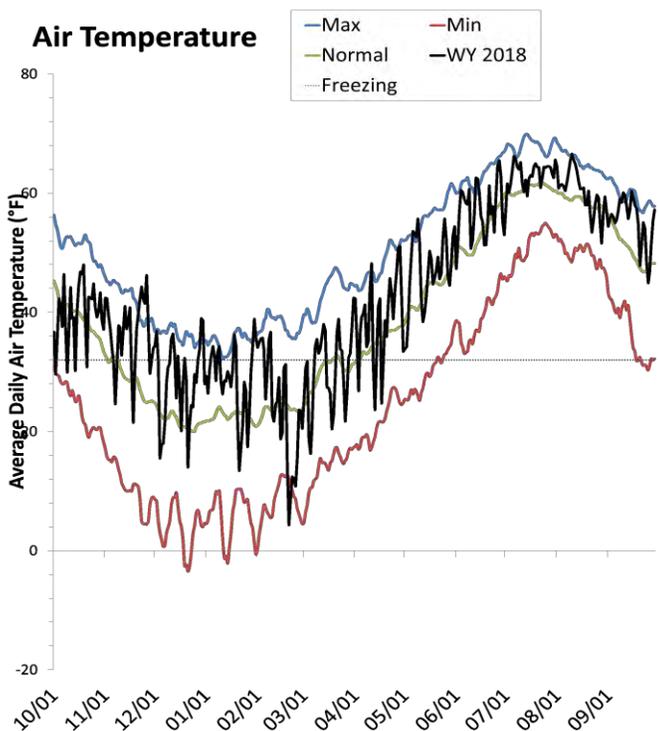
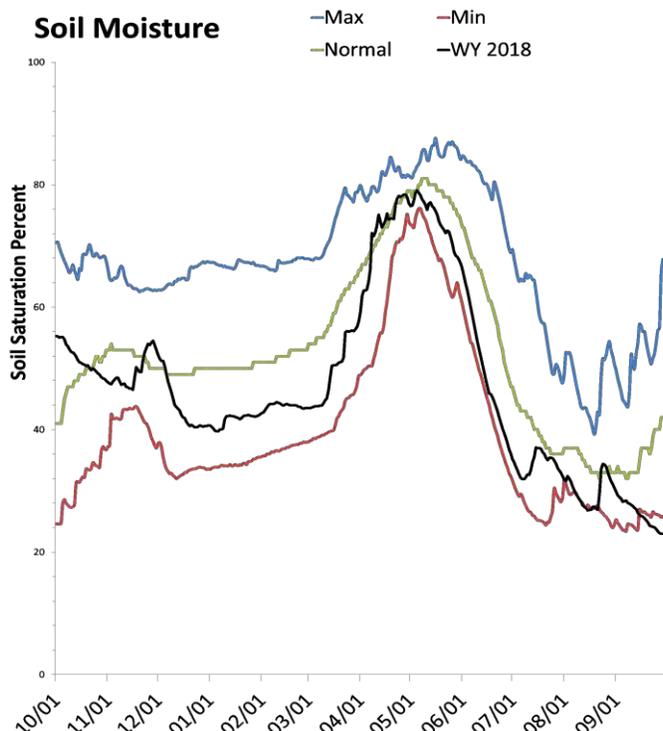
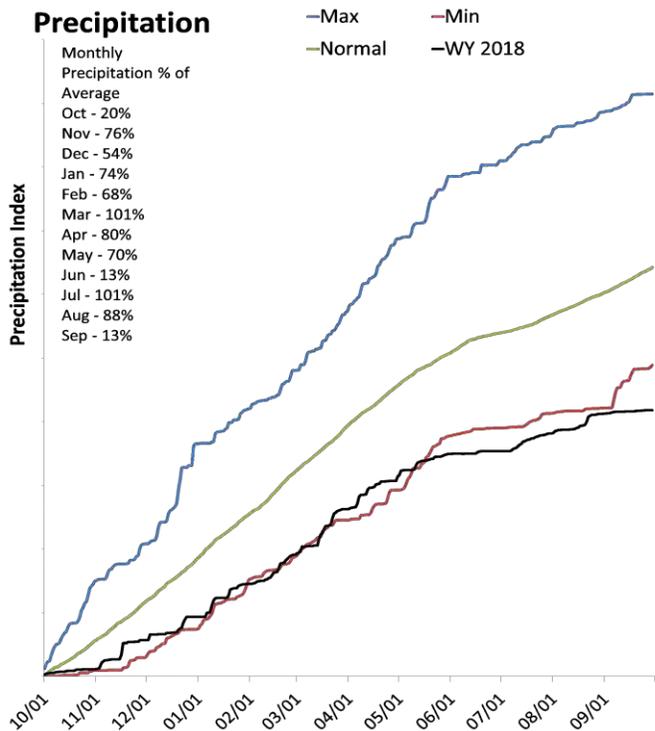
SNOTEL portion of report



Statewide SNOTEL

October 1, 2018

Precipitation at SNOTEL sites during September was much below average at 14%, which brings the seasonal accumulation (Oct-Sep) to 65% of average. Soil moisture is at 23% compared to 55% last year. Reservoir storage is at 54% of capacity, compared to 70% last year.



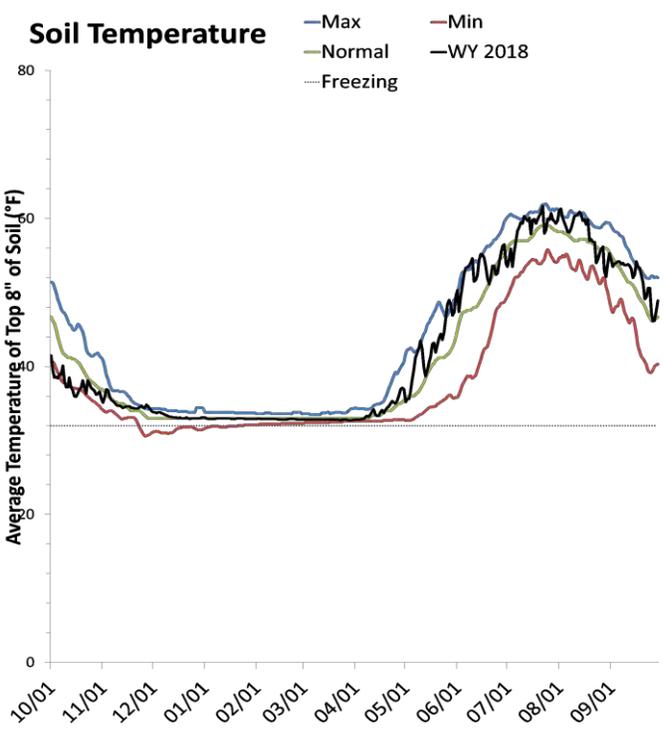
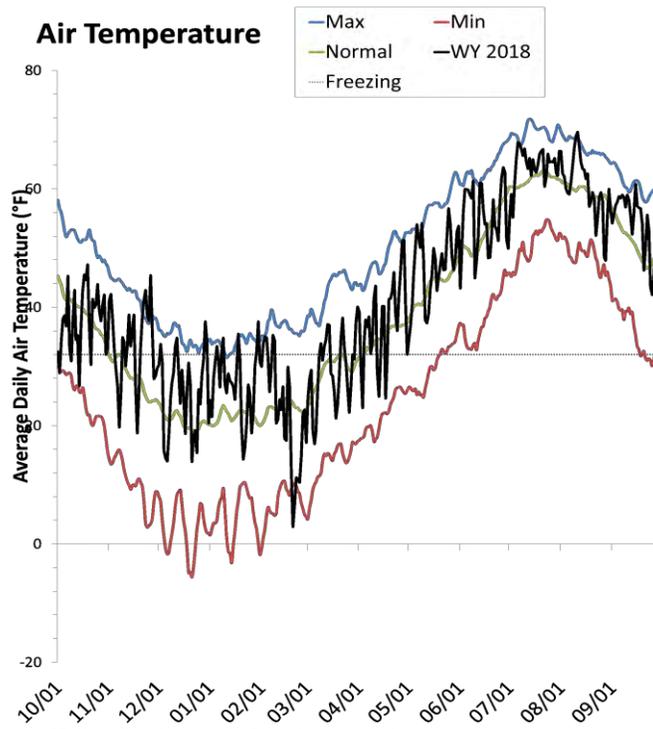
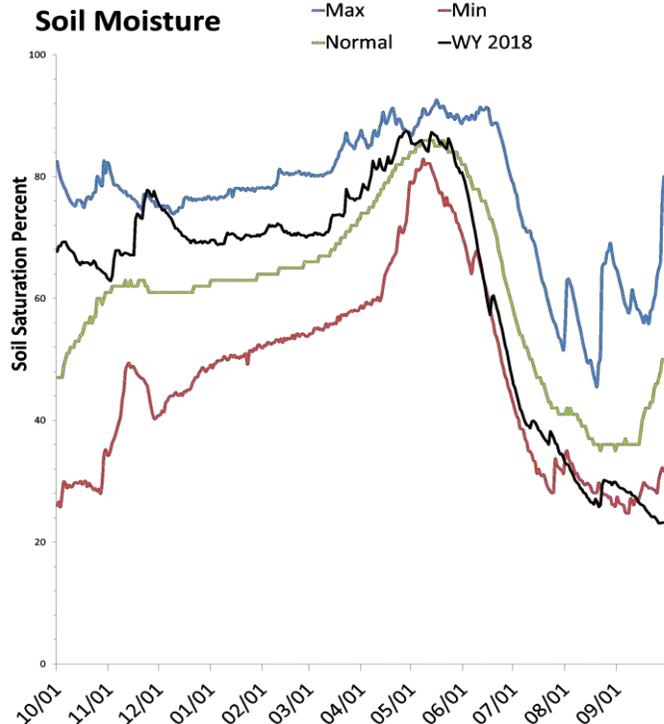
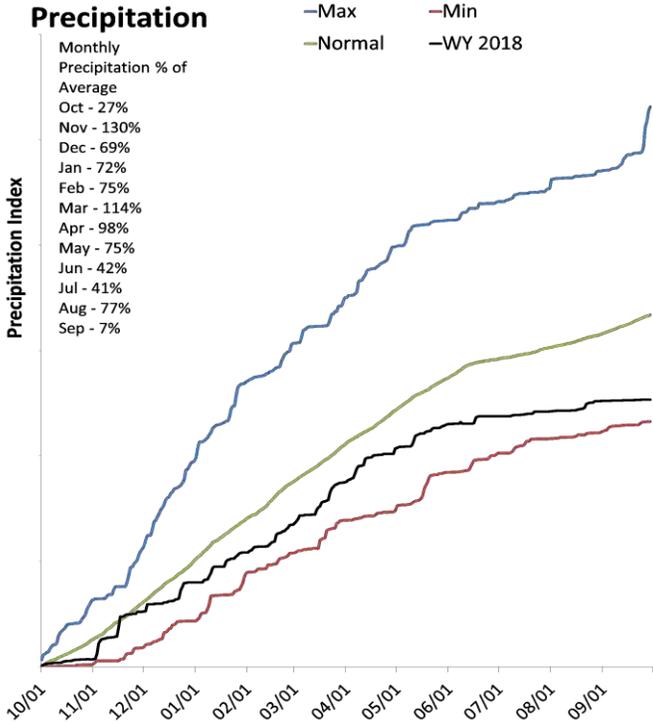
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Bear River Basin

October 1, 2018

Precipitation in September was much below average at 7%, which brings the seasonal accumulation (Oct-Sep) to 76% of average. Soil moisture is at 23% compared to 67% last year. Reservoir storage is at 60% of capacity, compared to 84% last year. The water availability index for the Bear River is 69%, 38% for Woodruff Narrows and 37% for the Little Bear.



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

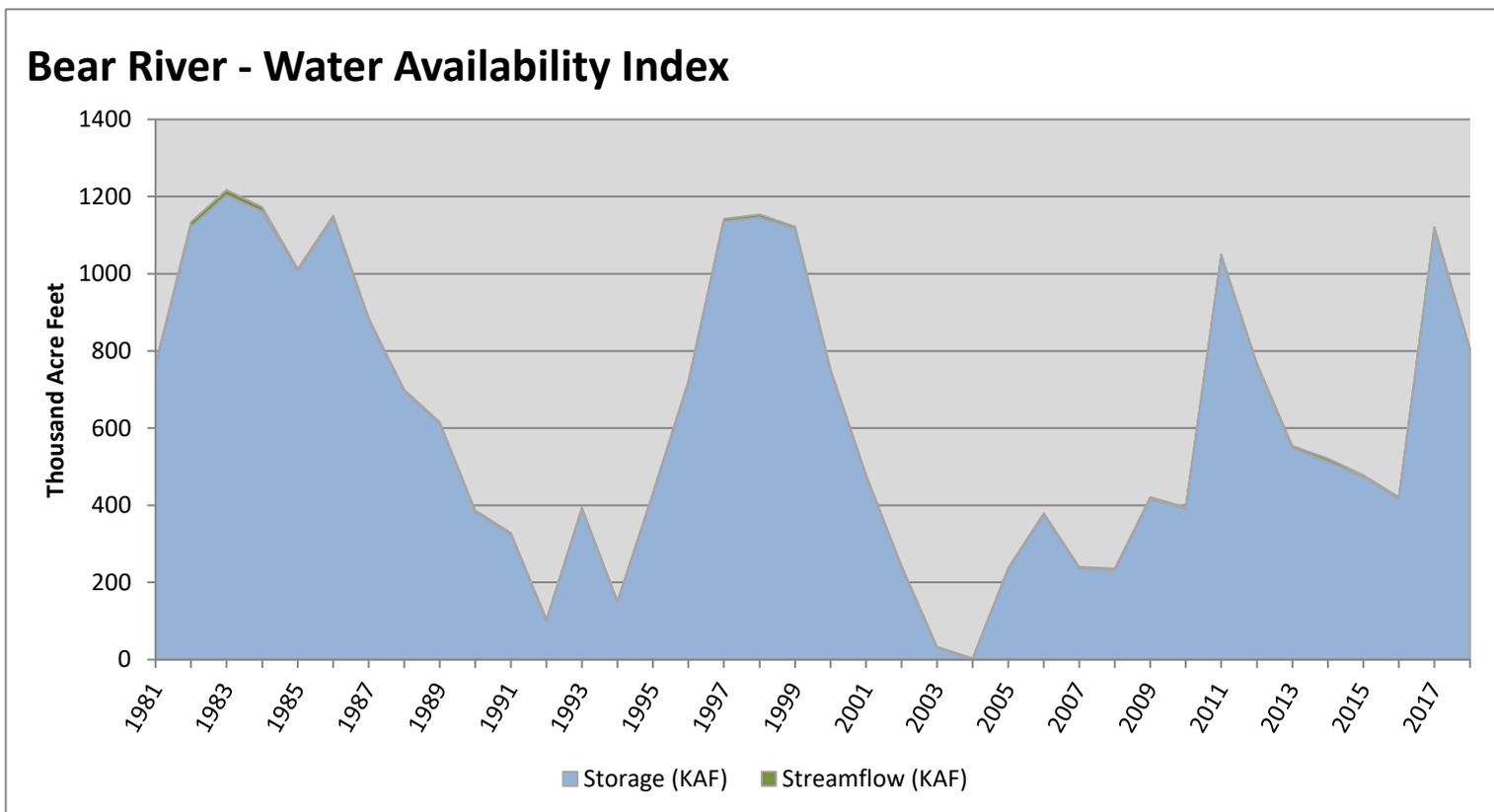
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Bear River	802.28	2.87	805.15	69	1.6	12, 81, 87, 85

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

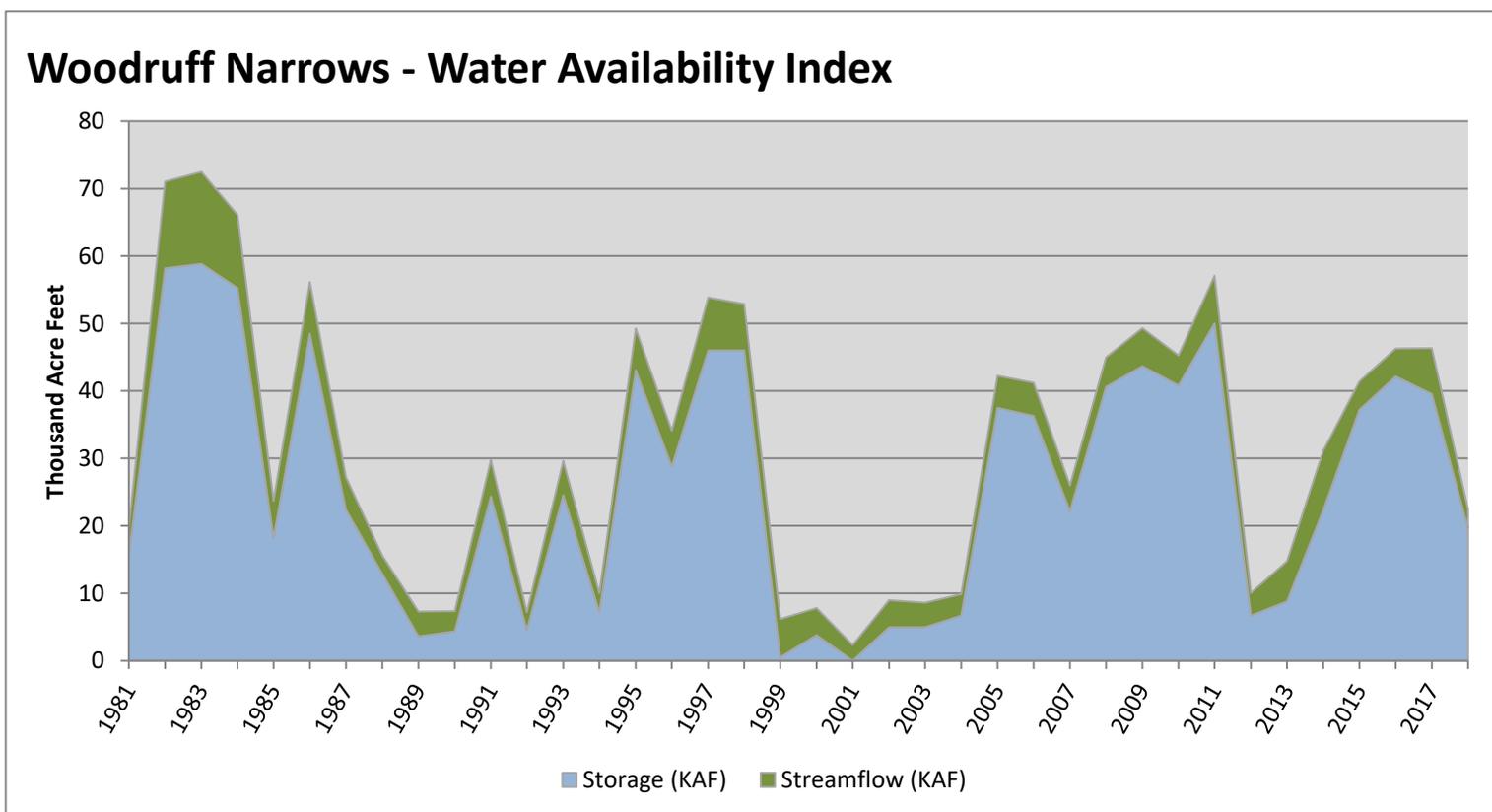


October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Woodruff Narrows	19.62	2.87	22.49	38	-0.96	88, 81, 85, 07

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

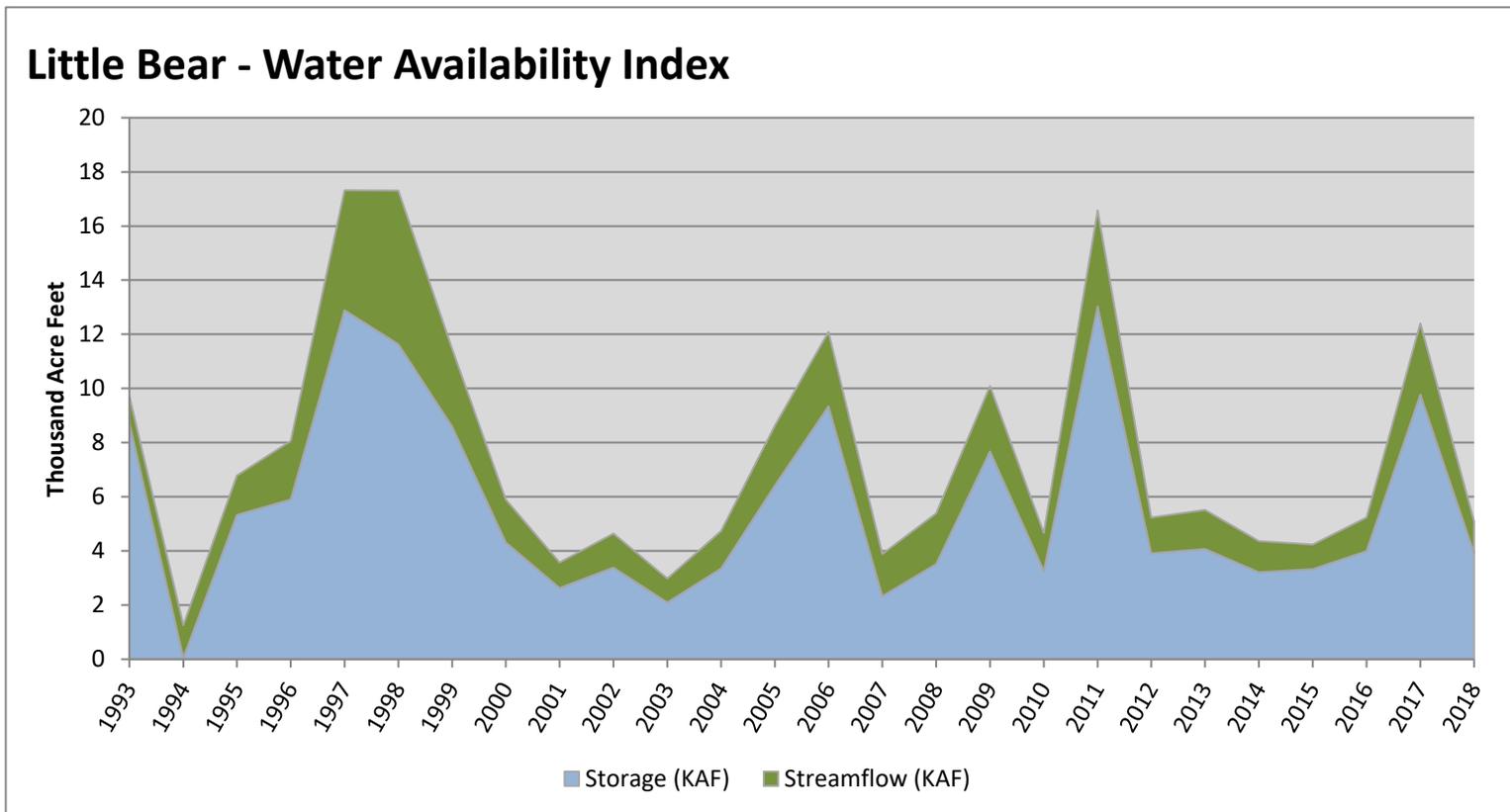


October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Little Bear	3.92	1.17	5.09	37	-1.08	10, 04, 12, 16

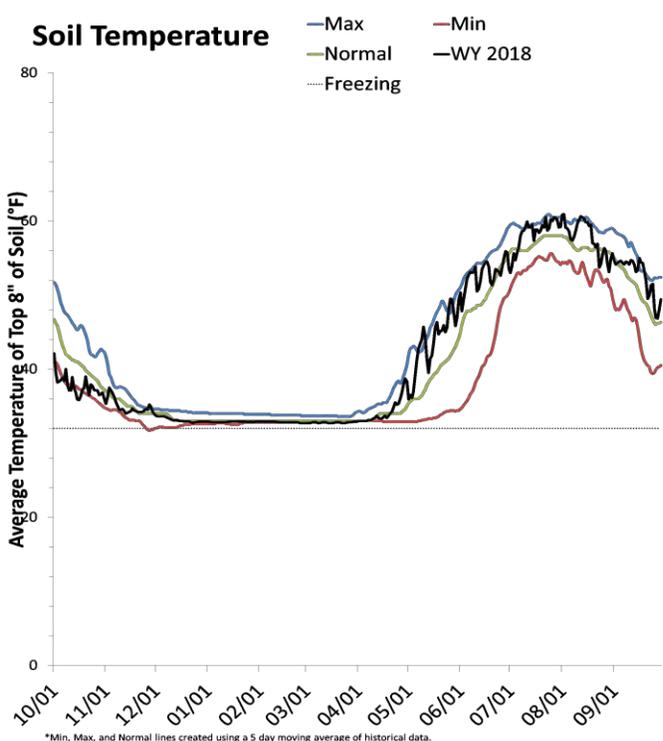
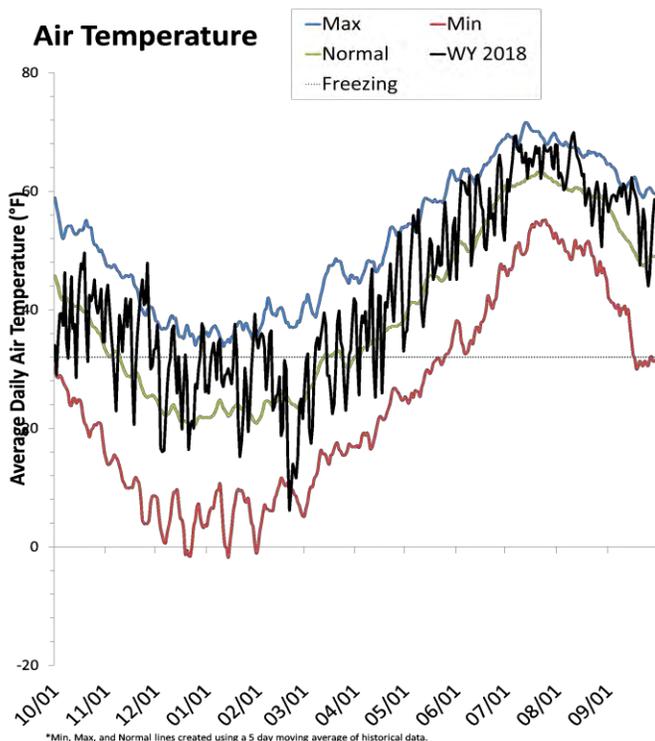
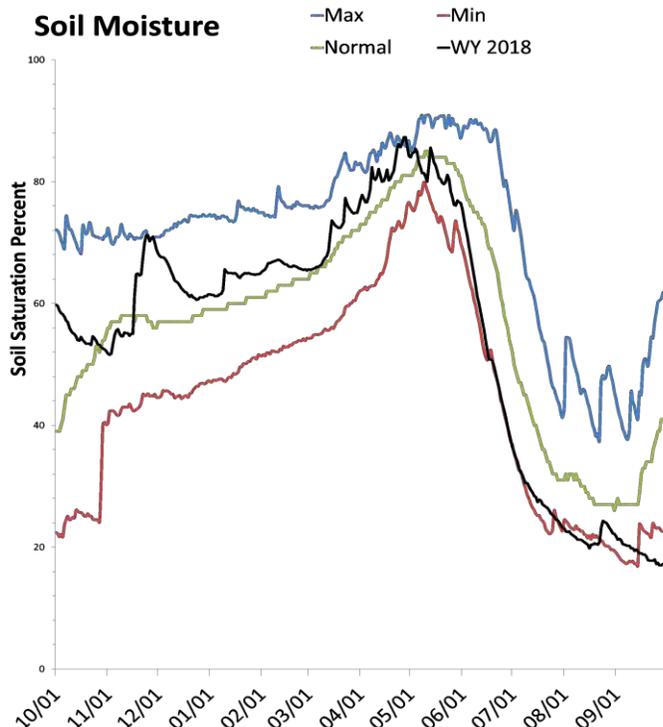
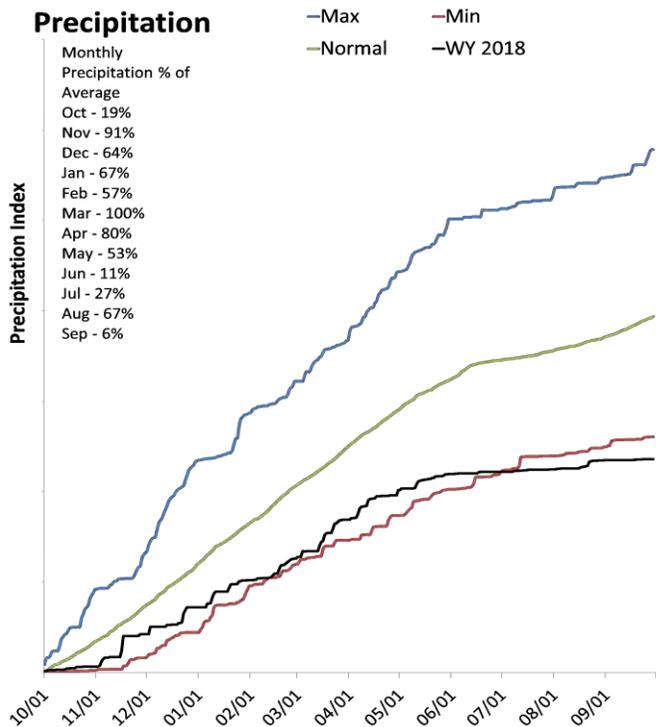
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Weber & Ogden River Basins

October 1, 2018

Precipitation in September was much below average at 6%, which brings the seasonal accumulation (Oct-Sep) to 60% of average. Soil moisture is at 18% compared to 58% last year. Reservoir storage is at 44% of capacity, compared to 71% last year. The water availability index for the Ogden River is 33% and 10% for the Weber River.



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

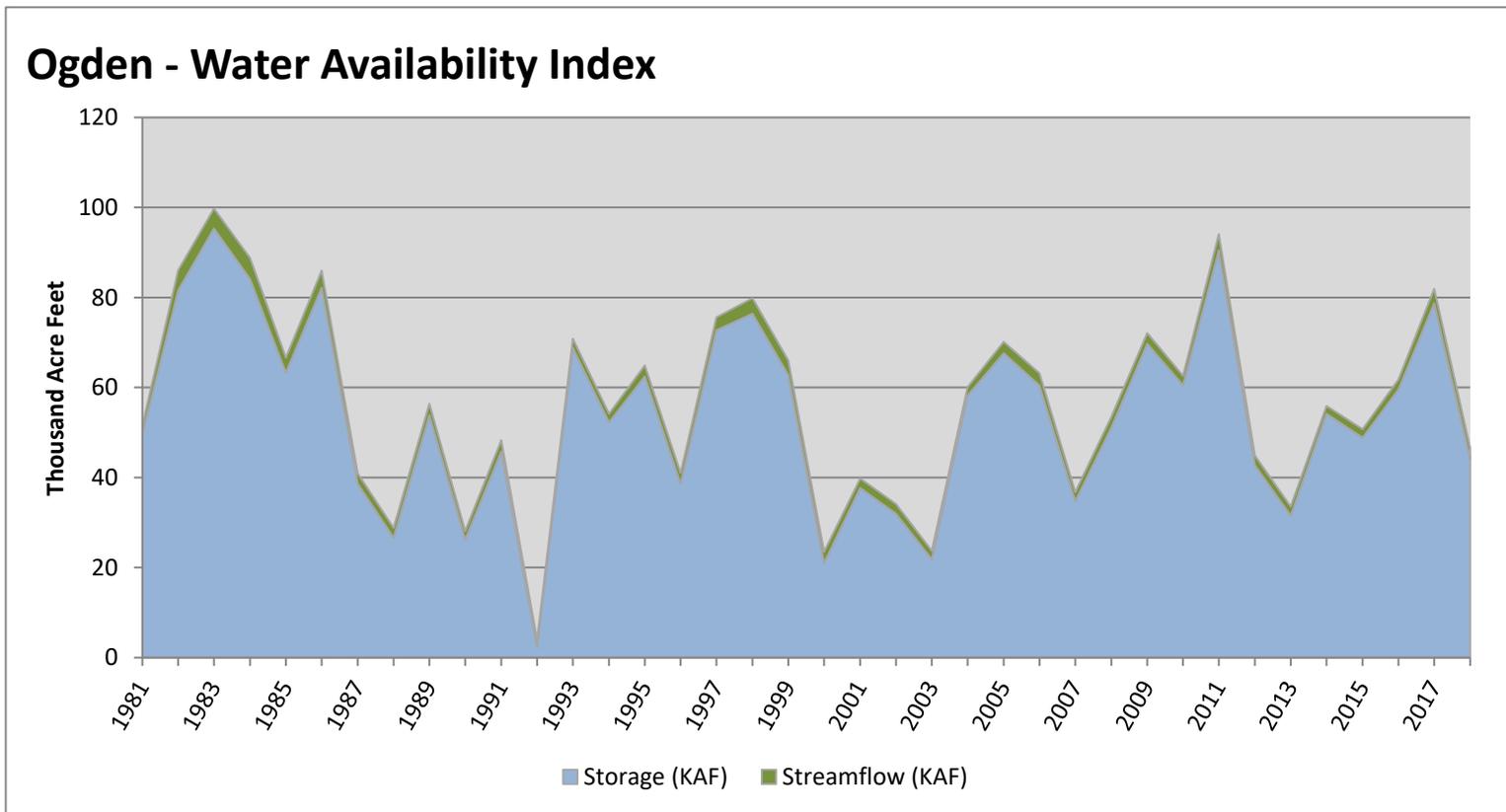
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Ogden	44.14	2.46	46.60	33	-1.39	96, 12, 91, 15

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

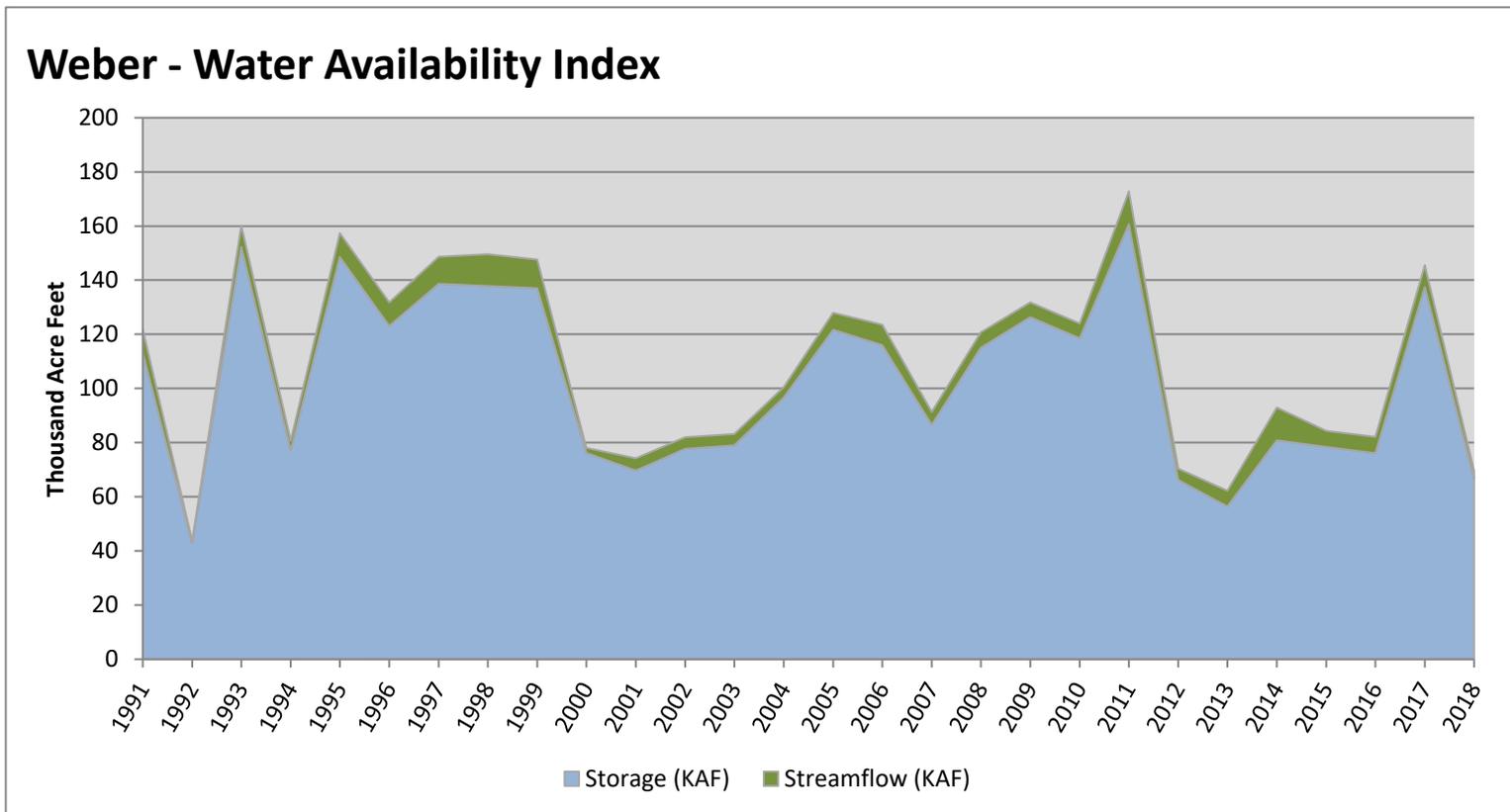


October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Weber	66.62	3.09	69.71	10	-3.3	92, 13, 12, 01

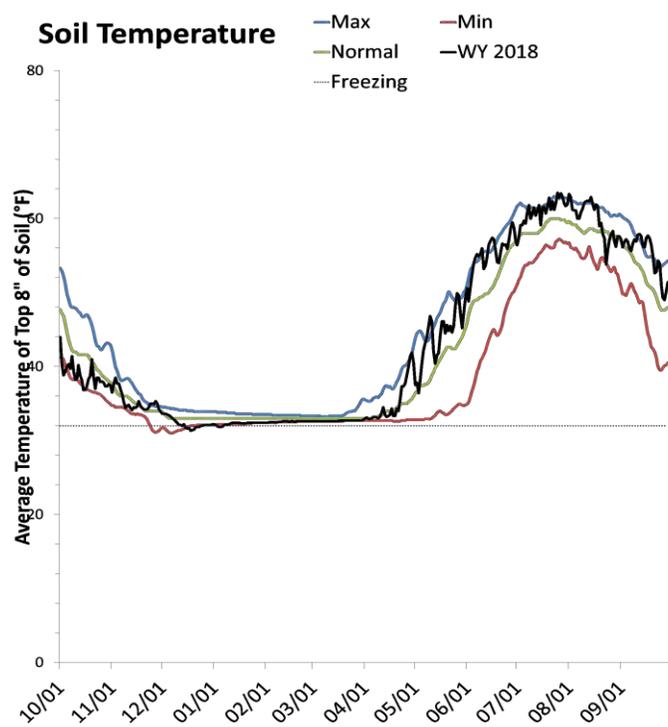
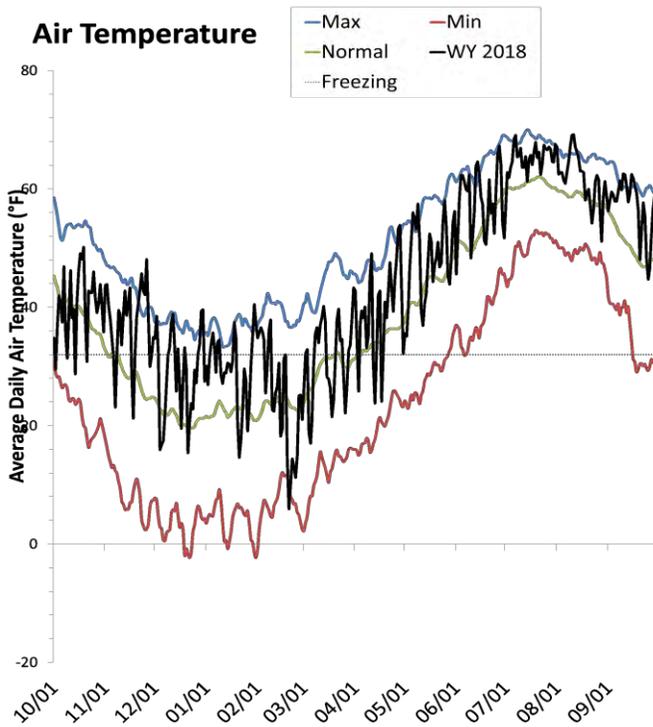
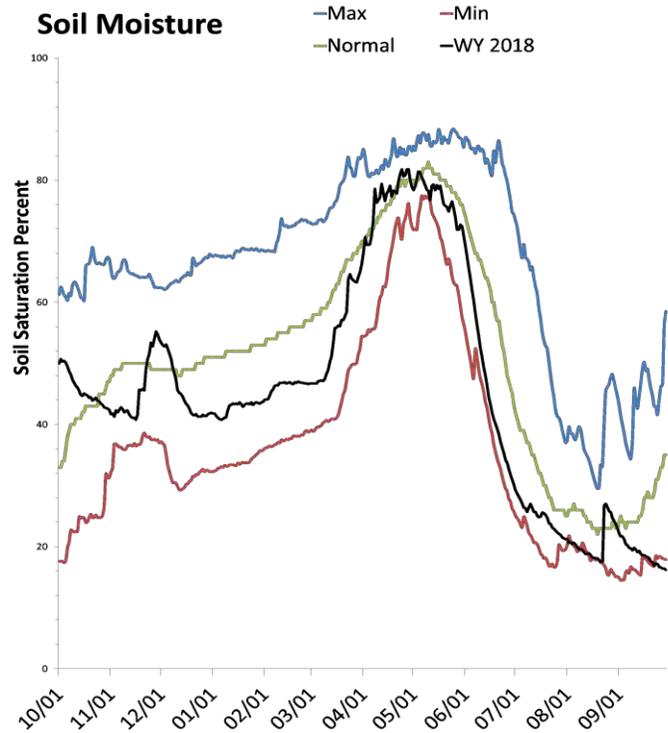
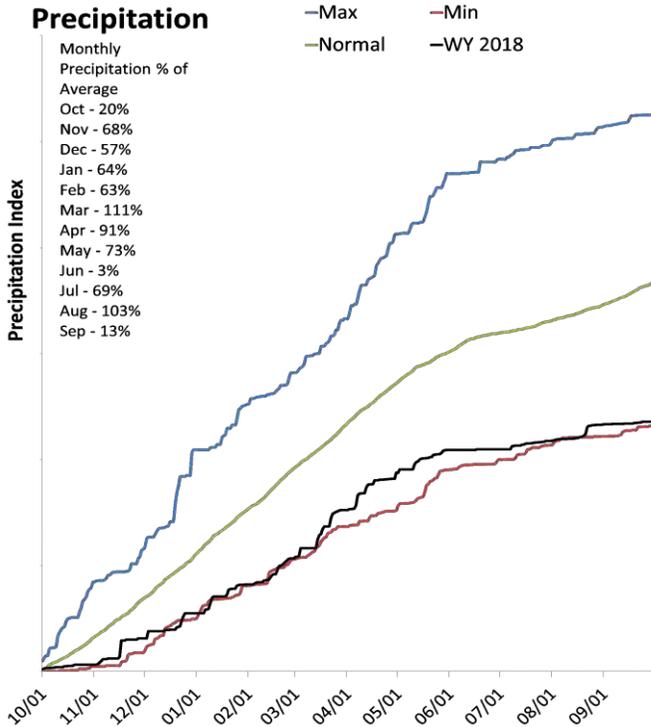
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Provo & Jordan River Basins

October 1, 2018

Precipitation in September was much below average at 13%, which brings the seasonal accumulation (Oct-Sep) to 64% of average. Soil moisture is at 17% compared to 50% last year. Reservoir storage is at 63% of capacity, compared to 73% last year. The water availability index for the Provo River is 25%.



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

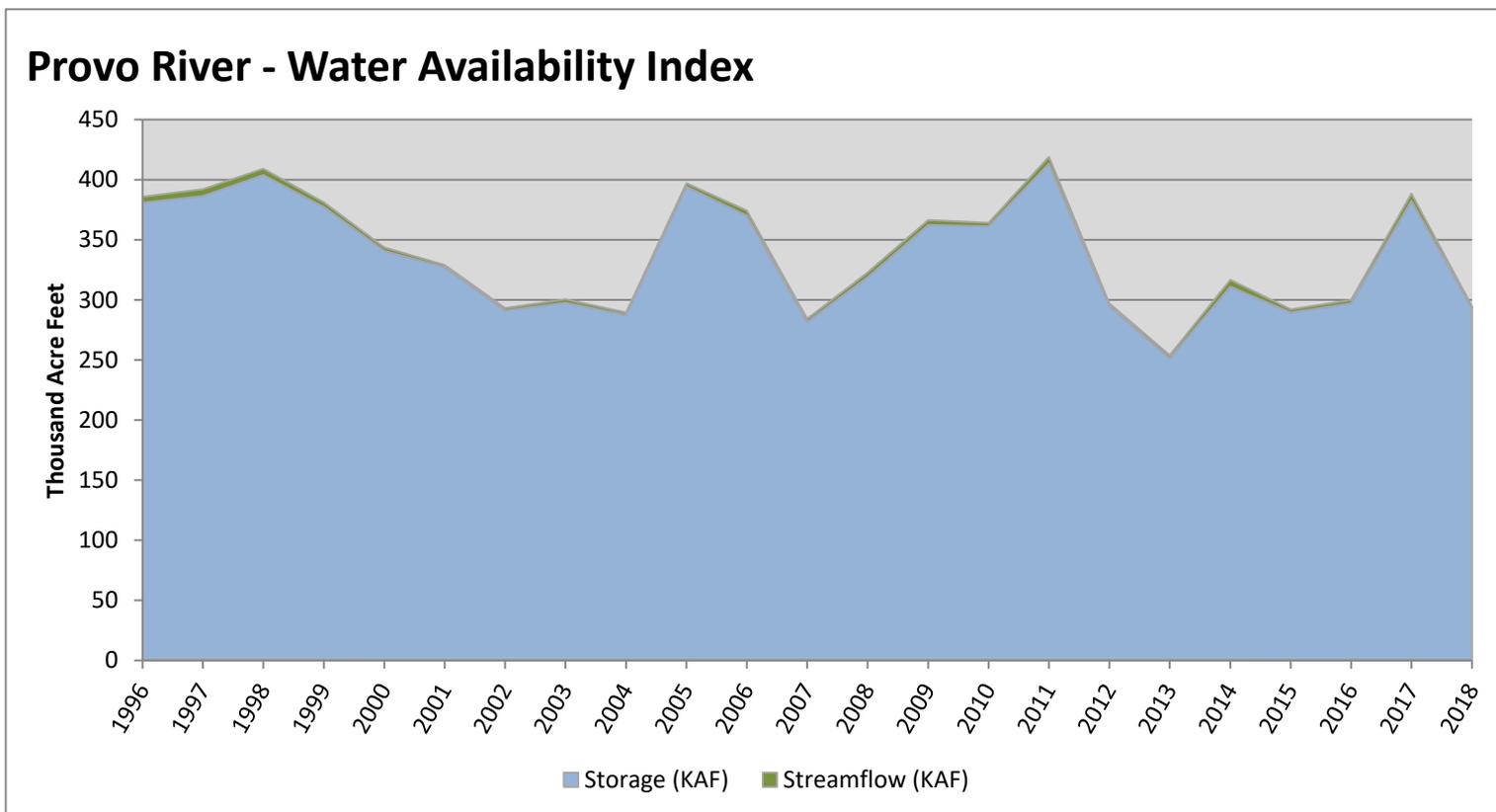
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Provo River	293.05	1.73	294.78	25	-2.08	15, 02, 12, 16

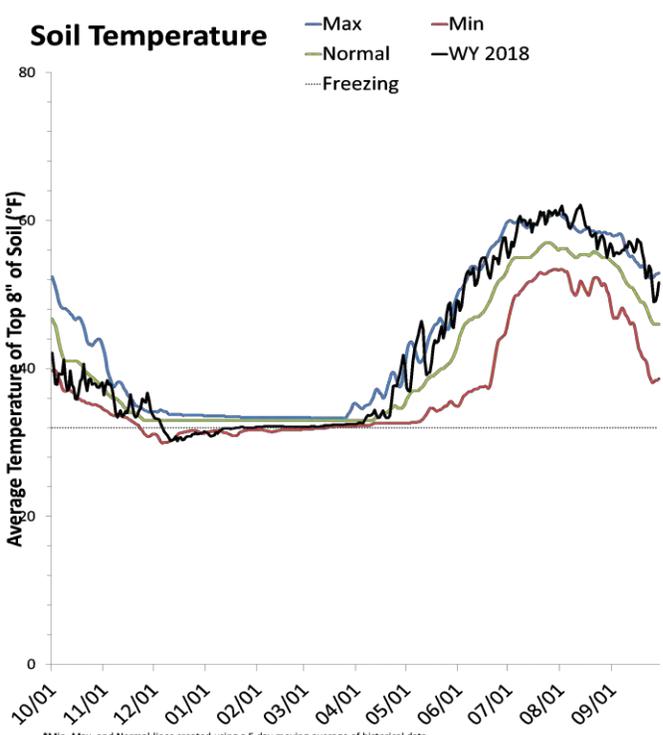
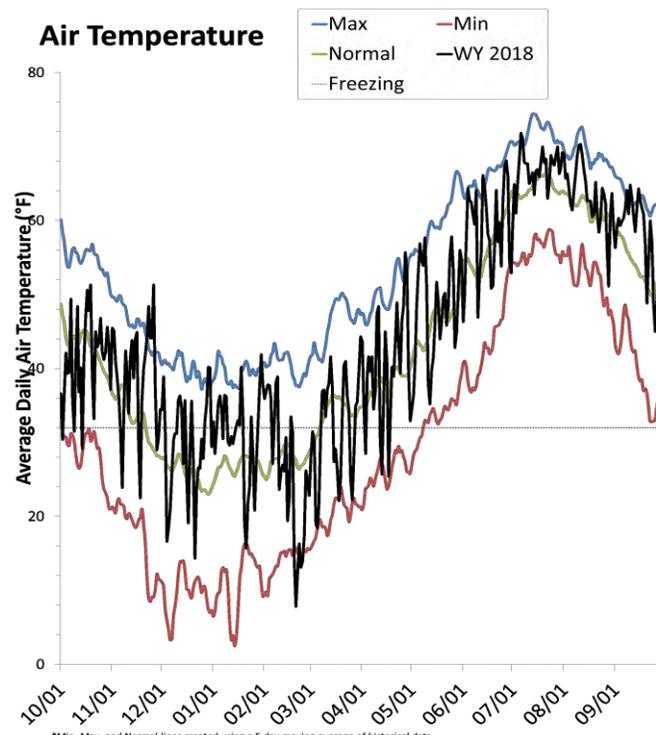
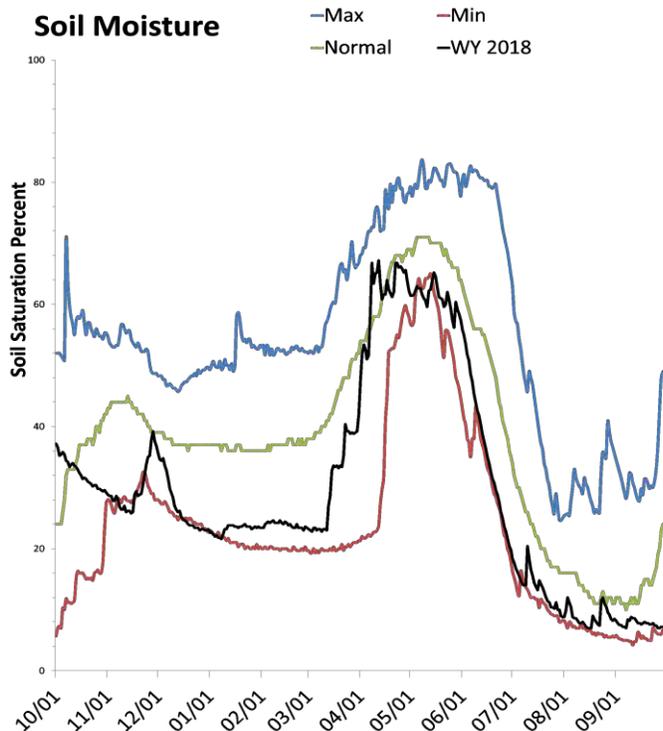
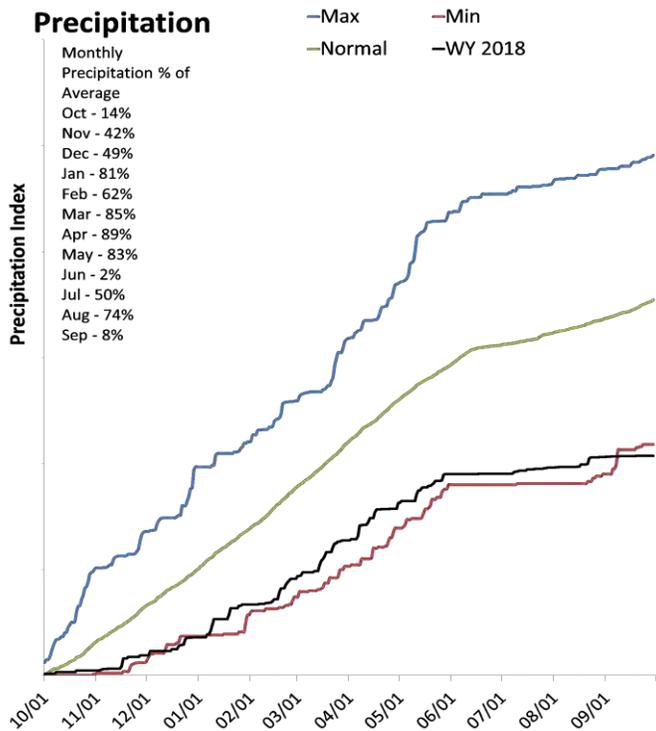
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Tooele Valley & West Desert Basins

October 1, 2018

Precipitation in September was much below average at 9%, which brings the seasonal accumulation (Oct-Sep) to 59% of average. Soil moisture is at 7% compared to 36% last year. Reservoir storage is at 73% of capacity, compared to 73% last year.



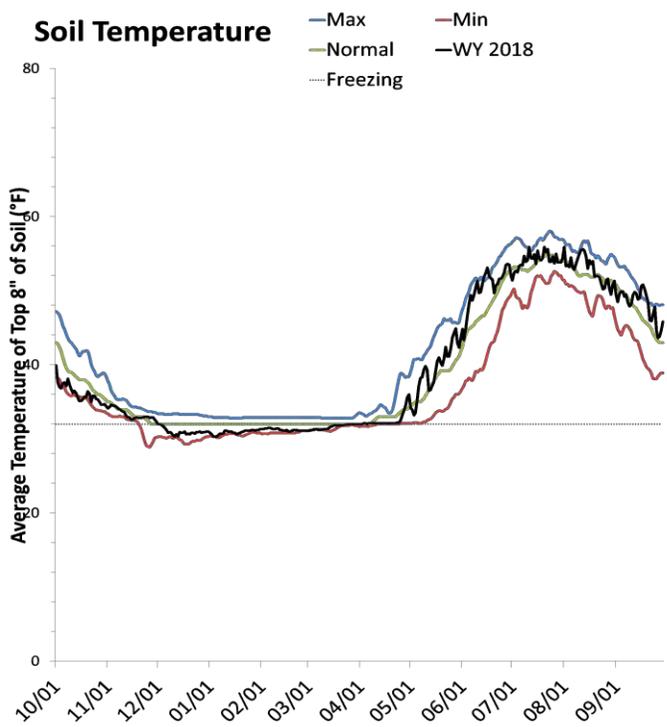
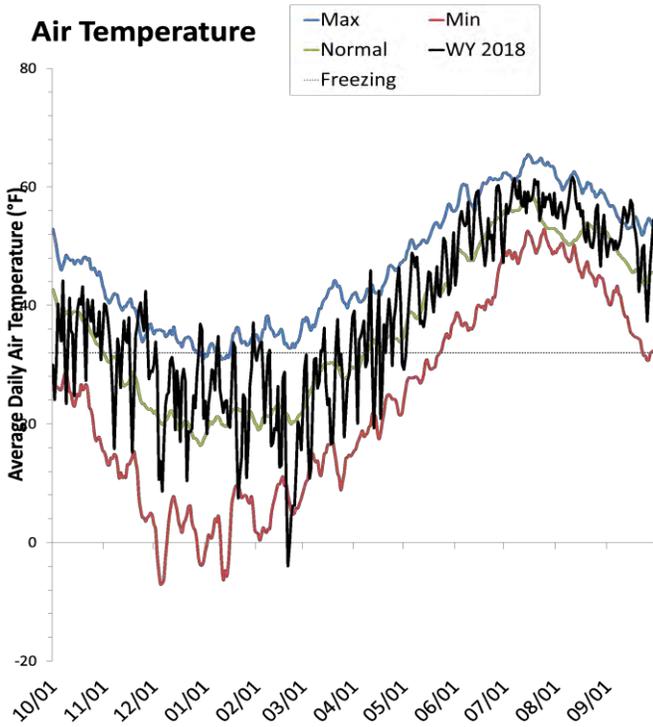
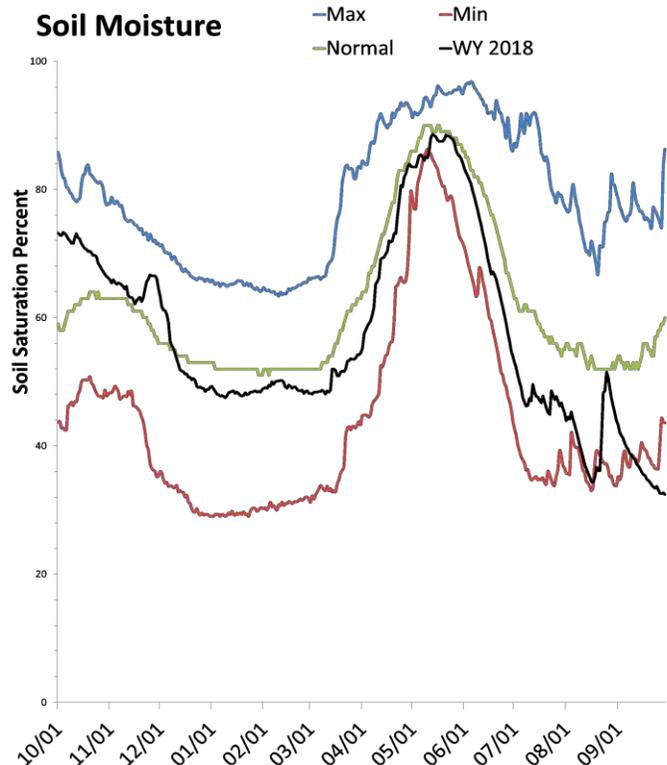
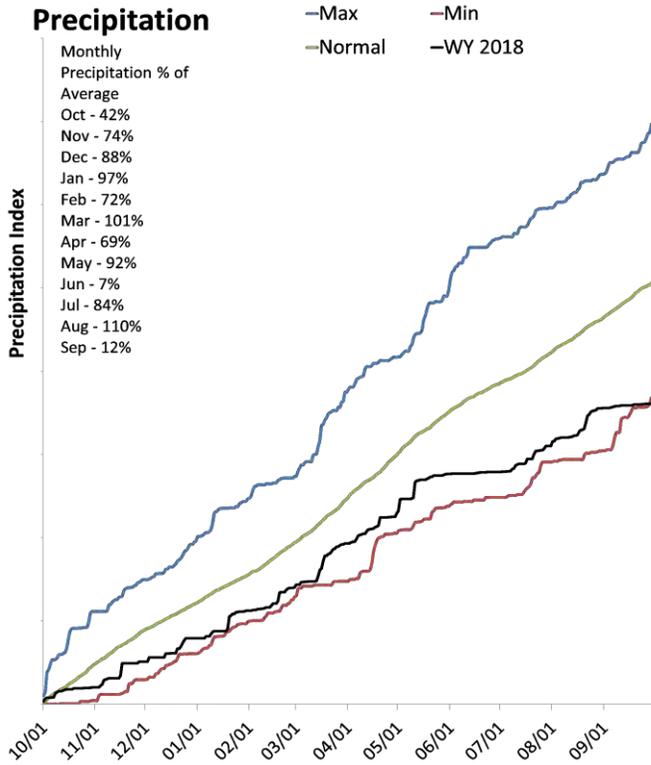
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Northeastern Uinta Basin

October 1, 2018

Precipitation in September was much below average at 12%, which brings the seasonal accumulation (Oct-Sep) to 71% of average. Soil moisture is at 31% compared to 73% last year. Reservoir storage is at 89% of capacity, compared to 92% last year. The water availability index for Blacks Fork is 11% and 17% for Smiths Creek.



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

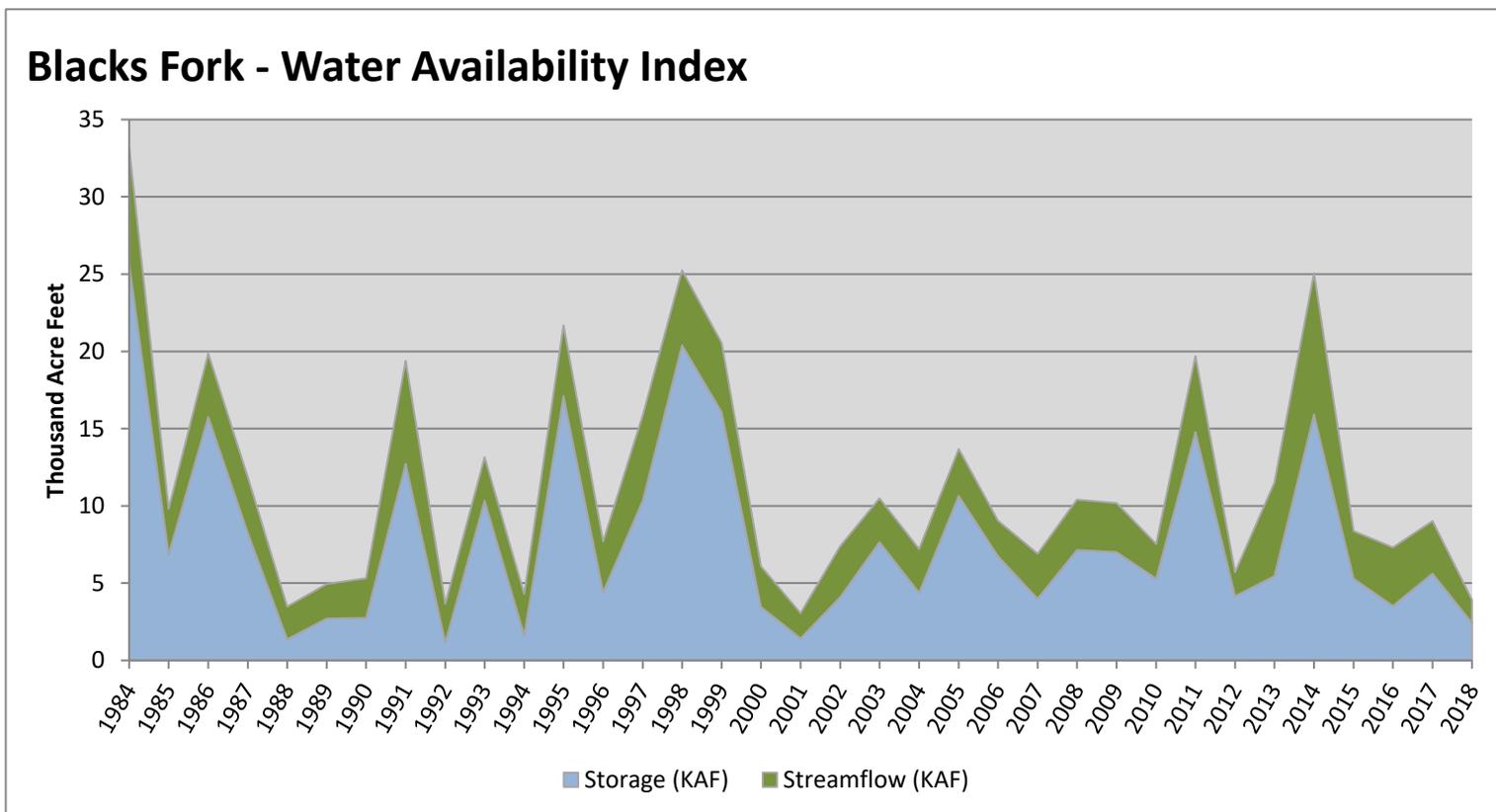
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Blacks Fork	2.42	1.50	3.92	11	-3.24	88, 92, 94, 89

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

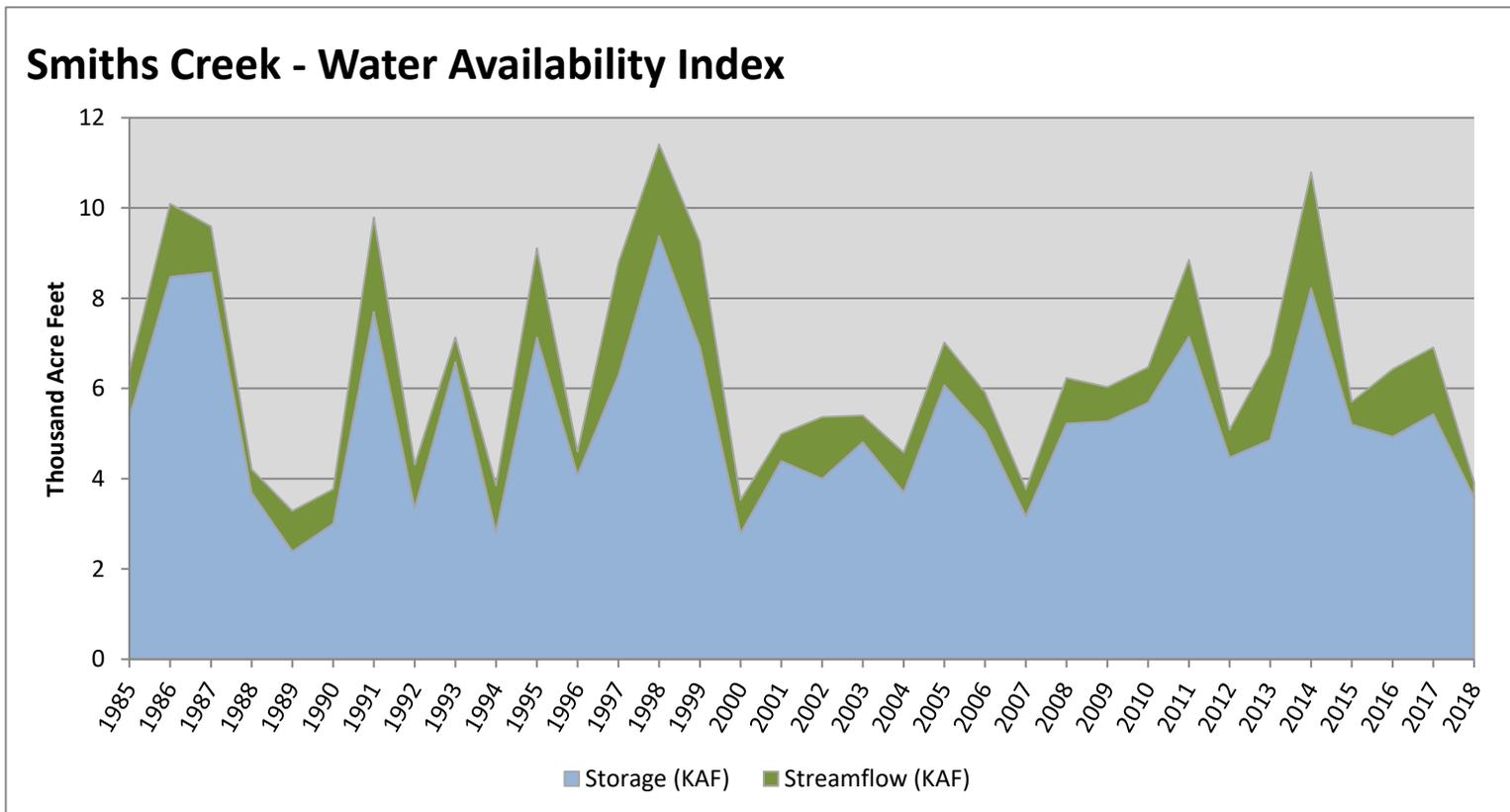


October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Smiths Creek	3.59	0.33	3.92	17	-2.74	07, 94, 88, 92

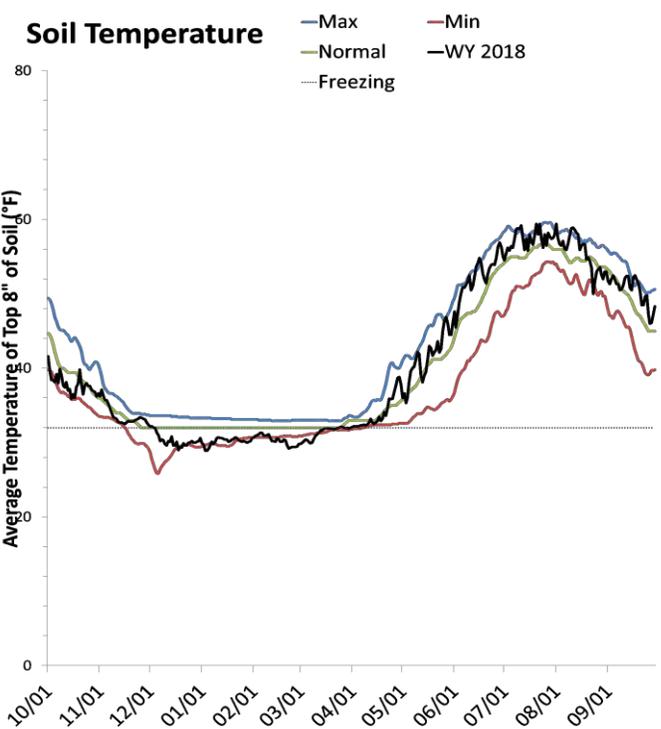
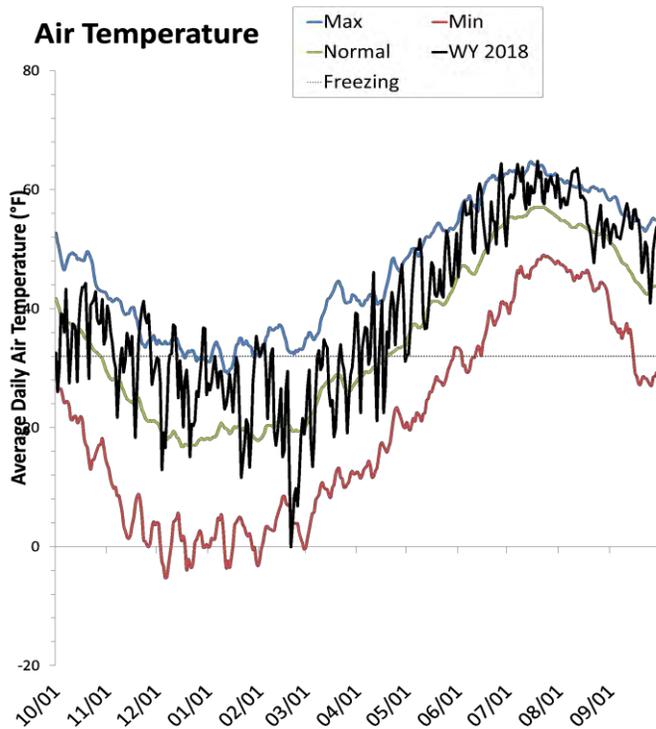
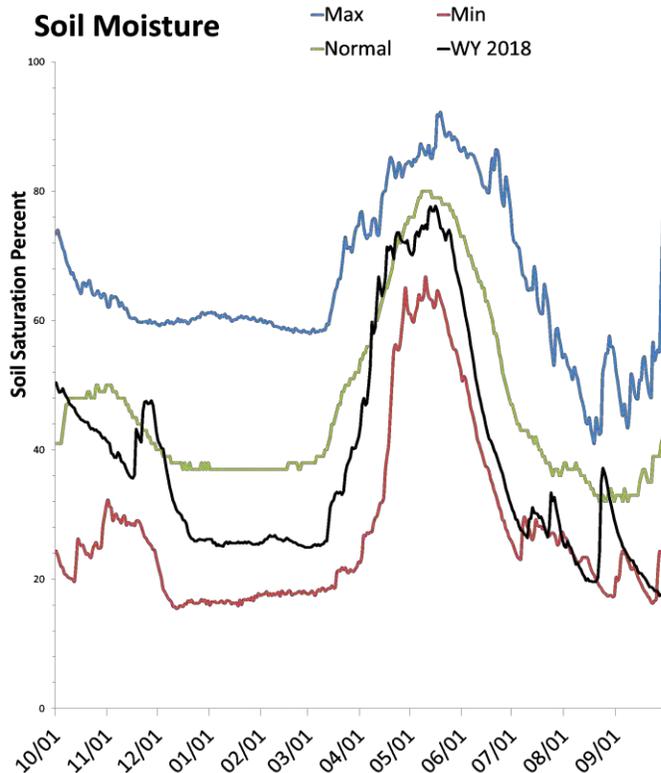
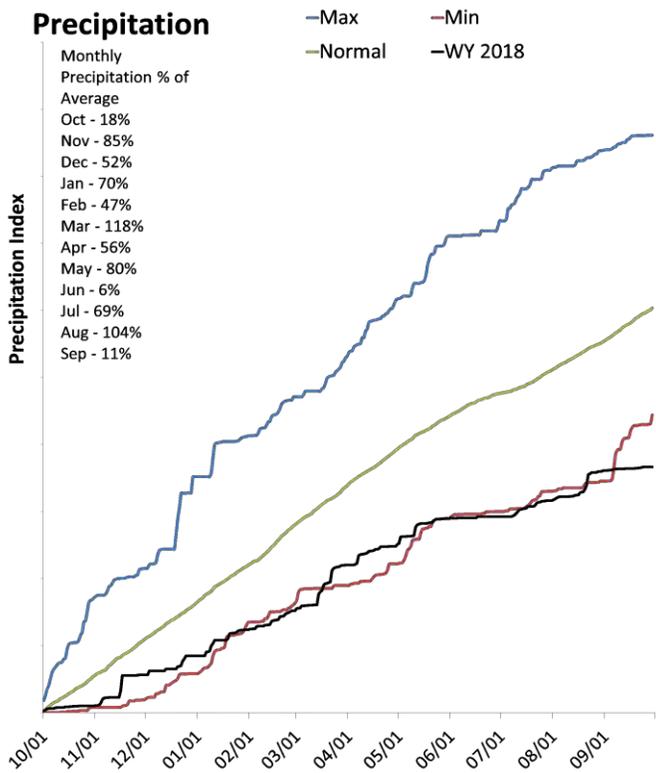
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Duchesne River Basin

October 1, 2018

Precipitation in September was much below average at 11%, which brings the seasonal accumulation (Oct-Sep) to 61% of average. Soil moisture is at 18% compared to 50% last year. Reservoir storage is at 71% of capacity, compared to 81% last year. The water availability index for the Western Uintas is 19% and 3% for the Eastern Uintas.



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

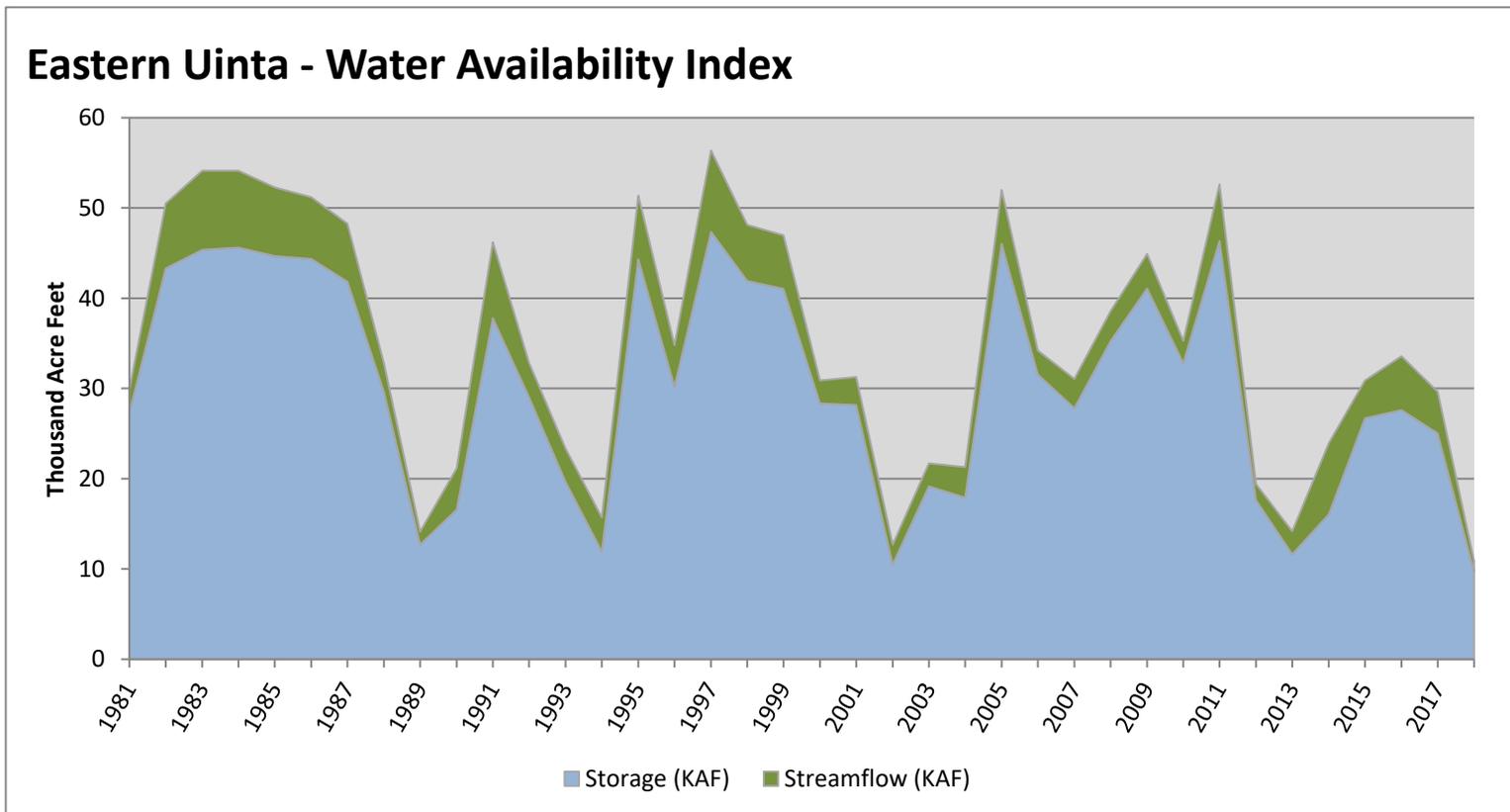
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Eastern Uinta	9.70	1.19	10.89	3	-3.95	02, 89, 13, 94

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

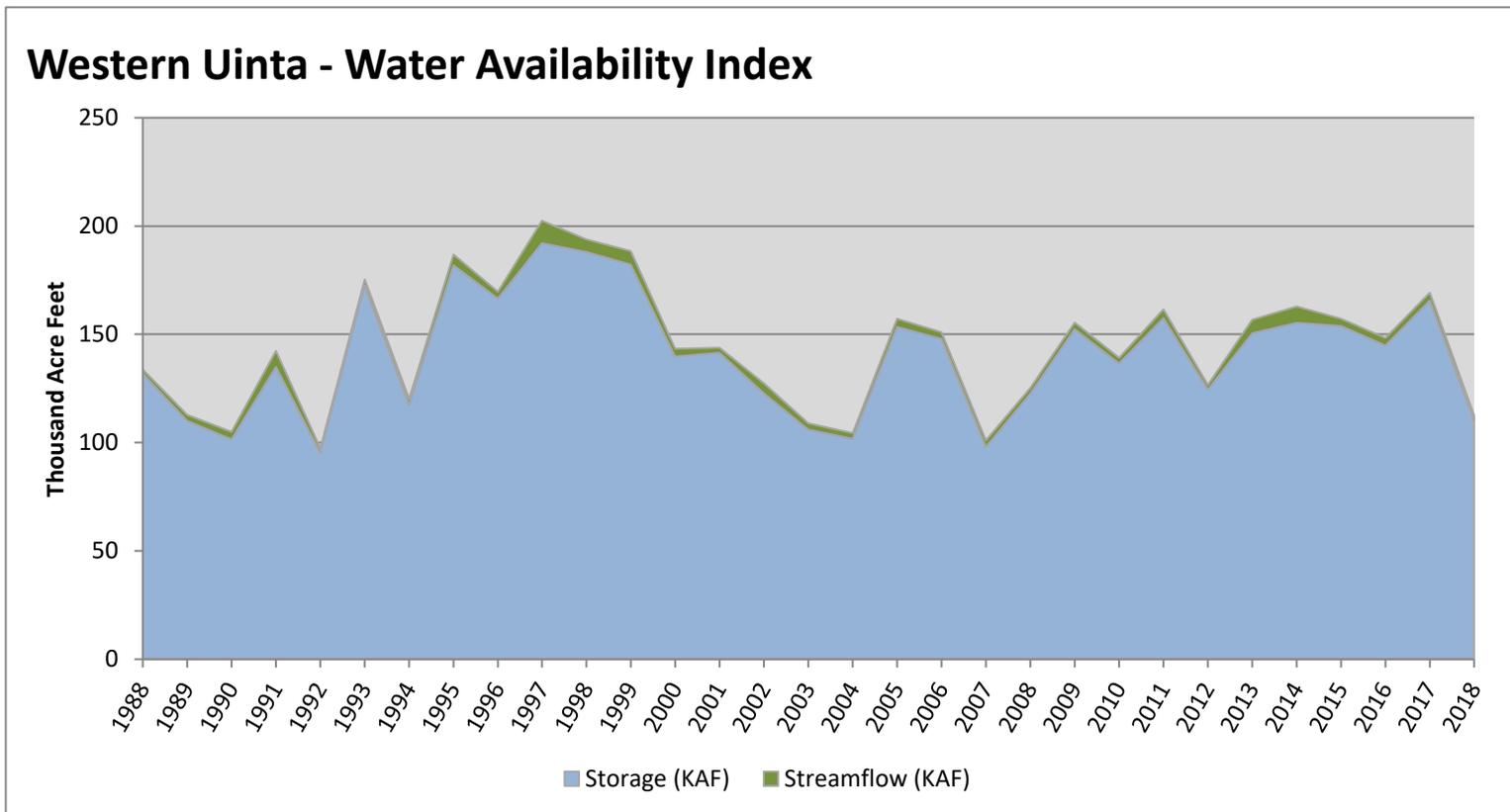


October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Western Uinta	110.32	2.30	112.62	19	-2.6	90, 03, 89, 94

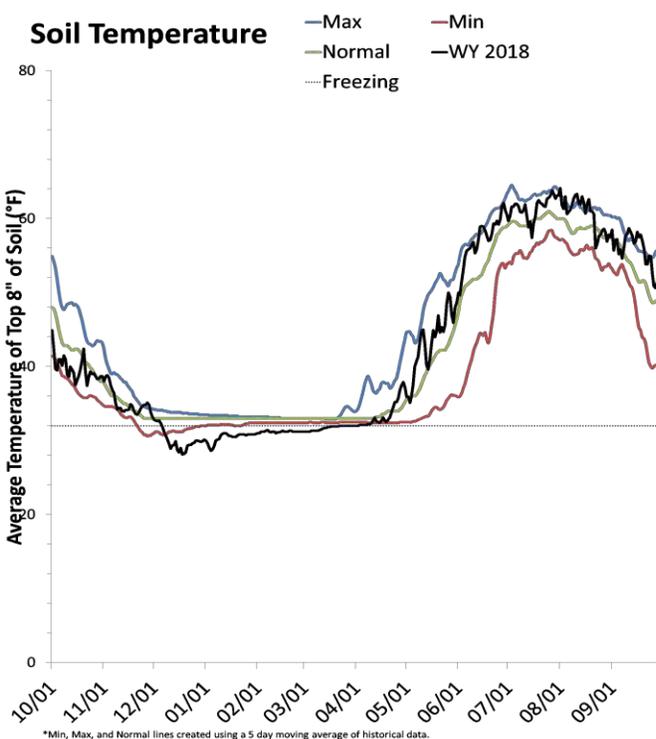
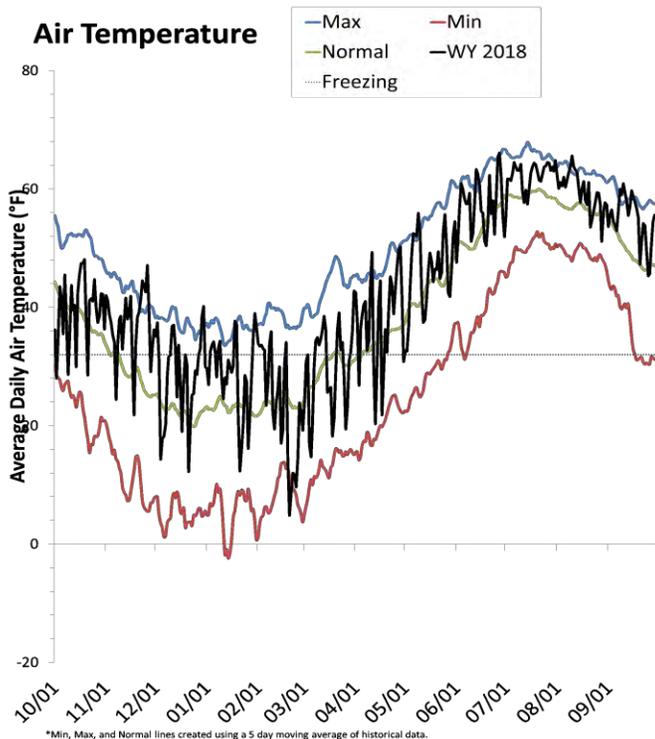
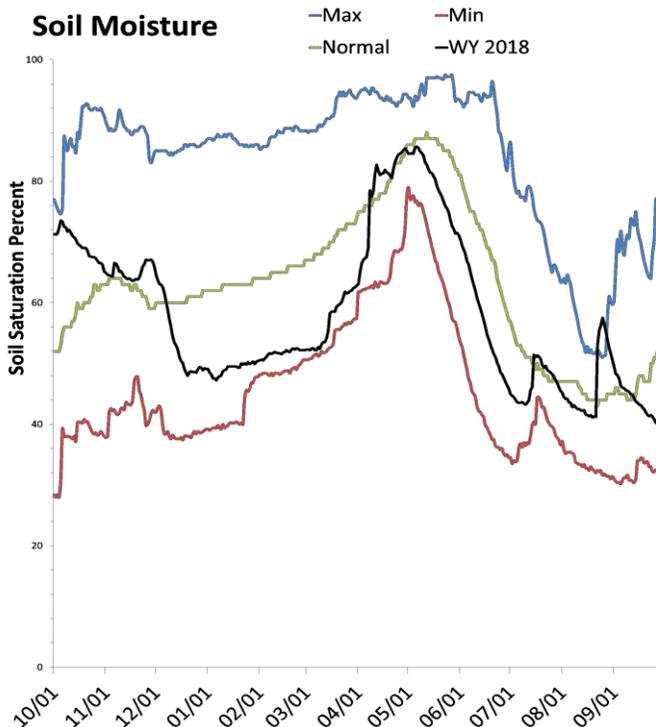
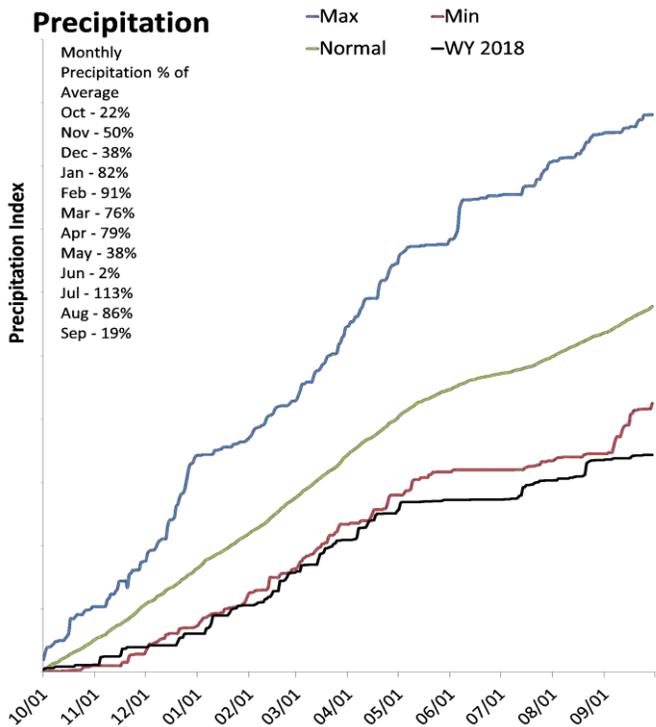
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



San Pitch River Basin

October 1, 2018

Precipitation in September was much below average at 21%, which brings the seasonal accumulation (Oct-Sep) to 60% of average. Soil Moisture is at 40% compared to 71% 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.

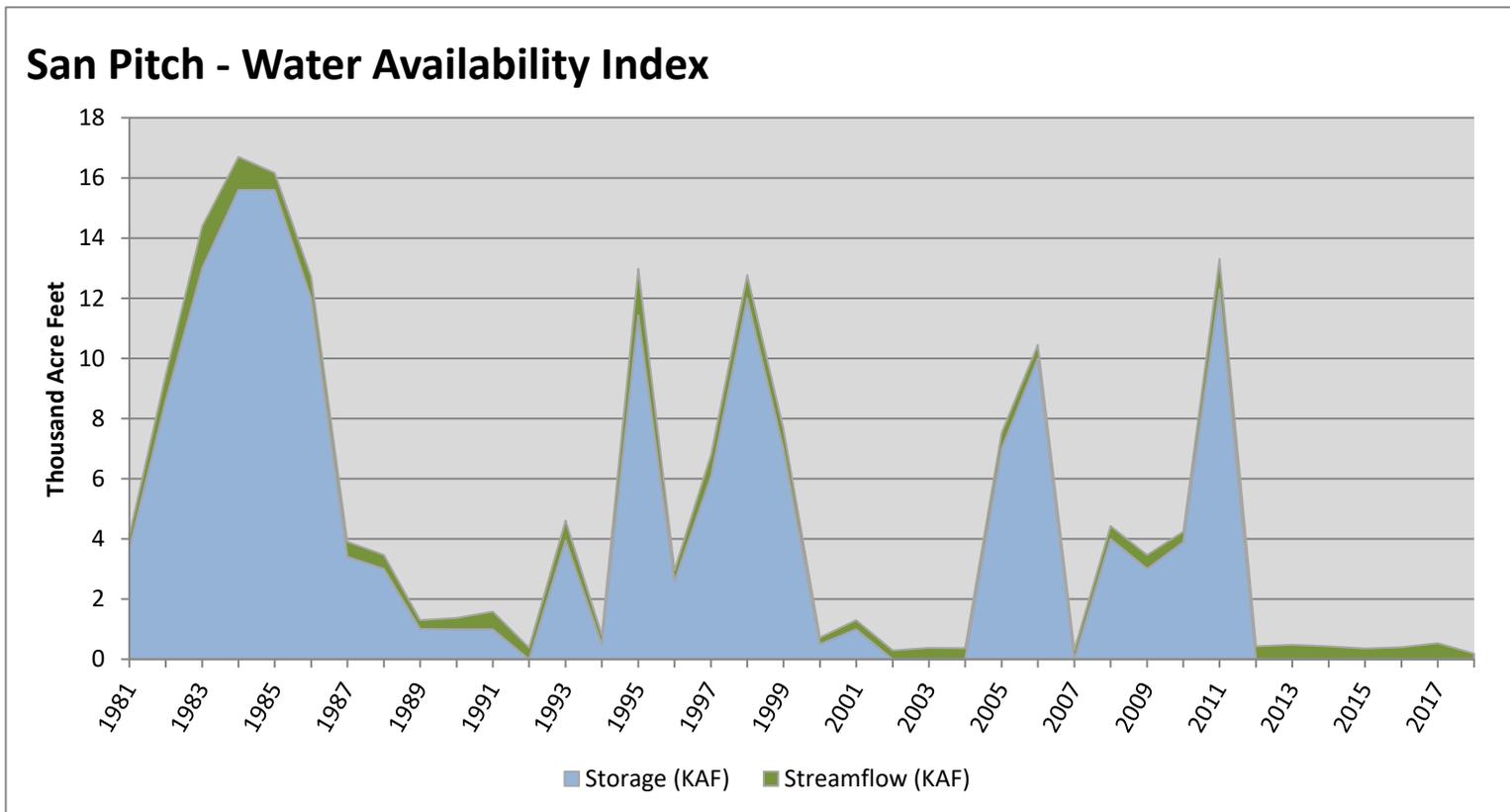
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
San Pitch	0.00	0.19	0.19	3	-3.95	02, 07, 15, 04

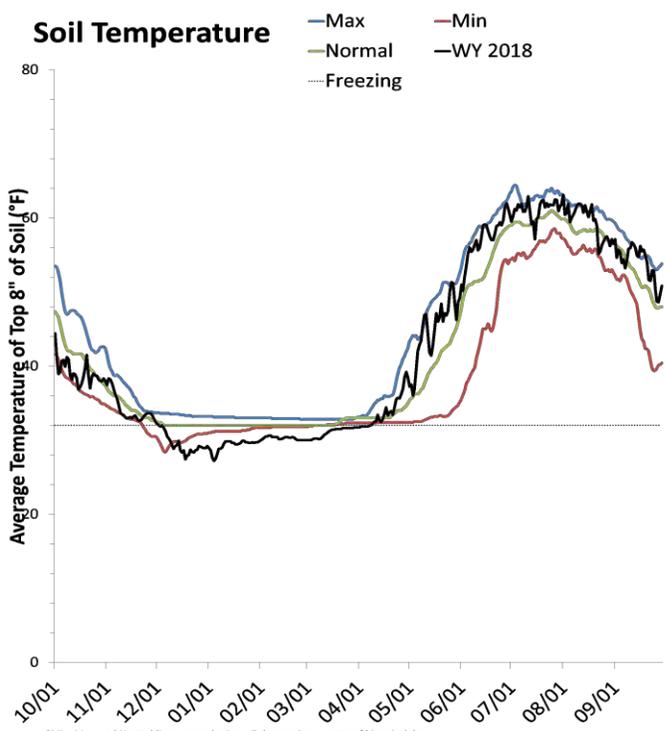
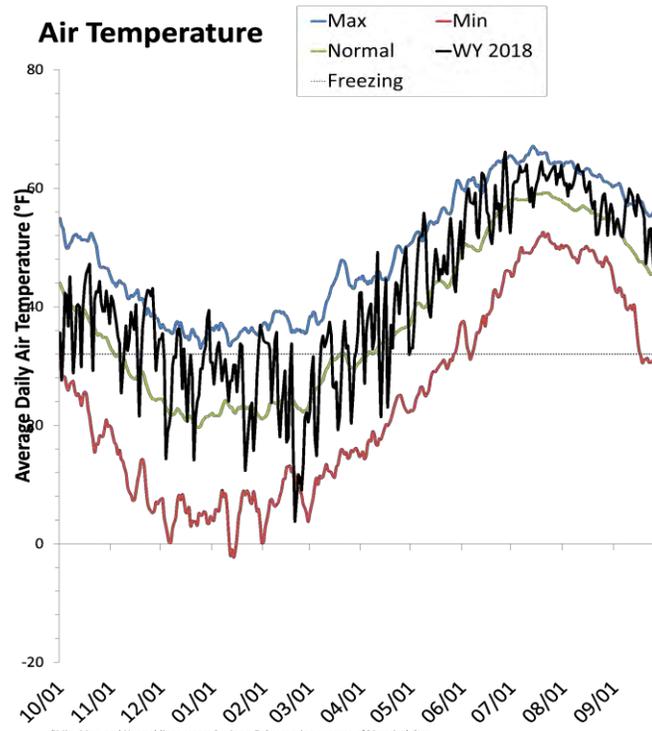
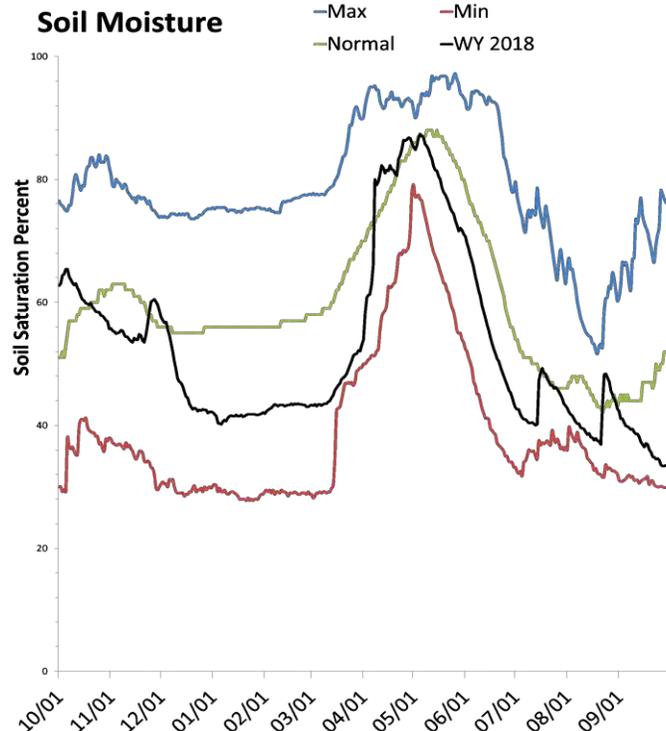
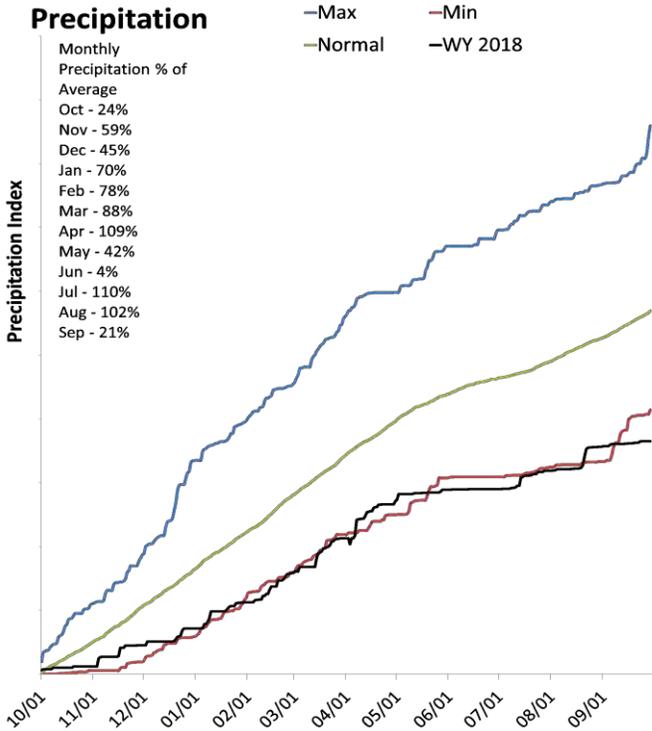
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Price & San Rafael Basins

October 1, 2018

Precipitation in September was much below average at 20%, which brings the seasonal accumulation (Oct-Sep) to 64% of average. Soil moisture is at 34% compared to 63% last year. Reservoir storage is at 38% of capacity, compared to 65% last year. The water availability index for the Price River is 46%, and 10% for Joe's Valley.



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

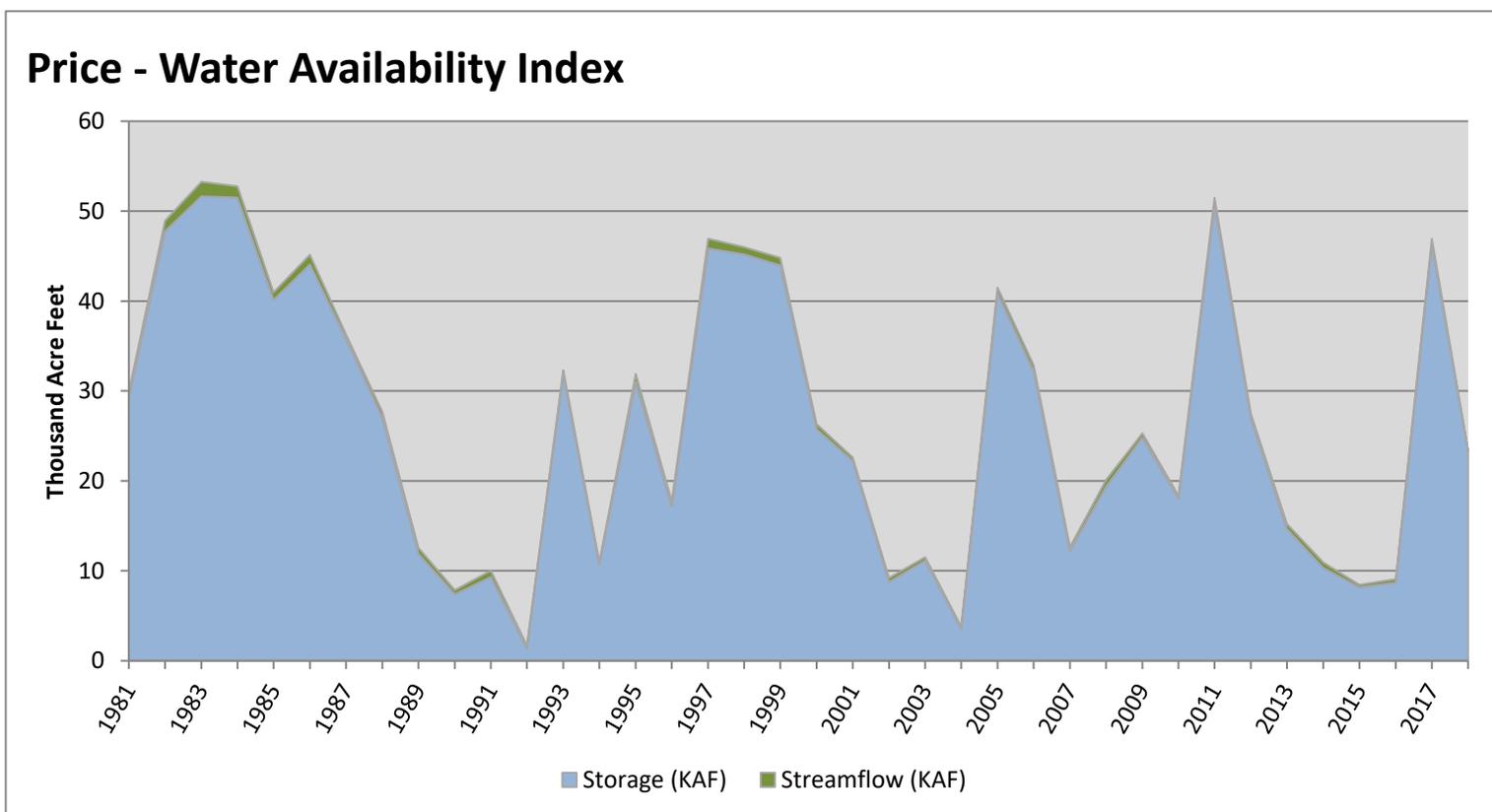
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Price	23.27	0.17	23.44	46	-0.32	08, 01, 09, 00

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

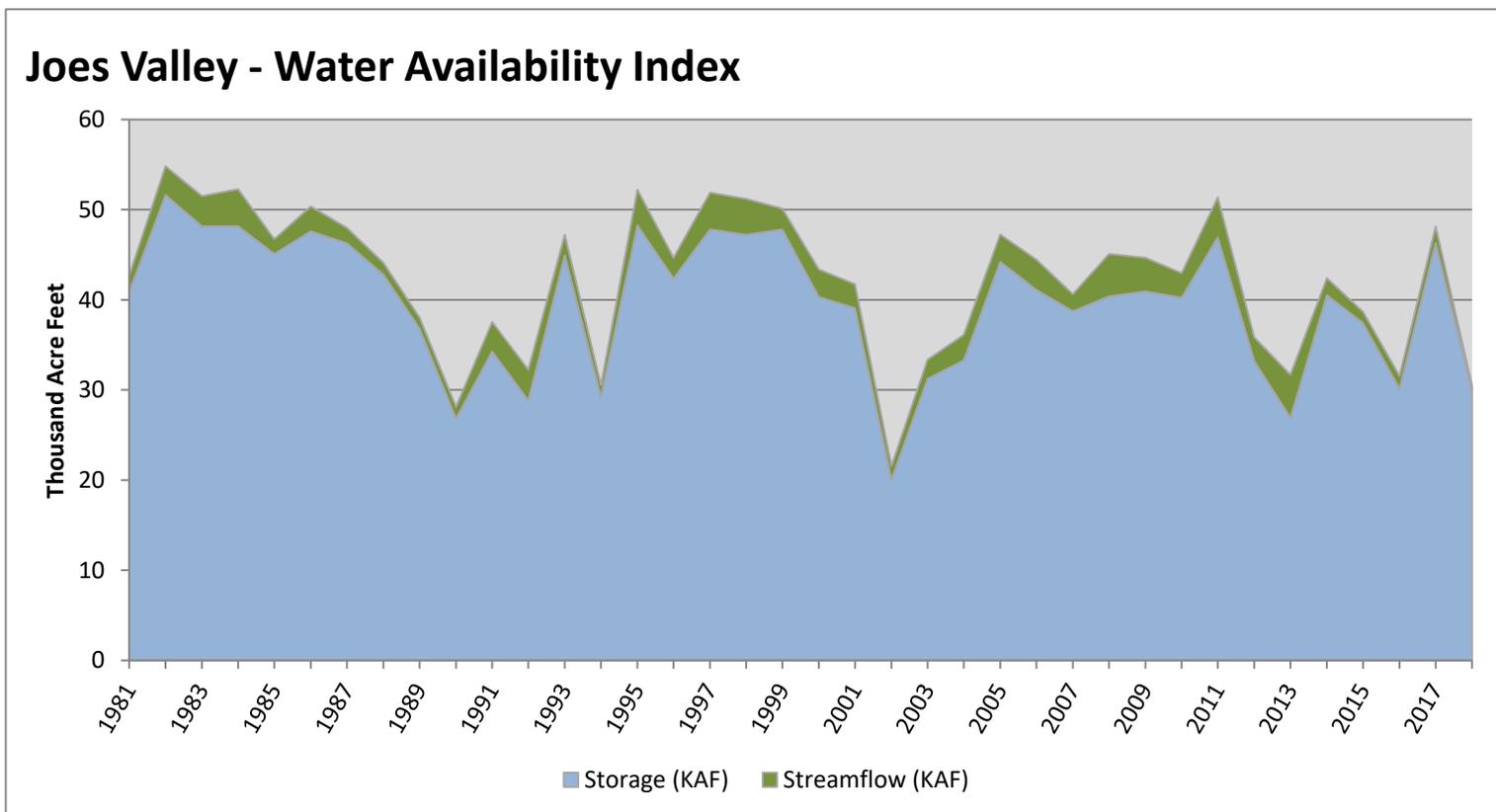


October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Joes Valley	29.90	0.65	30.55	10	-3.31	90, 94, 16, 13

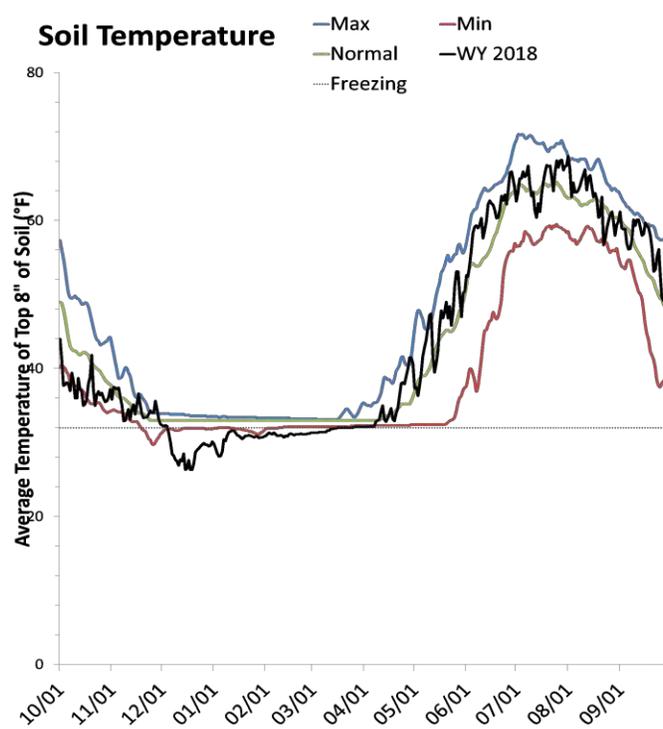
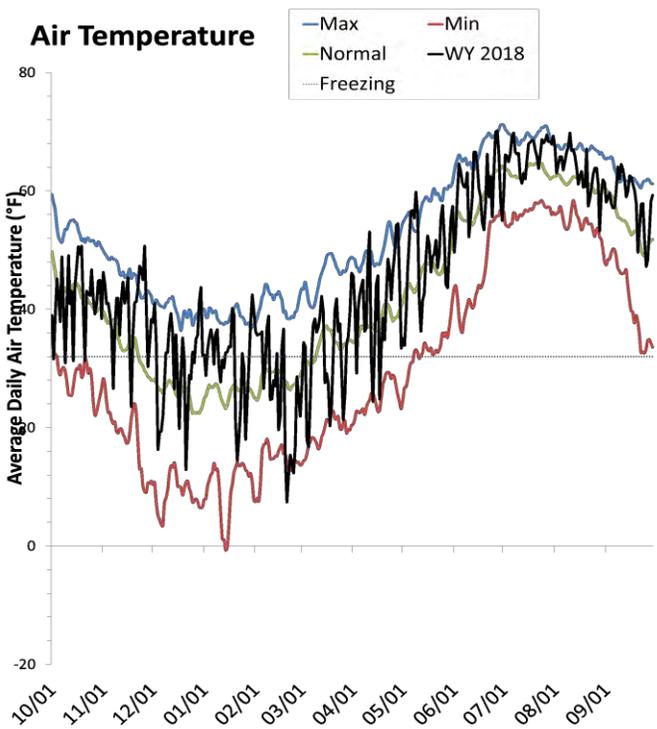
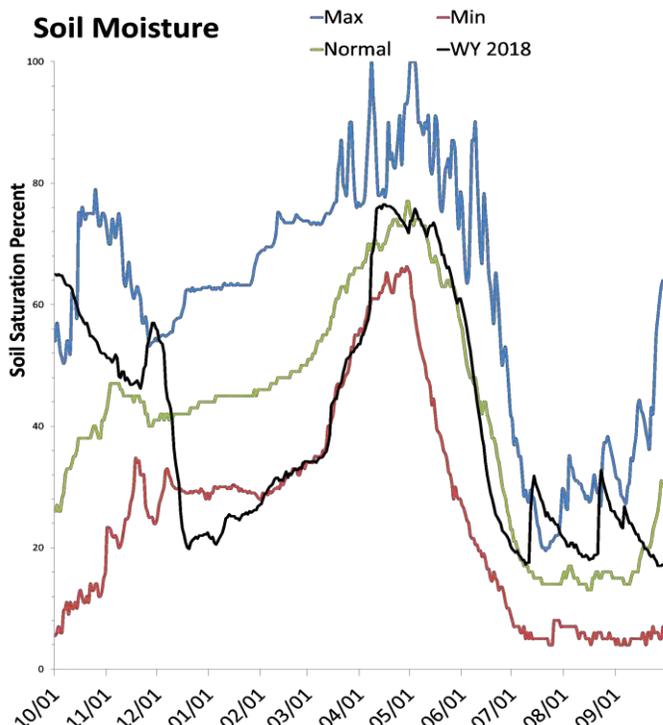
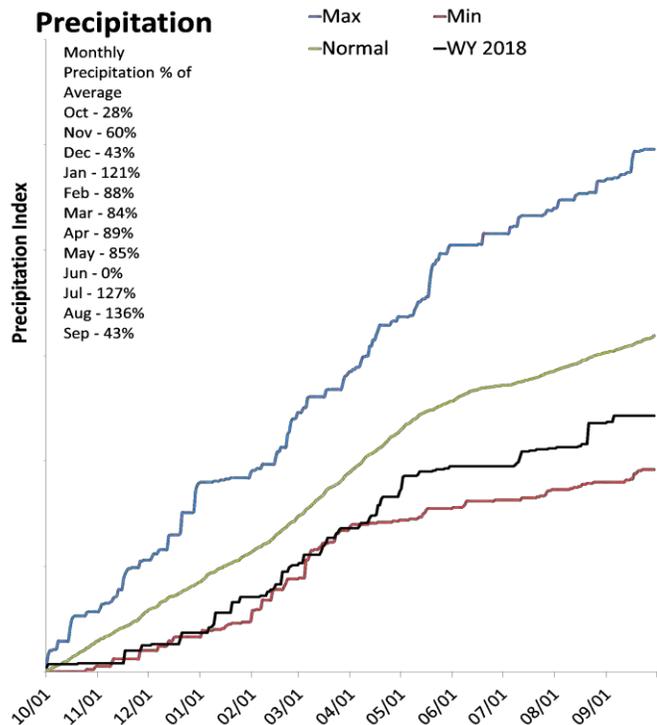
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Lower Sevier Basin

October 1, 2018

Precipitation in September was much below average at 44%, which brings the seasonal accumulation (Oct-Sep) to 76% of average. Soil moisture is at 17% compared to 64% last year. Reservoir storage is at 4% of capacity, compared to 7% last year. The water availability index for the Lower Sevier is 8%.



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

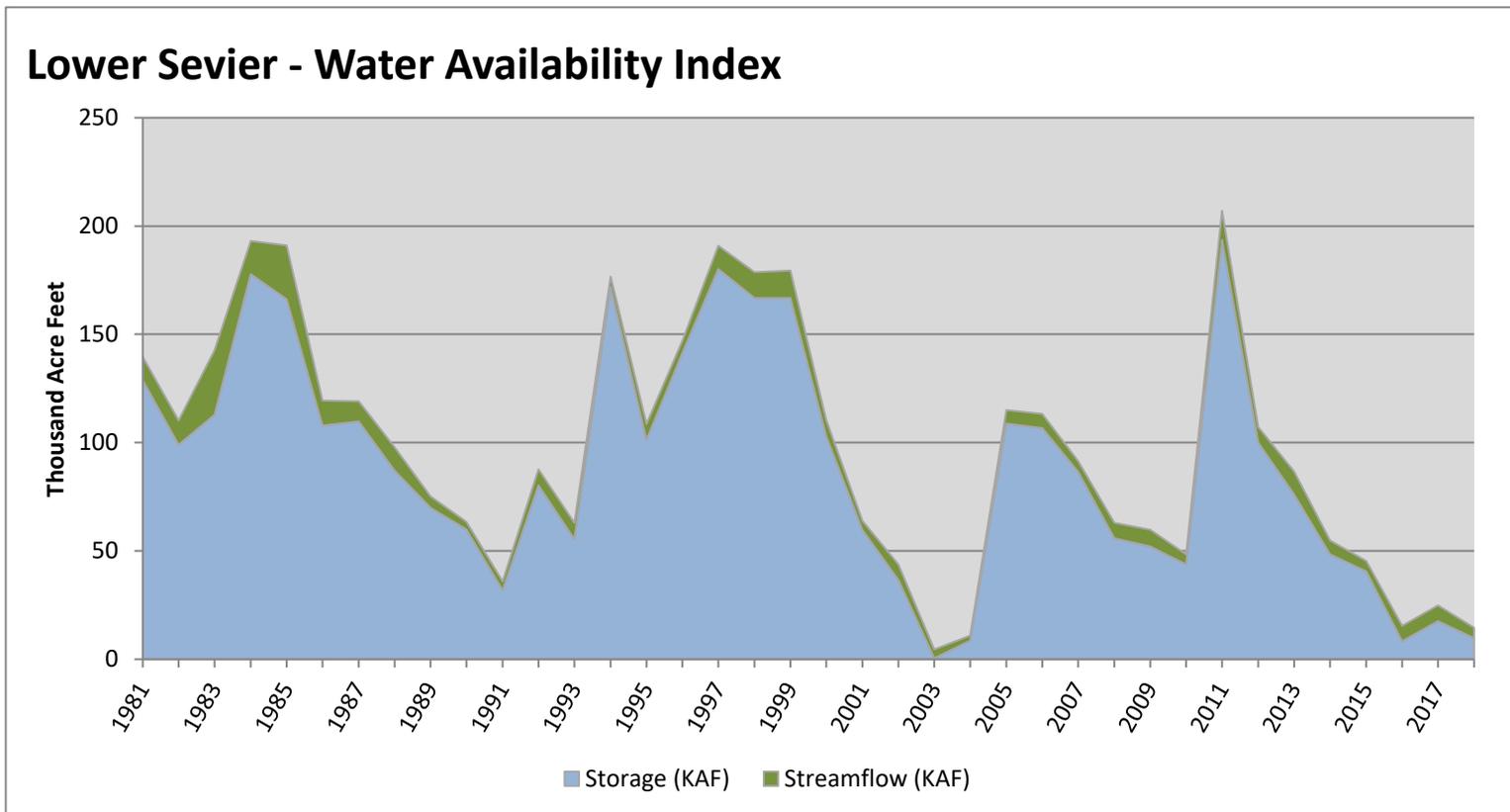
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Lower Sevier	9.82	4.76	14.58	8	-3.53	03, 04, 16, 17

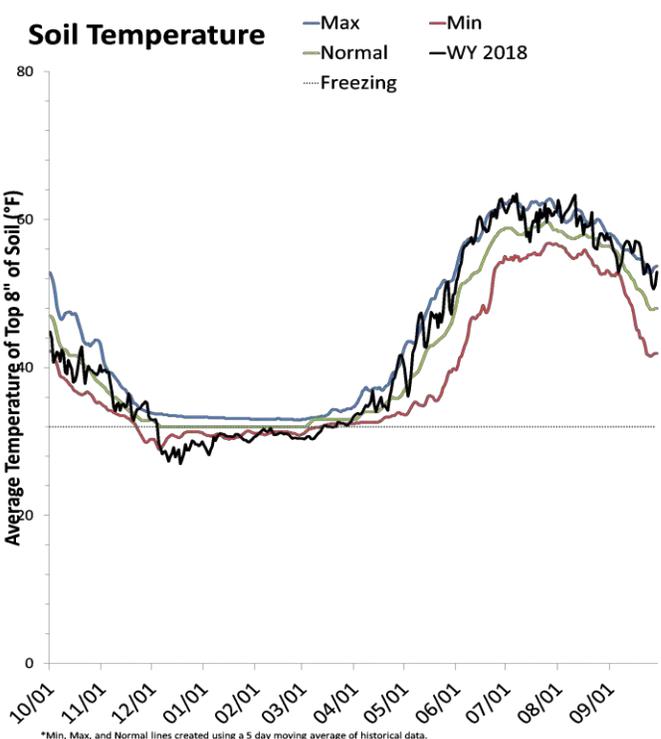
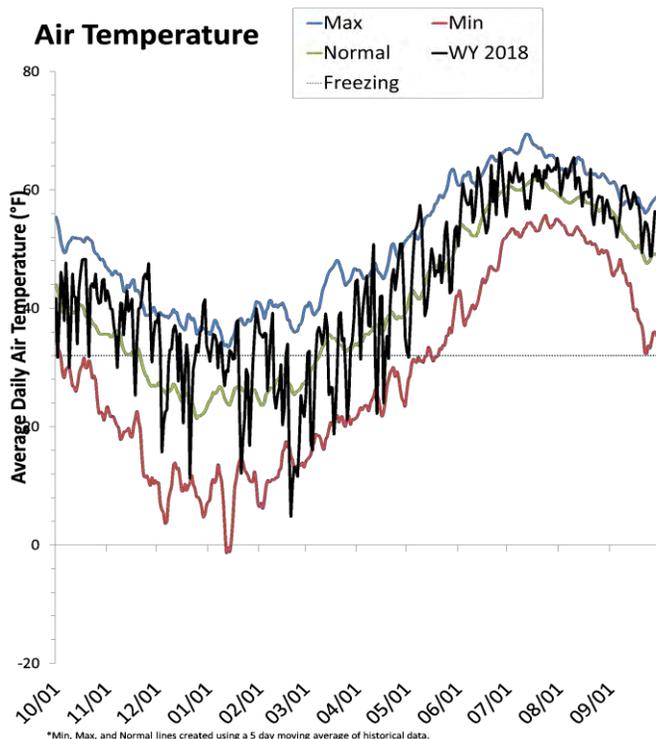
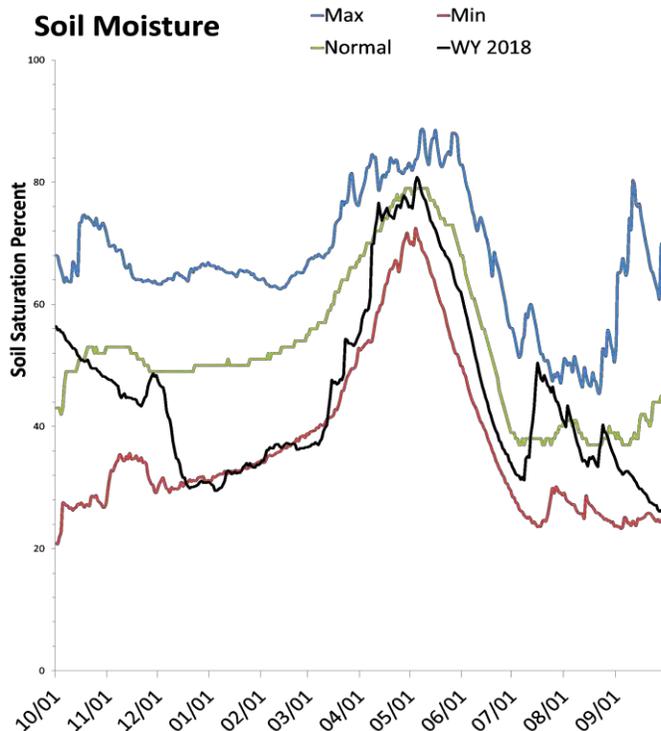
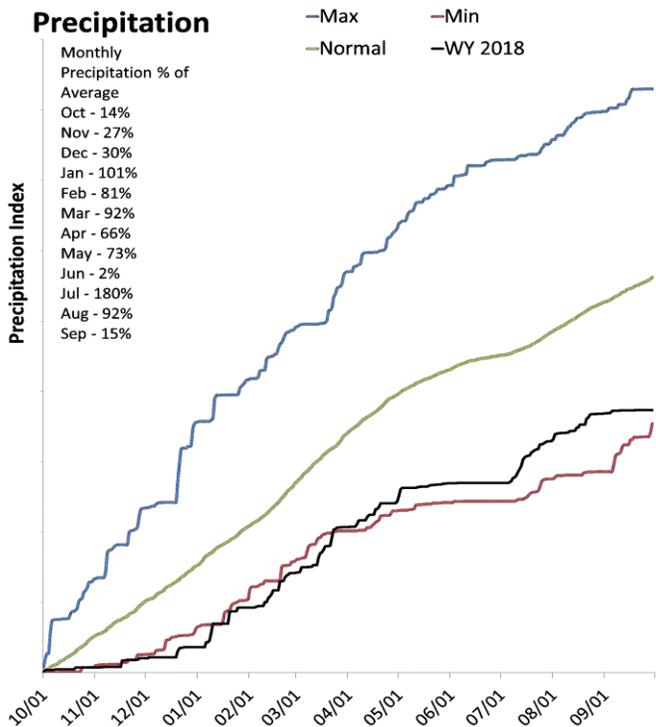
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Upper Sevier Basin

October 1, 2018

Precipitation in September was much below average at 17%, which brings the seasonal accumulation (Oct-Sep) to 67% of average. Soil moisture is at 26% compared to 55% last year. Reservoir storage is at 12% of capacity, compared to 28% last year. The water availability index for the Upper Sevier is 13%.



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

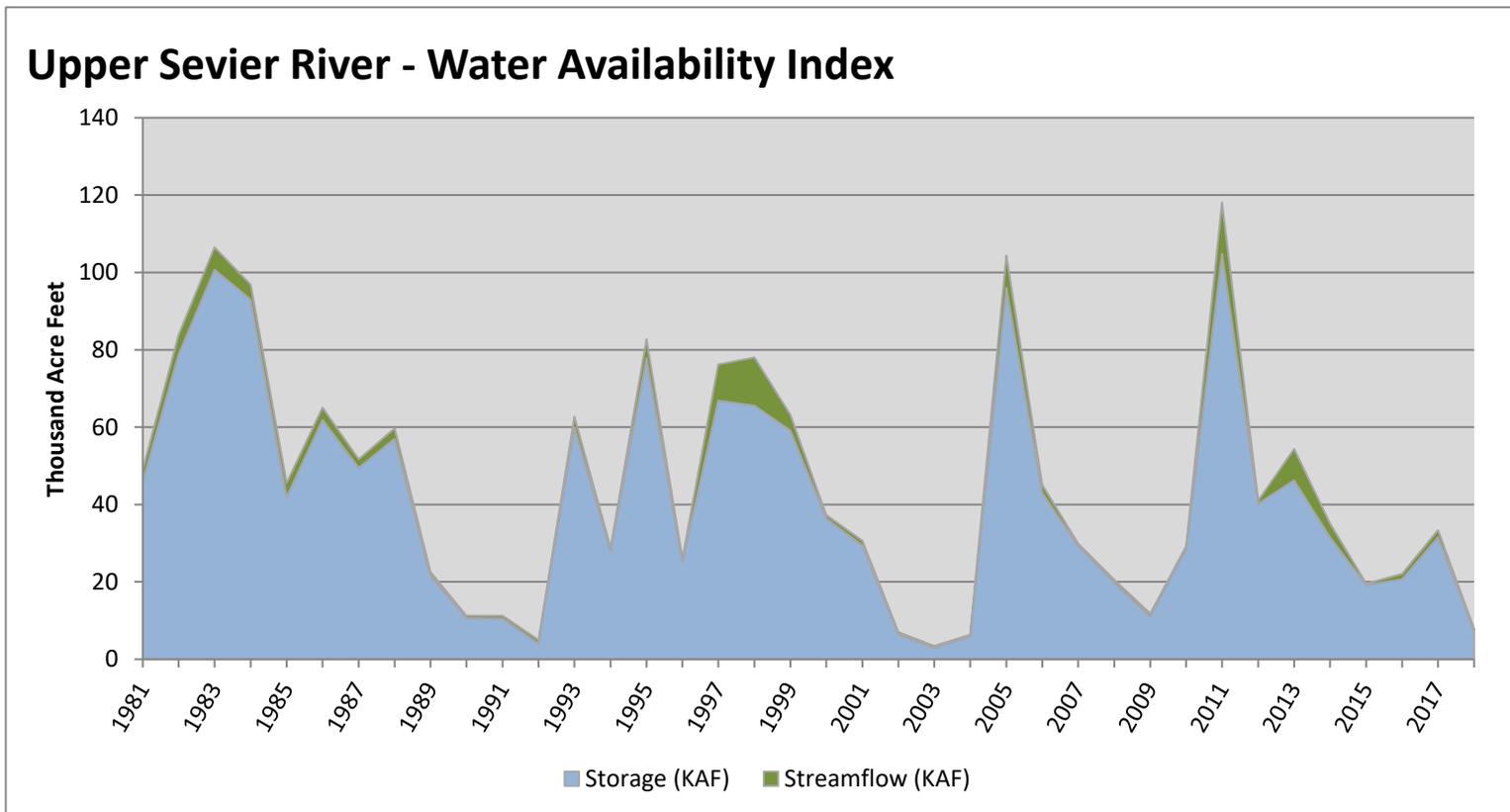
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Upper Sevier River	7.49	0.38	7.87	13	-3.1	04, 02, 91, 90

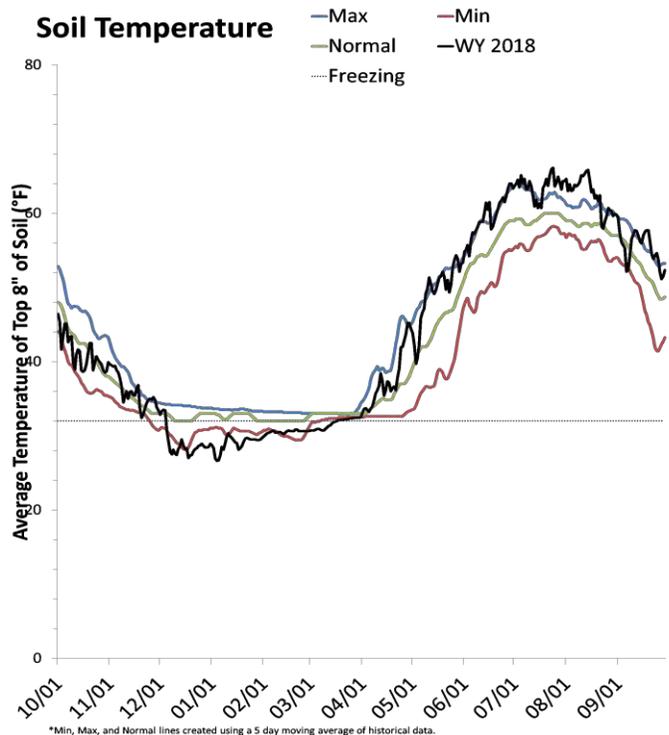
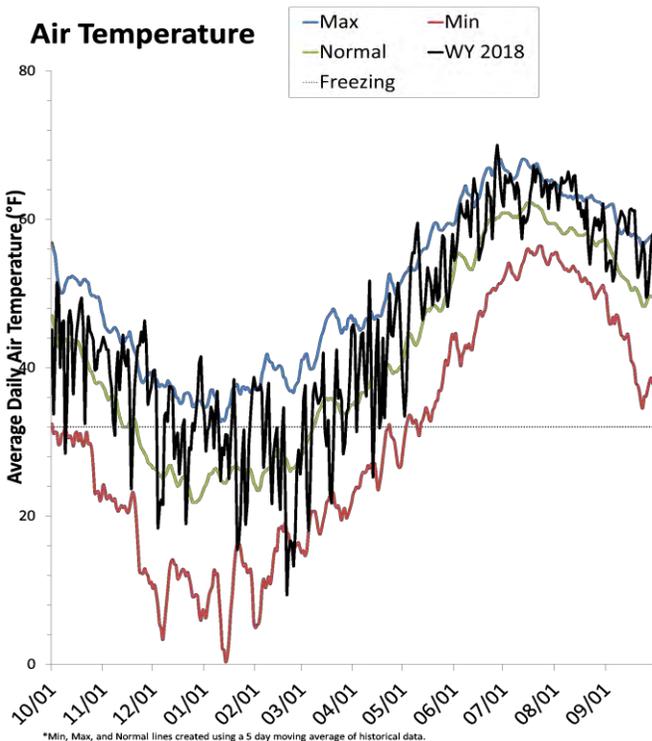
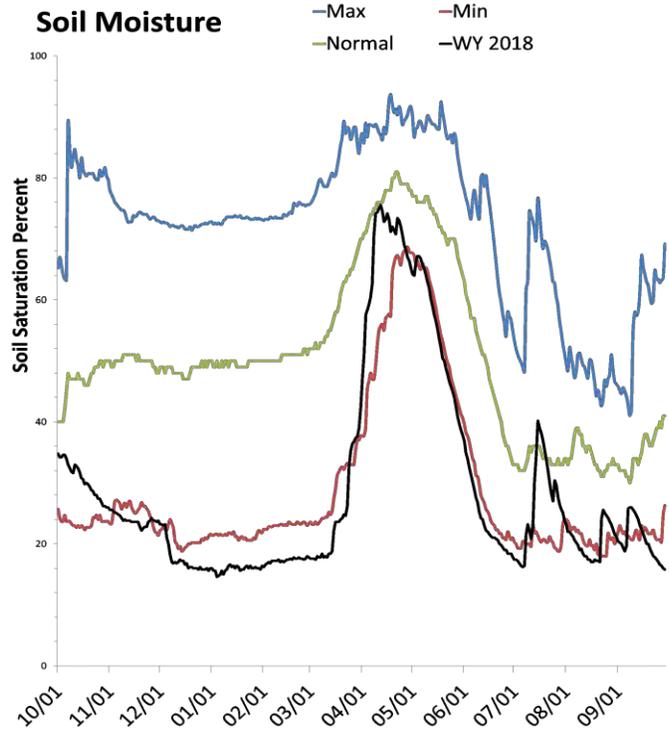
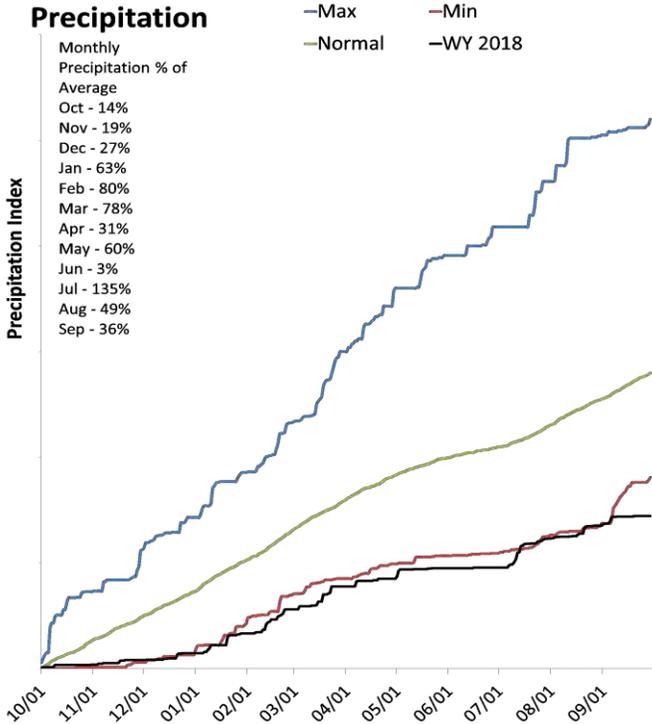
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Southeastern Utah

October 1, 2018

Precipitation in September was much below average at 36%, which brings the seasonal accumulation (Oct-Sep) to 51% of average. Soil moisture is at 15% compared to 35% last year. Reservoir storage is at 0% of capacity, compared to 54% last year. The water availability index for Moab is 3%.

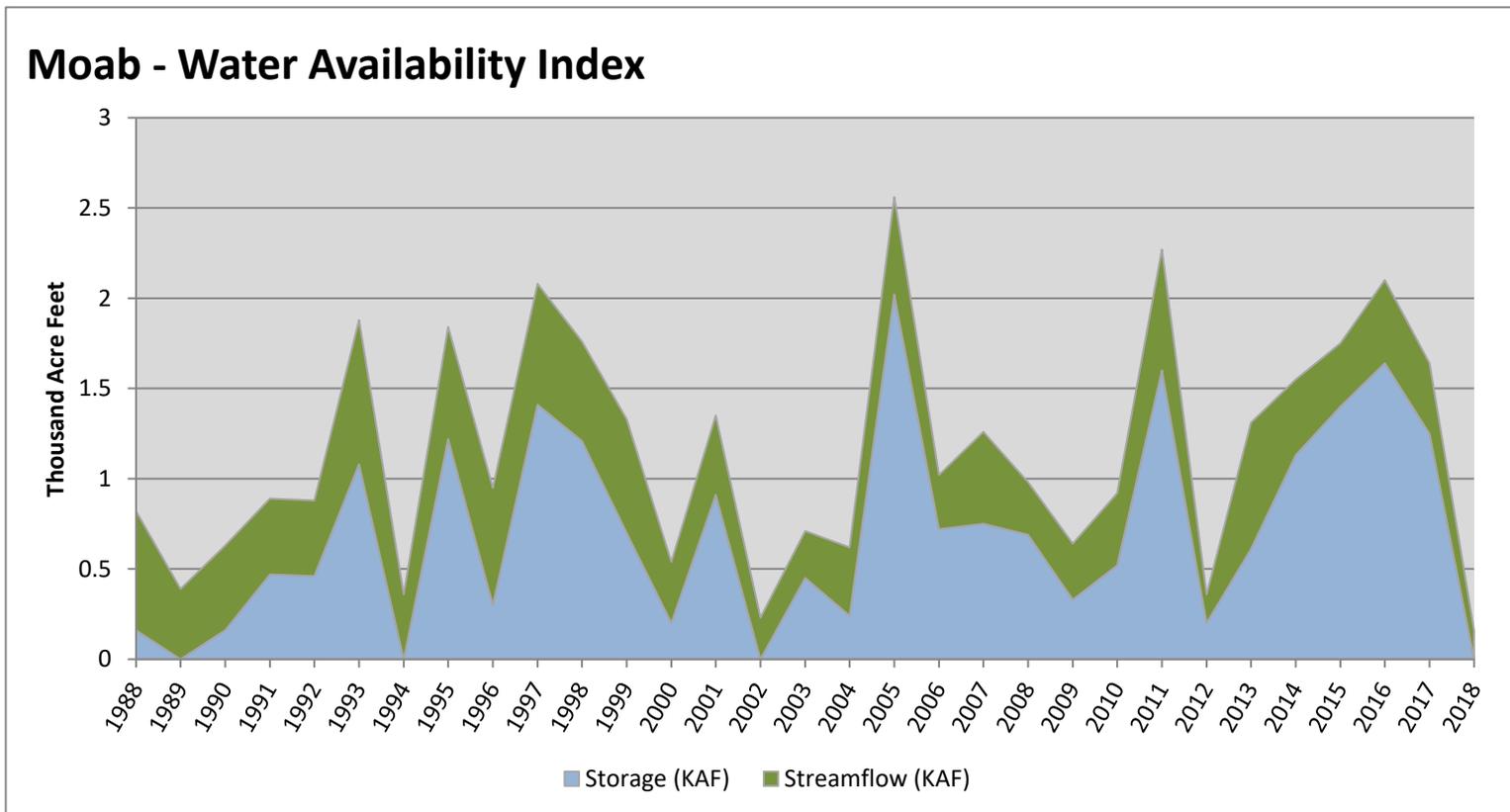


October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Moab	0.00	0.16	0.16	3	-3.91	02, 94, 12, 89

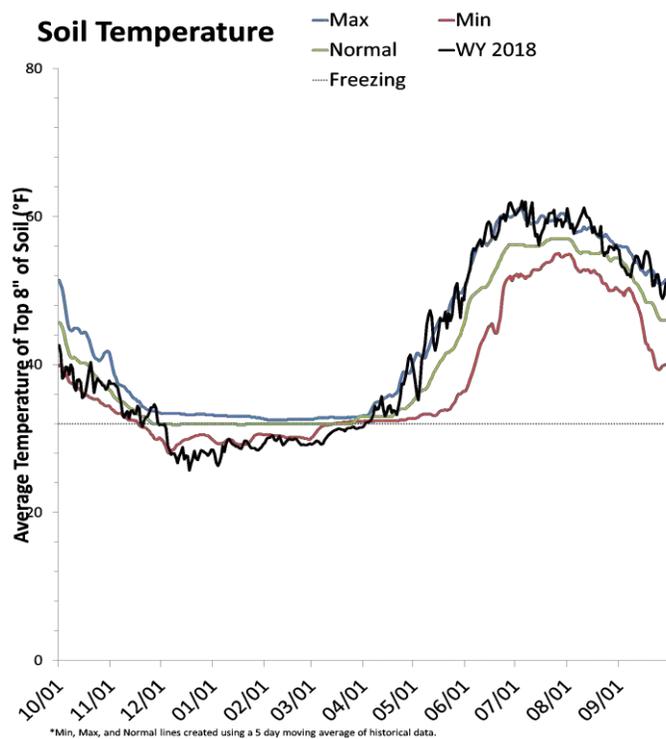
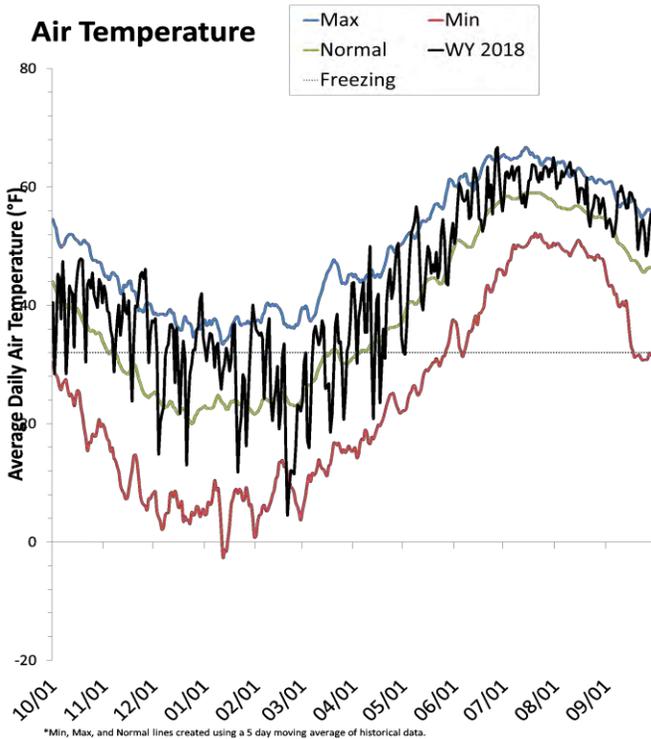
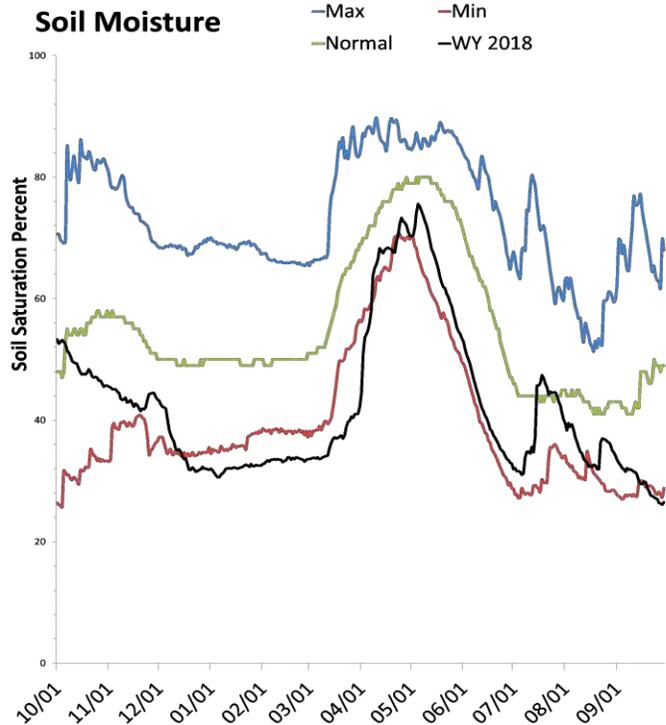
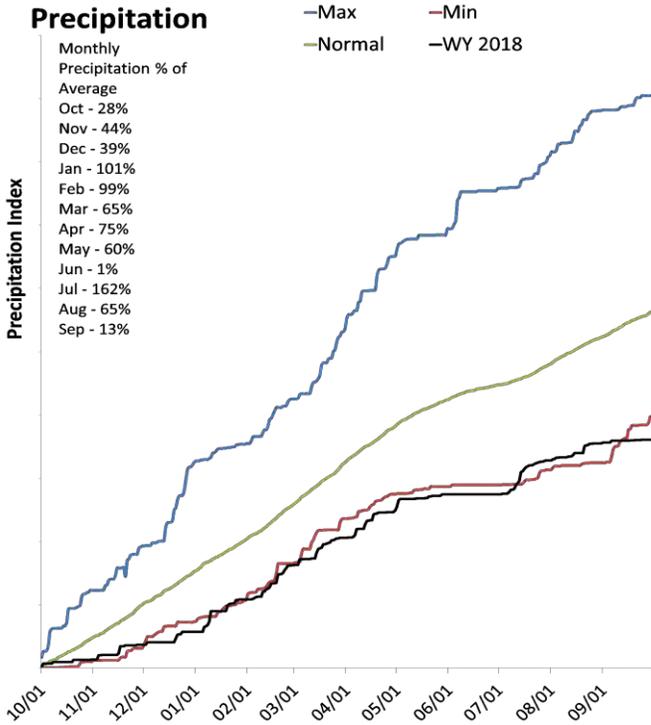
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Dirty Devil Basin

October 1, 2018

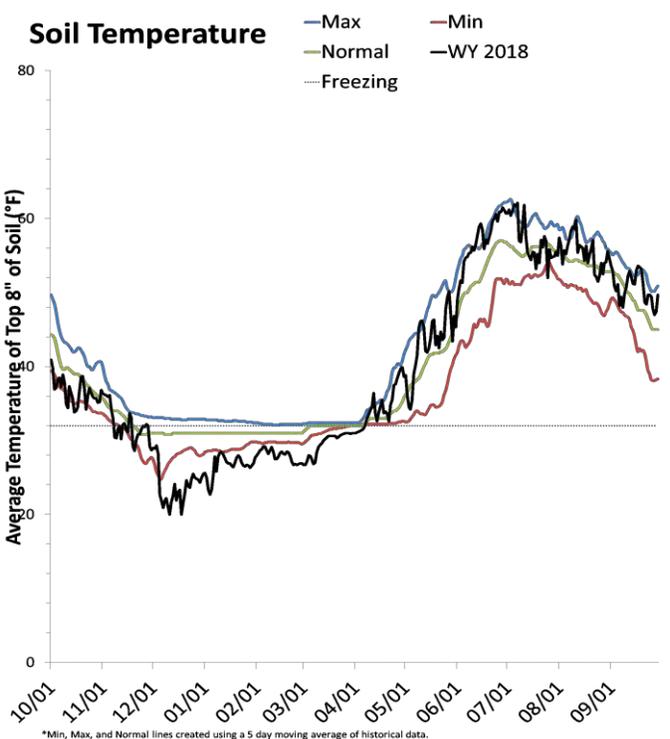
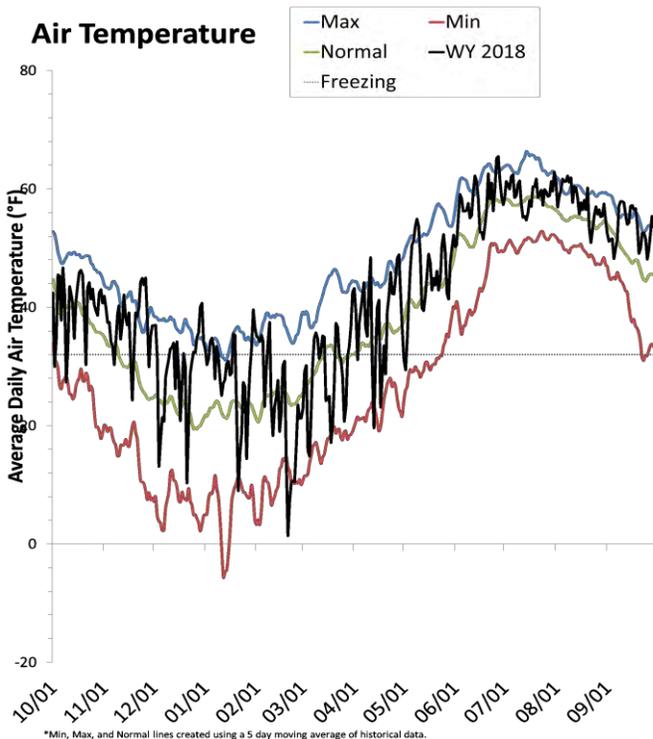
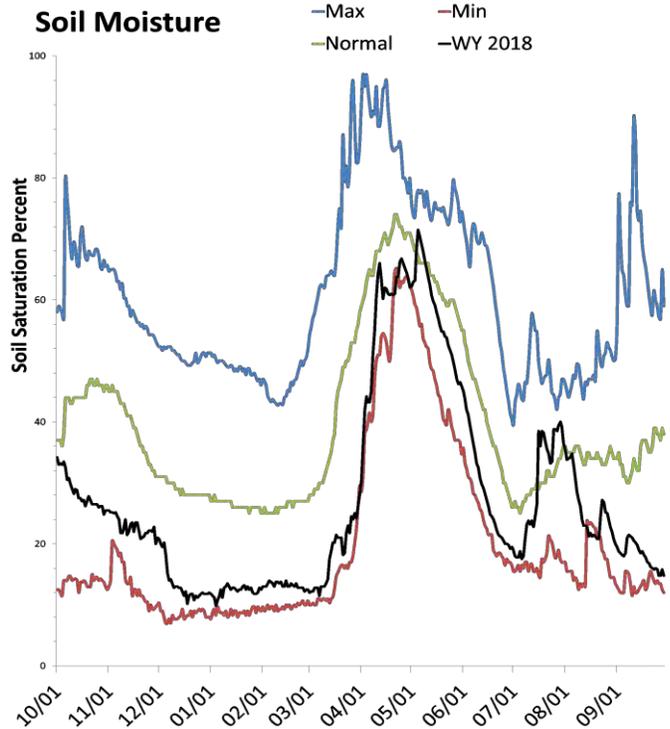
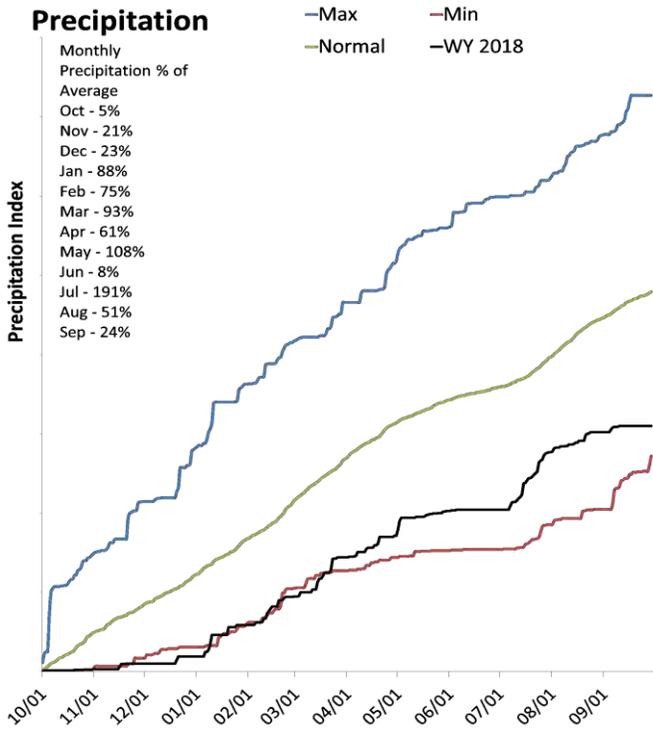
Precipitation in September was much below average at 15%, which brings the seasonal accumulation (Oct-Sep) to 65% of average. Soil moisture is at 27% compared to 54% last year.



Escalante River Basin

October 1, 2018

Precipitation in September was much below average at 29%, which brings the seasonal accumulation (Oct-Sep) to 65% of average. Soil moisture is at 15% compared to 32% last year.



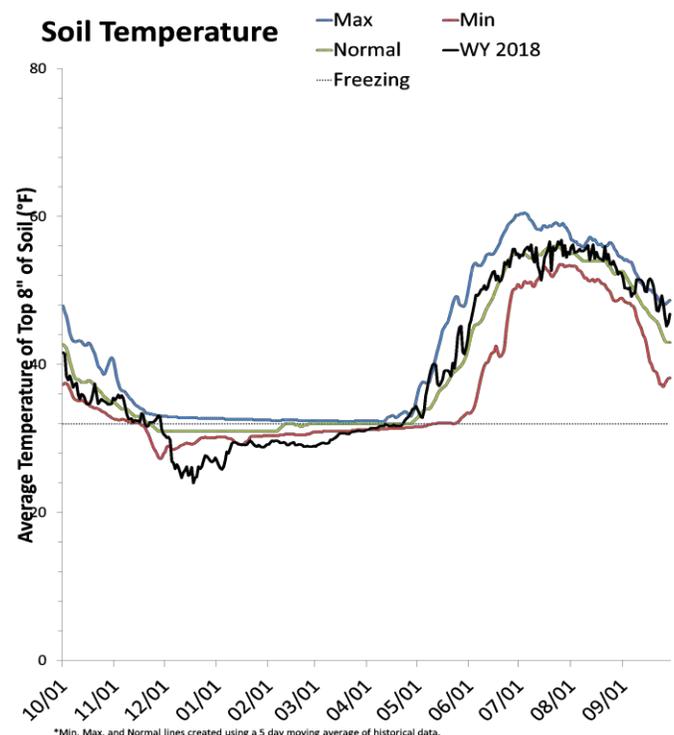
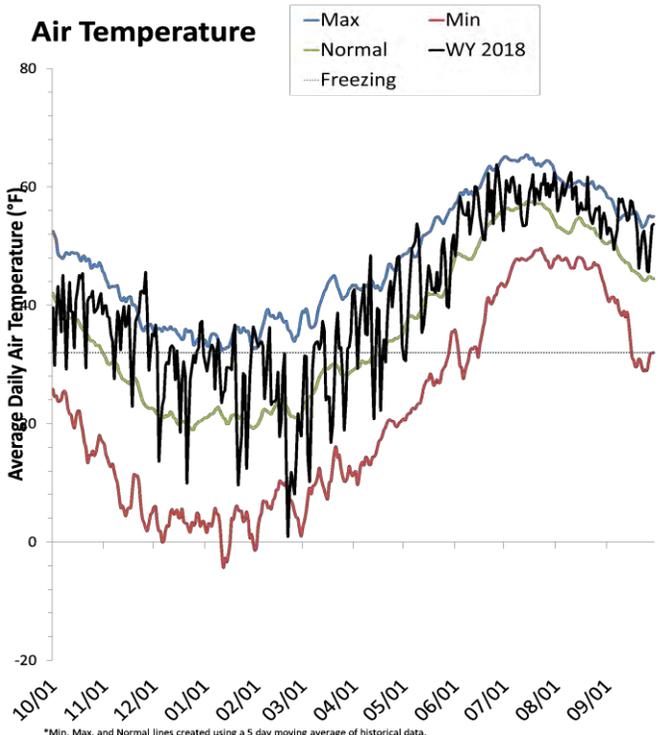
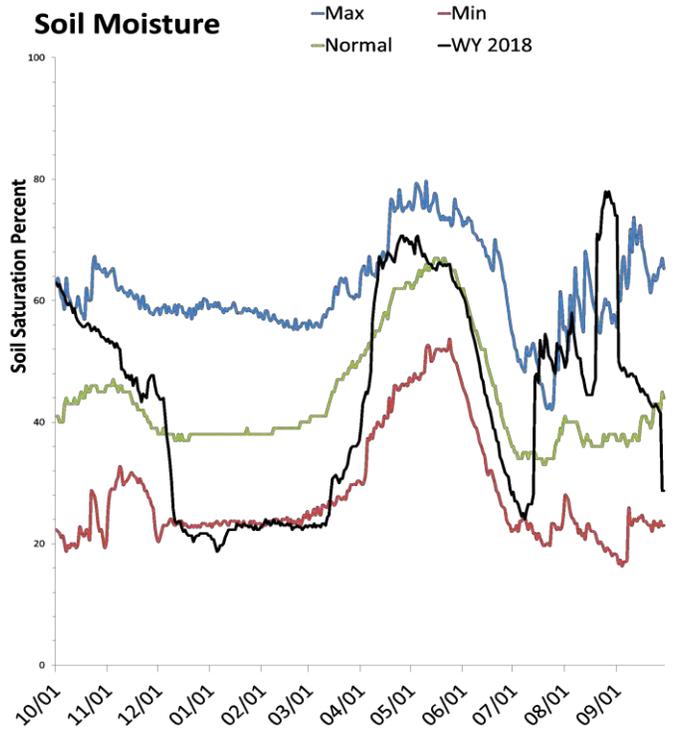
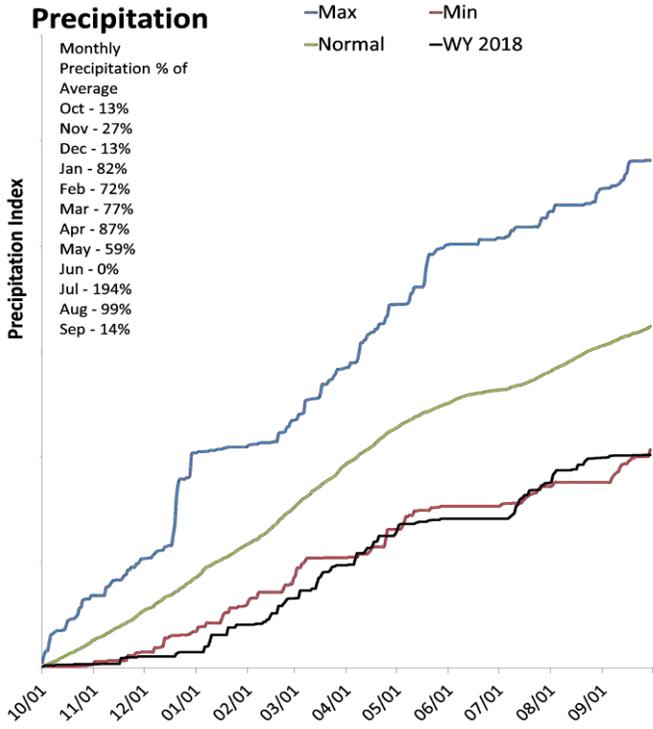
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Beaver River Basin

October 1, 2018

Precipitation in September was much below average at 14%, which brings the seasonal accumulation (Oct-Sep) to 62% of average. Soil moisture is at 28% compared to 63% last year. Reservoir storage is at 10% of capacity, compared to 11% last year. The water availability index for the Beaver River is 15%.



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

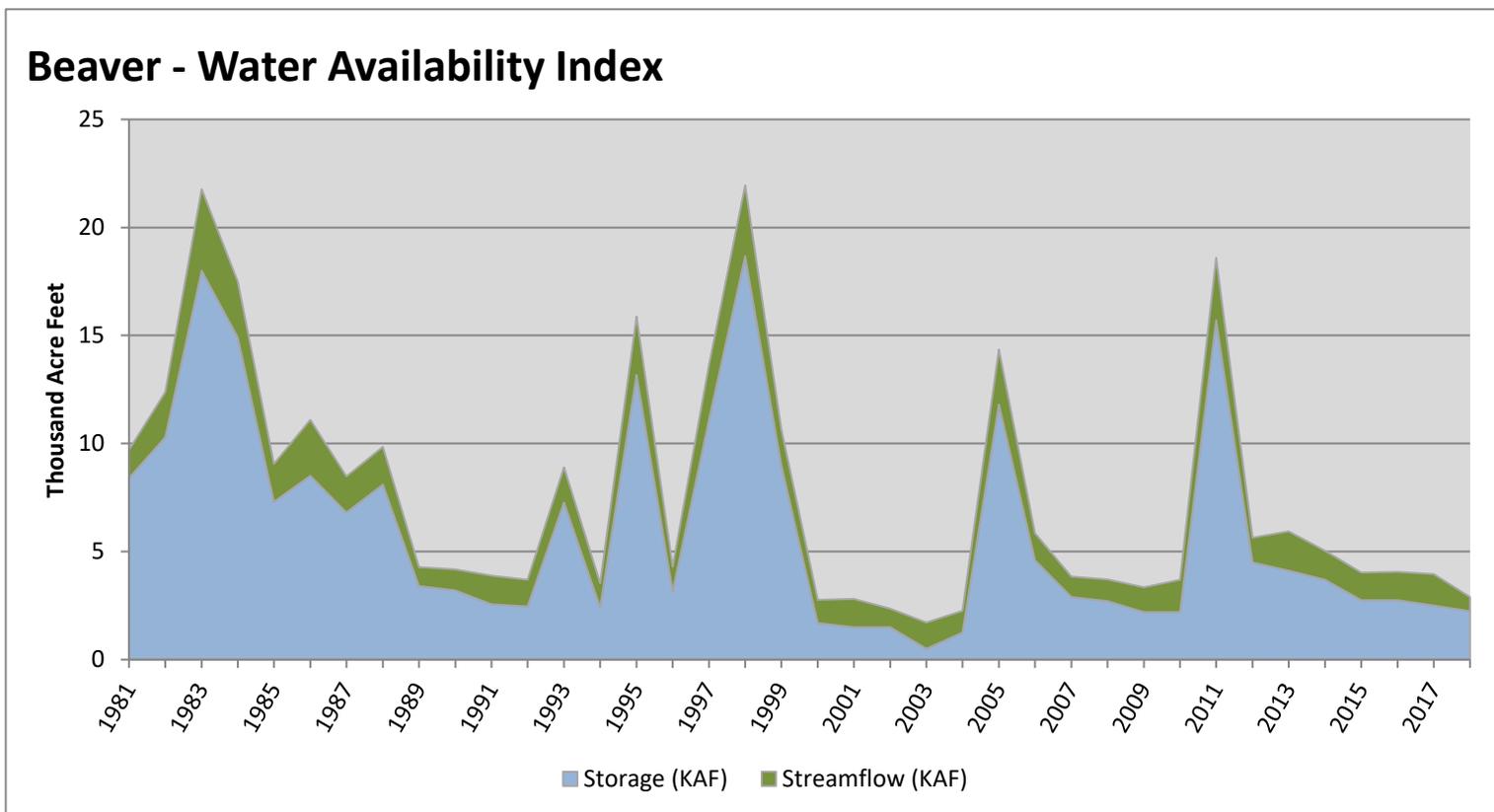
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Beaver	2.24	0.66	2.90	15	-2.88	00, 01, 09, 94

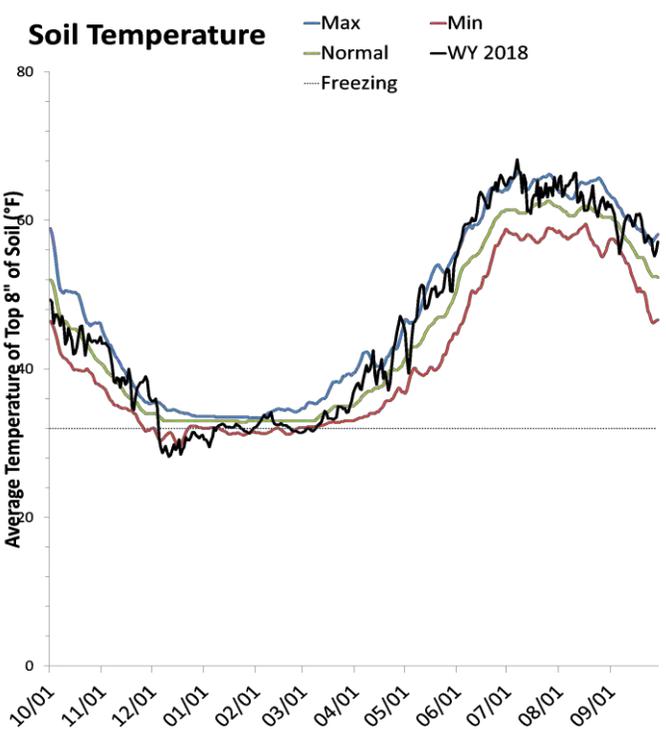
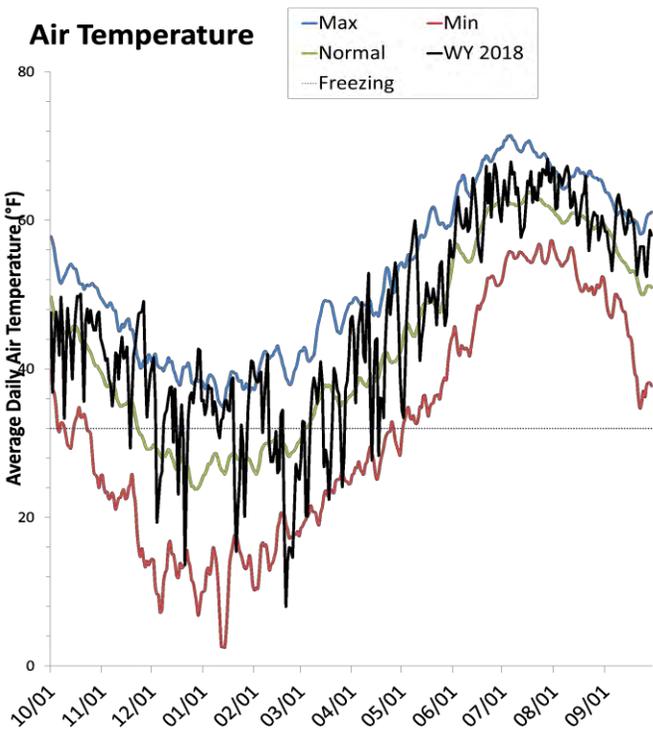
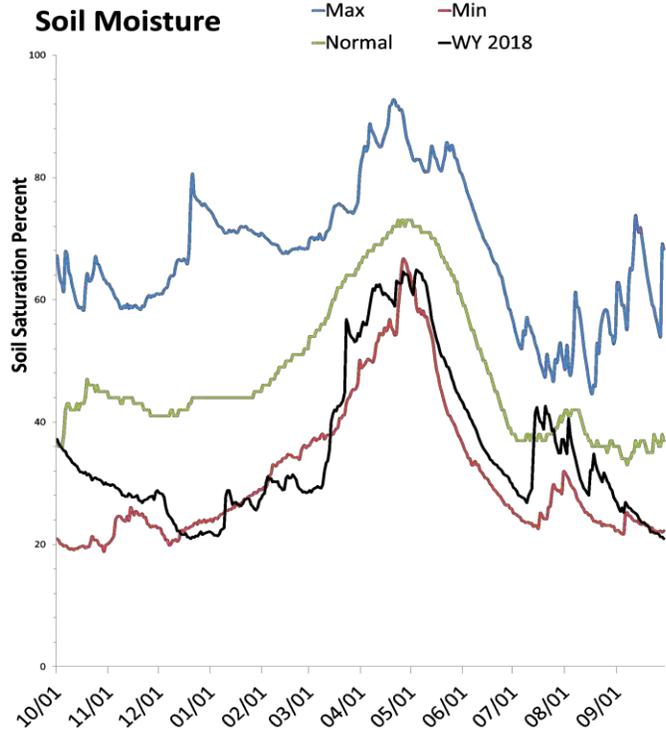
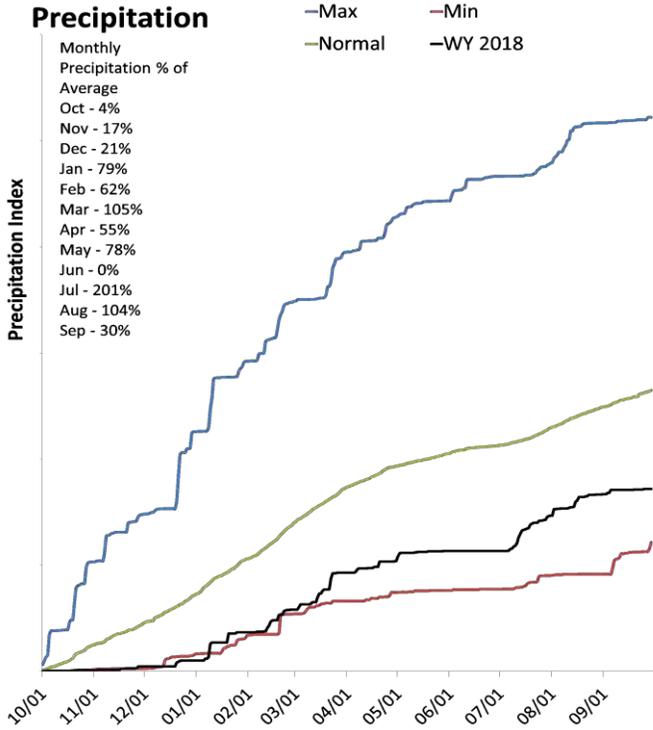
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Southwestern Utah

October 1, 2018

Precipitation in September was much below average at 32%, which brings the seasonal accumulation (Oct-Sep) to 65% of average. Soil moisture is at 21% compared to 34% last year. Reservoir storage is at 45% of capacity, compared to 60% last year. The water availability index for the Virgin River is 55%.



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

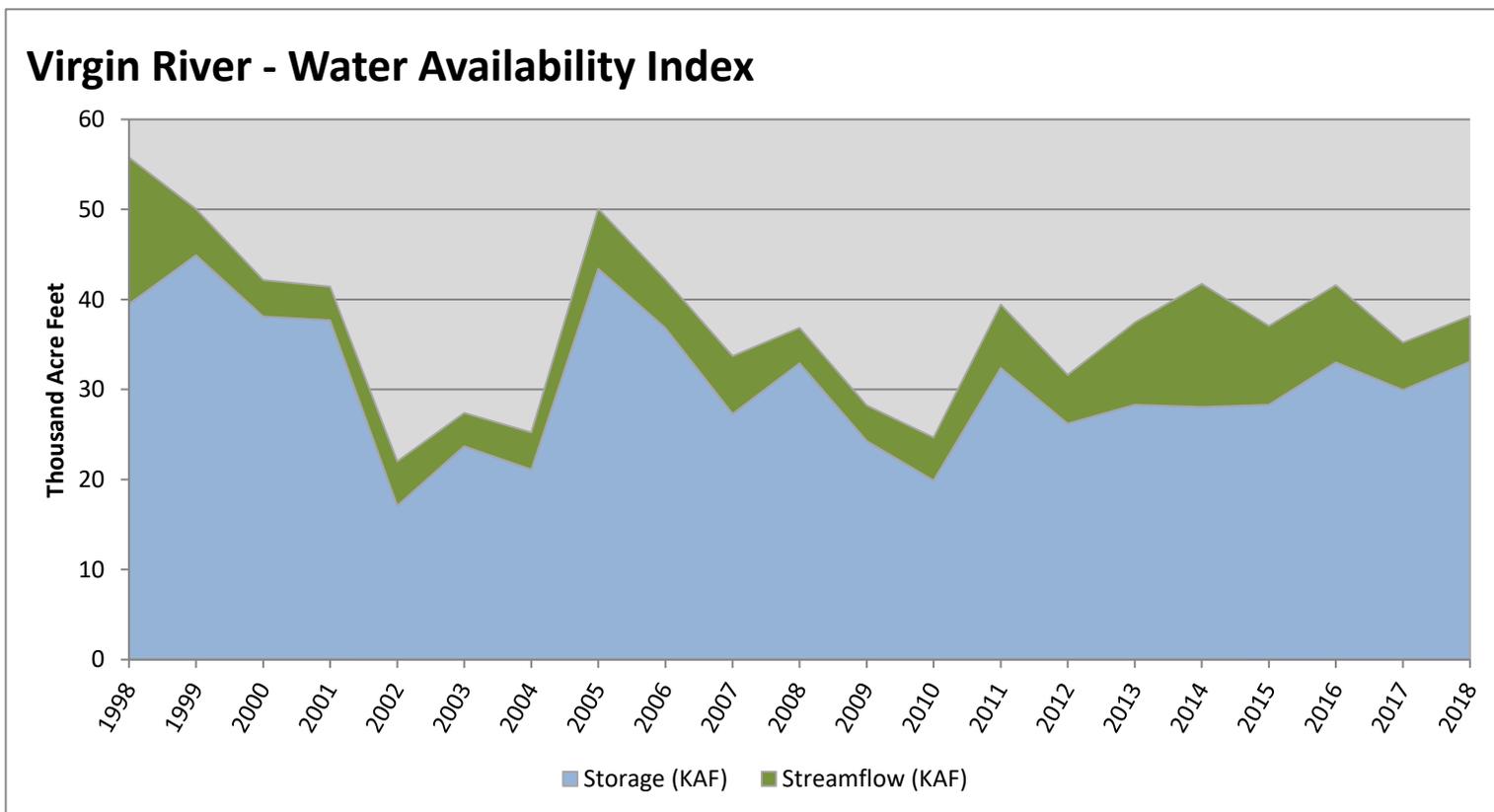
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

October 1, 2018

Water Availability Index

Basin or Region	Sep EOM [^] Storage	September Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Virgin River	33.07	5.10	38.17	55	0.38	15, 13, 11, 01

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



October 1, 2018

Water Availability Index

Basin or Region	Sep EOM* Storage	September Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Bear River	802	2.9	805	69	1.6	12, 81, 87, 85
Woodruff Narrows	19.6	2.9	22.5	38	-1.0	88, 81, 85, 07
Little Bear	3.9	1.2	5.1	37	-1.1	10, 04, 12, 16
Ogden	44.1	2.5	46.6	33	-1.4	96, 12, 91, 15
Weber	66.6	3.1	69.7	10	-3.3	92, 13, 12, 01
Provo River	293.1	1.7	294.8	25	-2.1	15, 02, 12, 16
Western Uinta	110.3	2.3	112.6	19	-2.6	90, 03, 89, 94
Eastern Uinta	9.7	1.2	10.9	3	-4.0	02, 89, 13, 94
Blacks Fork	2.4	1.5	3.9	11	-3.2	88, 92, 94, 89
Price	23.3	0.2	23.4	46	-0.3	08, 01, 09, 00
Smiths Creek	3.6	0.3	3.9	17	-2.7	07, 94, 88, 92
Joes Valley	29.9	0.7	30.6	10	-3.3	90, 94, 16, 13
Moab	0.0	0.2	0.2	3	-3.9	02, 94, 12, 89
Upper Sevier River	7.5	0.4	7.9	13	-3.1	04, 02, 91, 90
San Pitch	0.0	0.2	0.2	3	-4.0	02, 07, 15, 04
Lower Sevier	9.8	4.8	14.6	8	-3.5	03, 04, 16, 17
Beaver	2.2	0.7	2.9	15	-2.9	00, 01, 09, 94
Virgin River	33.1	5.1	38.2	55	0.4	15, 13, 11, 01

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

What is a Water Availability Index?

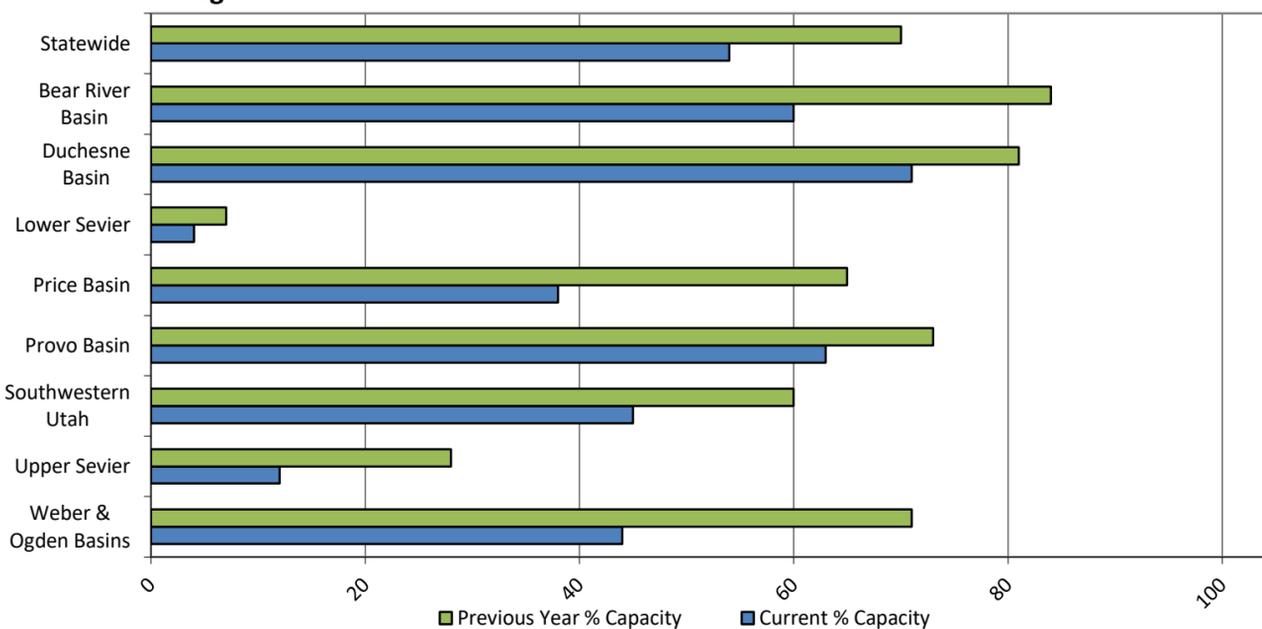
The Water Availability Index (WAI) is an observed hydrologic indicator of current surface water availability within a watershed. The index is calculated by combining current reservoir storage with the previous months streamflow. WAI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry) 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 September 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	1.6	8.7		25.7	6%	34%			
Causey Reservoir	2.3	4.6	2.5	7.1	33%	65%	35%	93%	185%
Cleveland Lake	1.1	2.7		5.4	21%	50%			
Currant Creek Reservoir	14.9	14.8	14.9	15.5	96%	95%	96%	100%	99%
Deer Creek Reservoir	83.8	122.6	93.9	149.7	56%	82%	63%	89%	131%
East Canyon Reservoir	24.5	35.6	31.6	49.5	50%	72%	64%	78%	113%
Echo Reservoir	8.0	23.7	24.3	73.9	11%	32%	33%	33%	97%
Grantsville Reservoir	0.8		0.8	3.3	23%		23%	99%	
Gunlock	7.1	5.8	5.8	10.4	68%	56%	56%	122%	101%
Gunnison Reservoir	0.0	0.0	5.3	20.3	0%	0%	26%	0%	0%
Huntington North Reservoir	1.3	2.9	1.4	4.2	32%	69%	34%	94%	202%
Hyrum Reservoir	3.9	9.8	6.7	15.3	26%	64%	44%	59%	146%
Joes Valley Reservoir	29.9	46.3	40.4	61.6	49%	75%	66%	74%	115%
Jordanelle Reservoir	209.3	259.8	258.3	314.0	67%	83%	82%	81%	101%
Ken's Lake	0.0	1.2	0.7	2.3	0%	54%	30%	0%	184%
Kolob Reservoir	2.0	5.2		5.6	36%	93%			
Lost Creek Reservoir	13.8	17.6	12.6	22.5	61%	78%	56%	110%	139%
Lower Enterprise	0.0	1.0	0.3	2.6	1%	38%	12%	9%	333%
Miller Flat Reservoir	0.8	3.4		5.2	16%	64%			
Millsite	1.2	1.2	10.9	16.7	7%	7%	65%	11%	11%
Minersville Reservoir	2.2	2.5	6.5	23.3	10%	11%	28%	34%	38%
Moon Lake Reservoir	5.7	19.0	16.5	35.8	16%	53%	46%	34%	115%
Otter Creek Reservoir	5.9	24.0	22.7	52.5	11%	46%	43%	26%	106%
Panguitch Lake	9.7	9.4	15.0	22.3	43%	42%	67%	64%	63%
Pineview Reservoir	41.8	74.1	50.7	110.1	38%	67%	46%	82%	146%
Piute Reservoir	1.6	7.5	19.5	71.8	2%	10%	27%	8%	38%
Porcupine Reservoir	4.6	9.0	4.3	11.3	41%	80%	38%	107%	209%
Quail Creek	26.0	24.1	21.0	40.0	65%	60%	53%	124%	115%
Red Fleet Reservoir	9.7	17.5	17.4	25.7	38%	68%	68%	56%	100%
Rockport Reservoir	17.9	55.7	40.1	60.9	29%	91%	66%	45%	139%
Sand Hollow Reservoir	45.0	44.7		50.0	90%	89%			
Scofield Reservoir	23.3	46.3	27.8	65.8	35%	70%	42%	84%	167%
Settlement Canyon Reservoir	0.2		0.4	1.0	23%		39%	59%	
Sevier Bridge Reservoir	9.8	17.6	95.9	236.0	4%	7%	41%	10%	18%
Smith And Morehouse Reservoir	2.3	4.9	3.8	8.1	29%	61%	47%	62%	130%
Starvation Reservoir	95.8	130.7	123.2	164.1	58%	80%	75%	78%	106%
Stateline Reservoir	3.6	5.4	5.8	12.0	30%	45%	48%	62%	94%
Steinaker Reservoir	-2.9	7.5	14.9	33.4	-9%	23%	45%	-19%	51%
Strawberry Reservoir	846.2	925.3	681.5	1105.9	77%	84%	62%	124%	136%
Upper Enterprise	0.2	1.7	1.8	10.0	2%	17%	18%	13%	96%
Upper Stillwater Reservoir	8.8	15.9	17.1	32.5	27%	49%	53%	51%	93%
Utah Lake	404.0	480.1	672.6	870.9	46%	55%	77%	60%	71%
Willard Bay	130.9	172.8	132.0	215.0	61%	80%	61%	99%	131%
Woodruff Creek	0.0	1.5	0.7	4.0	0%	36%	18%	0%	208%
Woodruff Narrows Reservoir	19.6	39.6	24.8	57.3	34%	69%	43%	79%	160%
Meeks Cabin Reservoir	2.4	5.6	8.8	32.5	7%	17%	27%	28%	64%
Bear Lake	802.3	1114.5	595.0	1302.0	62%	86%	46%	135%	187%
Basin-wide Total	2874.5	3751.5	3114.1	5335.4	54%	70%	58%	92%	120%
# of reservoirs	39.0	39.0	39.0	39.0	39	39	39	39	39
# of reservoirs	42	42	42	42	42	42	42	42	42

Reservoir Storage



Issued by

Leonard Jordan
Acting Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Prepared by

Snow Survey Staff:
Troy Brosten, Assistant Supervisor
Beau Uriona, Hydrologist
Jordan Clayton, Hydrologist
Kent Sutcliffe, Soil Scientist

Released by

Timothy Wilson
State Conservationist
Natural Resources Conservation Service
Salt Lake City, Utah



YOU MAY OBTAIN THIS PRODUCT AS WELL AS CURRENT SNOW, PRECIPITATION, TEMPERATURE AND SOIL MOISTURE, RESERVOIR, SURFACE WATER SUPPLY INDEX, AND OTHER DATA BY VISITING OUR WEB SITE @:

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

Snow Survey, NRCS, USDA
245 North Jimmy Doolittle Road
Salt Lake City, UT 84116
(385) 285-3114



Utah Climate and Water Report

Natural Resources Conservation Service
Salt Lake City, UT

