

Utah Climate and Water Report

April 1, 2017



East Fork of Blacks Fork SNOTEL

Photo by Kent Sutcliffe

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.

Report Content

1) Statewide Hydrologic Summary

- a) Utah General Summary
 - Supporting Documents

2) Climate and Water Information – SCAN

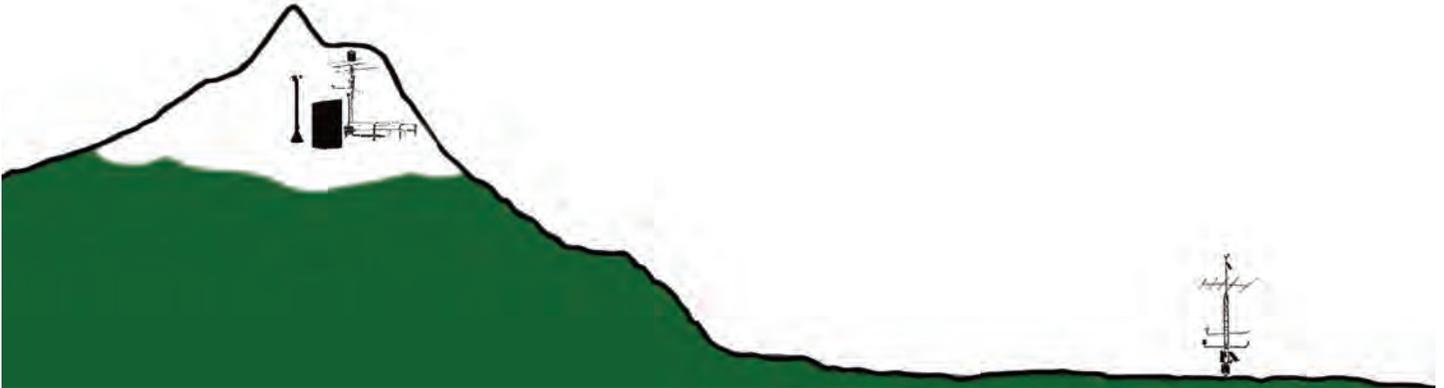
- a) Statewide SCAN
- b) Southeast
- c) South Central
- d) Western and Dixie
- e) Uinta Basin
- f) North Central
- g) Northern Mountains

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

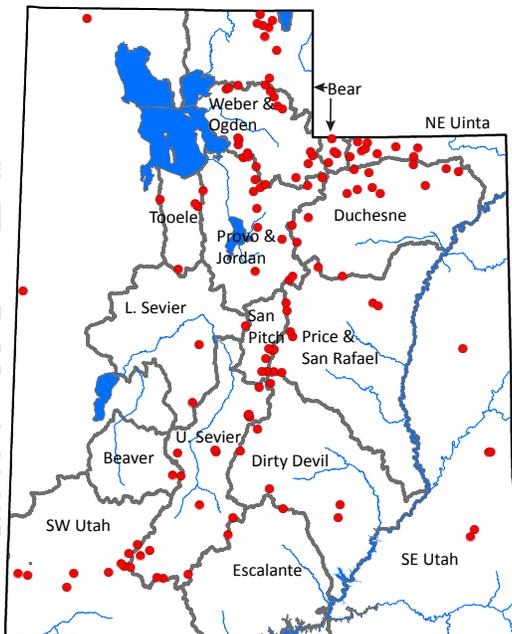
Utah Climate and Water Report

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.



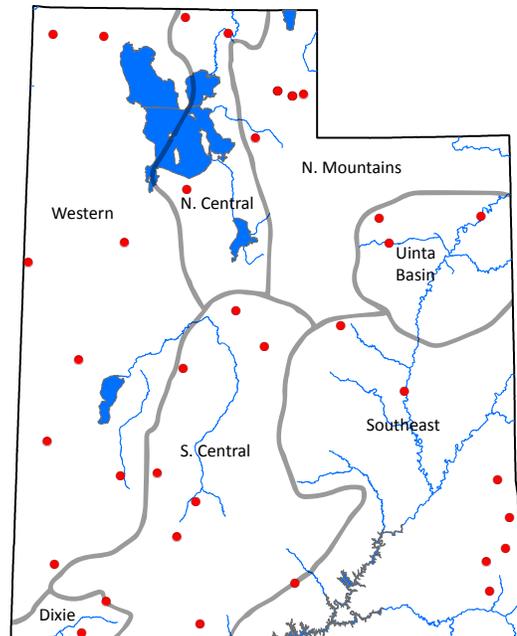
SNOTEL

- 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

April 1, 2017

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.

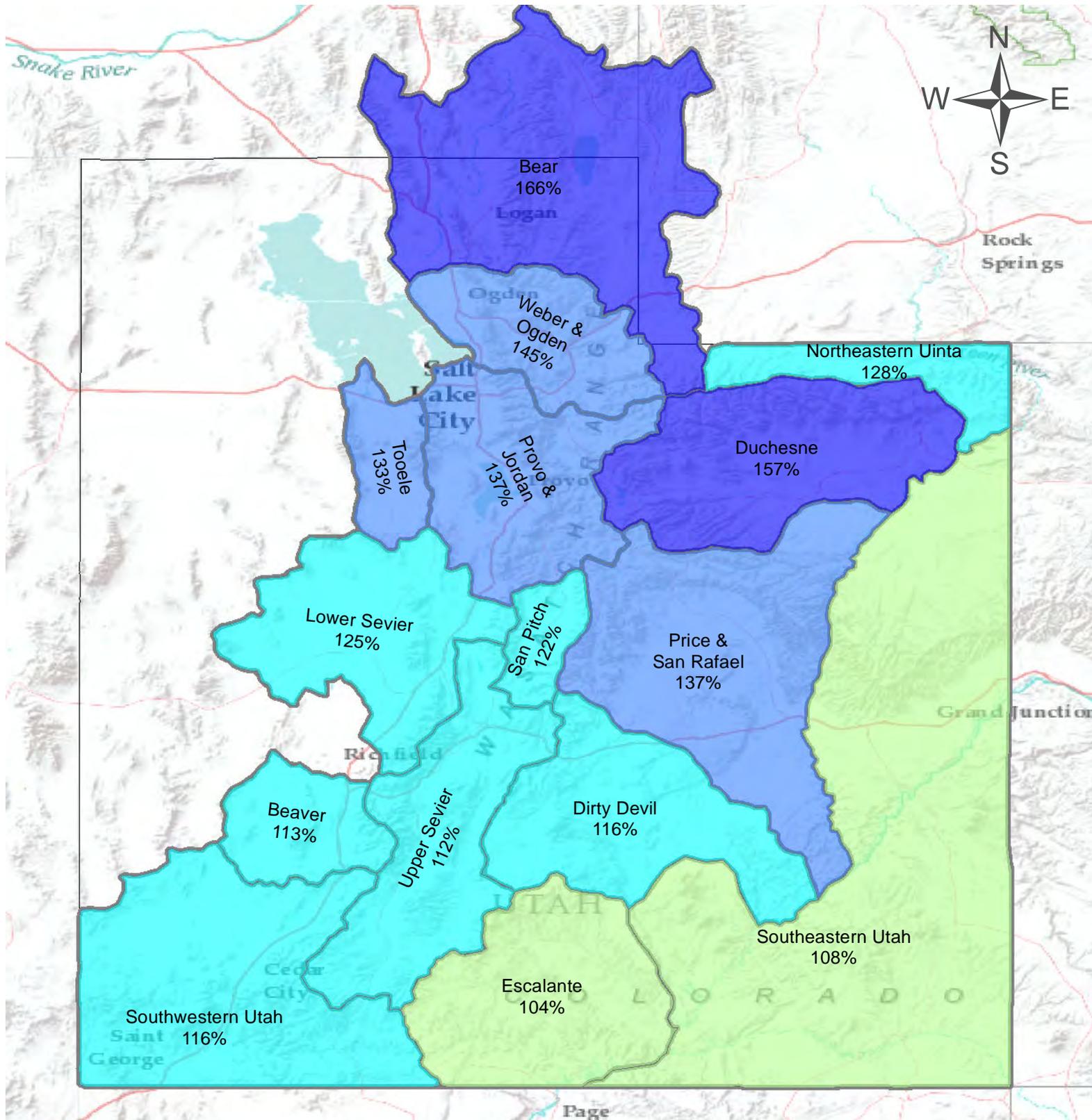
Current Valley Conditions (SCAN)

March brought 1.5 inches of precipitation to Utah's valley locations, bringing the total to 7.5 inches for this water year. The trend favoring Northern Utah locations was not nearly as strong as it was last month with a more even precipitation distribution across the state with most areas getting between 1.2 and 2.8 inches. The southeastern area was predominantly dry receiving only 0.6 inches of precipitation in March. Soil moisture levels are high throughout the state, with the exception of the Western and Dixie areas, where soil moisture is below normal. Cache and Box Elder Counties have dried out a bit over the past month and thus somewhat relieved both flooding and mud slide potential. Several SCAN sites in these counties showed saturated or near-saturated conditions to a depth of forty inches. While they still have exceptionally wet conditions, they have dried to some extent over the past month. It will still be a while for these soils to dry to the point where farming and other over-the-ground activities can commence. Overall, soil temperatures remain slightly below normal for April 1.

Current Mountain Conditions (SNOTEL)

In northern Utah, exceptionally warm and dry conditions during the first part of March melted the low elevation snowpack and some of the mid elevation as well and this insures a more sequential melt pattern beneficial to reducing flood potential. Given exceptionally high snowpacks, the worst scenario would be continued wet and cold which postpones melt processes and then tends to have concurrent melting from all elevations which produces high peak flows. So, March was good in that it reduced the peaking potential of rivers and streams in northern Utah by shifting some streamflow earlier in the season. That is not to say that there will be no high flows, on the contrary we can still expect those as well as the potential for out of bank conditions – the potential has been reduced and that is a good thing. Climatic conditions in April and May will still impact both the peak flows and the overall flow volumes this season and as such, many outcomes are yet possible. Southern Utah on the other hand took a beating. This area started the season with good snowpacks but not exceptional ones. The above average temperatures essentially shifted the entire runoff pattern earlier in the season by about a month or so. Snowpacks that were once in the 120% to 160% of normal are now only near average. The good news is that March streamflow was exceptionally high and much of that was stored in various

reservoirs. The bad news is that there is 'only' an average snowpack to produce flows for the rest of the season. Future storms are not likely to substantially replenish snowpacks in the south as all low and most mid elevation snows have melted entirely leaving large geographic areas of very warm soils that would most likely melt any additional accumulations. So for March in southern Utah, water ran off, will still run off but is overall earlier than normal and will likely end earlier as well leaving a bit longer summer. The operational context is to be aware of this early shift and catch the water now as it may not be there later. Cool and wet would largely benefit southern Utah this spring. Snowpacks are still doing very well in northern Utah ranging between 110% and 168% of normal. In southern Utah, snowpacks range between 82% and 132% of normal. March precipitation was near average at 98%, which brings the seasonal accumulation (Oct-Mar) to 139% of average. Soil moisture is at 78% compared to 64% last year.



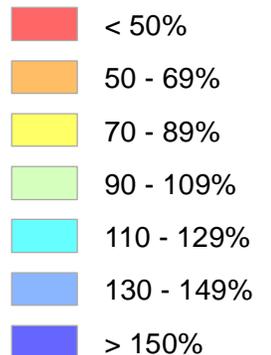
Statewide Precipitation

As of April 1, 2017:

139% of Normal Precipitation

98% of Normal Precipitation Last Month

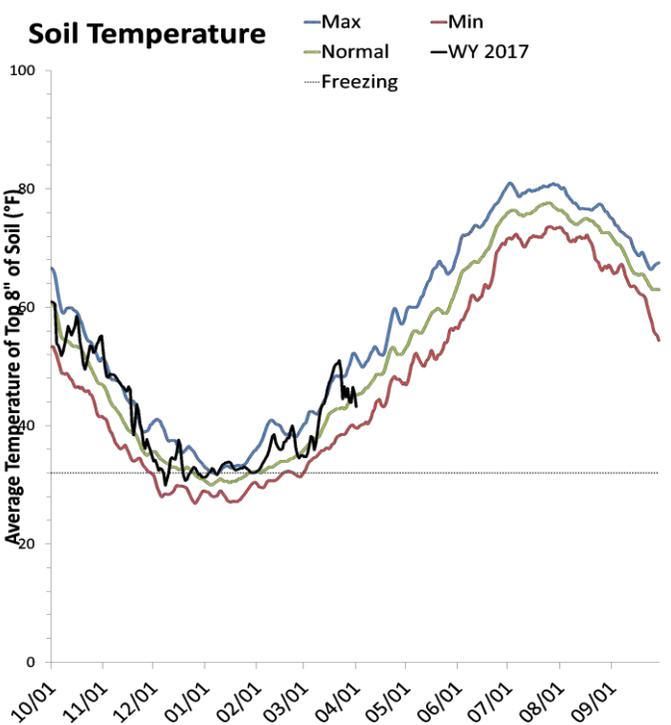
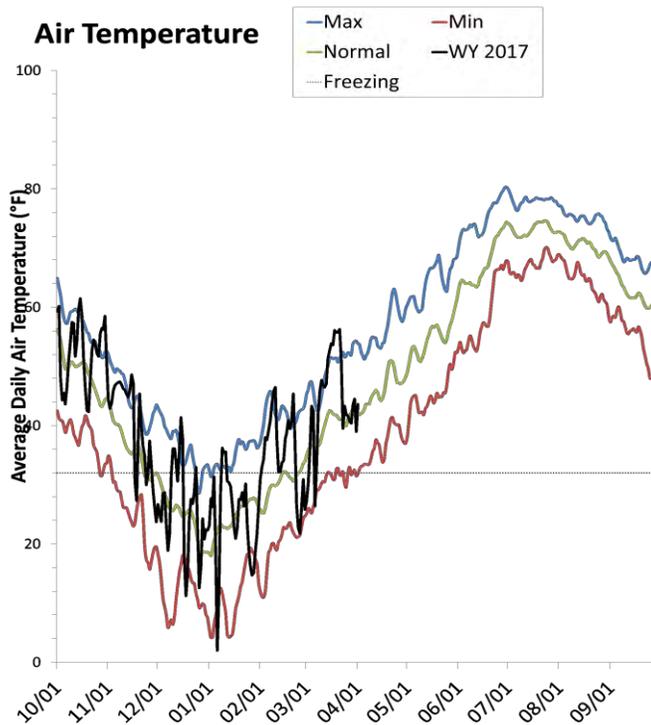
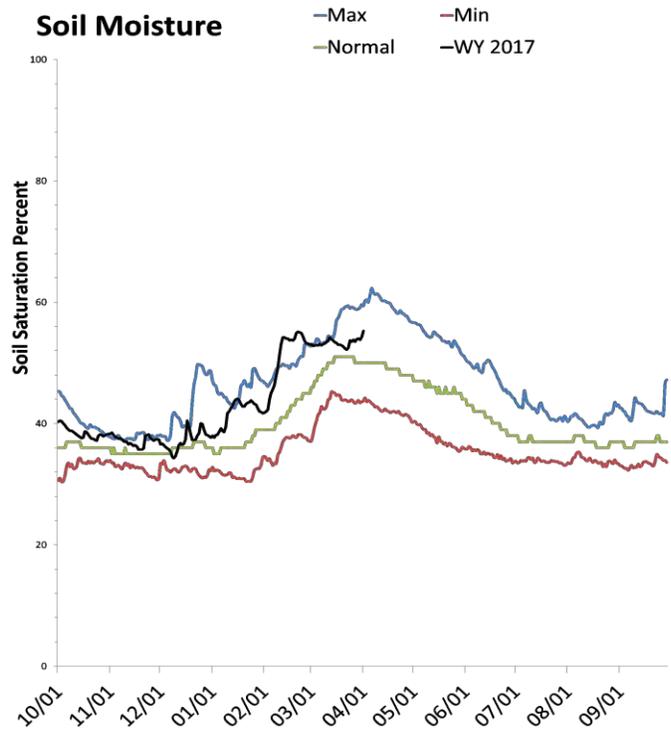
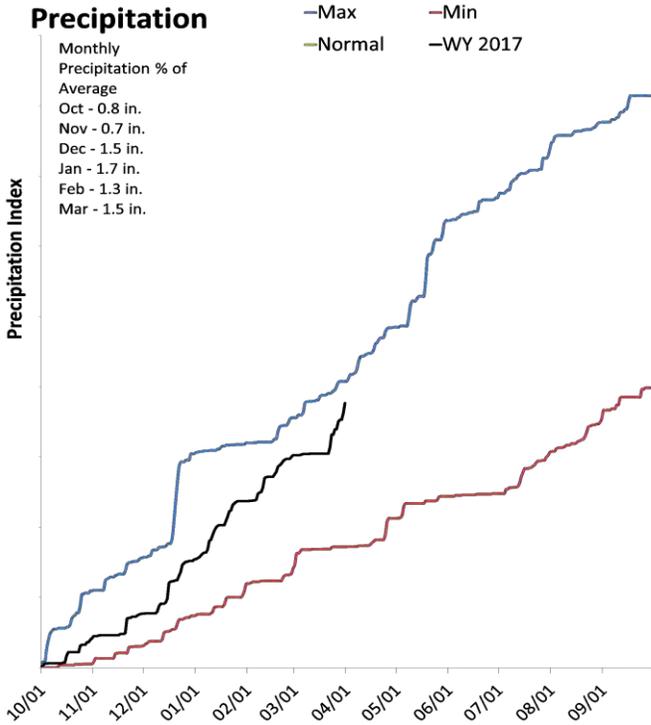
% of Normal



Statewide SCAN

April 1, 2017

The average precipitation at SCAN sites within Utah was 1.5 inches in March, which brings the seasonal accumulation (Oct-Mar) to 7.5 inches. Soil moisture is at 55% compared to 52% last year.



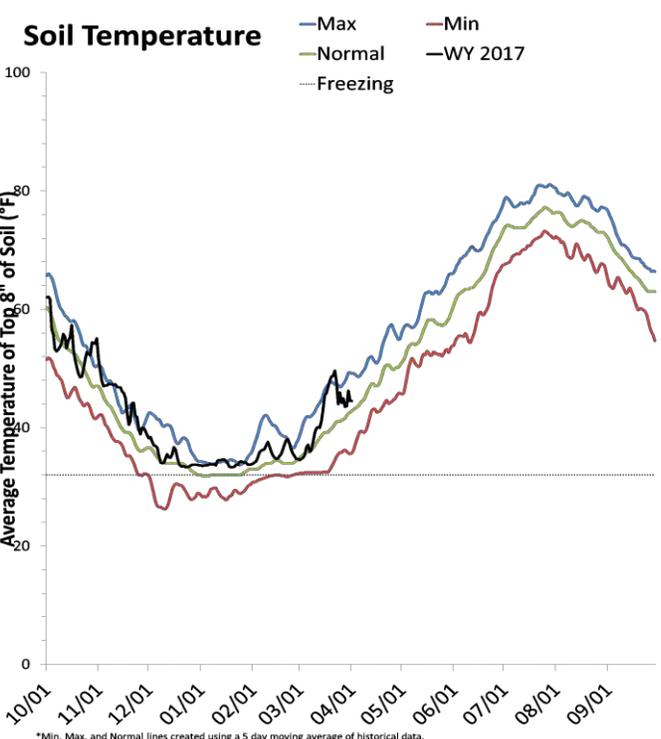
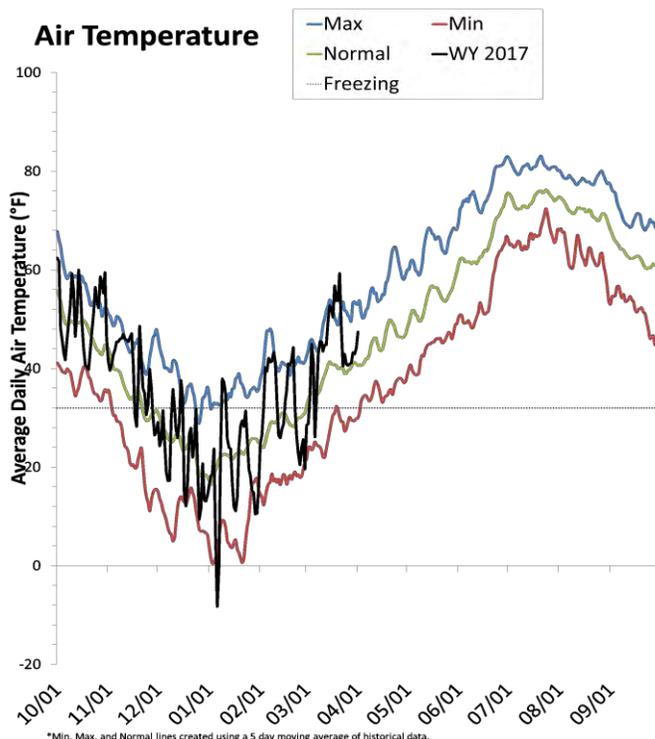
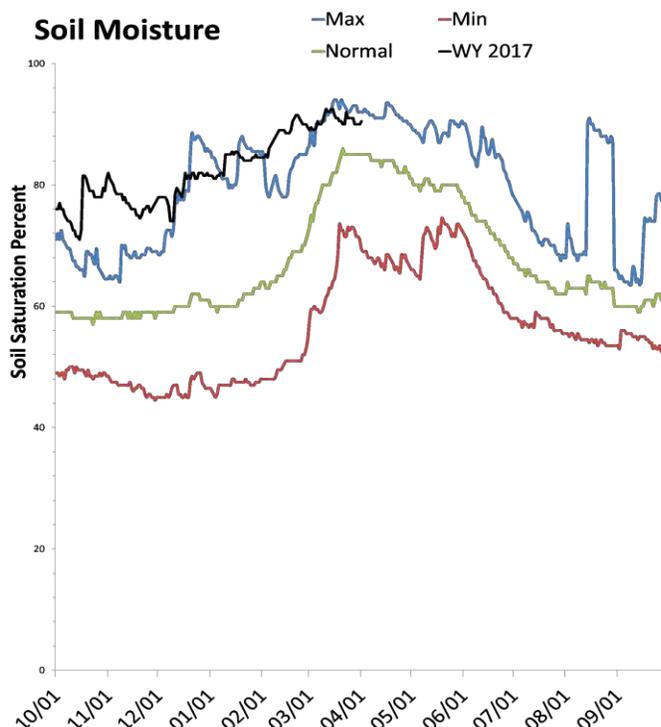
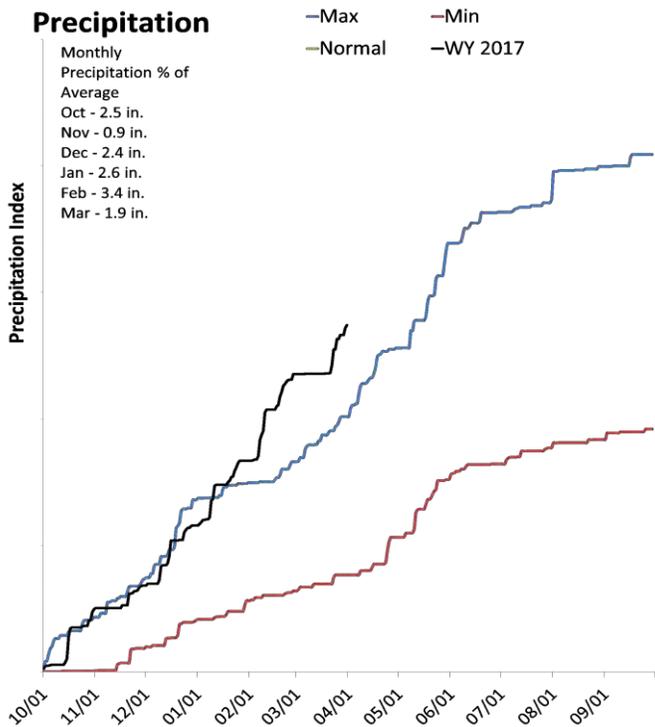
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

North Central

April 1, 2017

The average precipitation in March at SCAN sites within the basin was 1.9 inches, which brings the seasonal accumulation (Oct-Mar) to 13.7 inches. Soil moisture is at 90% compared to 89% last year.



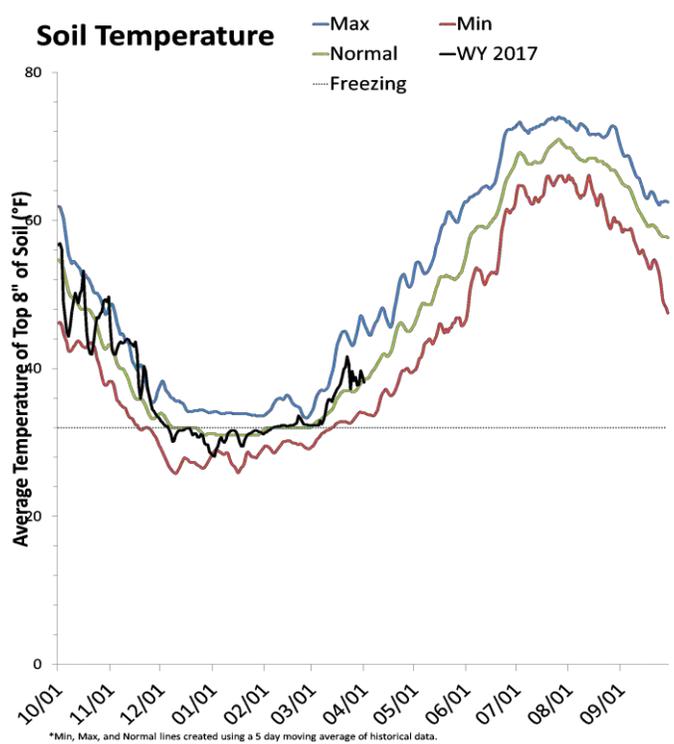
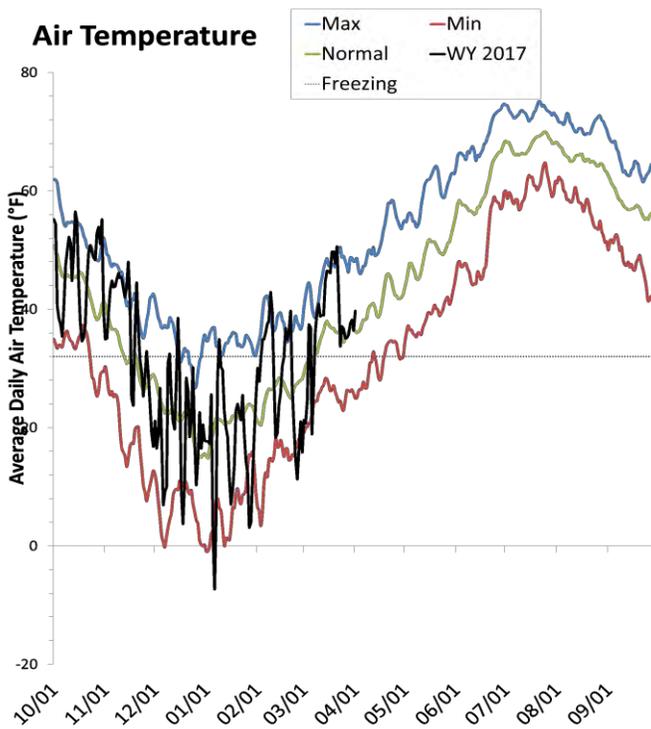
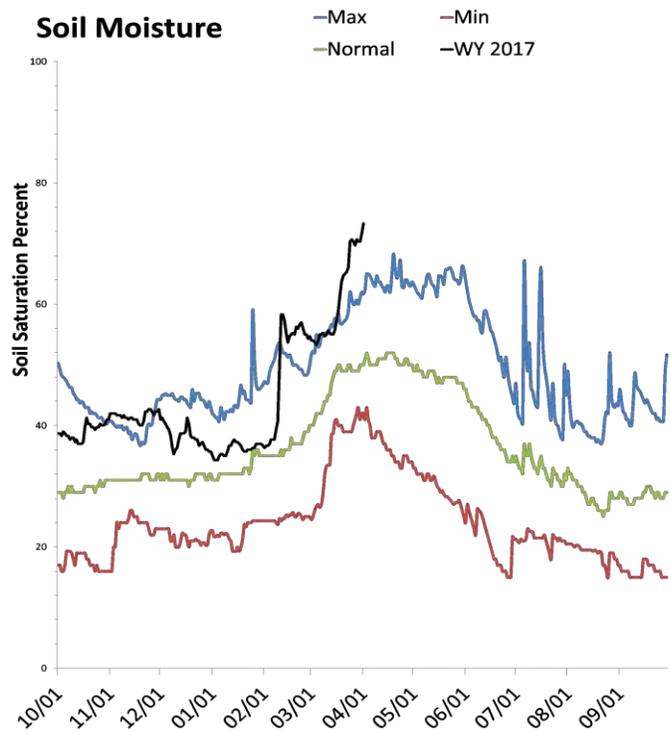
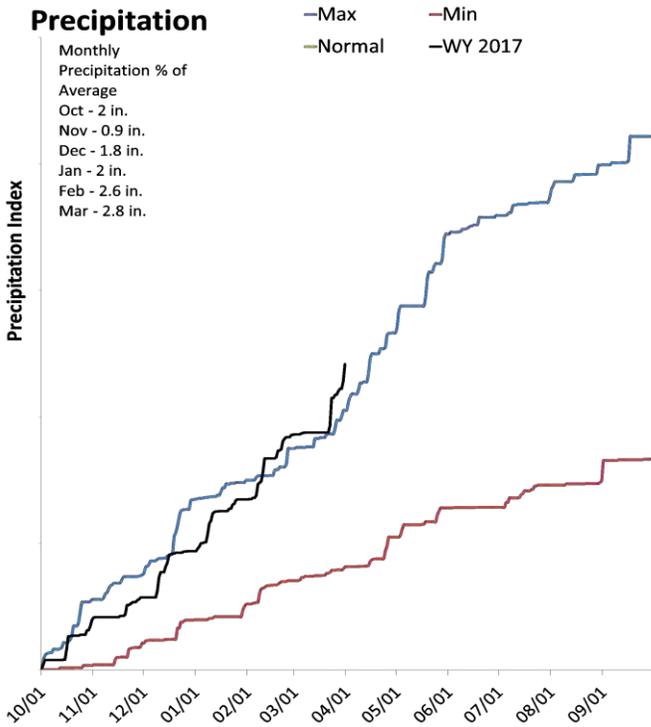
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Northern Mountains

April 1, 2017

The average precipitation in March at SCAN sites within the basin was 2.8 inches, which brings the seasonal accumulation (Oct-Mar) to 12.1 inches. Soil moisture is at 73% compared to 62% last year.



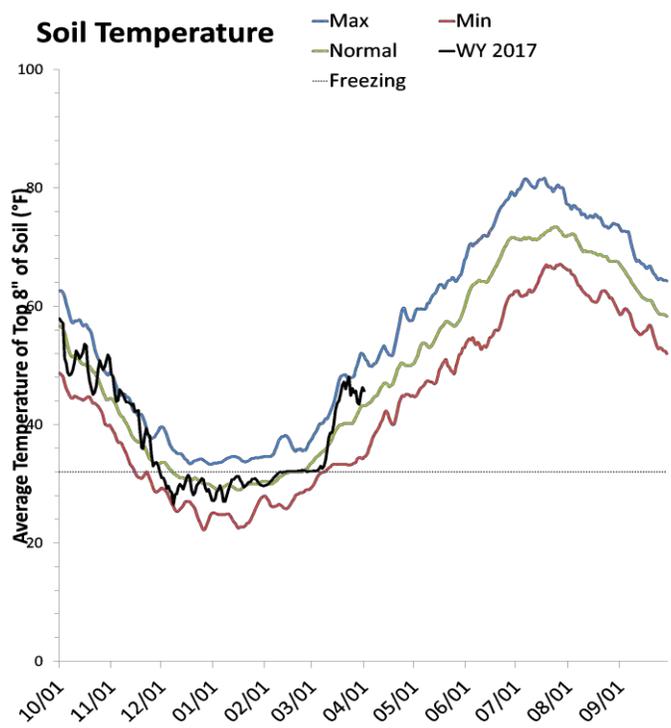
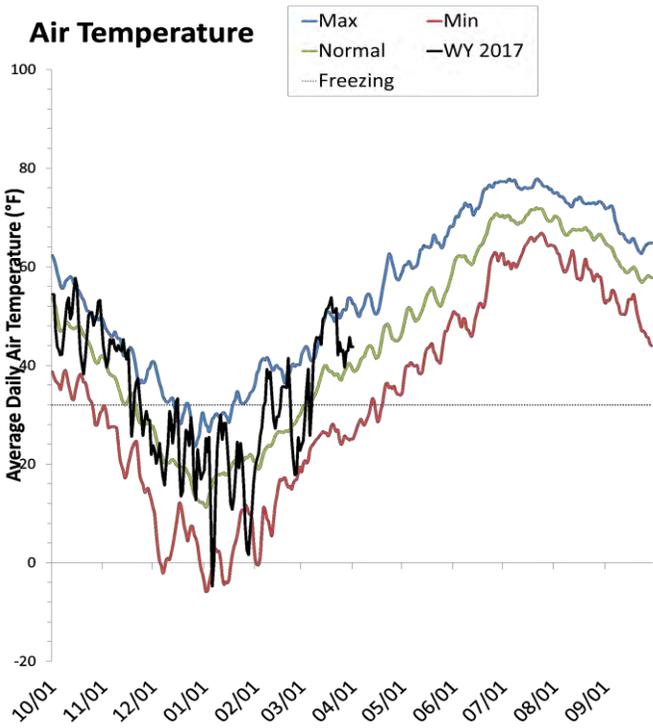
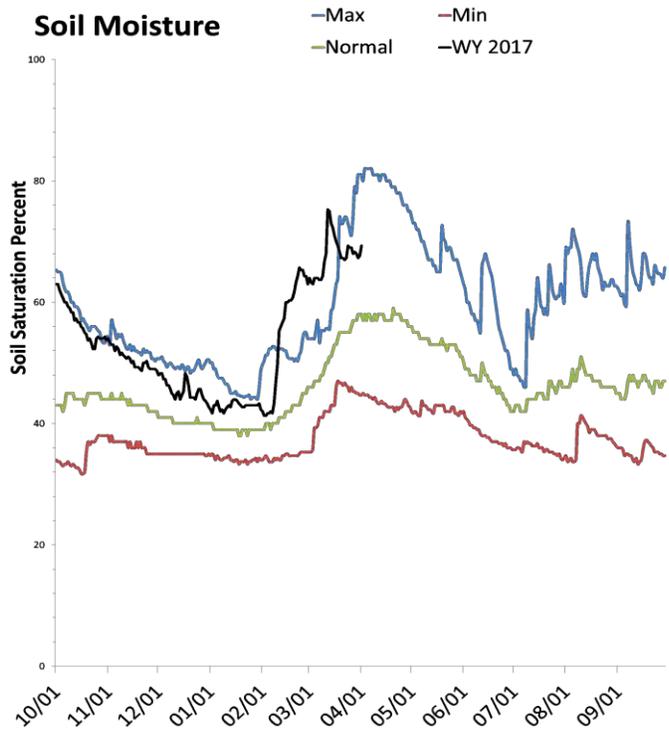
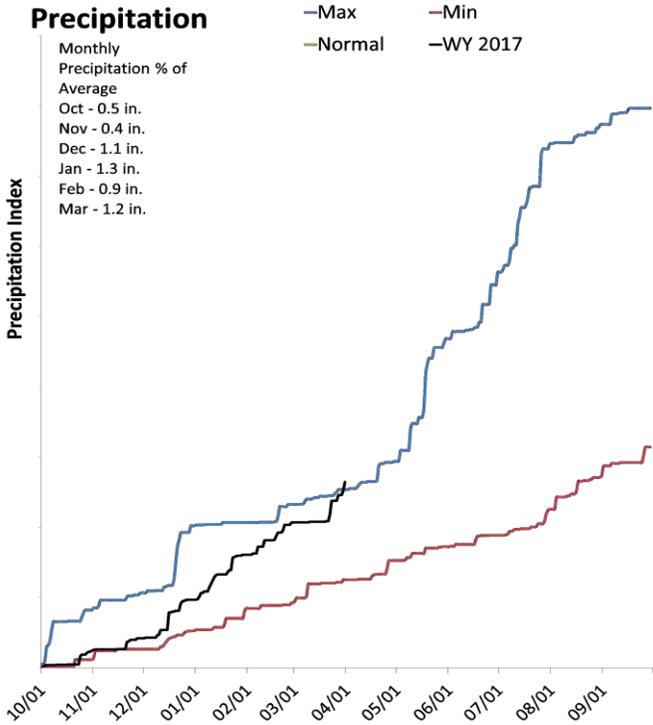
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Uinta Basin

April 1, 2017

The average precipitation in March at SCAN sites within the basin was 1.2 inches, which brings the seasonal accumulation (Oct-Mar) to 5.3 inches. Soil moisture is at 69% compared to 54% last year.



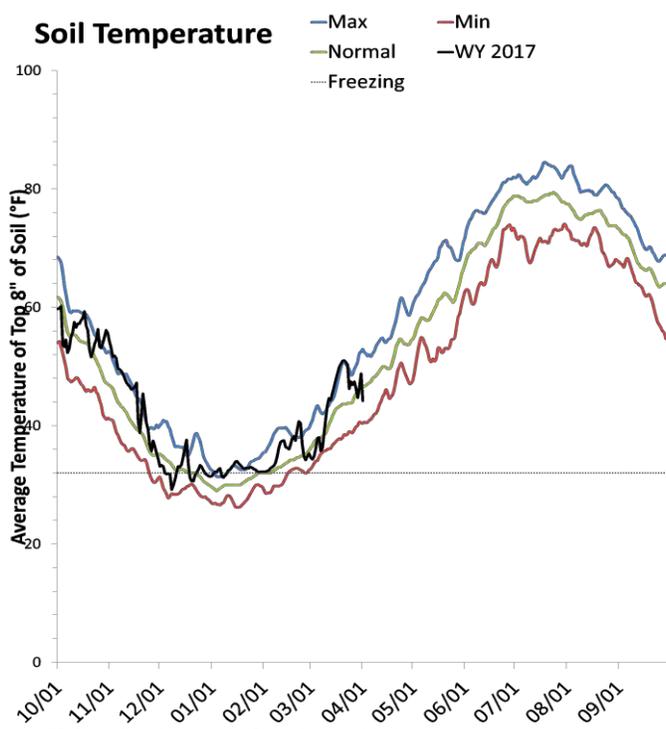
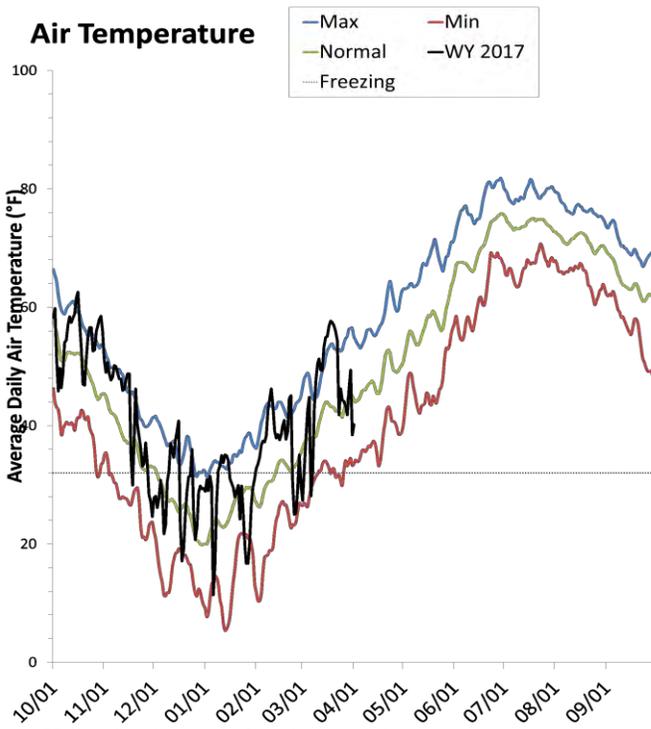
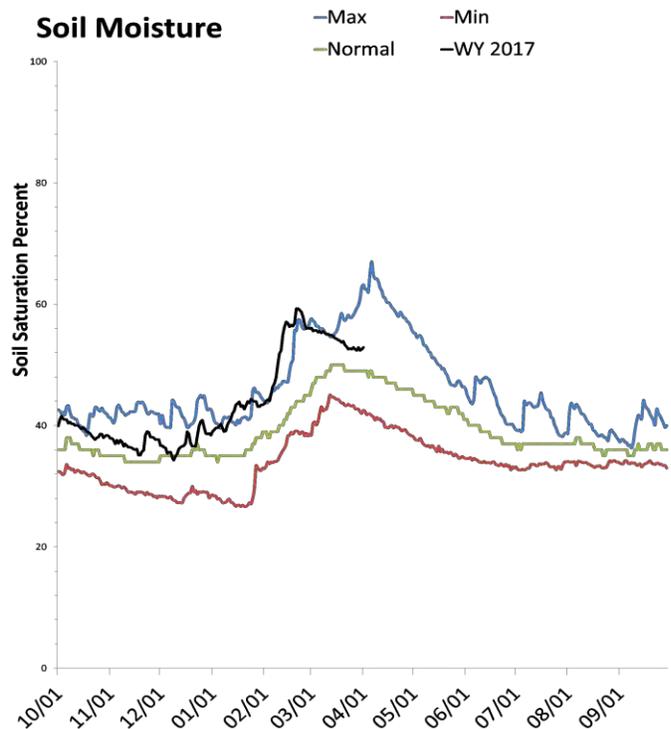
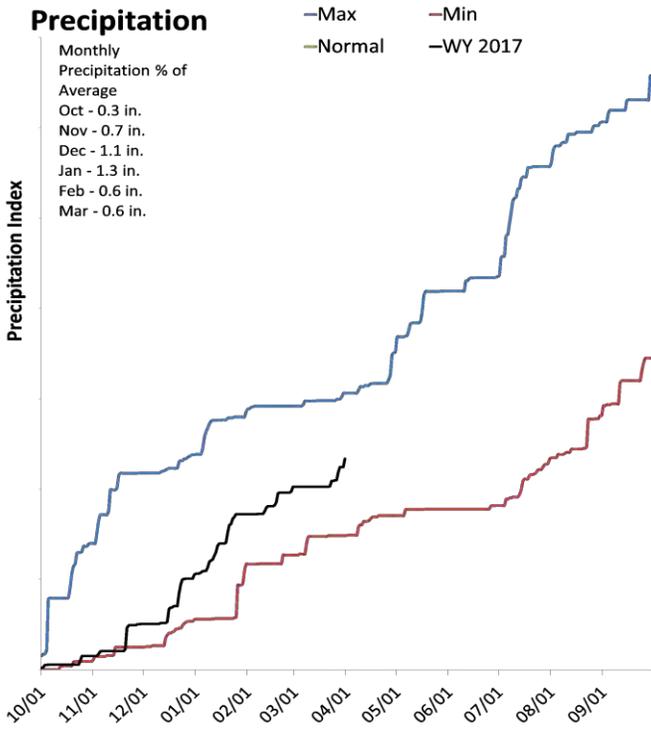
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Southeast

April 1, 2017

The average precipitation in March at SCAN sites within the basin was 0.6 inches, which brings the seasonal accumulation (Oct-Mar) to 4.7 inches. Soil moisture is at 52% compared to 53% last year.



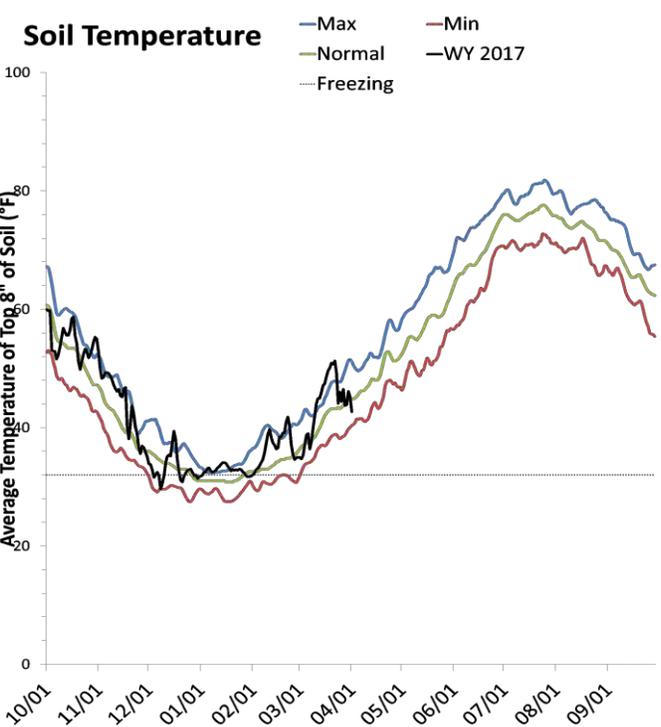
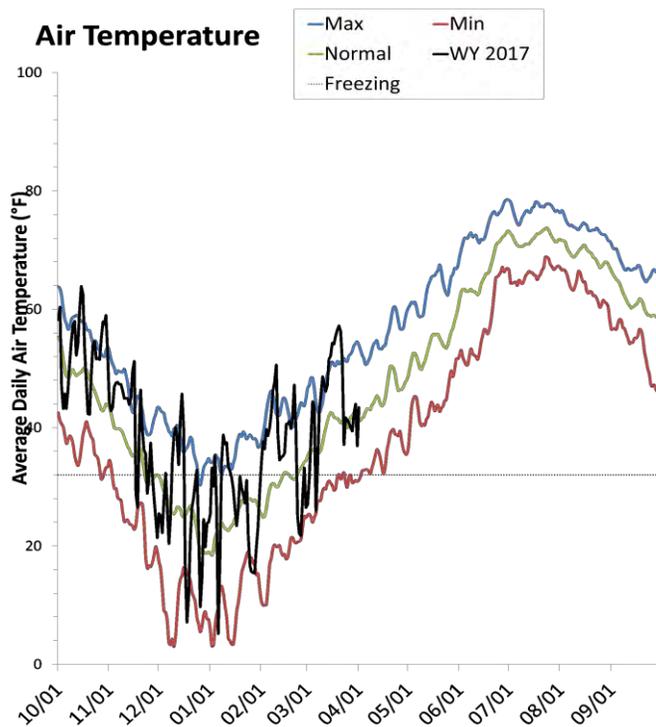
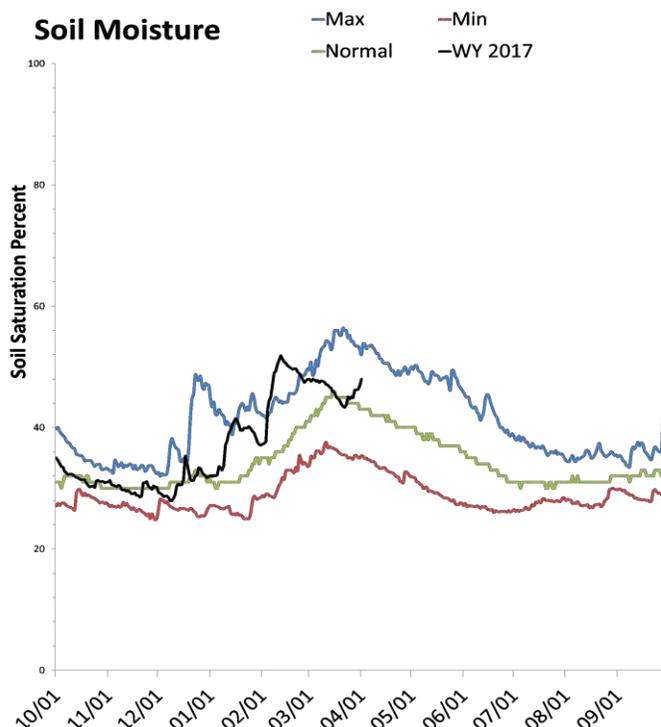
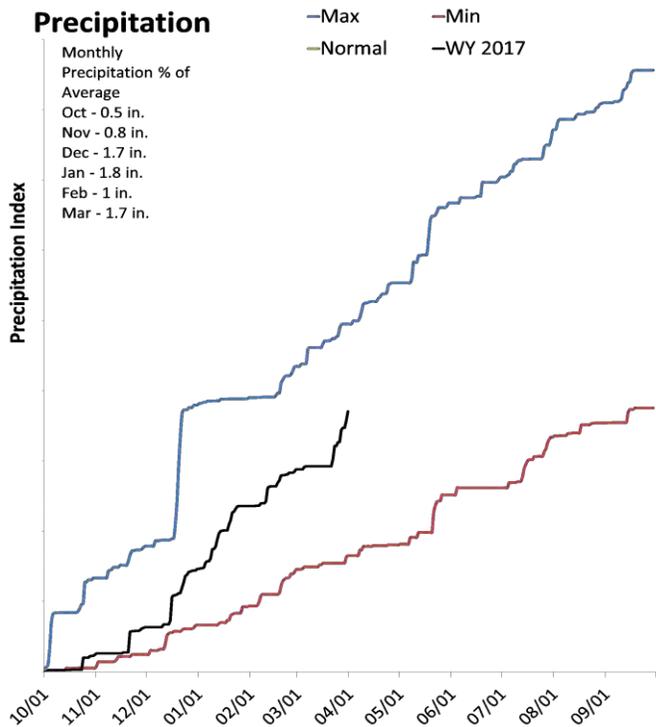
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

South Central

April 1, 2017

The average precipitation in March at SCAN sites within the basin was 1.7 inches, which brings the seasonal accumulation (Oct-Mar) to 7.4 inches. Soil moisture is at 47% compared to 47% last year.



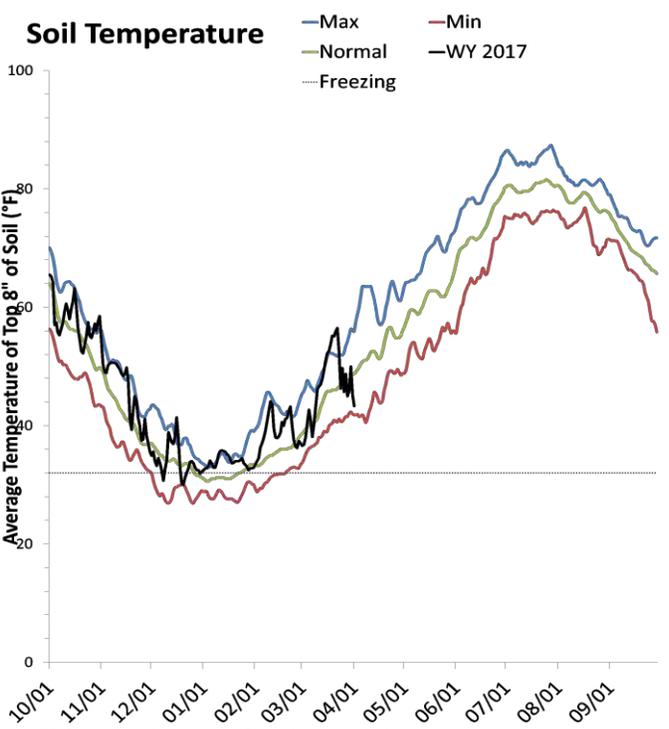
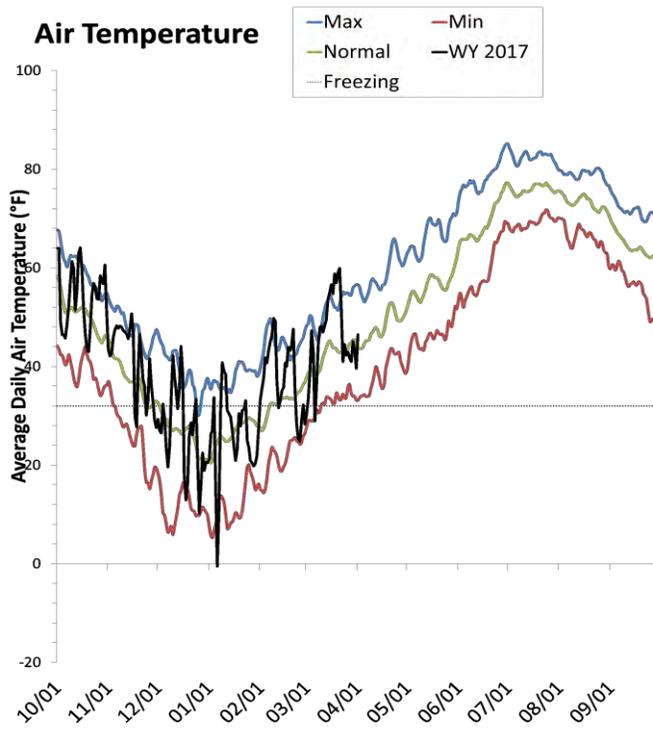
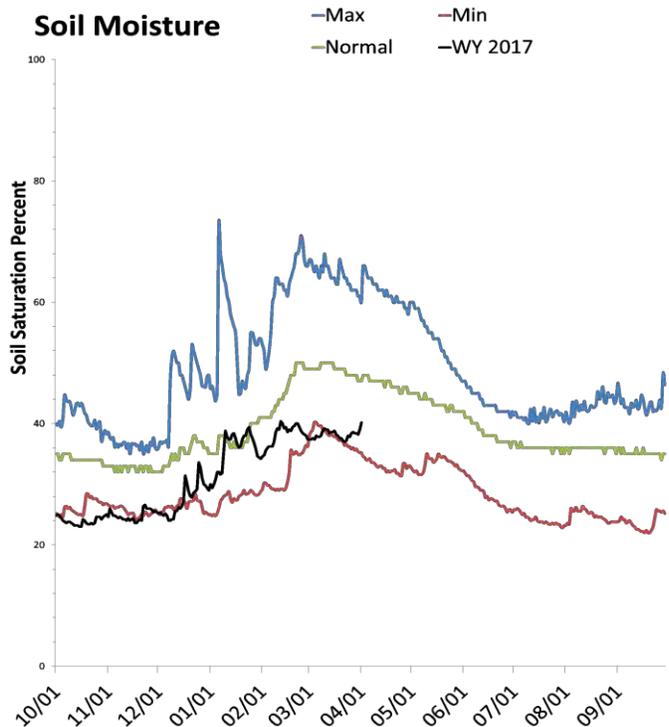
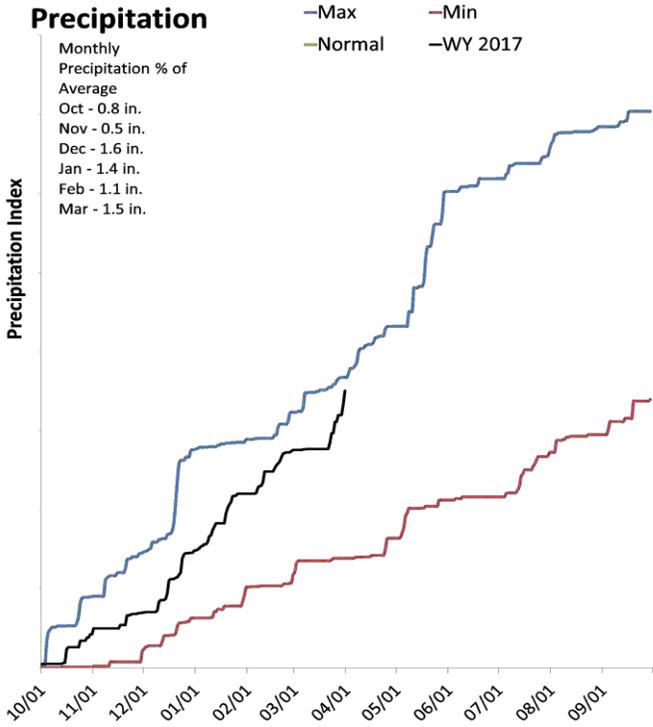
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Western and Dixie

April 1, 2017

The average precipitation in March at SCAN sites within the basin was 1.5 inches, which brings the seasonal accumulation (Oct-Mar) to 7 inches. Soil moisture is at 39% compared to 39% last year.



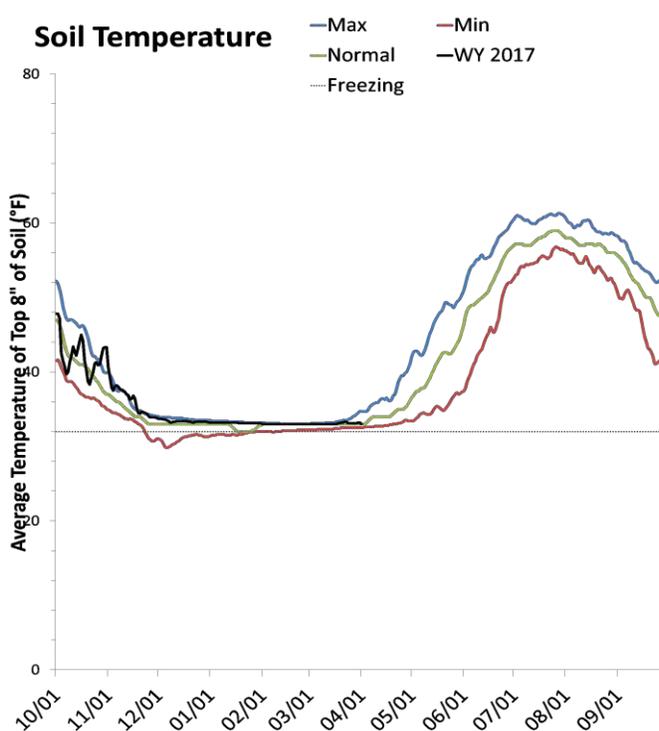
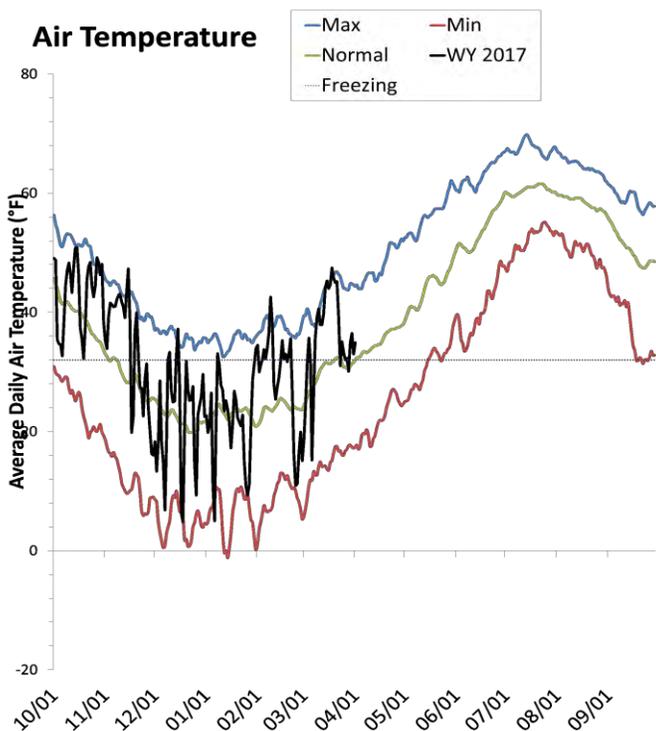
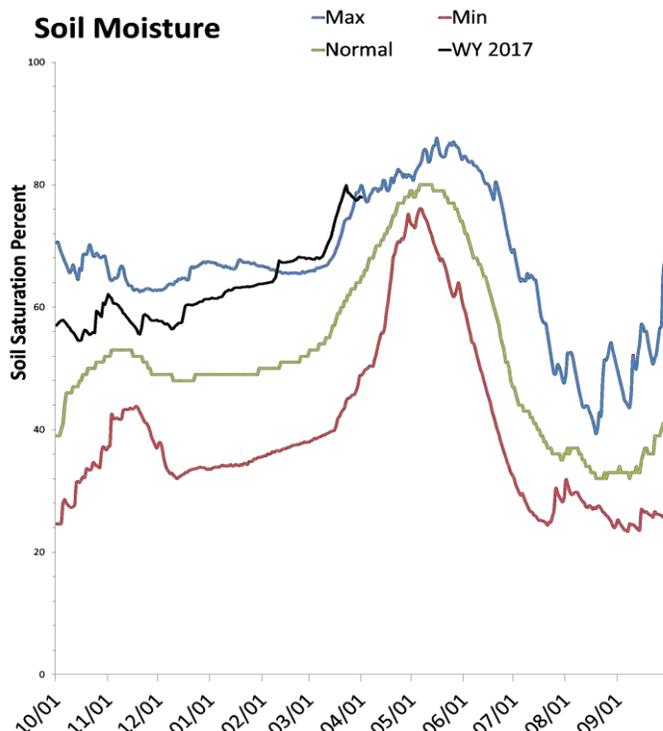
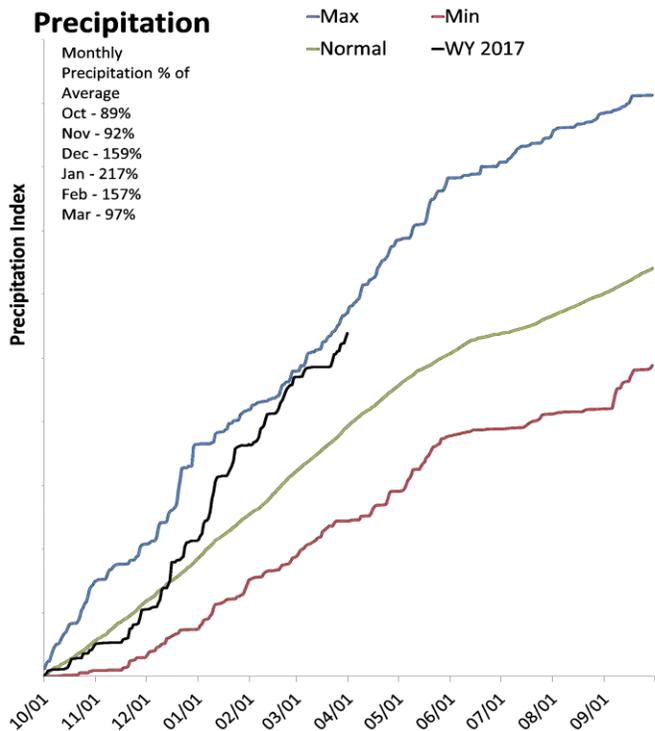
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Statewide SNOTEL

April 1, 2017

Precipitation at SNOTEL sites during March was near average at 98%, which brings the seasonal accumulation (Oct-Mar) to 139% of average. Soil moisture is at 78% compared to 64% last year. Reservoir storage is at 62% of capacity, compared to 57% last year.



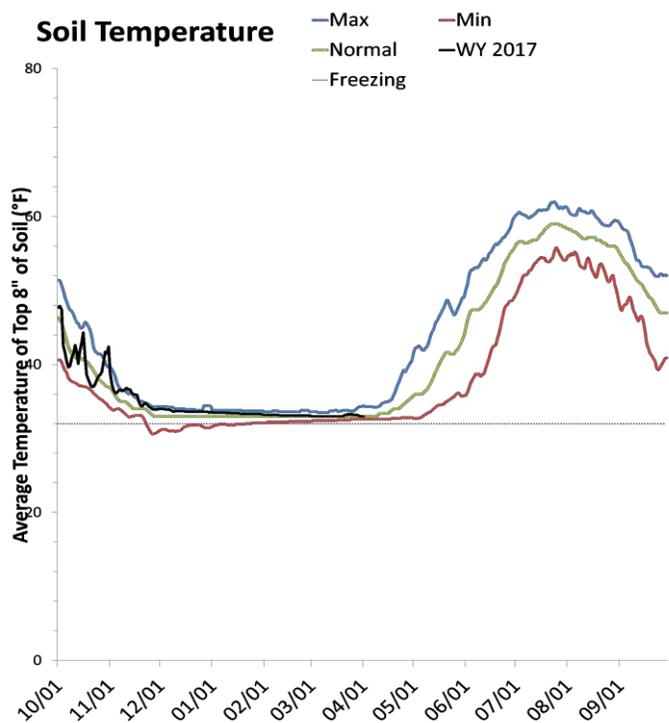
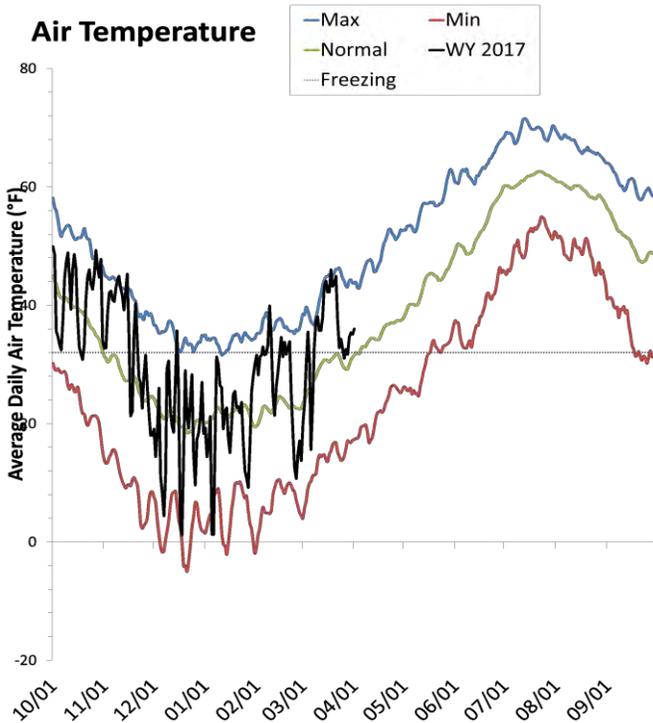
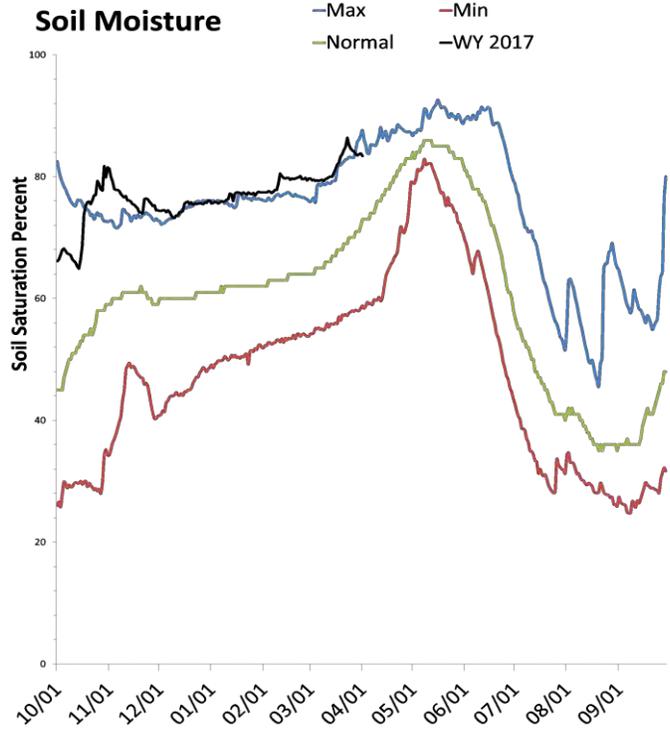
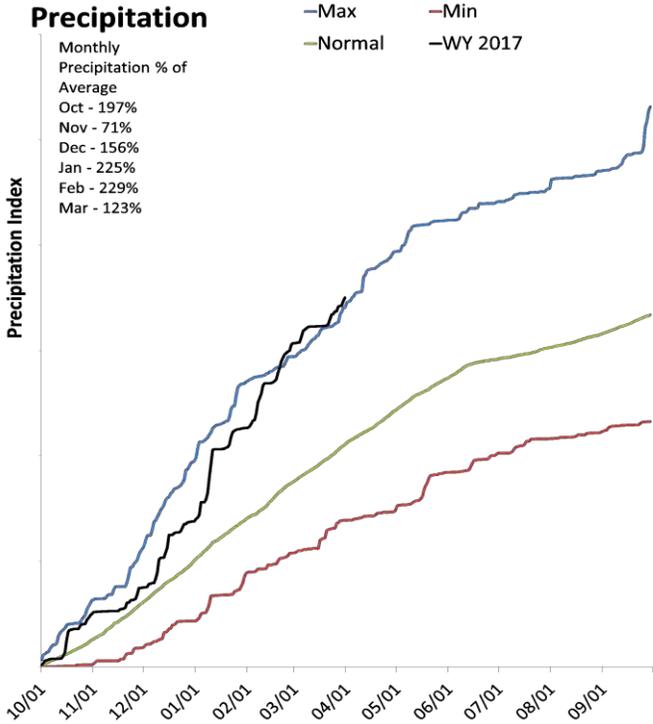
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Bear River Basin

April 1, 2017

Precipitation in March was above average at 123%, which brings the seasonal accumulation (Oct-Mar) to 166% of average. Soil moisture is at 84% compared to 69% last year. Reservoir storage is at 53% of capacity, compared to 44% last year. The water availability index for the Bear River is 55%, 63% for Woodruff Narrows and 96% for the Little Bear.



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

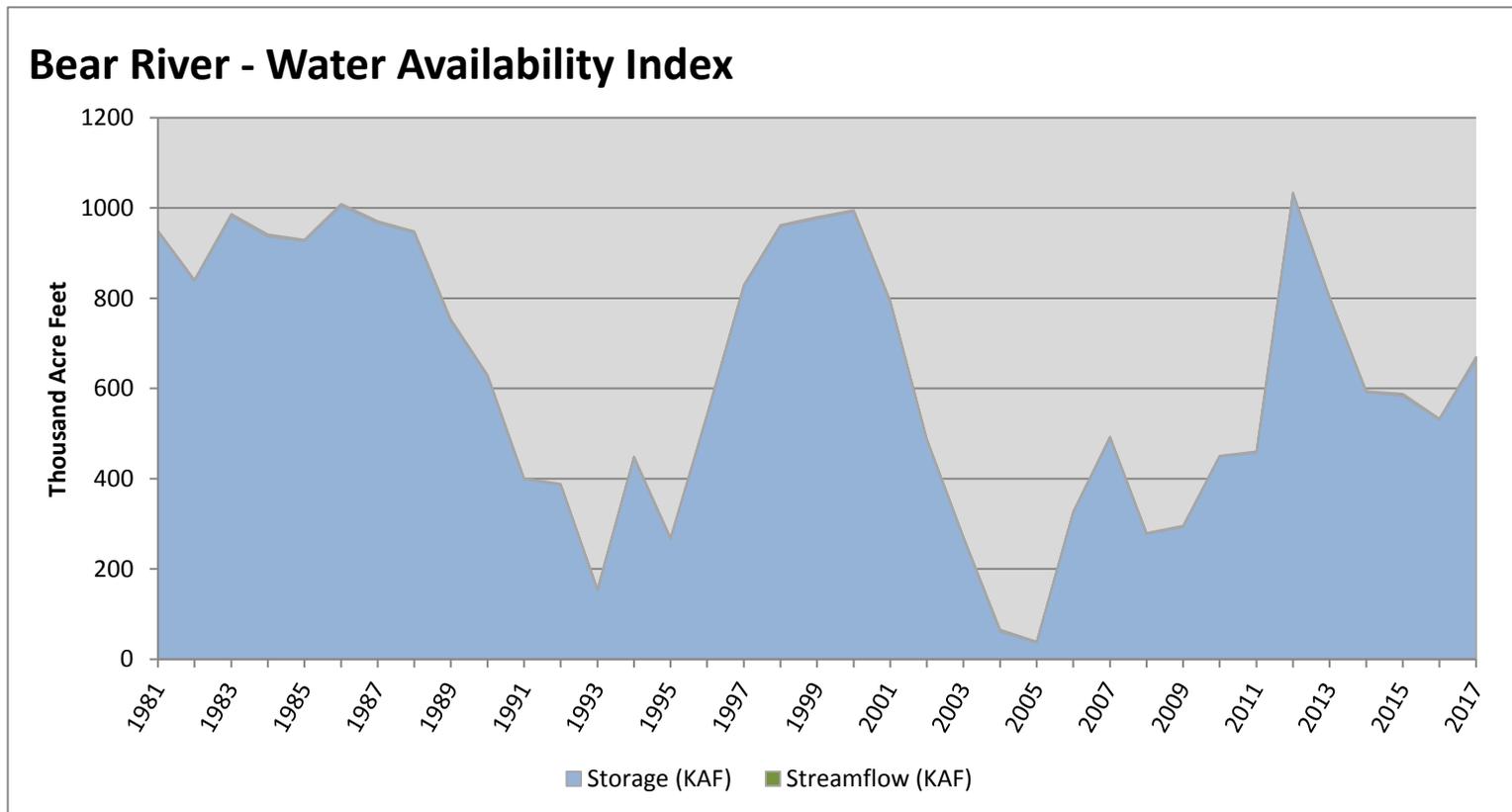
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [*] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Bear River	663.68	6.13	669.81	55	0.44	14, 90, 89, 01

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

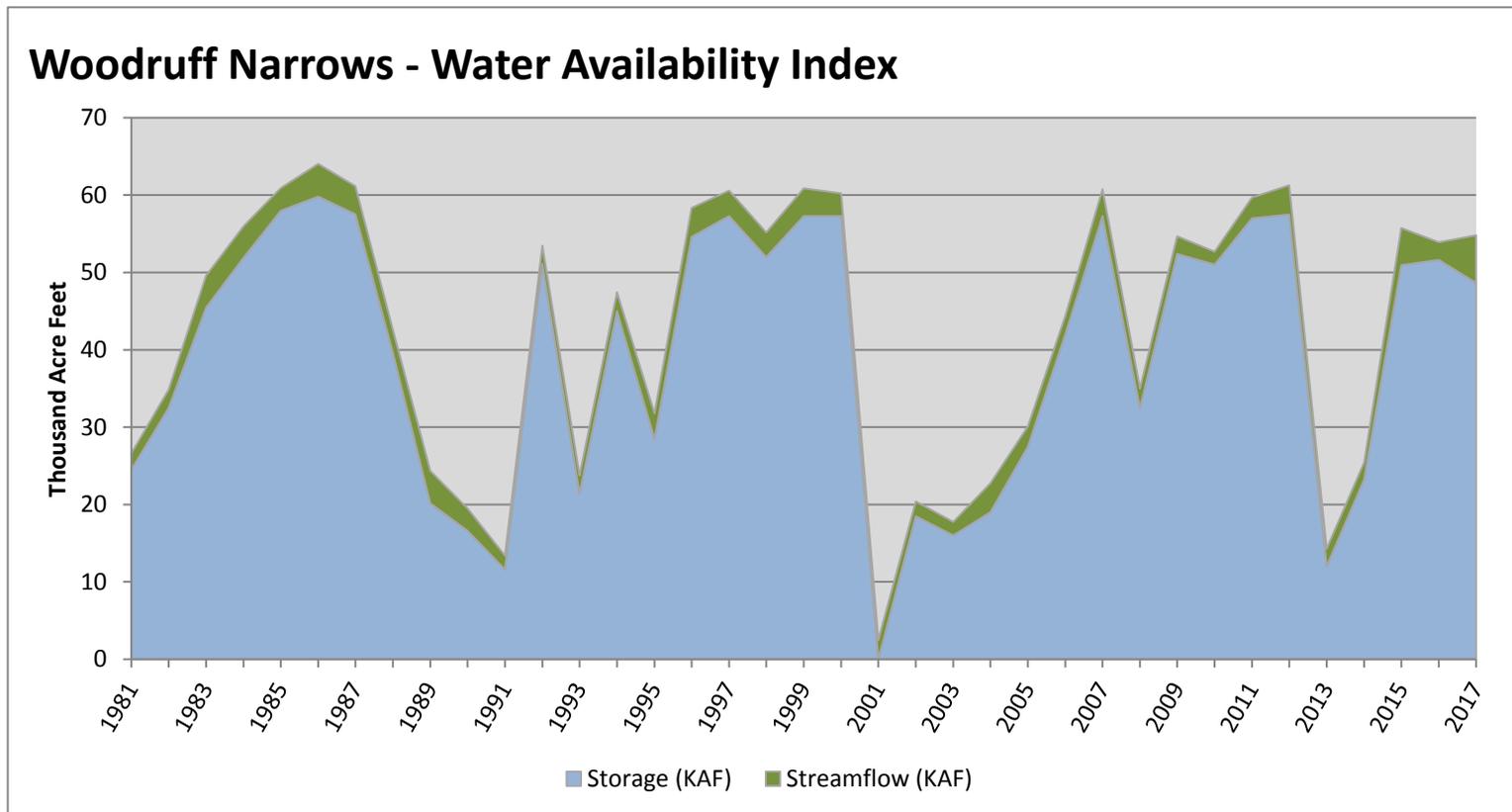


April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [^] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Woodruff Narrows	48.65	6.13	54.78	63	1.1	16, 09, 98, 15

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

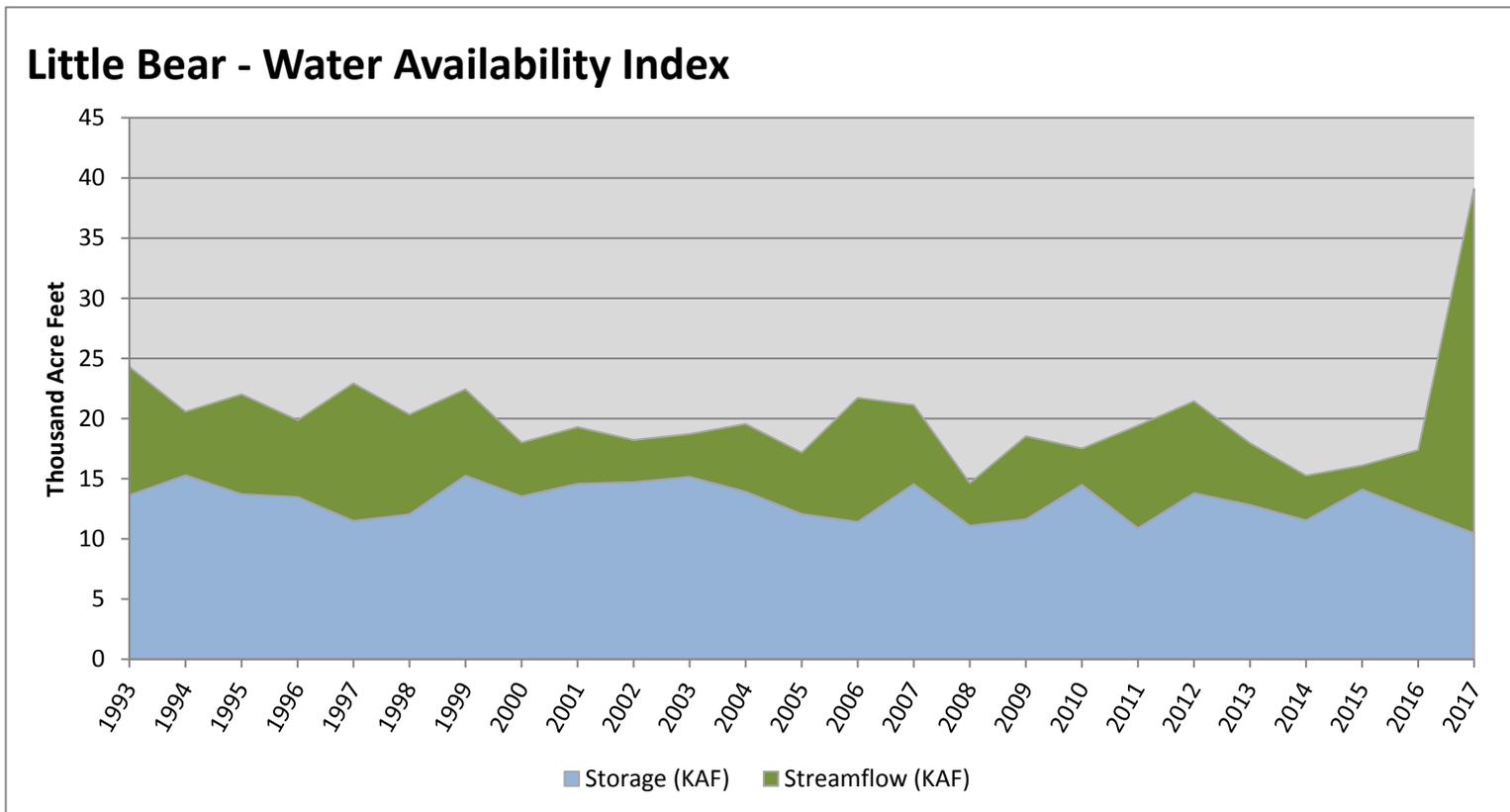


April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [^] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Little Bear	10.47	28.63	39.10	96	3.85	93, 97, 99, 95

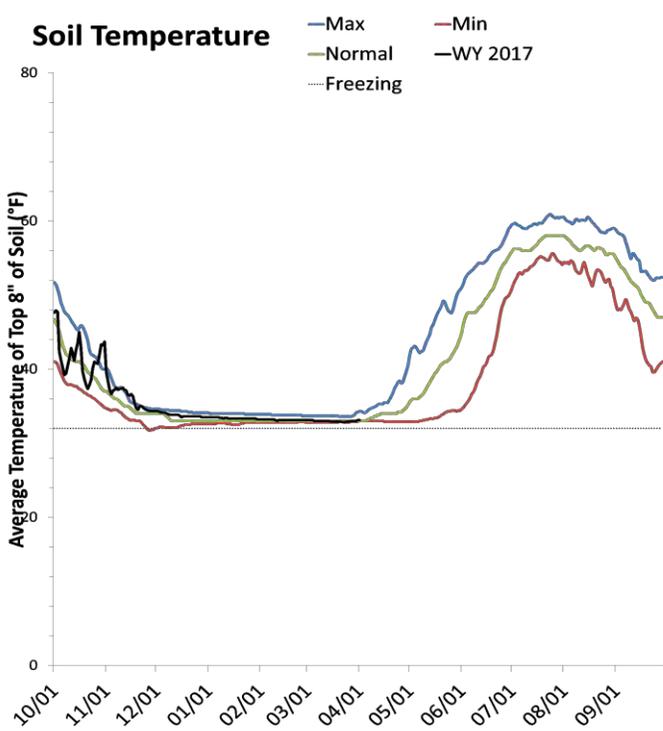
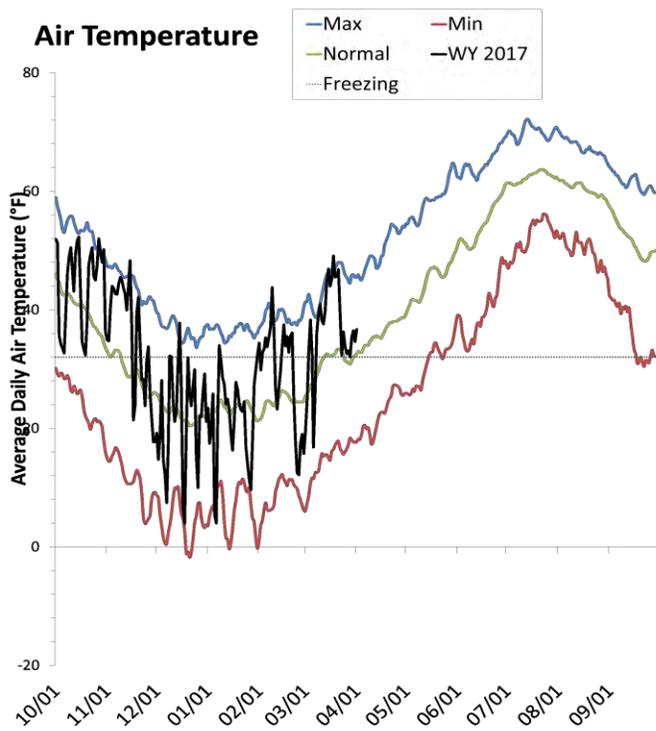
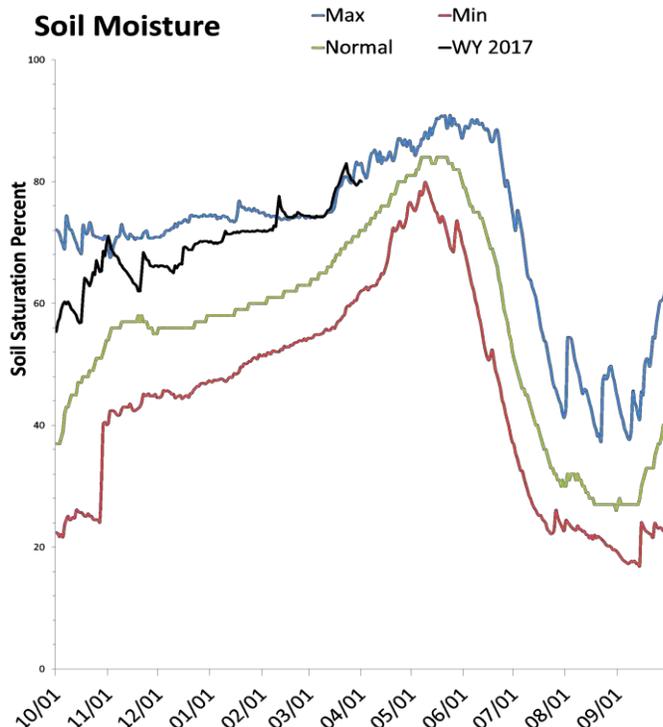
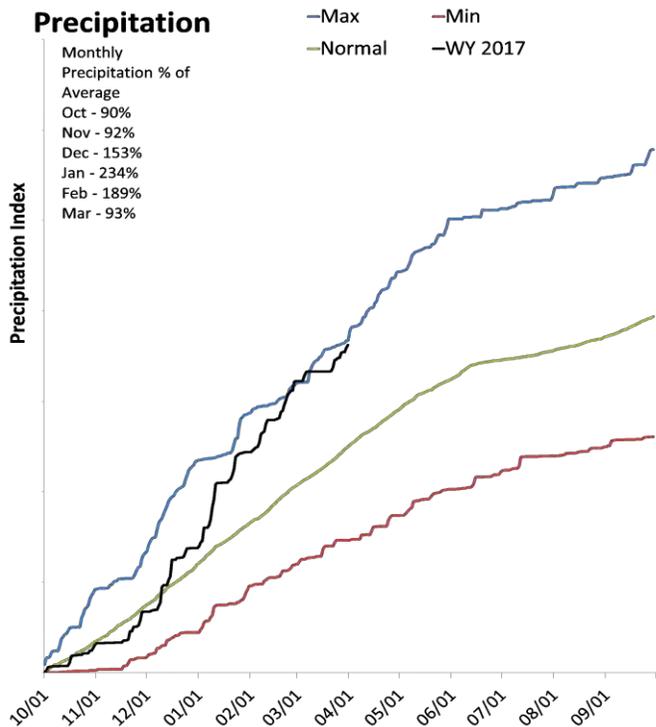
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Weber & Ogden River Basins

April 1, 2017

Precipitation in March was near average at 93%, which brings the seasonal accumulation (Oct-Mar) to 145% of average. Soil moisture is at 80% compared to 65% last year. Reservoir storage is at 69% of capacity, compared to 60% last year. The water availability index for the Ogden River is 82% and 50% for the Weber River.



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

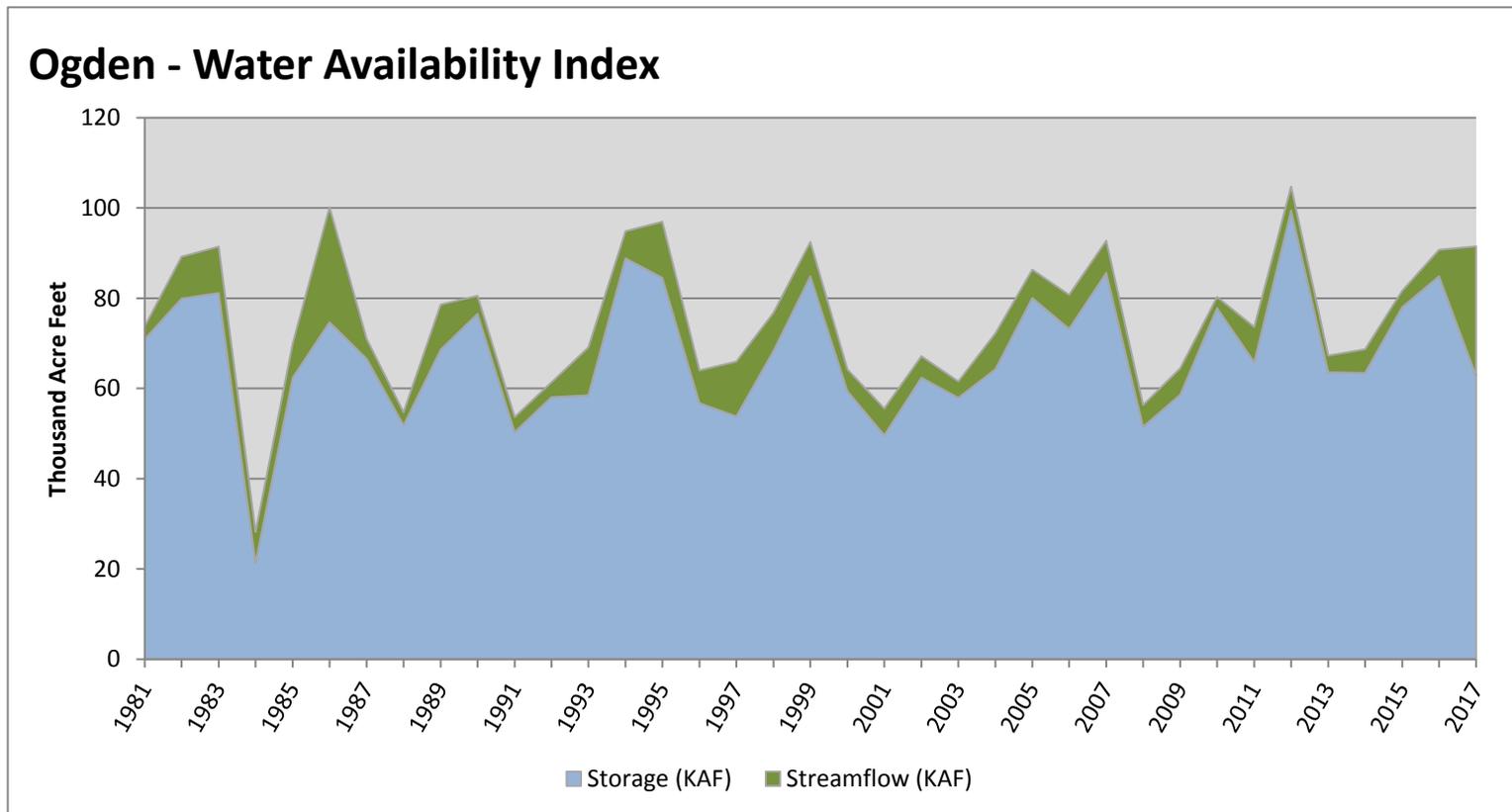
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [*] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Ogden	62.83	28.70	91.53	82	2.63	16, 83, 99, 07

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

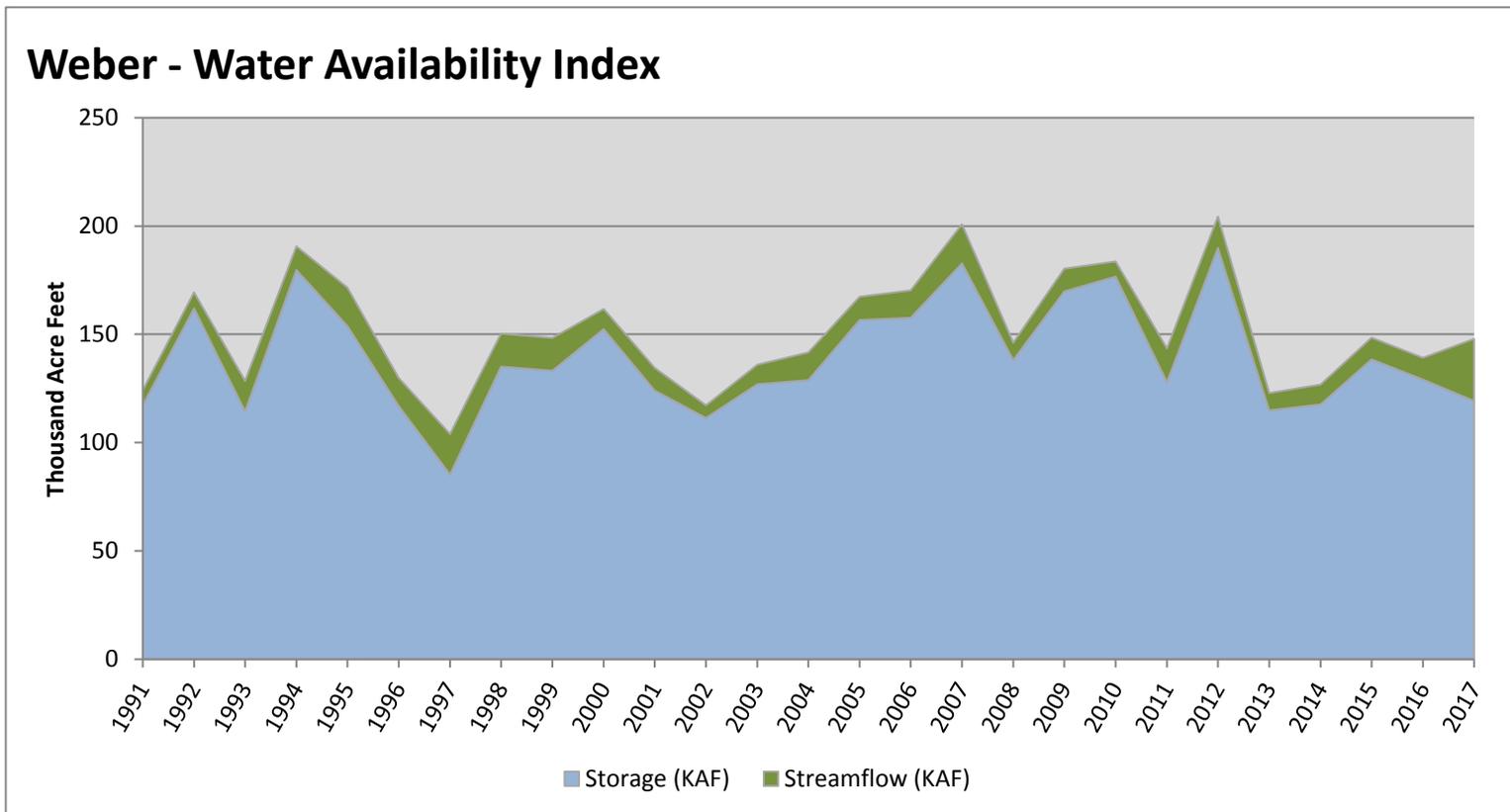


April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [^] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Weber	119.24	28.66	147.90	50	0	11, 08, 99, 15

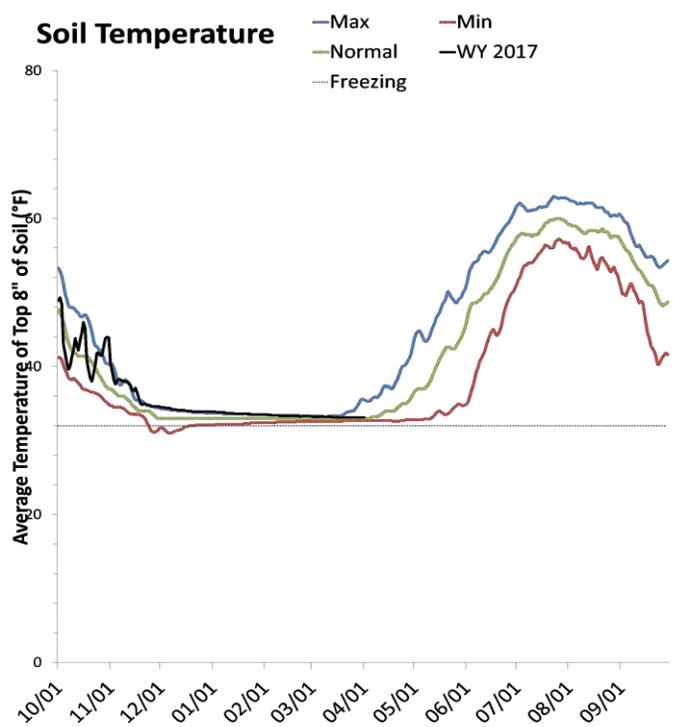
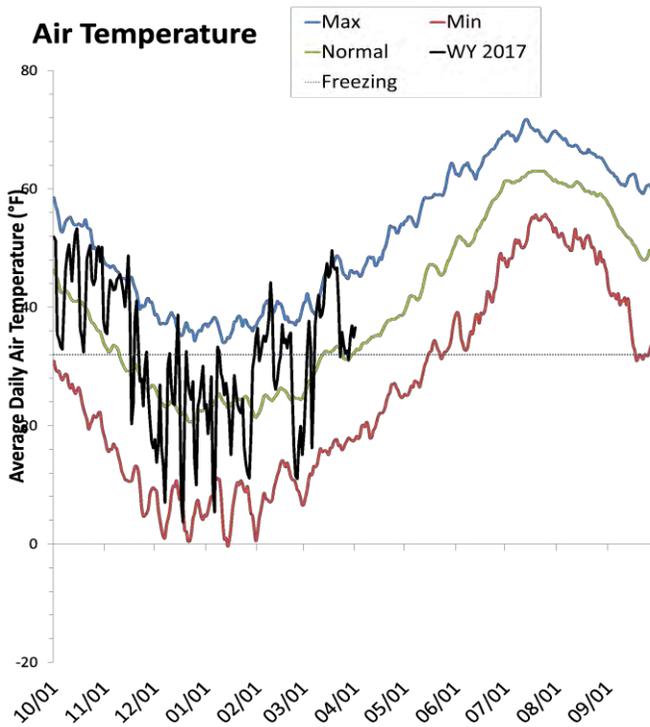
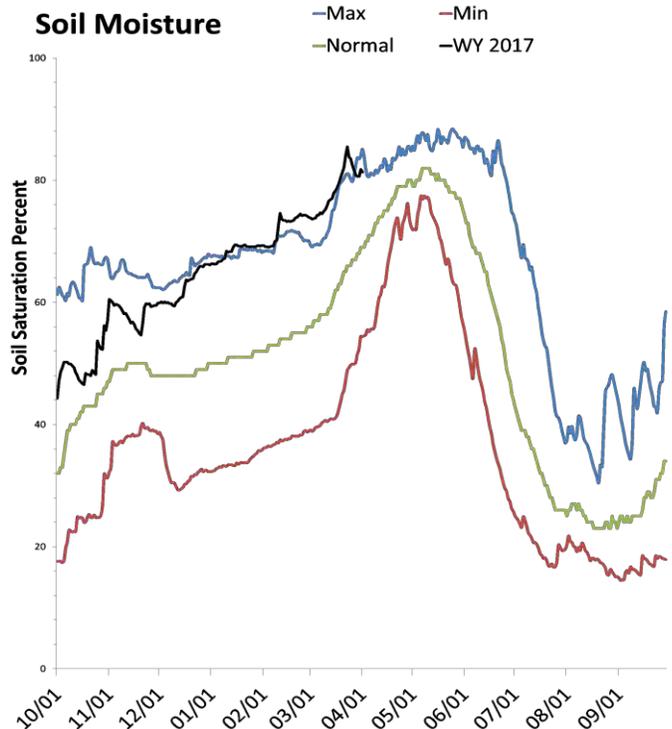
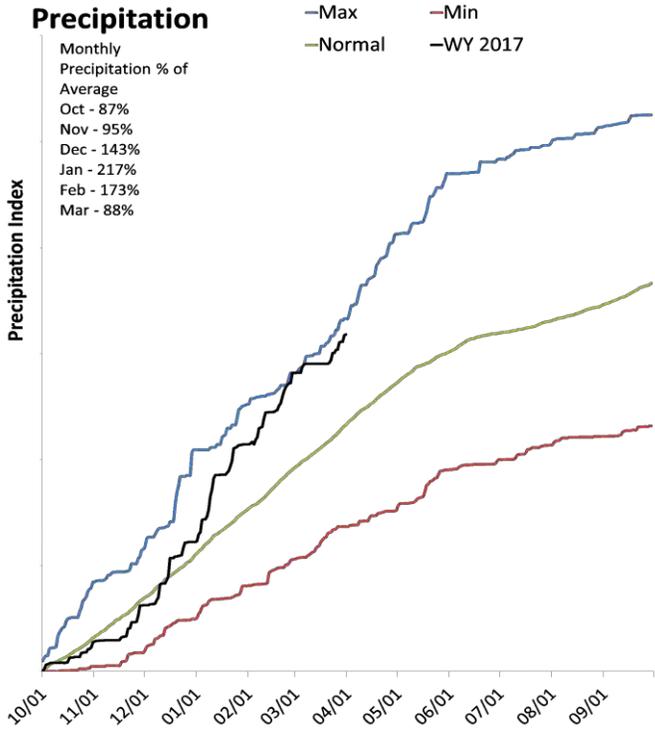
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Provo & Jordan River Basins

April 1, 2017

Precipitation in March was below average at 88%, which brings the seasonal accumulation (Oct-Mar) to 137% of average. Soil moisture is at 80% compared to 63% last year. Reservoir storage is at 68% of capacity, compared to 66% last year. The water availability index for the Provo River is 61%.



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

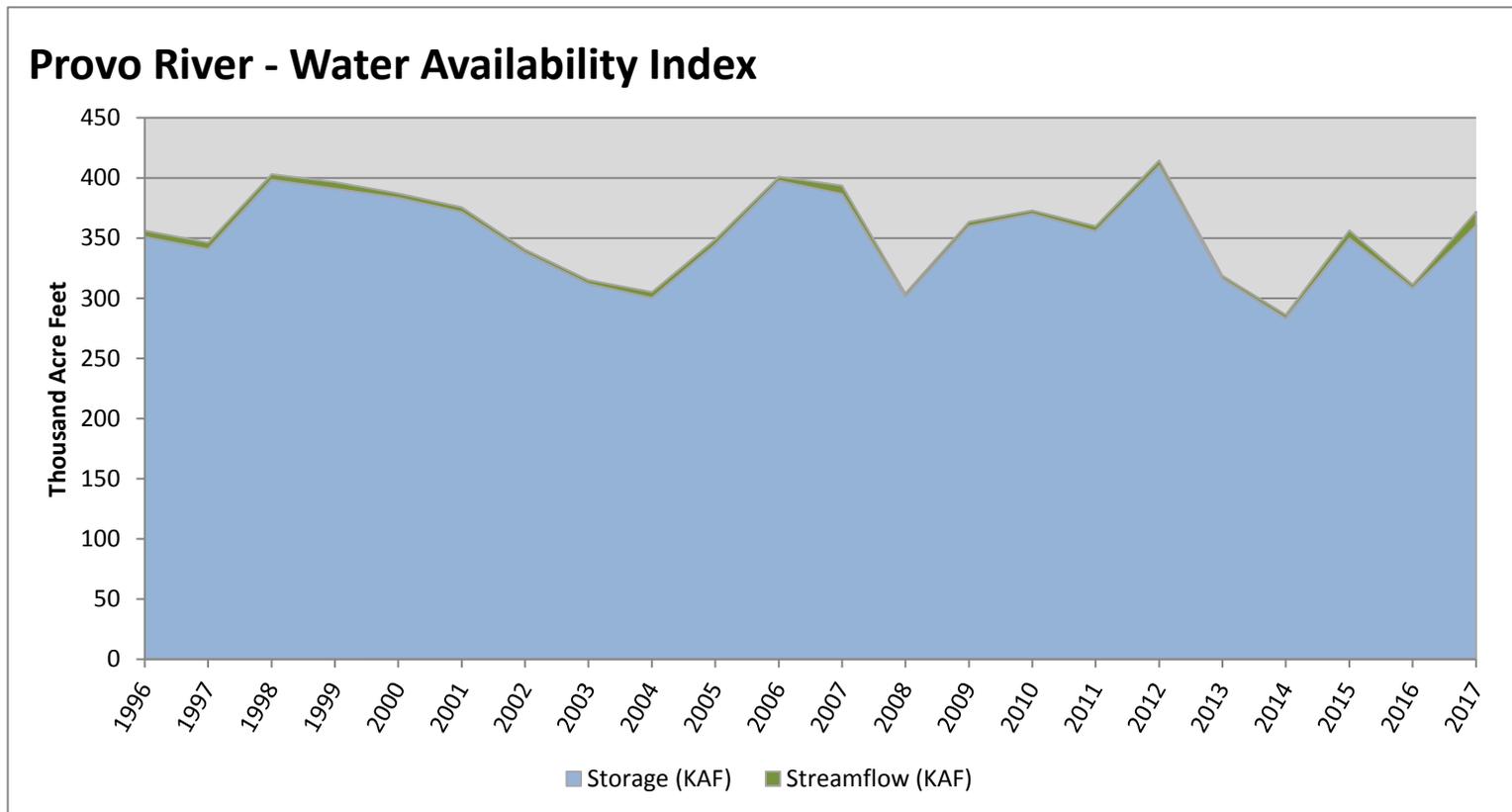
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [^] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Provo River	360.33	11.61	371.94	61	0.91	11, 09, 10, 01

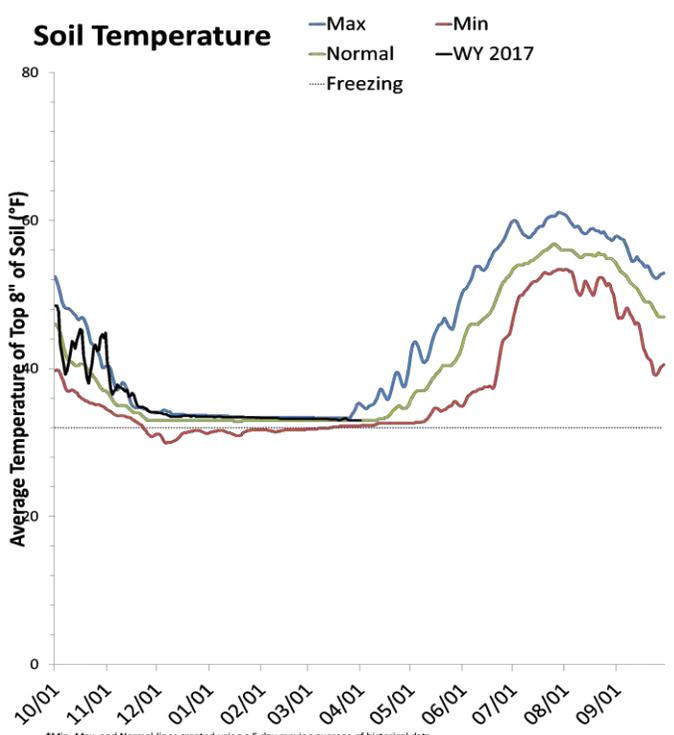
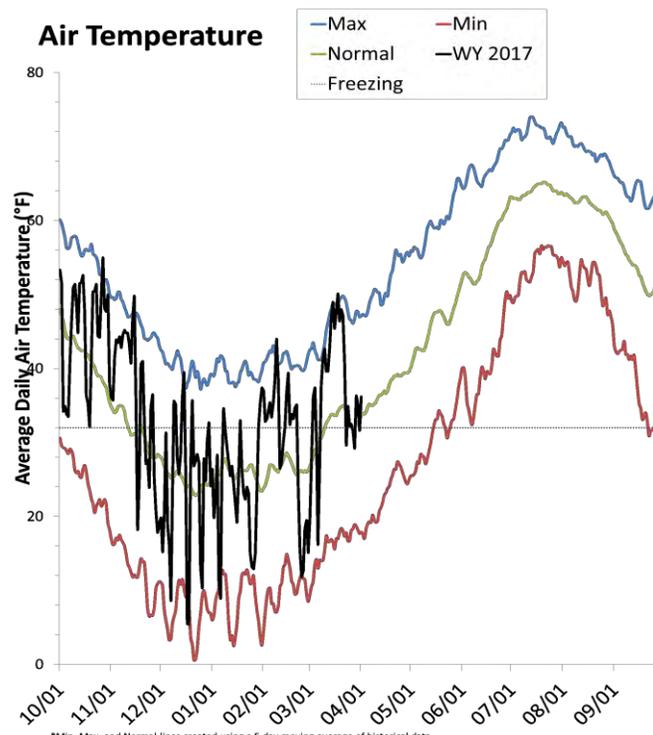
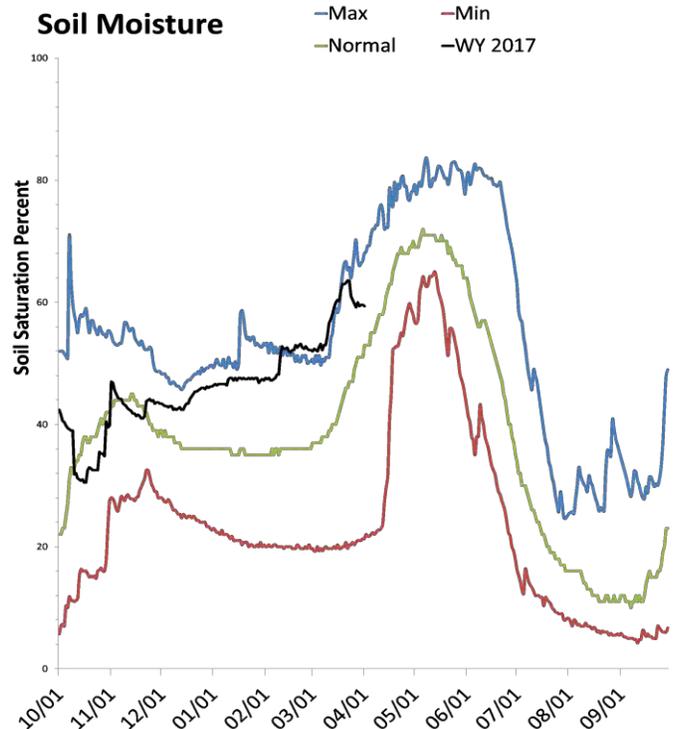
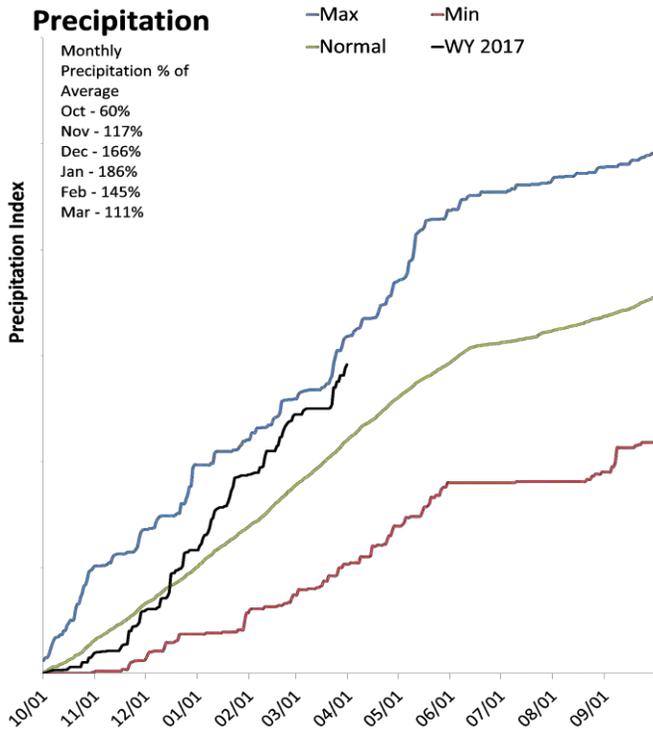
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Tooele Valley & West Desert Basins

April 1, 2017

Precipitation in March was above average at 112%, which brings the seasonal accumulation (Oct-Mar) to 133% of average. Soil moisture is at 60% compared to 44% last year. Reservoir storage is at 79% of capacity, compared to 68% last year.



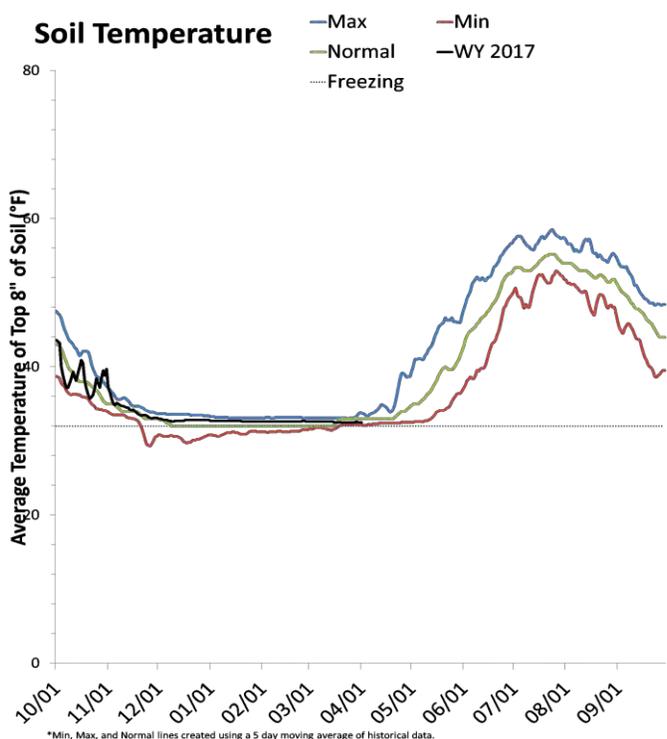
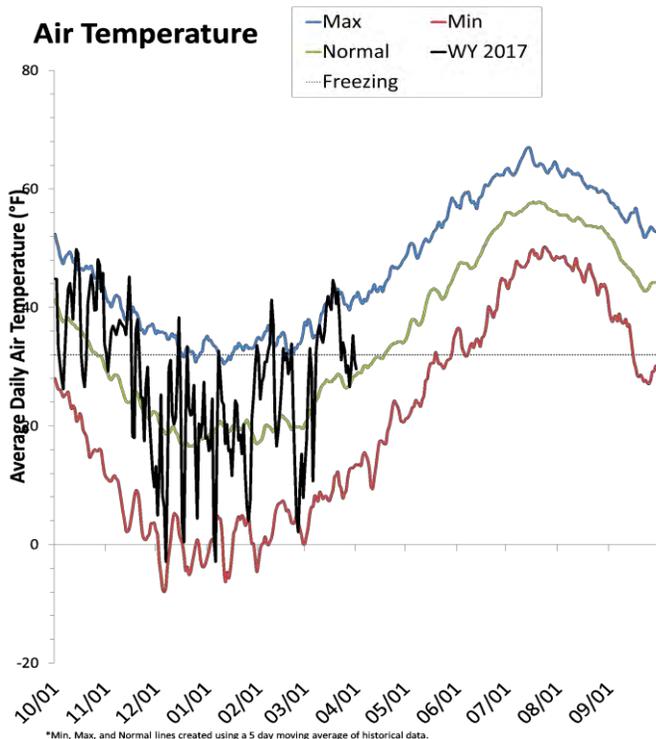
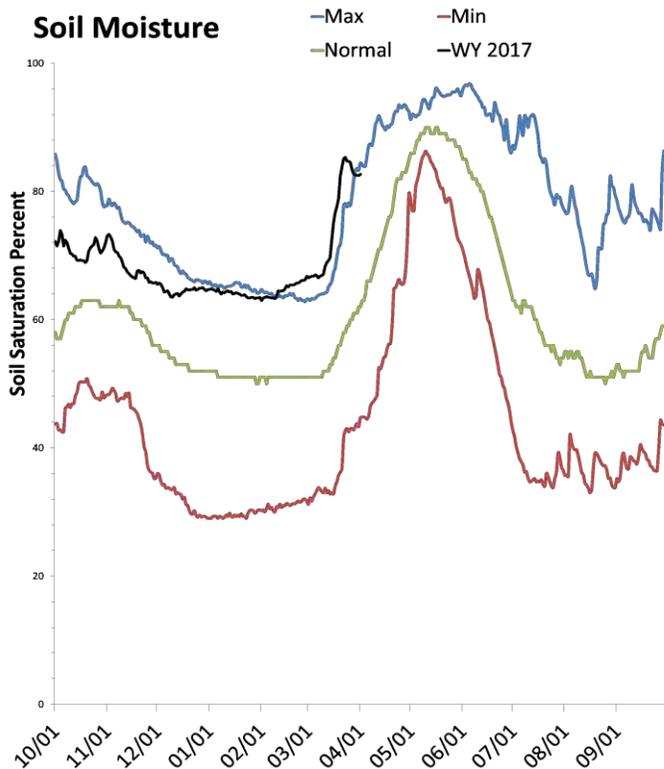
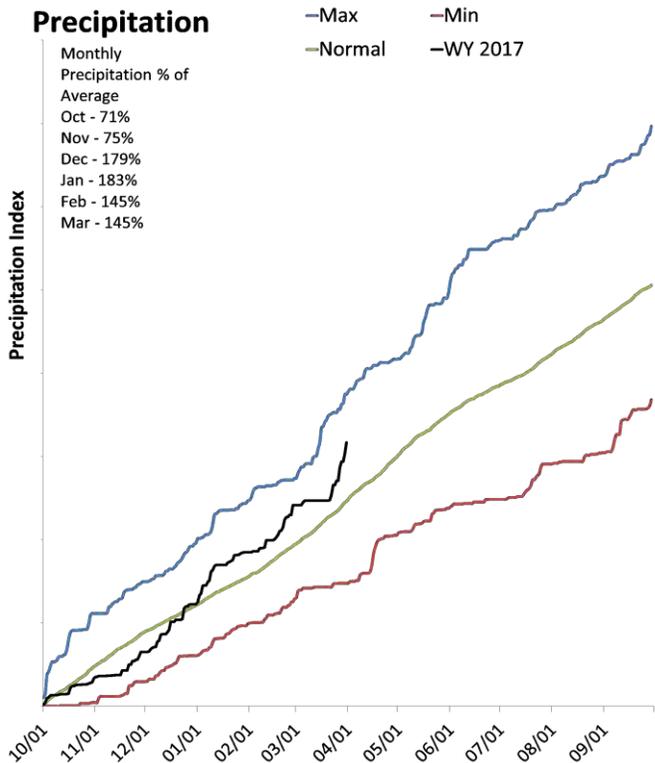
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Northeastern Uinta Basin

April 1, 2017

Precipitation in March was much above average at 143%, which brings the seasonal accumulation (Oct-Mar) to 128% of average. Soil moisture is at 81% compared to 62% last year. Reservoir storage is at 84% of capacity, compared to 84% last year. The Water availability Index for Blacks Fork is 66% and 79% for Smiths Creek.



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

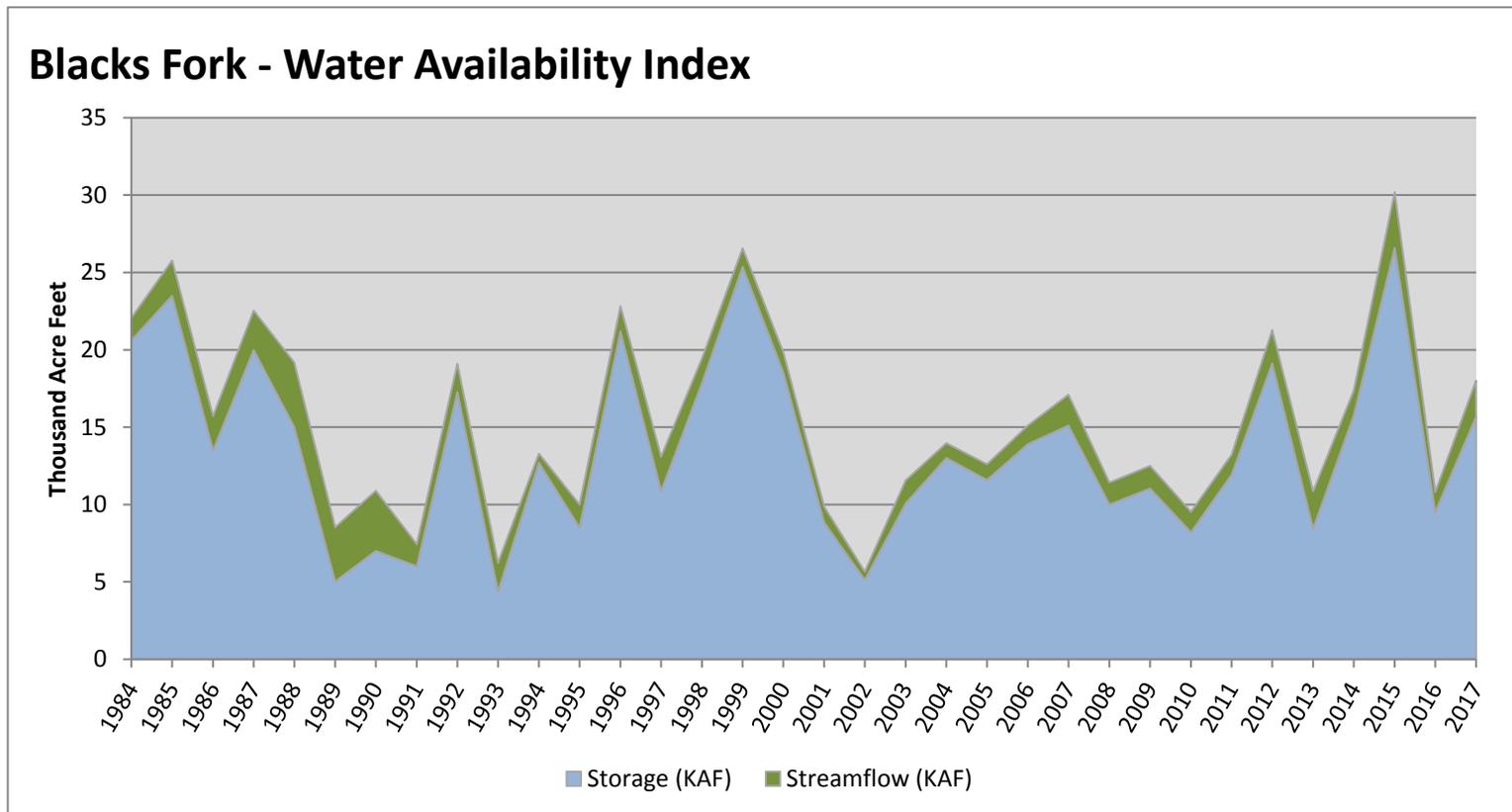
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [^] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Blacks Fork	15.67	2.35	18.02	66	1.31	07, 14, 92, 88

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

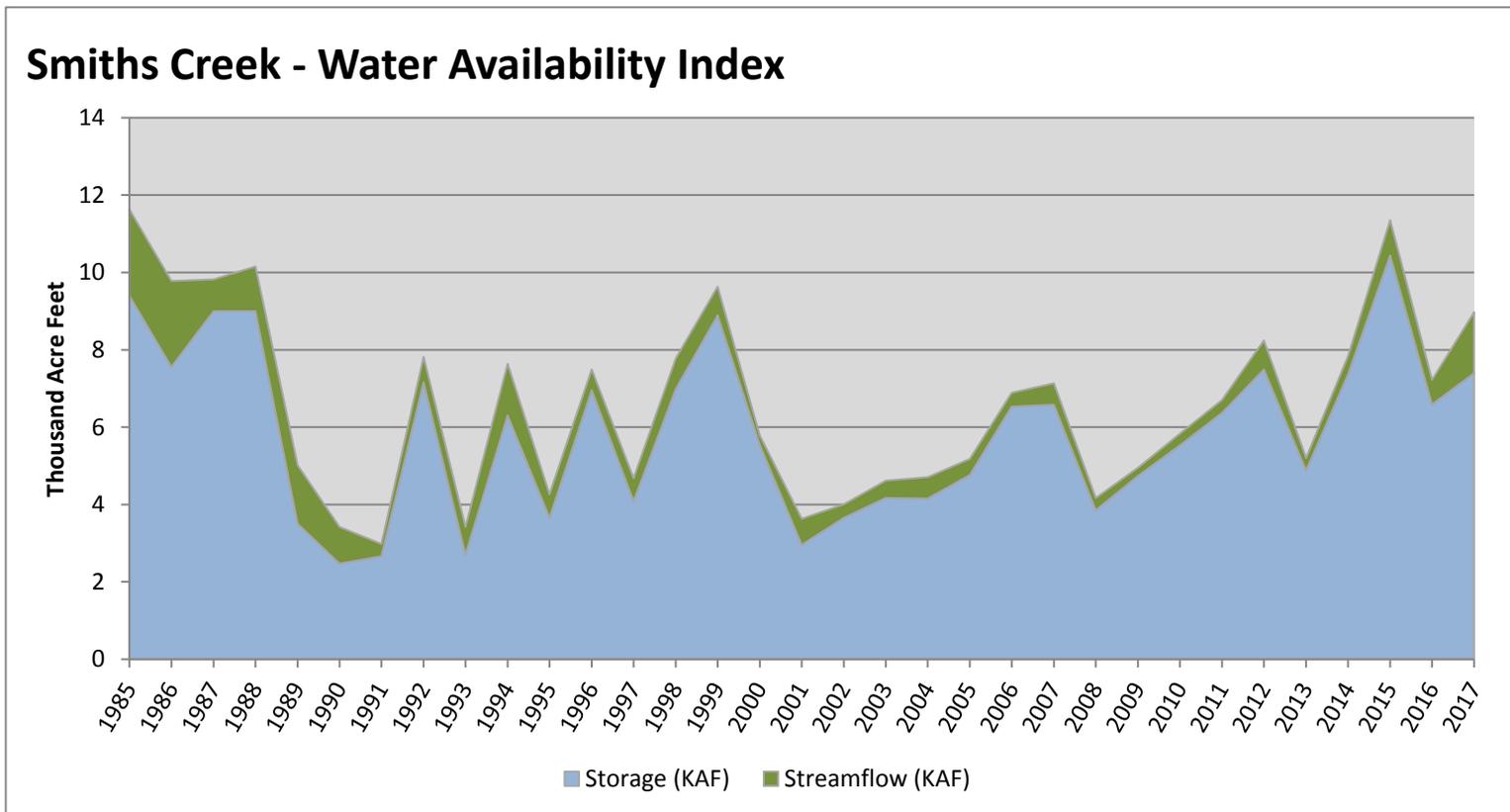


April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [^] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Smiths Creek	7.39	1.58	8.97	79	2.45	14, 12, 99, 86

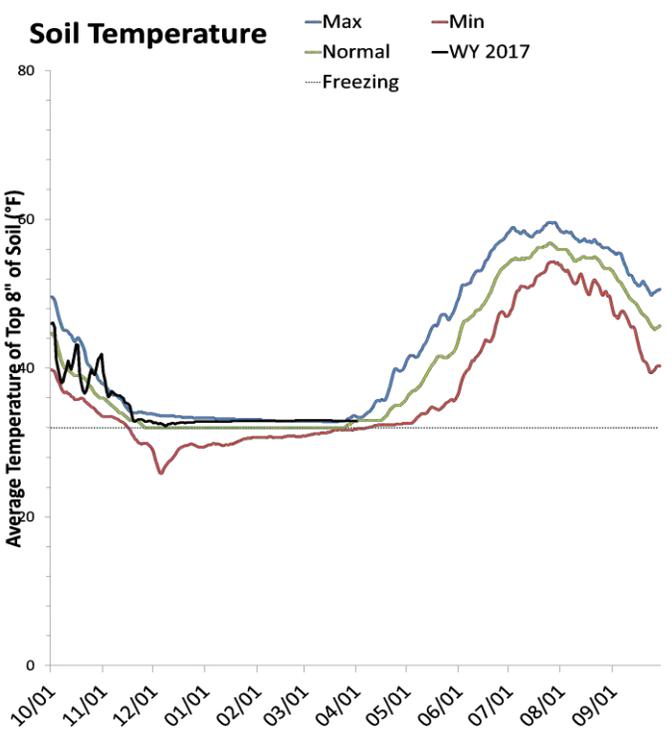
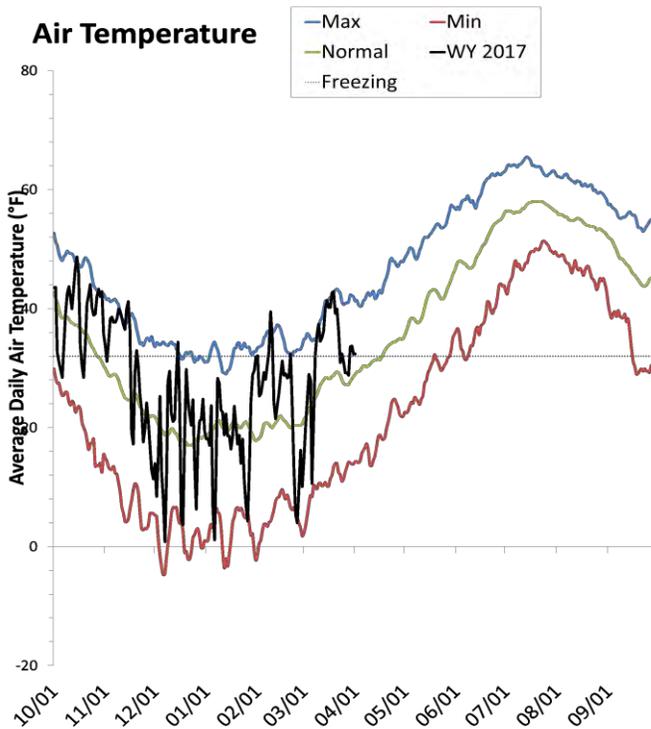
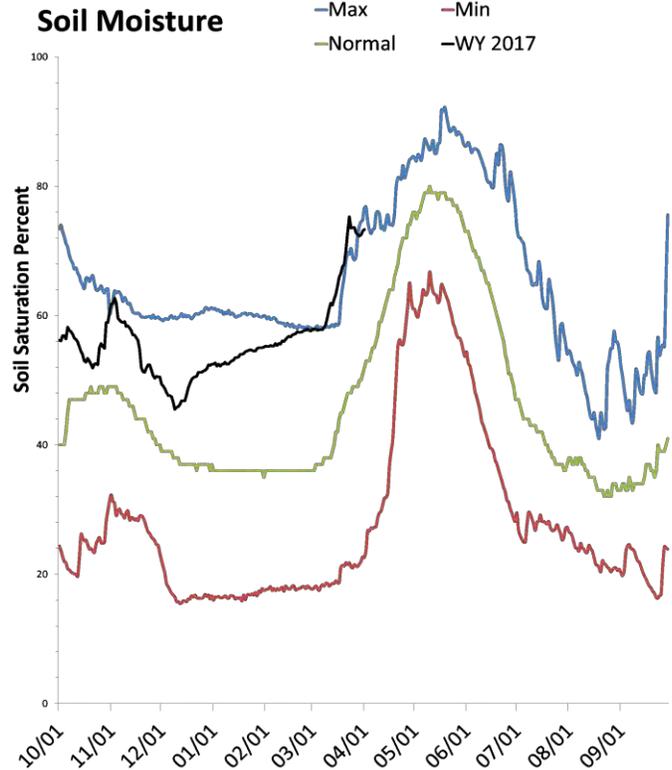
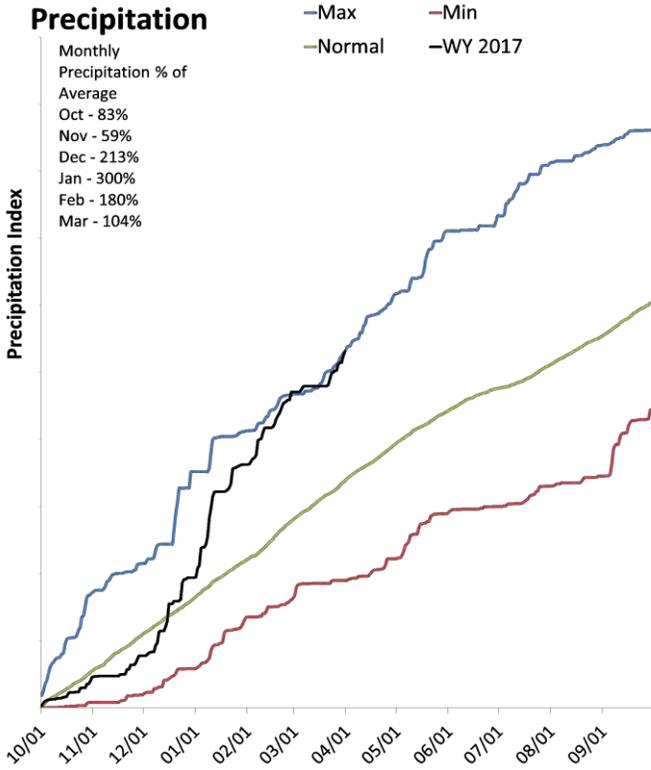
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Duchesne River Basin

April 1, 2017

Precipitation in March was near average at 104%, which brings the seasonal accumulation (Oct-Mar) to 157% of average. Soil moisture is at 73% compared to 56% last year. Reservoir storage is at 71% of capacity, compared to 73% last year. The water availability index for the Western Uintas is 3% and 55% for the Eastern Uintas.



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

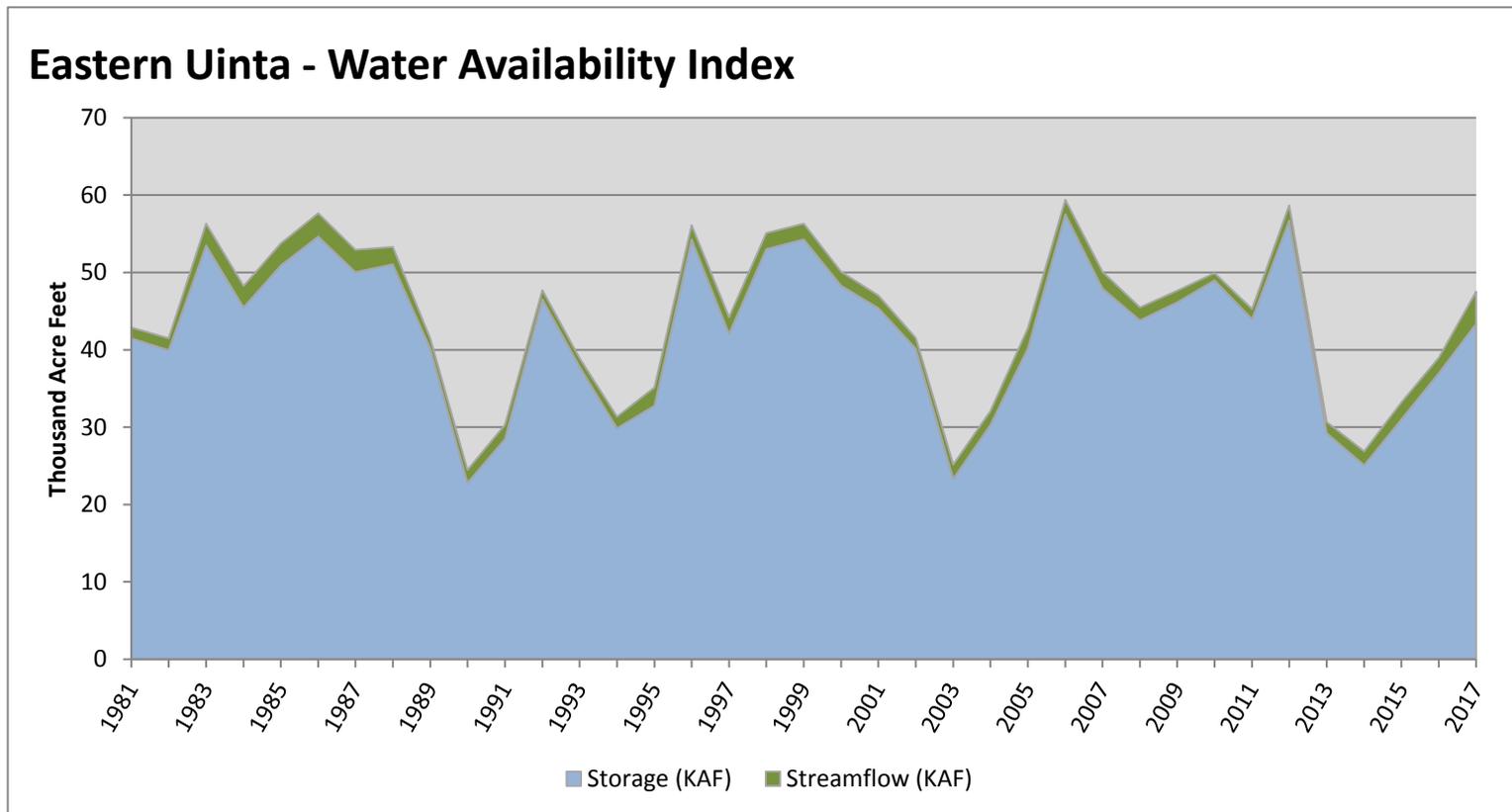
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [^] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Eastern Uinta	43.35	4.17	47.52	55	0.44	08, 01, 09, 92

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

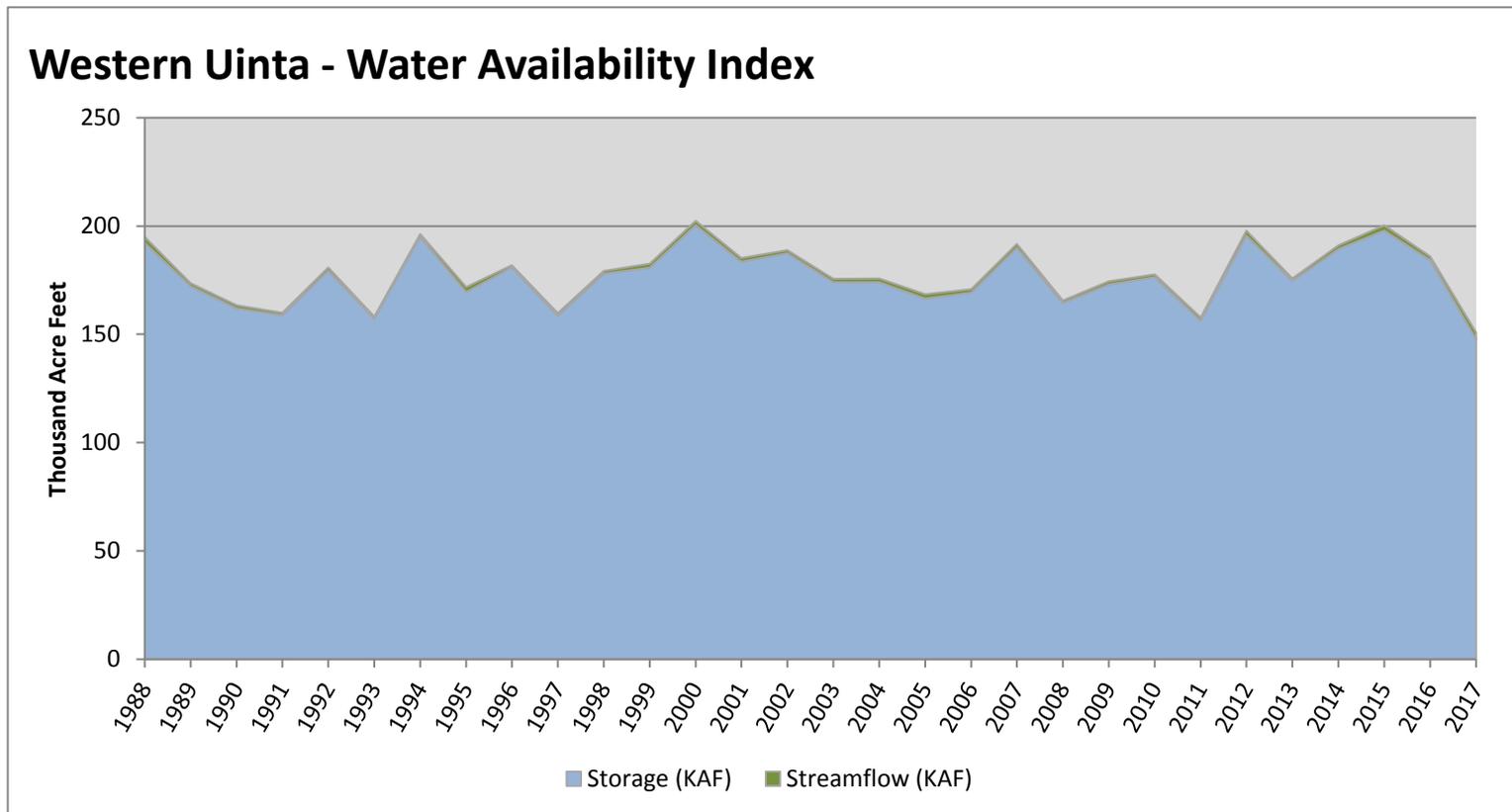


April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [^] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Western Uinta	147.71	3.27	150.98	3	-3.9	11, 93, 97, 91

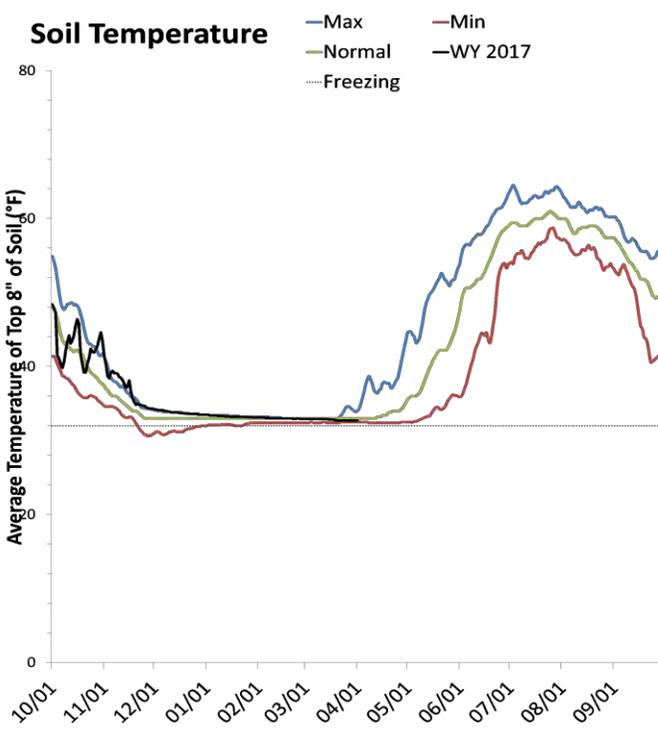
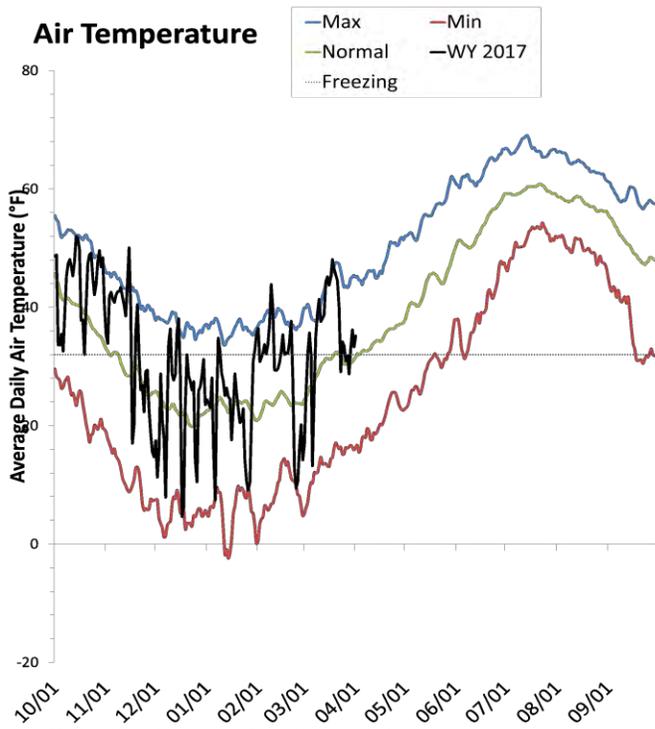
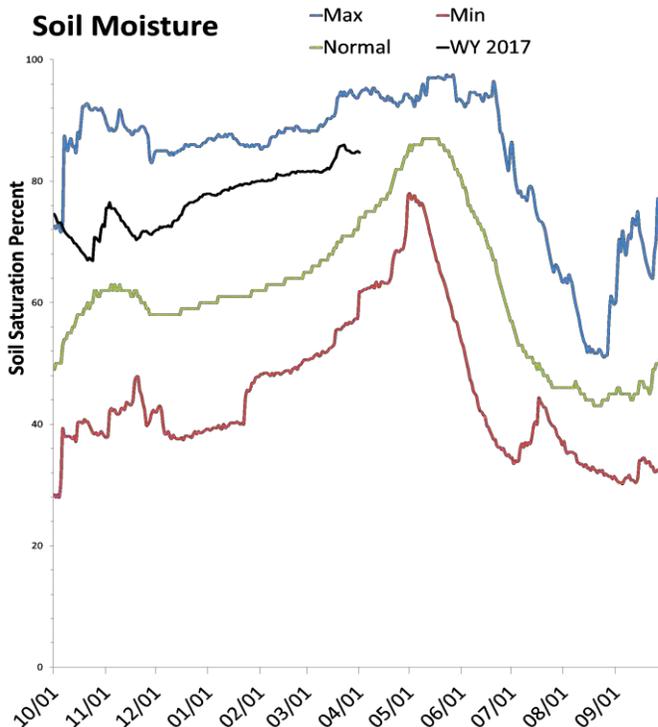
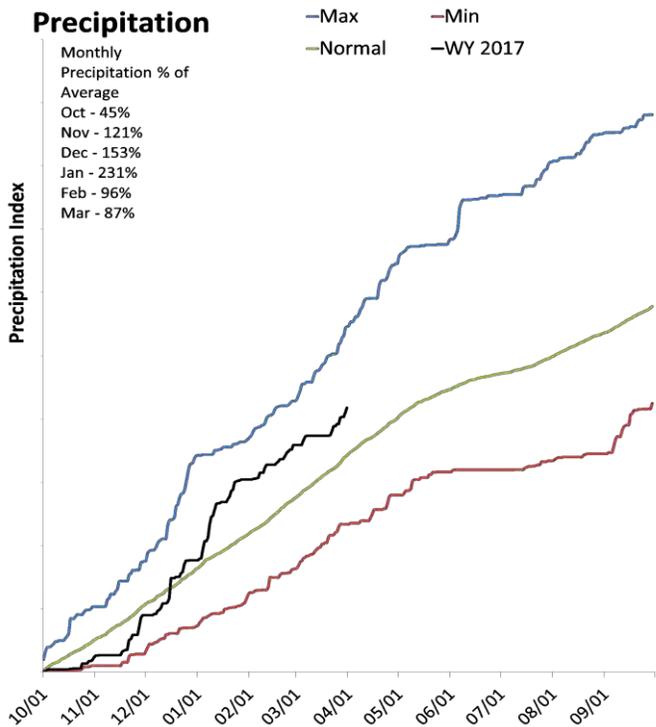
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



San Pitch River Basin

April 1, 2017

Precipitation in March was below average at 86%, which brings the seasonal accumulation (Oct-Mar) to 122% of average. Soil Moisture is at 85% compared to 74% last year. Reservoir storage is at 21% of capacity, compared to 15% last year. The water availability index for the San Pitch is 16%.



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

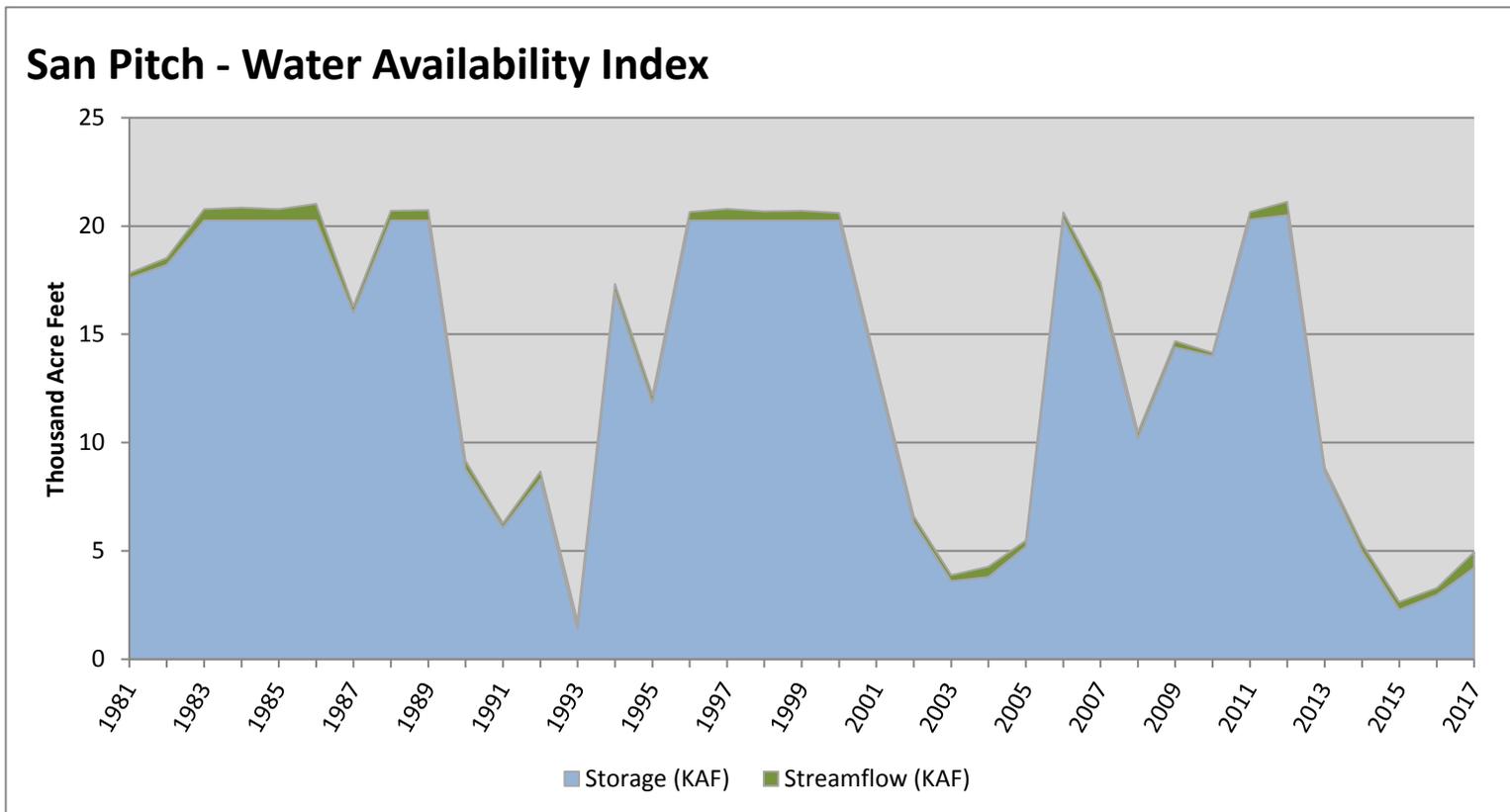
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [^] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
San Pitch	4.22	0.73	4.95	16	-2.85	03, 04, 14, 05

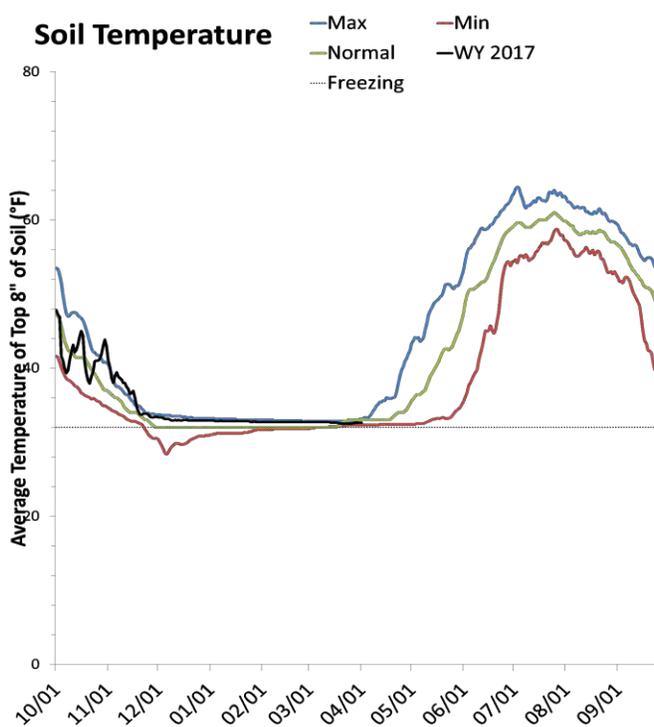
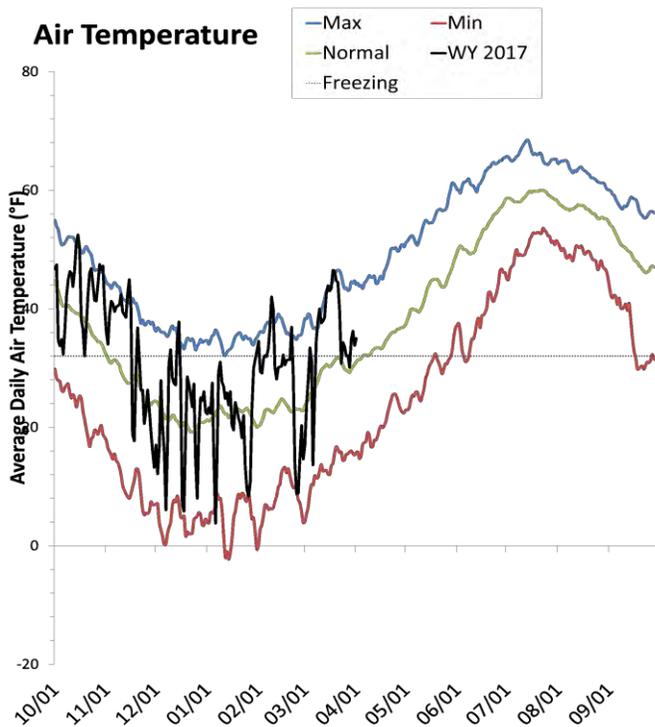
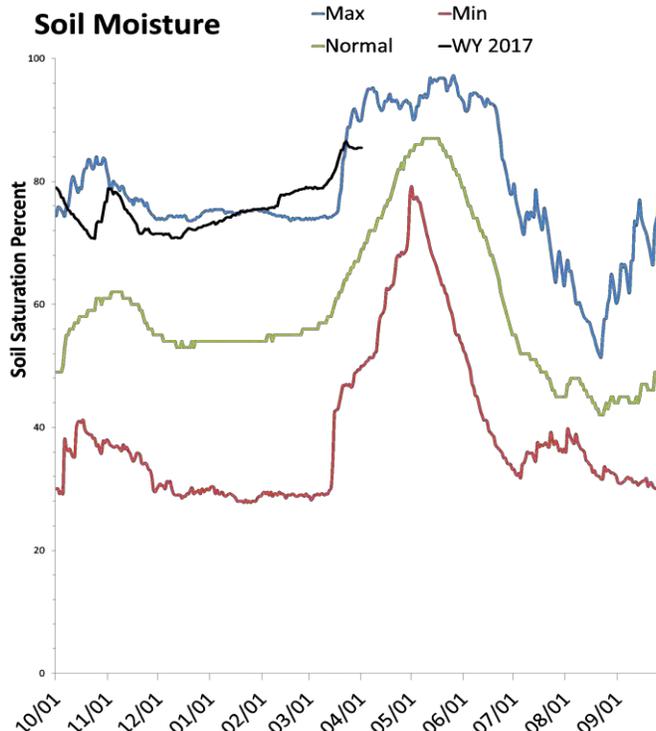
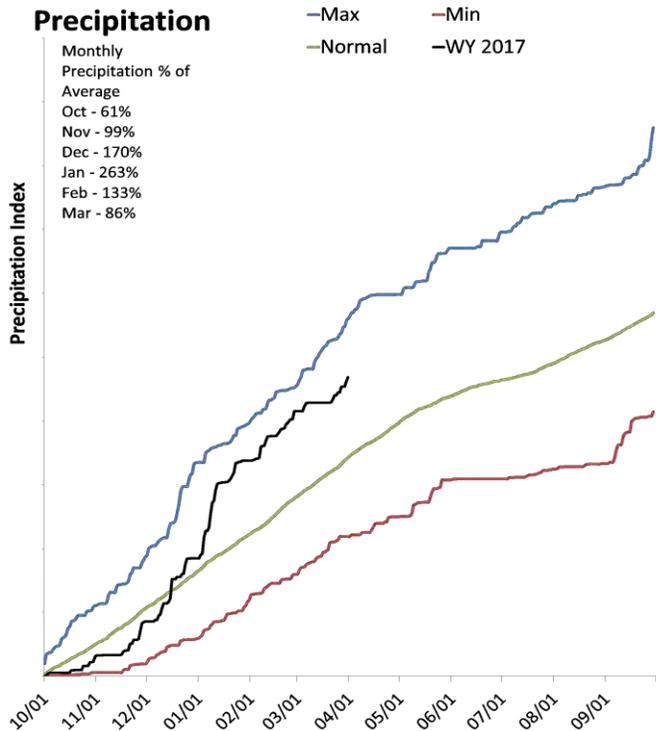
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Price & San Rafael Basins

April 1, 2017

Precipitation in March was below average at 85%, which brings the seasonal accumulation (Oct-Mar) to 137% of average. Soil moisture is at 85% compared to 70% last year. Reservoir storage is at 47% of capacity, compared to 44% last year. The water availability index for the Price River is 39%, and 18% for Joe's Valley.



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

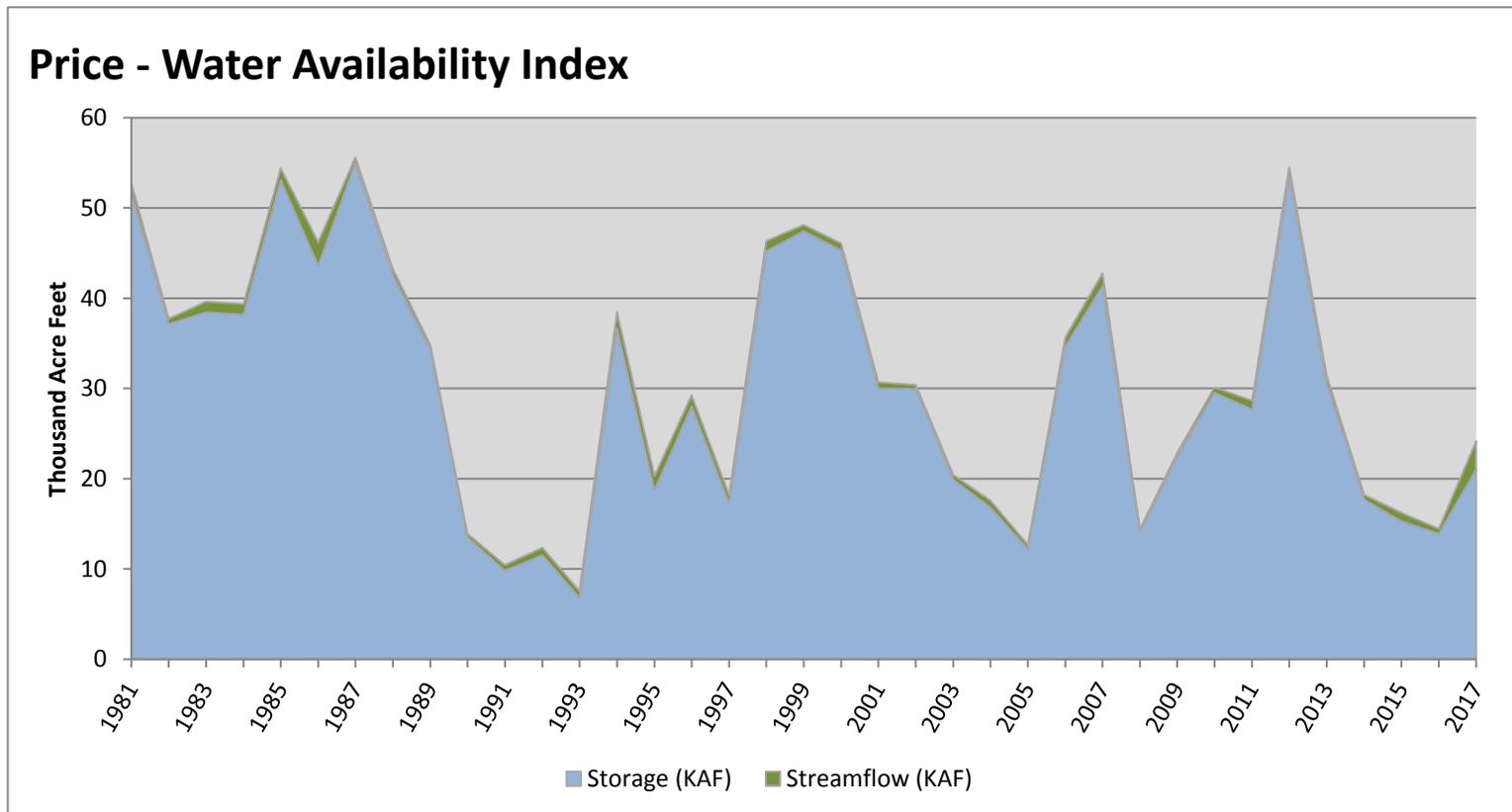
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [^] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Price	21.00	3.16	24.16	39	-0.88	03, 09, 11, 96

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

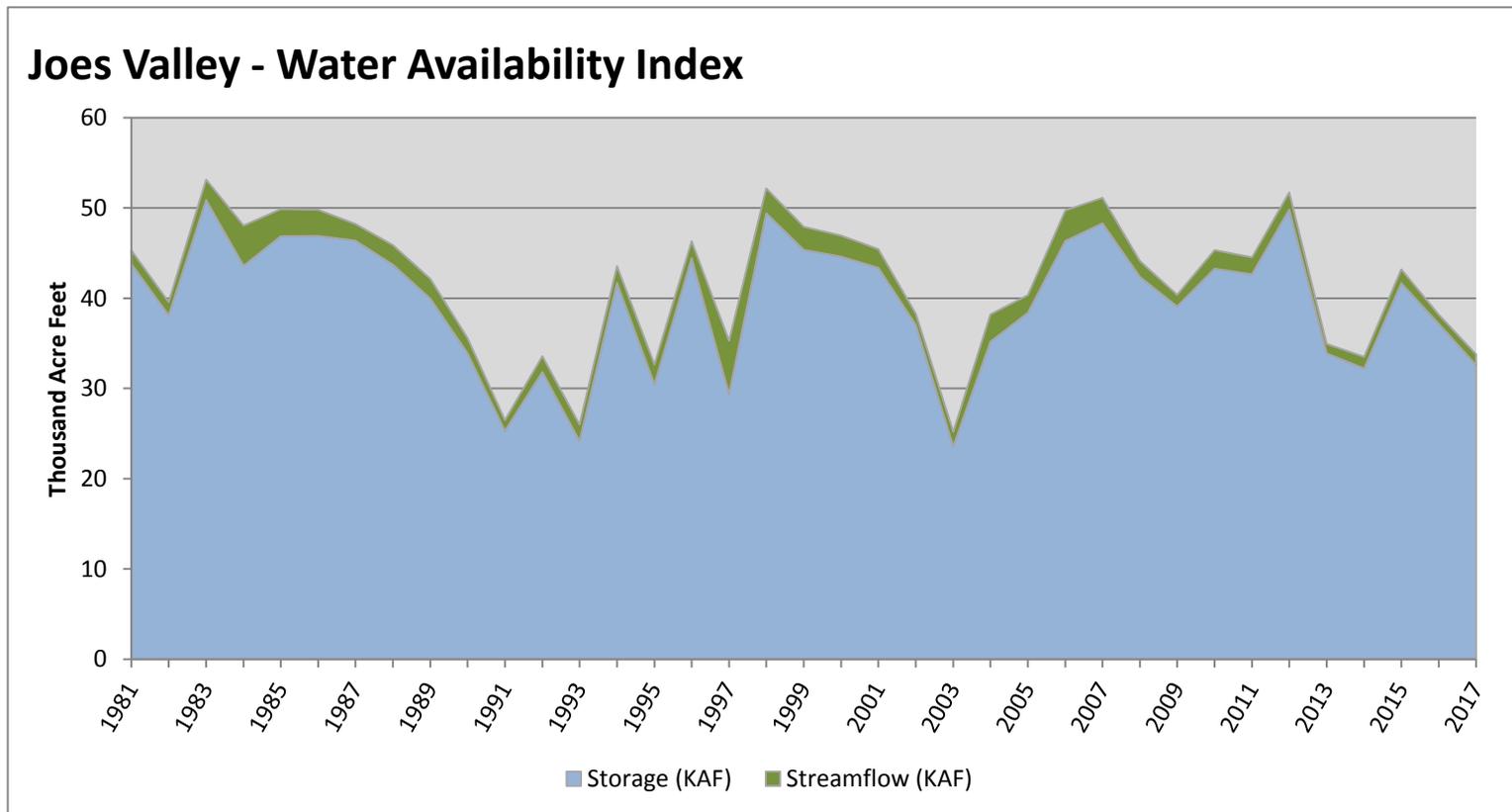


April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [^] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Joos Valley	32.60	1.17	33.77	18	-2.63	14, 92, 13, 97

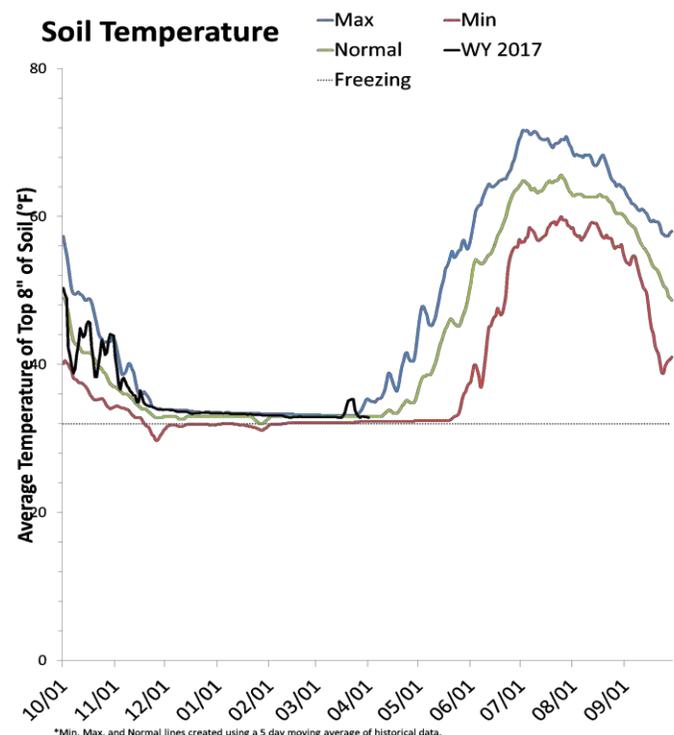
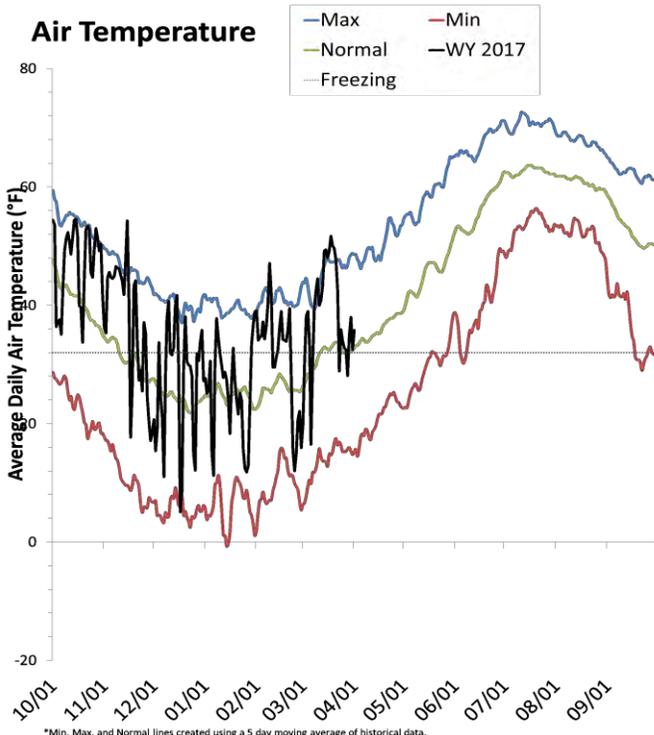
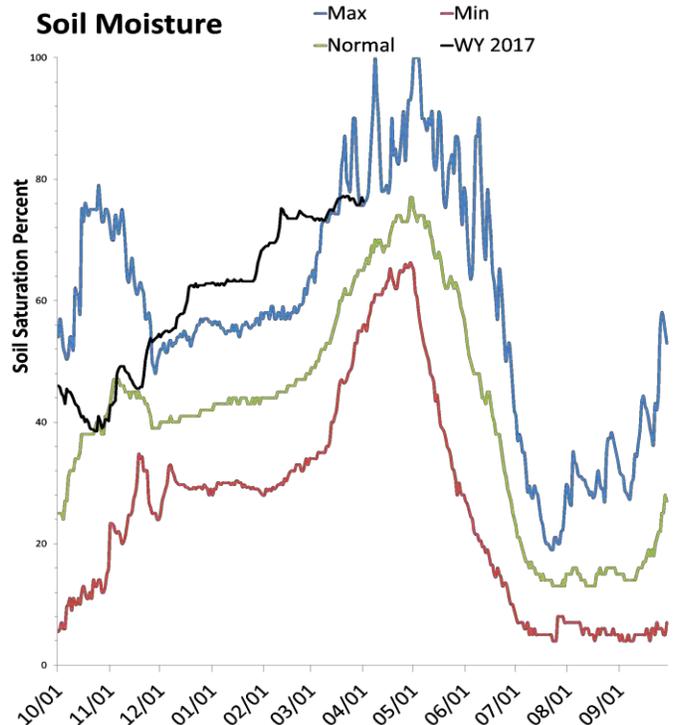
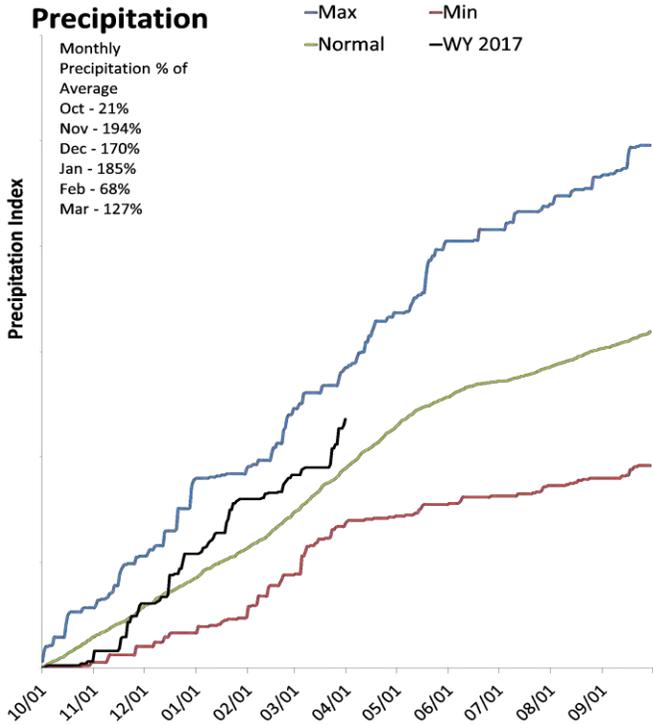
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Lower Sevier Basin

April 1, 2017

Precipitation in March was above average at 126%, which brings the seasonal accumulation (Oct-Mar) to 125% of average. Soil moisture is at 75% compared to 66% last year. Reservoir storage is at 37% of capacity, compared to 45% last year. The water availability index for the Lower Sevier is 11%.



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

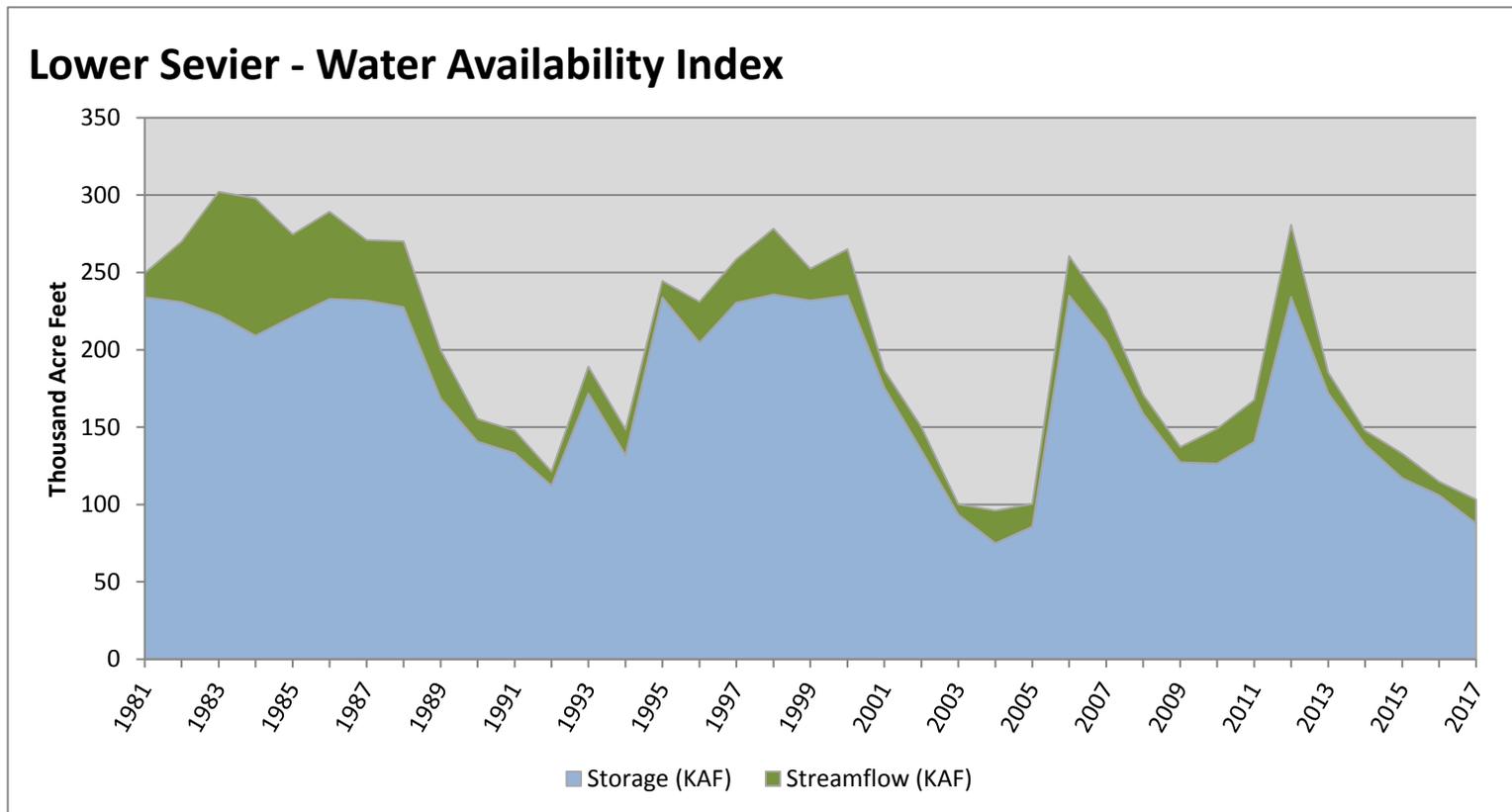
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [^] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Lower Sevier	87.82	15.35	103.17	11	-3.29	03, 05, 16, 92

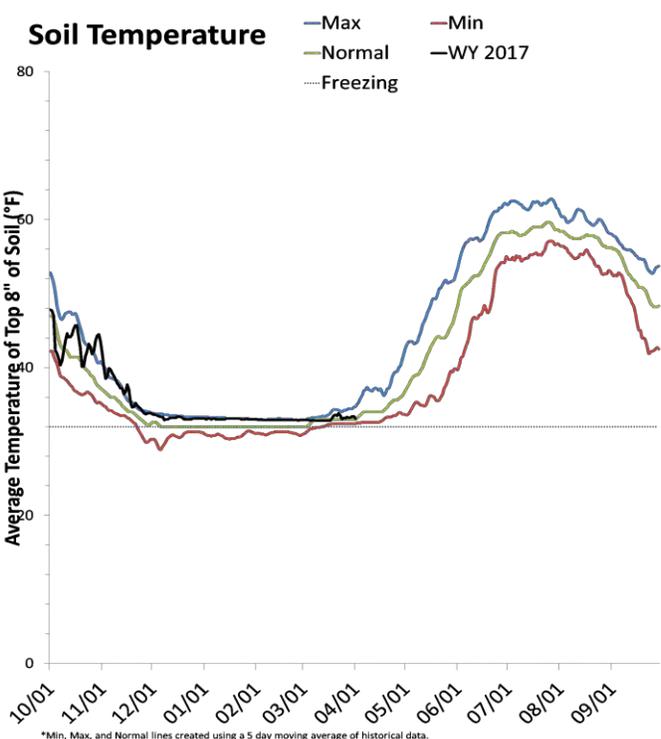
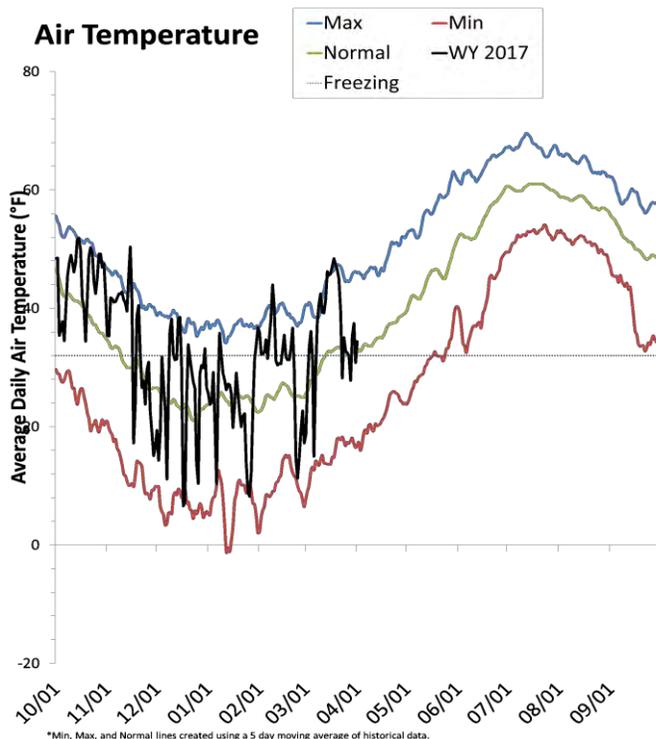
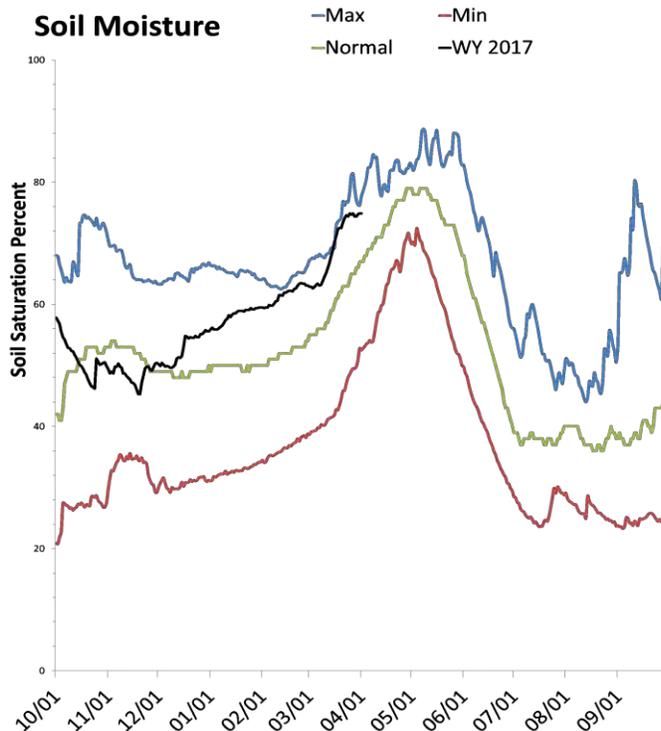
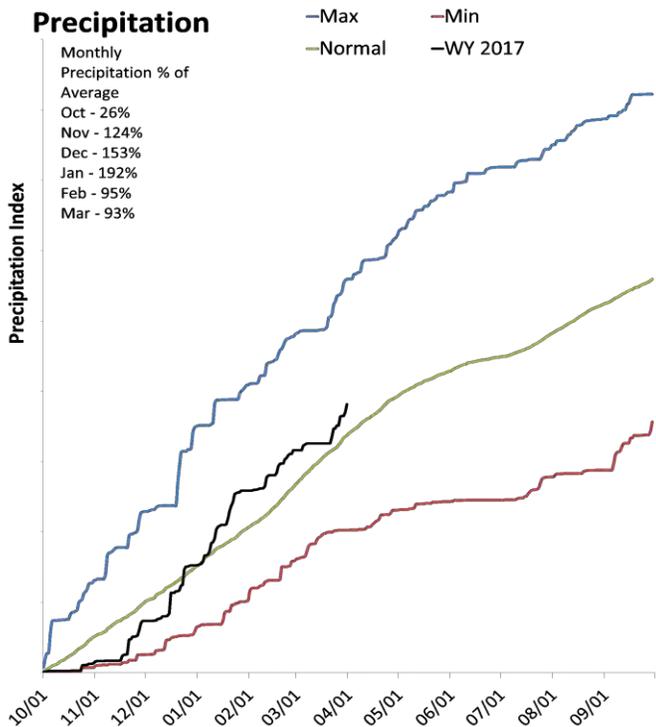
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Upper Sevier Basin

April 1, 2017

Precipitation in March was near average at 92%, which brings the seasonal accumulation (Oct-Mar) to 112% of average. Soil moisture is at 74% compared to 65% last year. Reservoir storage is at 60% of capacity, compared to 54% last year. The water availability index for the Upper Sevier is 32%.



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

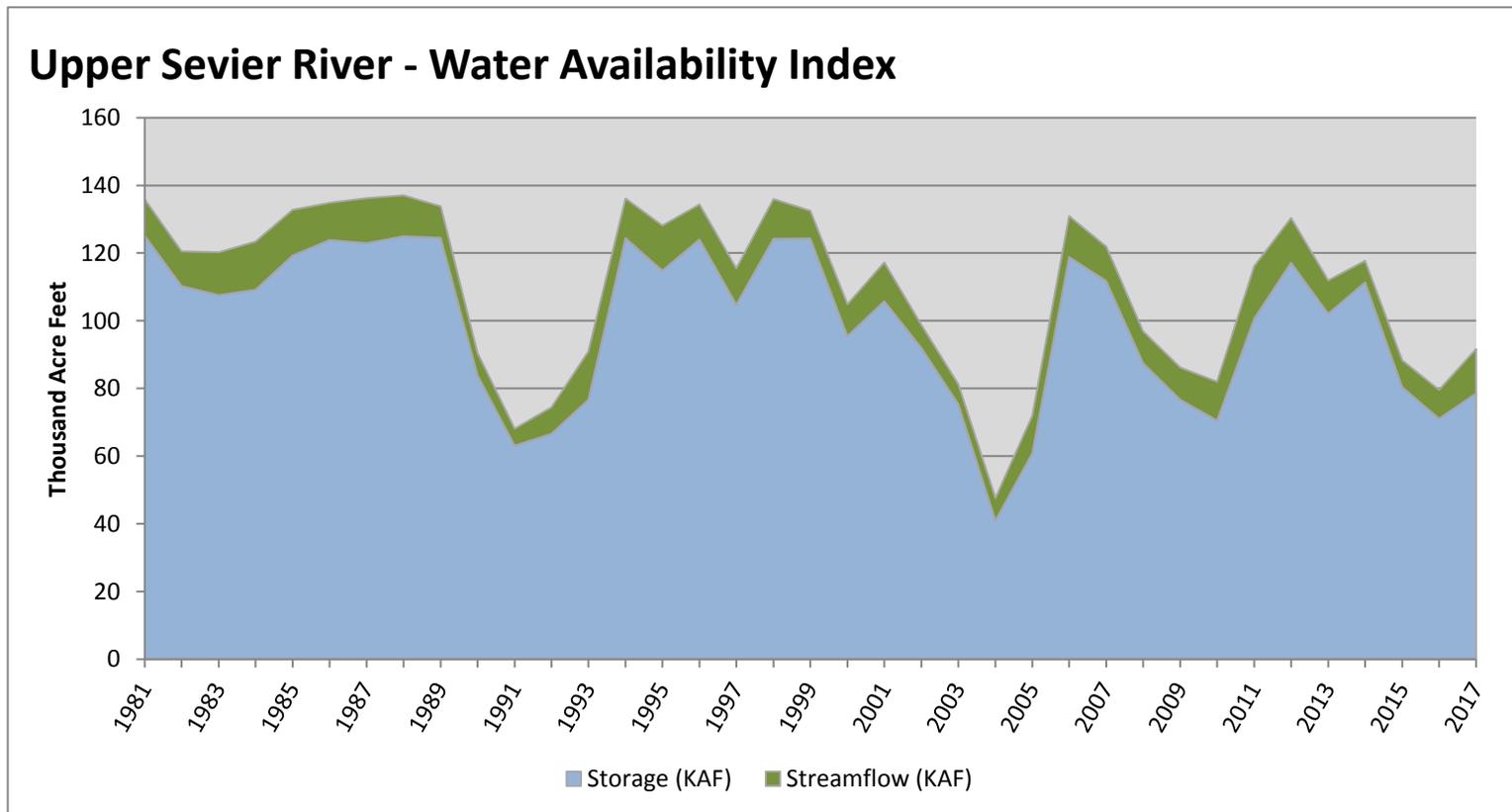
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [^] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Upper Sevier River	78.52	13.10	91.62	32	-1.54	90, 93, 08, 02

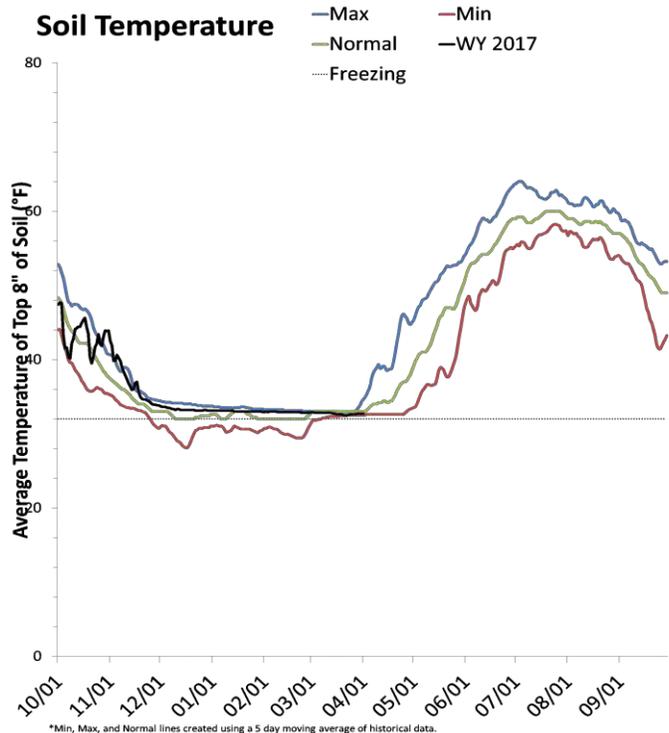
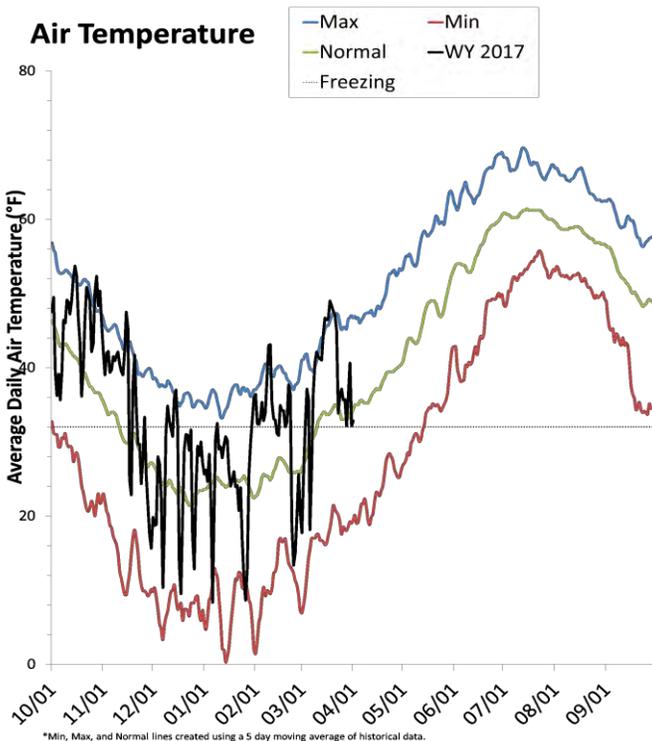
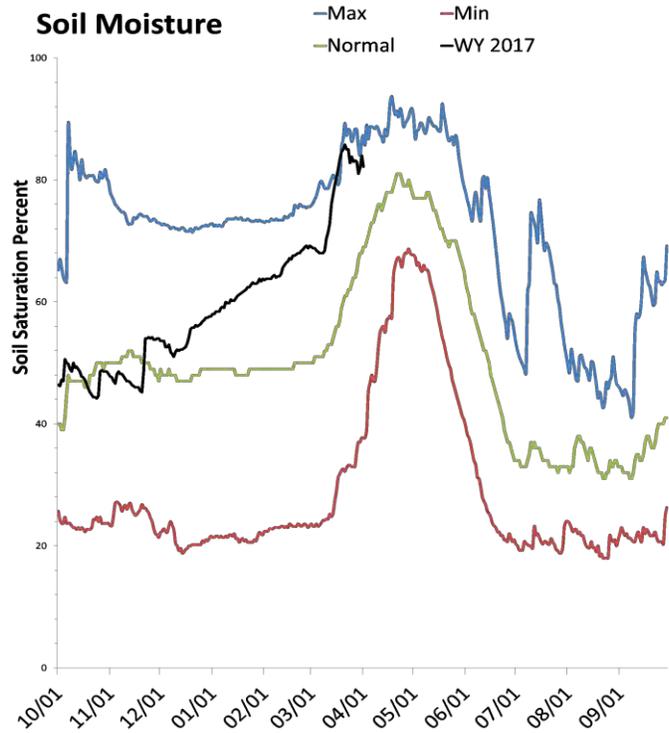
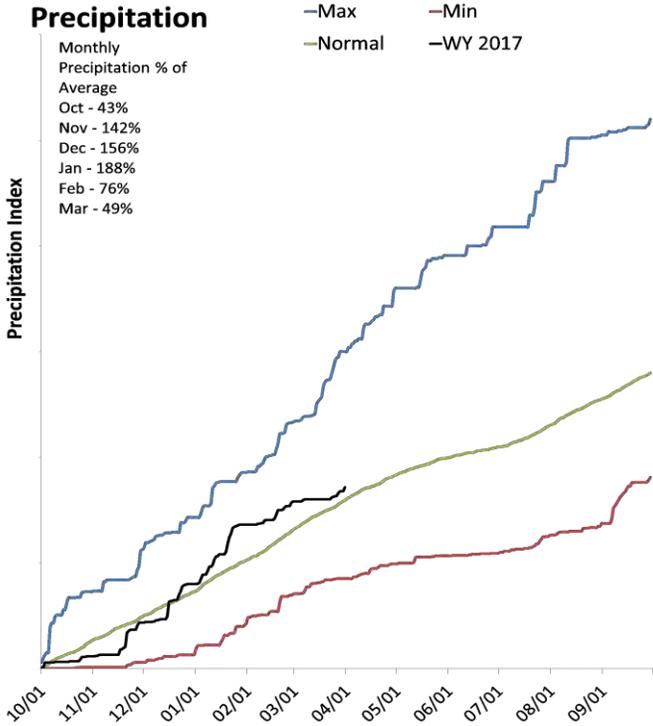
[^]EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Southeastern Utah

April 1, 2017

Precipitation in March was much below average at 49%, which brings the seasonal accumulation (Oct-Mar) to 108% of average. Soil moisture is at 83% compared to 80% last year. Reservoir storage is at 87% of capacity, compared to 76% last year. The water availability index for Moab is 90%.



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

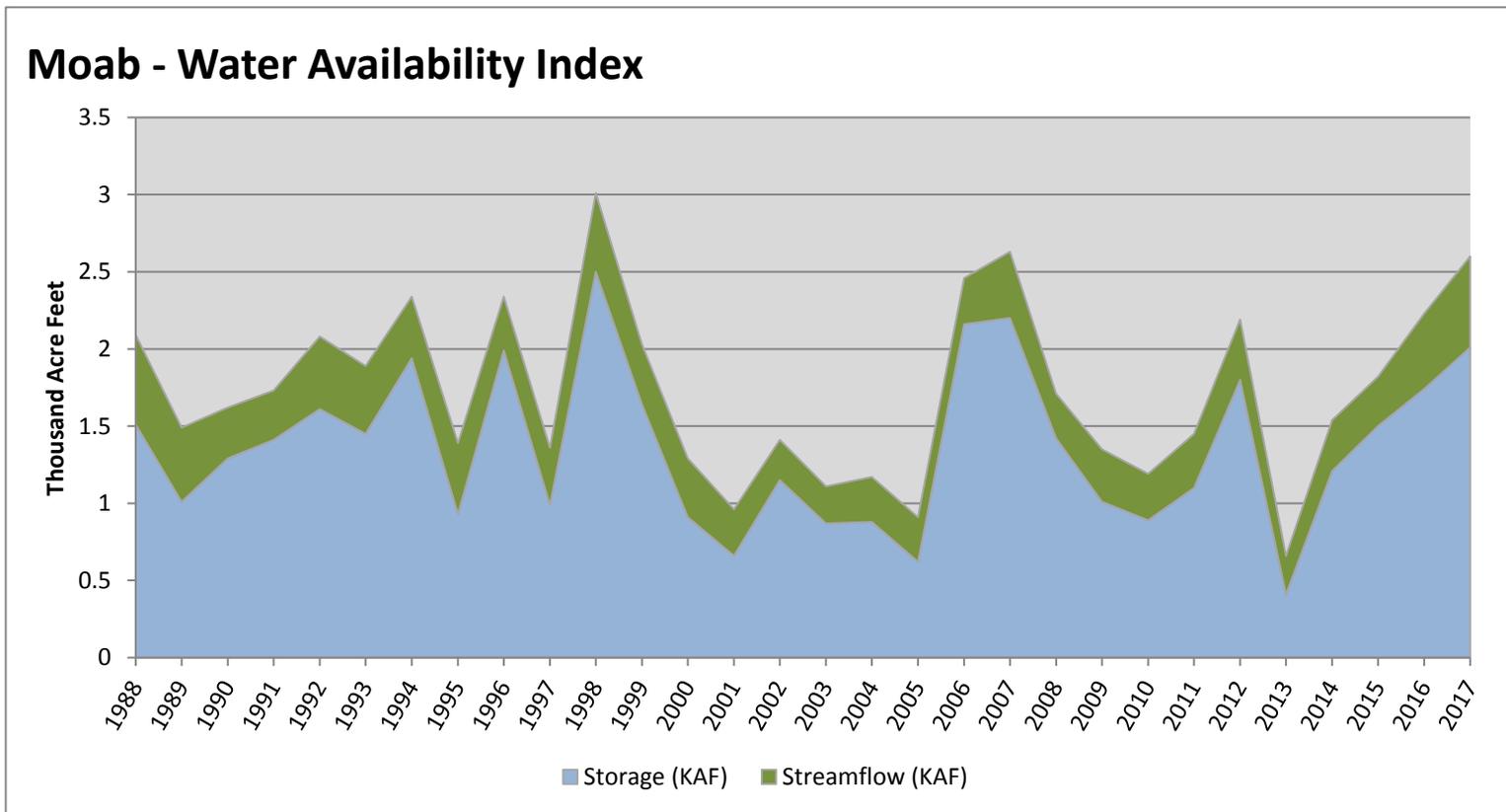
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [*] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Moab	2.01	0.59	2.60	90	3.36	96, 06, 07, 98

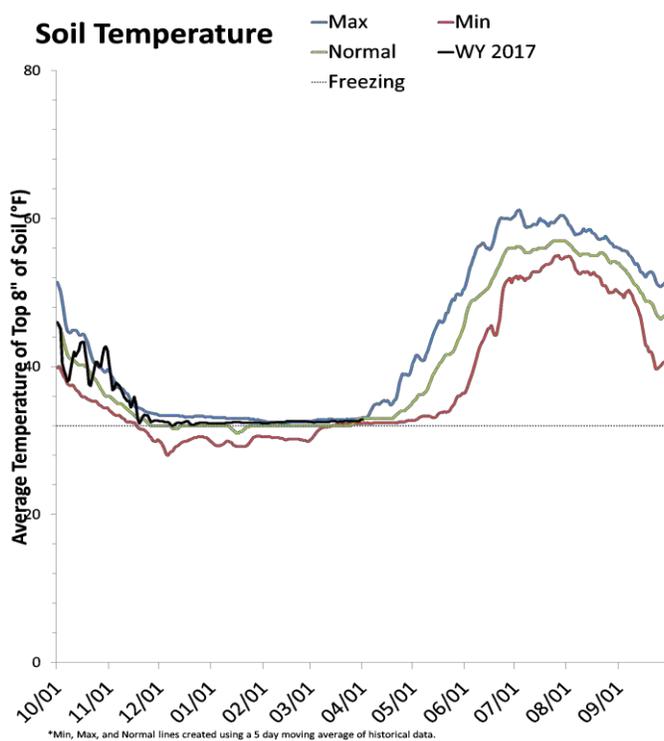
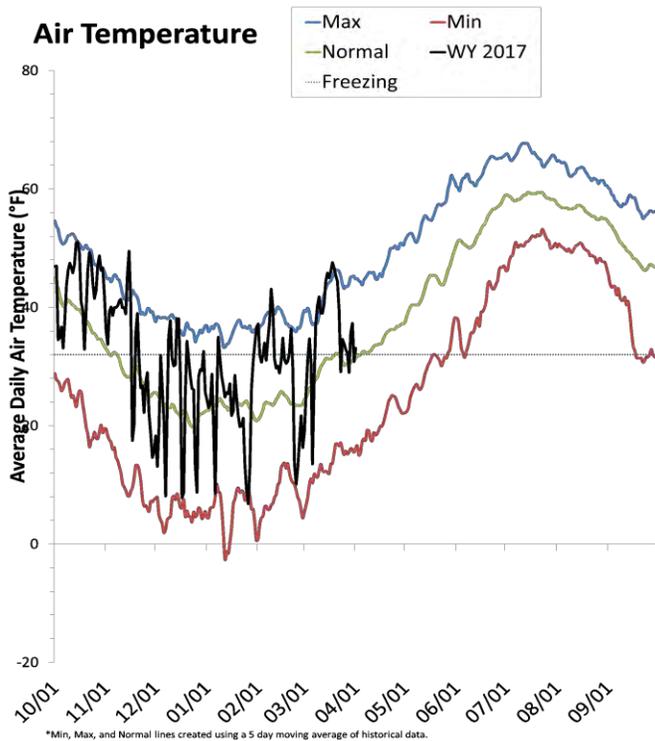
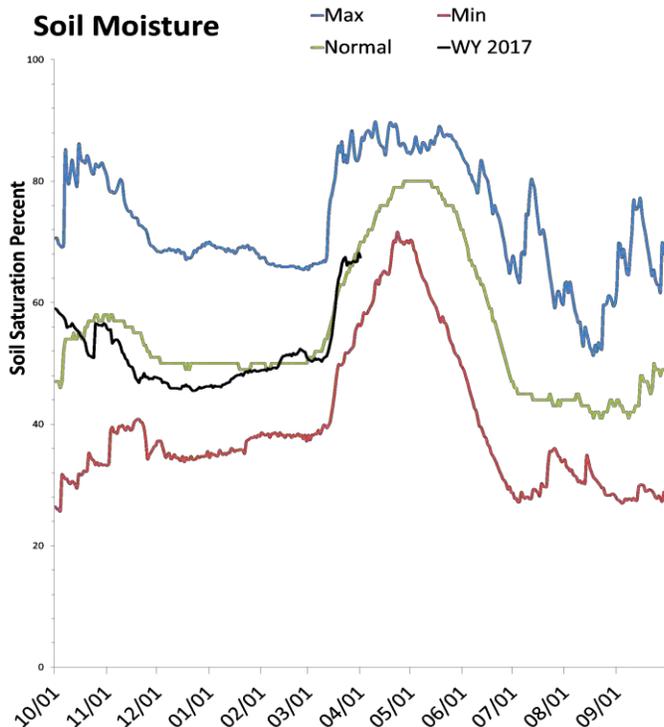
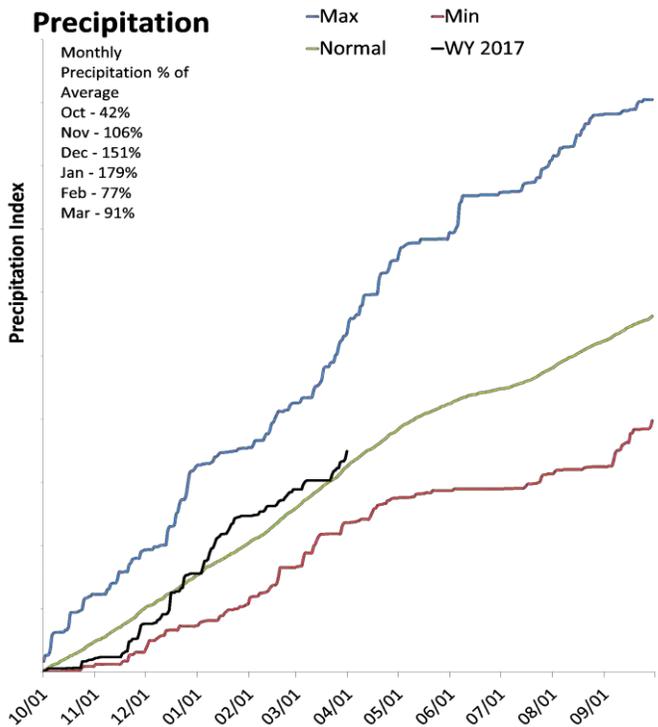
^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Dirty Devil Basin

April 1, 2017

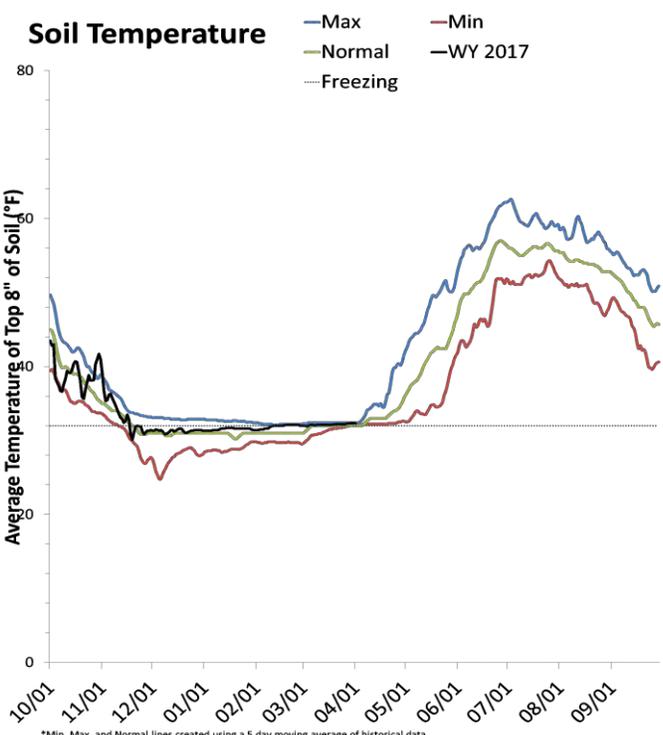
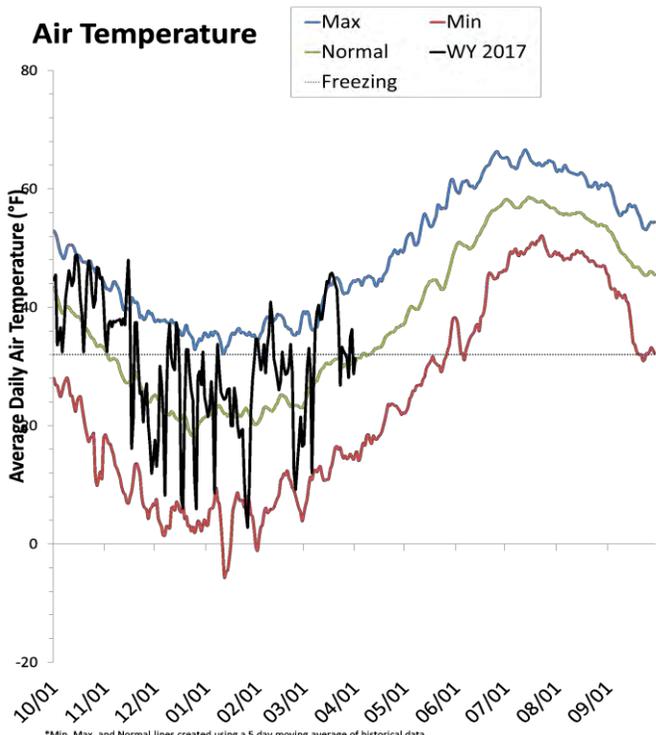
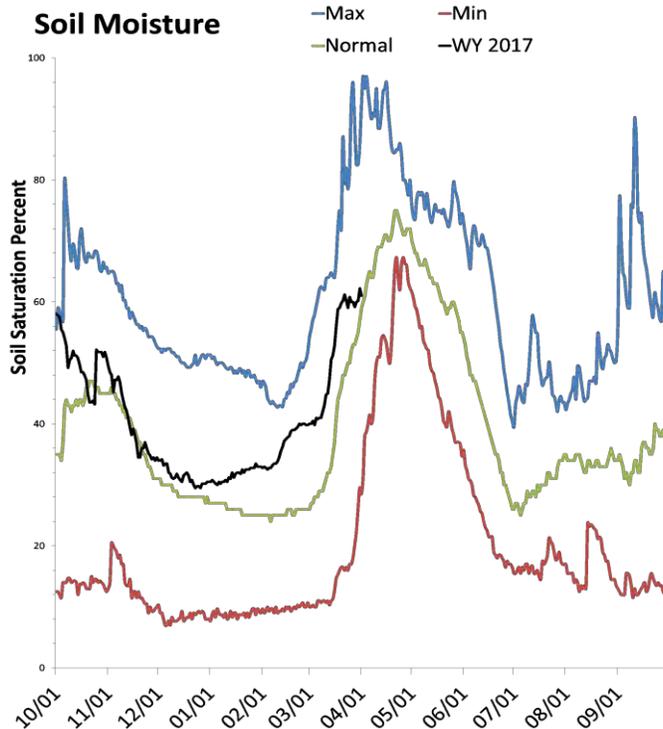
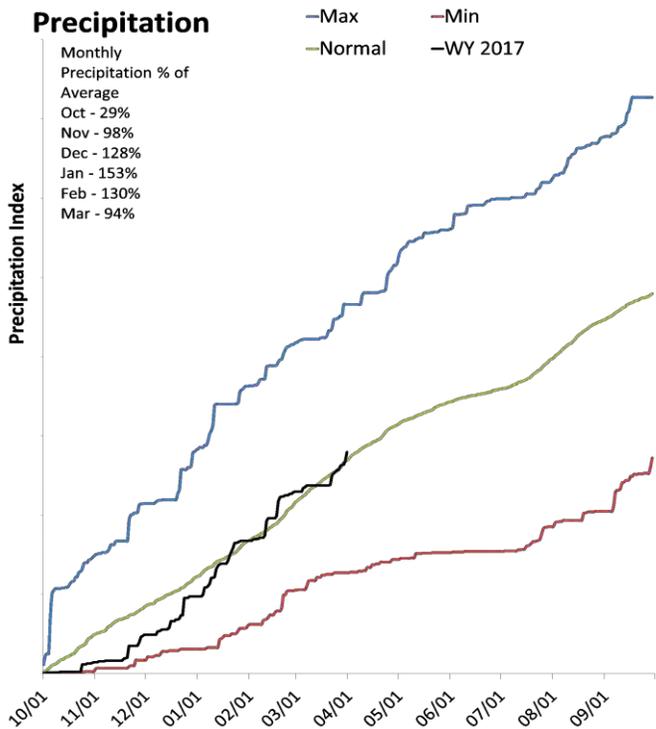
Precipitation in March was near average at 102%, which brings the seasonal accumulation (Oct-Mar) to 116% of average. Soil moisture is at 70% compared to 53% last year.



Escalante River Basin

April 1, 2017

Precipitation in March was near average at 94%, which brings the seasonal accumulation (Oct-Mar) to 104% of average. Soil moisture is at 62% compared to 58% last year.



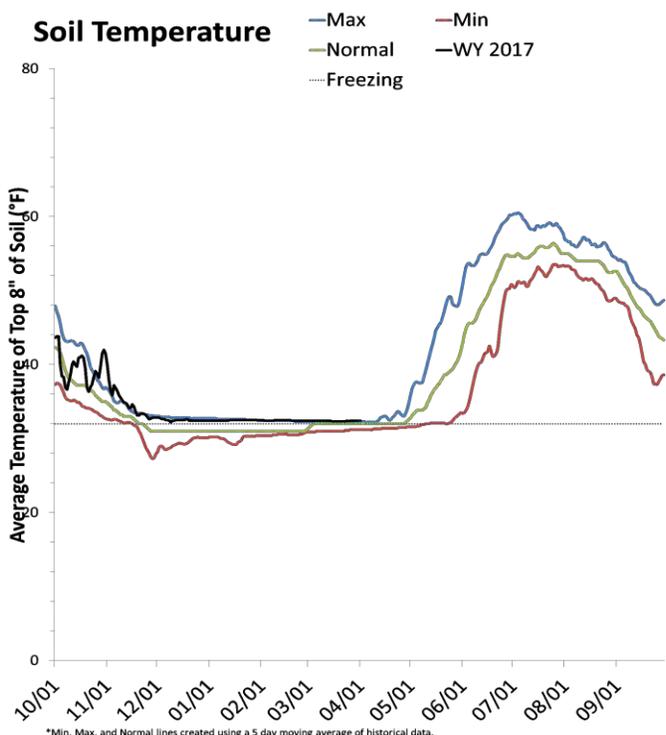
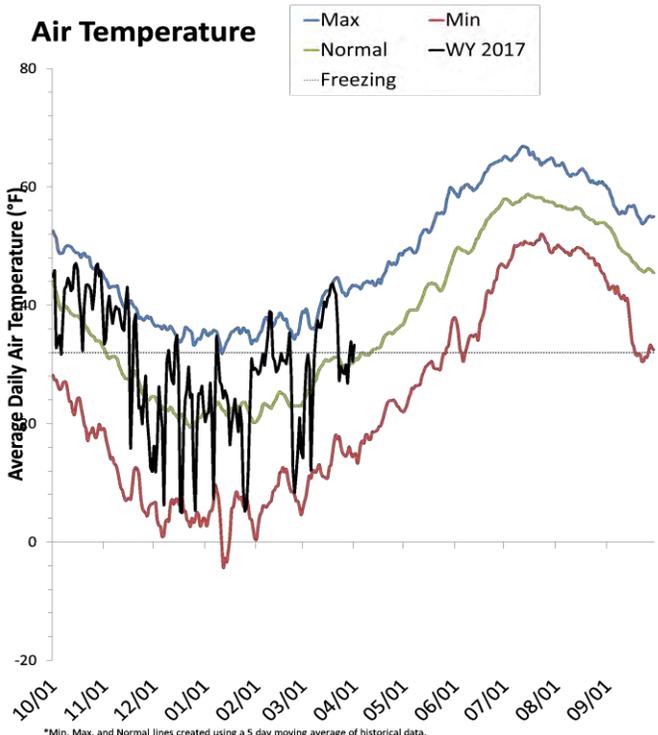
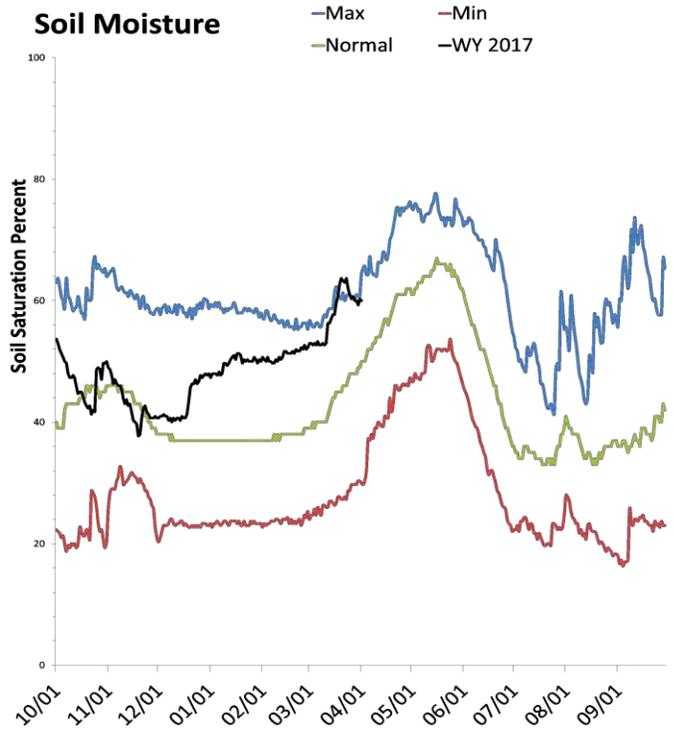
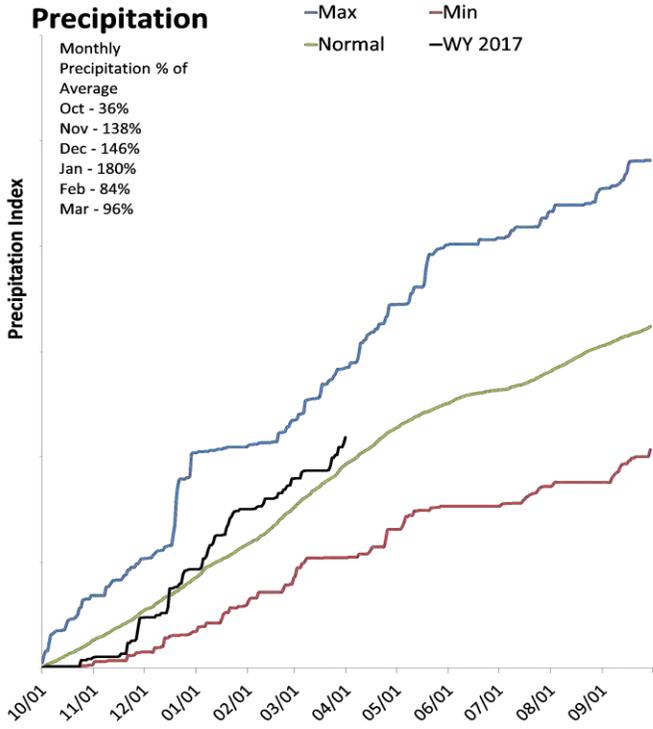
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

Beaver River Basin

April 1, 2017

Precipitation in March was near average at 96%, which brings the seasonal accumulation (Oct-Mar) to 113% of average. Soil moisture is at 60% compared to 32% last year. Reservoir storage is at 52% of capacity, compared to 48% last year. The water availability index for the Beaver River is 47%.



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

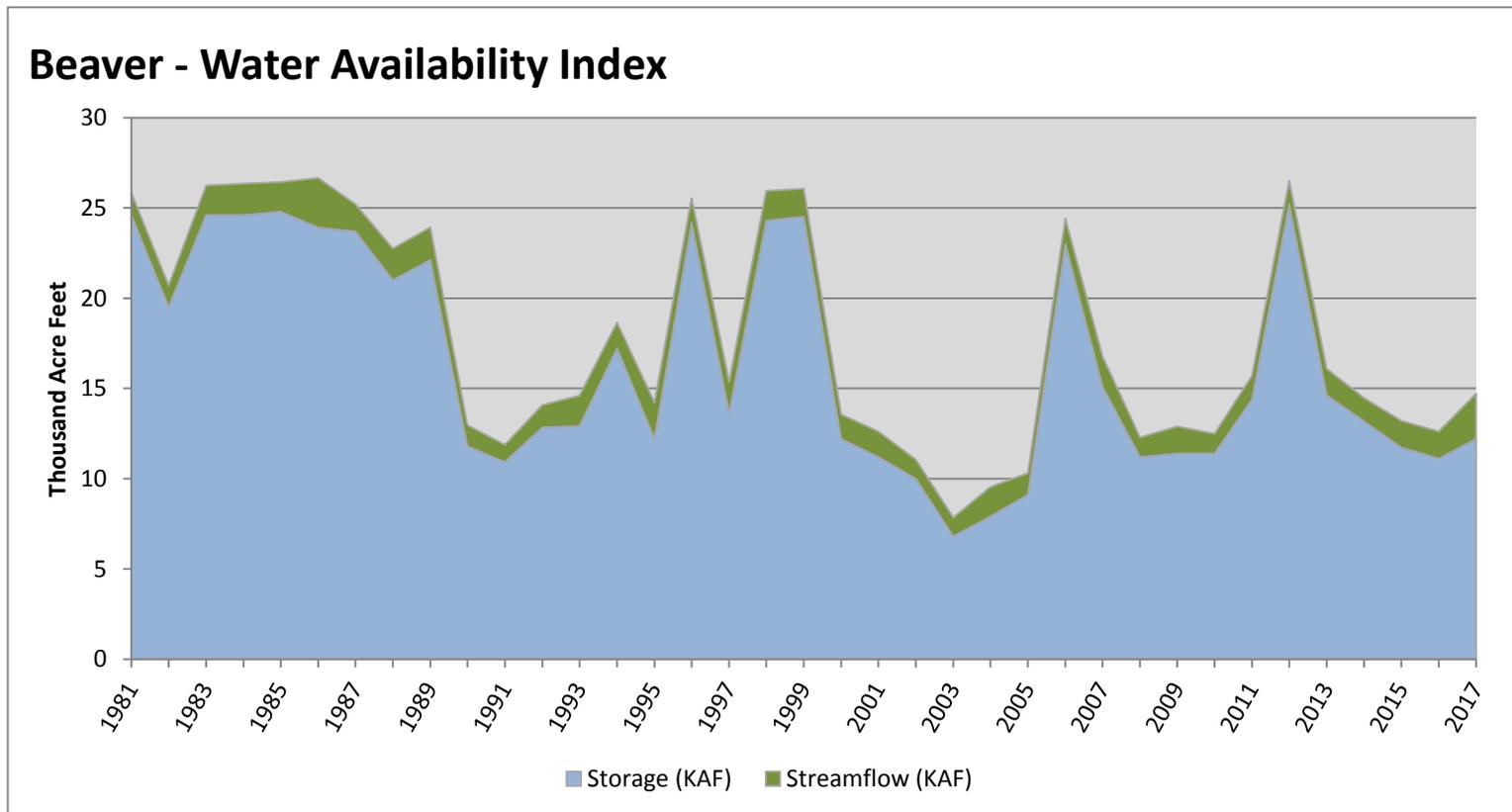
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [*] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Beaver	12.20	2.51	14.71	47	-0.22	14, 93, 97, 11

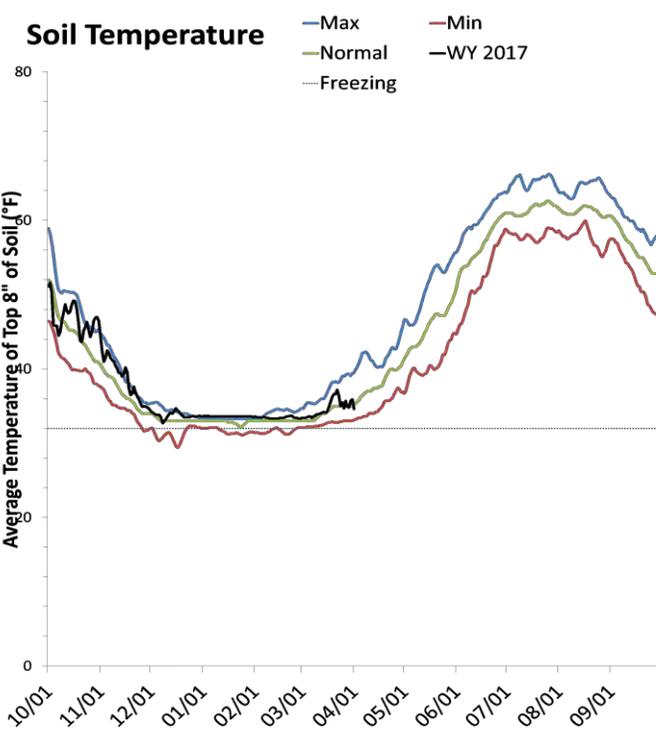
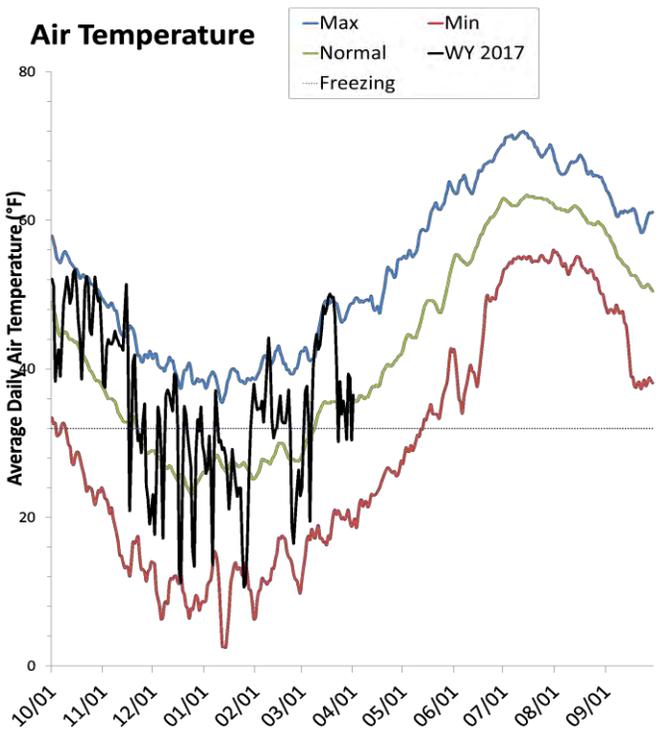
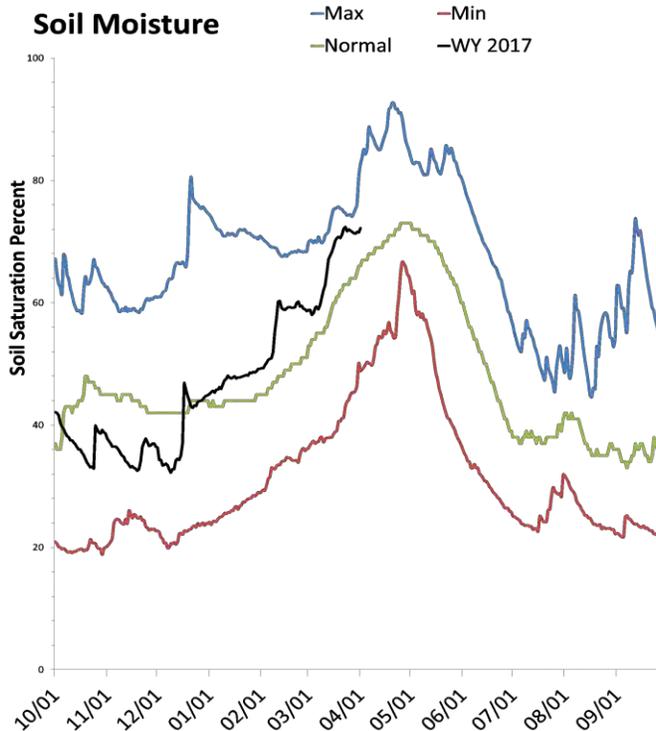
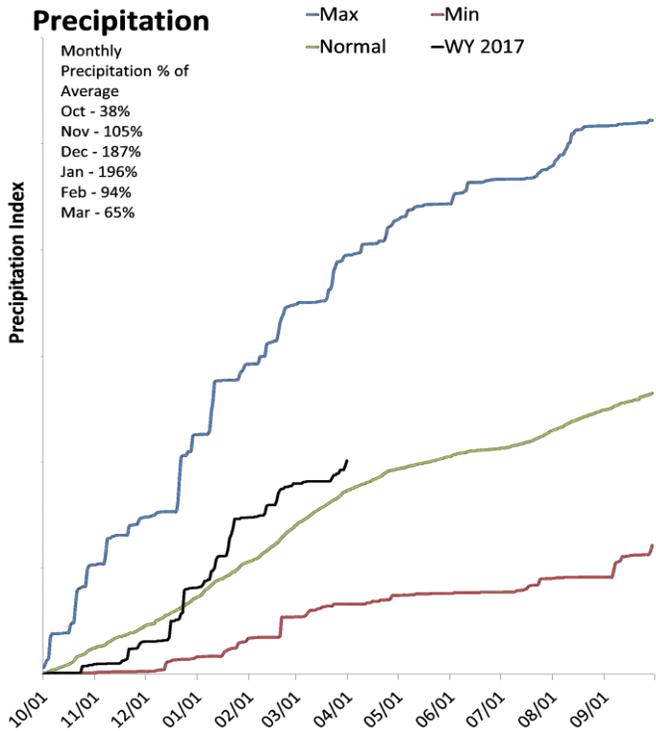
^{*}EOM, end of month; [#]WAI, Water Availability Index; [^]KAF, thousand acre-feet.



Southwestern Utah

April 1, 2017

Precipitation in March was much below average at 65%, which brings the seasonal accumulation (Oct-Mar) to 116% of average. Soil moisture is at 72% compared to 72% last year. Reservoir storage is at 47% of capacity, compared to 45% last year. The water availability index for the Virgin River is 86%.



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

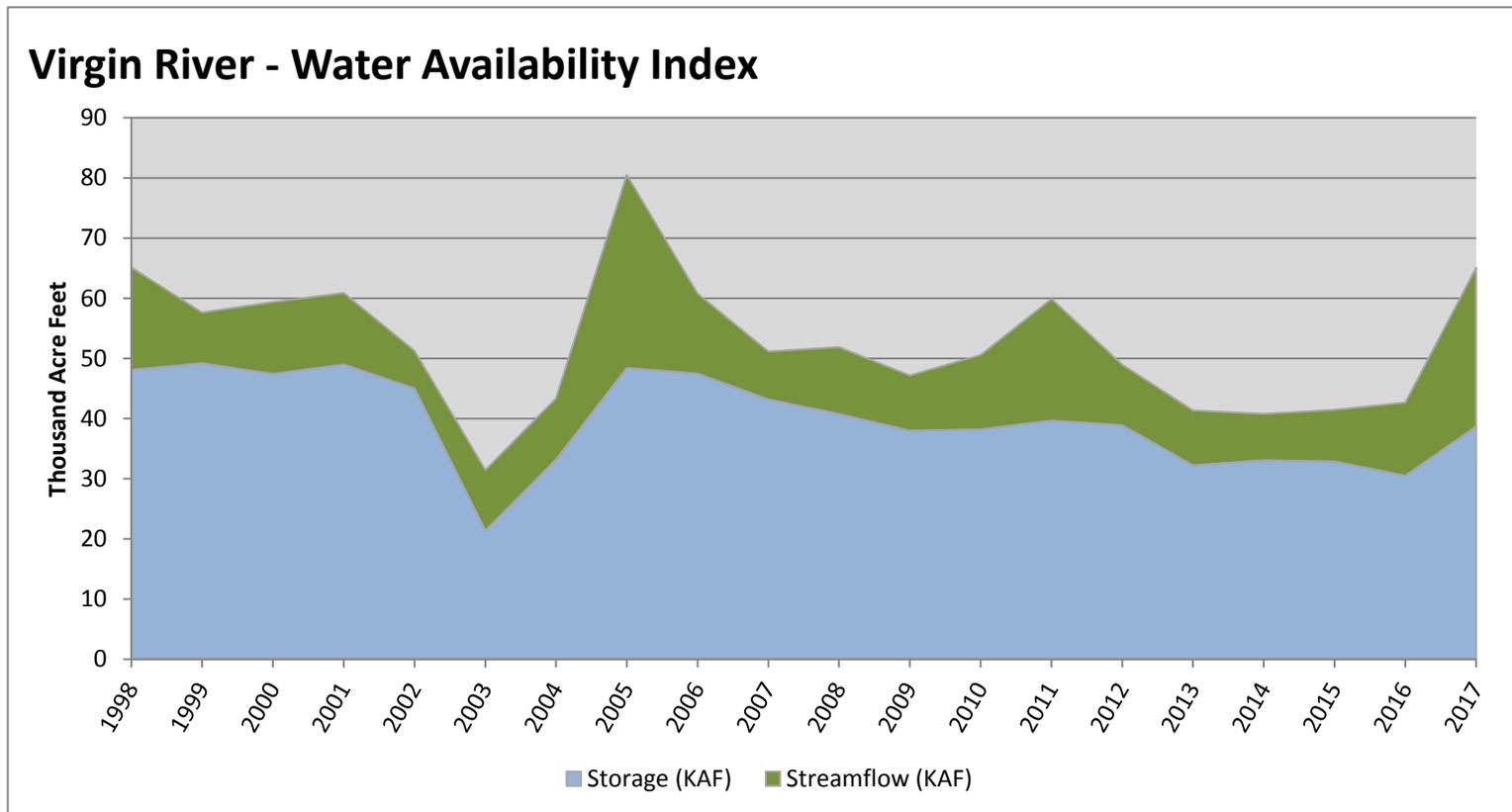
*Min, Max, and Normal lines created using a 5 day moving average of historical data.

April 1, 2017

Water Availability Index

Basin or Region	Mar EOM [^] Storage	March Flow	Storage + Flow	Percentile	WAI [#]	Years with similiar WAI
	KAF [^]	KAF [^]	KAF [^]	%		
Virgin River	38.67	26.38	65.05	86	2.98	06, 01, 98, 05

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



April 1, 2017

Water Availability Index

Basin or Region	Mar EOM* Storage	March Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Bear River	664	6.1	670	55	0.4	14, 90, 89, 01
Woodruff Narrows	48.7	6.1	54.8	63	1.1	16, 09, 98, 15
Little Bear	10.5	28.6	39.1	96	3.9	93, 97, 99, 95
Ogden	62.8	28.7	91.5	82	2.6	16, 83, 99, 07
Weber	119.2	28.7	147.9	50	0.0	11, 08, 99, 15
Provo River	360.3	11.6	371.9	61	0.9	11, 09, 10, 01
Western Uinta	147.7	3.3	151.0	3	-3.9	11, 93, 97, 91
Eastern Uinta	43.4	4.2	47.5	55	0.4	08, 01, 09, 92
Blacks Fork	15.7	2.4	18.0	66	1.3	07, 14, 92, 88
Price	21.0	3.2	24.2	39	-0.9	03, 09, 11, 96
Smiths Creek	7.4	1.6	9.0	79	2.5	14, 12, 99, 86
Joes Valley	32.6	1.2	33.8	18	-2.6	14, 92, 13, 97
Moab	2.0	0.6	2.6	90	3.4	96, 06, 07, 98
Upper Sevier River	78.5	13.1	91.6	32	-1.5	90, 93, 08, 02
San Pitch	4.2	0.7	5.0	16	-2.9	03, 04, 14, 05
Lower Sevier	87.8	15.4	103.2	11	-3.3	03, 05, 16, 92
Beaver	12.2	2.5	14.7	47	-0.2	14, 93, 97, 11
Virgin River	38.7	26.4	65.1	86	3.0	06, 01, 98, 05

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

What is a Water Availability Index?

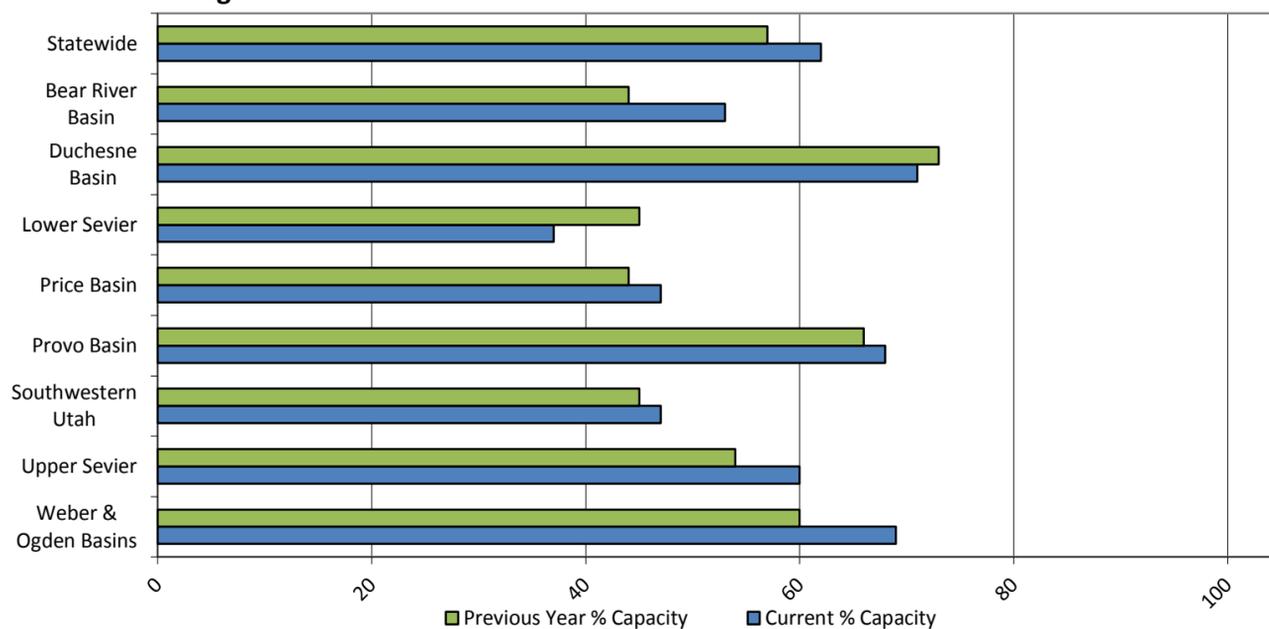
The Water Availability Index (WAI) is an observed hydrologic indicator of current surface water availability within a watershed. The index is calculated by combining current reservoir storage with the previous months streamflow. WAI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry) 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 March 2017	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	26.0	26.0		25.7	101%	101%			
Causey Reservoir	7.2	5.3	3.2	7.1	101%	75%	45%	224%	166%
Cleveland Lake	1.9	2.2		5.4	35%	40%			
Currant Creek Reservoir	13.9	14.7	14.8	15.5	90%	95%	95%	94%	99%
Deer Creek Reservoir	148.7	139.2	116.8	149.7	99%	93%	78%	127%	119%
East Canyon Reservoir	36.8	28.7	36.4	49.5	74%	58%	74%	101%	79%
Echo Reservoir	34.6	39.2	50.2	73.9	47%	53%	68%	69%	78%
Grantsville Reservoir	2.7	2.4	2.5	3.3	83%	72%	76%	109%	95%
Gunlock	7.4	2.5	6.8	10.4	71%	24%	65%	108%	36%
Gunnison Reservoir	4.2	3.0	14.7	20.3	21%	15%	72%	29%	20%
Huntington North Reservoir	4.2	4.1	3.8	4.2	99%	98%	90%	109%	109%
Hyrum Reservoir	10.5	12.3	13.0	15.3	68%	80%	85%	81%	94%
Joes Valley Reservoir	32.6	37.2	40.0	61.6	53%	60%	65%	82%	93%
Jordanelle Reservoir	211.7	169.2	239.4	320.0	66%	53%	75%	88%	71%
Ken's Lake	2.0	1.7	1.3	2.3	87%	76%	58%	151%	131%
Kolob Reservoir	5.6	2.1		5.6	100%	38%			
Lost Creek Reservoir	15.5	12.4	12.6	22.5	69%	55%	56%	123%	99%
Lower Enterprise	2.5	1.1	1.4	2.6	96%	42%	55%	175%	77%
Miller Flat Reservoir	2.3	2.0		5.2	45%	38%			
Millsite	11.9	9.5	10.4	16.7	71%	57%	62%	115%	91%
Minersville Reservoir	12.2	11.1	16.8	23.3	52%	48%	72%	73%	66%
Moon Lake Reservoir	29.9	24.2	27.3	35.8	83%	68%	76%	109%	89%
Otter Creek Reservoir	43.3	36.4	42.2	52.5	82%	69%	80%	103%	86%
Panguitch Lake	8.7	7.6	14.5	22.3	39%	34%	65%	60%	53%
Pineview Reservoir	55.7	79.5	62.8	110.1	51%	72%	57%	89%	127%
Piute Reservoir	35.2	34.7	58.2	71.8	49%	48%	81%	60%	60%
Porcupine Reservoir	11.4	9.5	8.2	11.3	101%	84%	73%	139%	116%
Quail Creek	31.3	28.0	31.1	40.0	78%	70%	78%	101%	90%
Red Fleet Reservoir	20.0	17.5	18.8	25.7	78%	68%	73%	106%	93%
Rockport Reservoir	26.3	44.7	37.6	60.9	43%	73%	62%	70%	119%
Sand Hollow Reservoir	47.9	43.6		50.0	96%	87%			
Scofield Reservoir	21.0	13.9	30.7	65.8	32%	21%	47%	68%	45%
Settlement Canyon Reservoir	0.5	0.4	0.8	1.0	52%	42%	75%	70%	56%
Sevier Bridge Reservoir	87.8	106.0	181.9	236.0	37%	45%	77%	48%	58%
Smith And Morehouse Reservoir	6.0	4.1	3.6	8.1	74%	50%	44%	168%	113%
Starvation Reservoir	116.2	158.5	149.7	165.3	70%	96%	91%	78%	106%
Stateline Reservoir	7.4	6.6	5.3	12.0	62%	55%	44%	139%	124%
Steinaker Reservoir	23.3	19.5	24.5	33.4	70%	58%	73%	95%	80%
Strawberry Reservoir	805.3	801.2	665.1	1105.9	73%	72%	60%	121%	120%
Upper Enterprise	4.2	0.5	5.3	10.0	42%	5%	53%	79%	9%
Upper Stillwater Reservoir	1.6	1.5	4.5	32.5	5%	5%	14%	37%	34%
Utah Lake	508.3	494.7	816.5	870.9	58%	57%	94%	62%	61%
Vernon Creek Reservoir	0.6	0.5	0.6	0.6	100%	87%	93%	107%	93%
Willard Bay	196.8	113.2	147.7	215.0	92%	53%	69%	133%	77%
Woodruff Creek	4.1	4.0	3.3	4.0	103%	100%	83%	124%	121%
Woodruff Narrows Reservoir	48.7	51.6	38.4	57.3	85%	90%	67%	127%	134%
Meeks Cabin Reservoir	15.7	9.5	13.4	32.5	48%	29%	41%	117%	71%
Bear Lake	663.7	530.9	611.9	1302.0	51%	41%	47%	108%	87%
Basin-wide Total	3331.6	3092.3	3588.0	5380.9	62%	57%	67%	93%	86%
# of reservoirs	43	43	43	43	43	43	43	43	43

Reservoir Storage



Issued by

Jason Weller
Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Prepared by

Snow Survey Staff
Randall Julander, Supervisor
Troy Brosten, Assistant Supervisor
Beau Uriona, Hydrologist
Jordan Clayton, Hydrologist
Kent Sutcliffe, Soil Scientist
Bob Nault, Electronics Technician

Released by

David Brown
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 @: <http://www.ut.nrcs.usda.gov/snow/>

Snow Survey, NRCS, USDA
245 North Jimmy Doolittle Road
Salt Lake City, UT 84116
(801) 524-5213



**Utah Climate and
Water Report**
Natural Resources Conservation Service
Salt Lake City, UT

