

# Utah Climate and Water Report

September 2016



## **Mt. Pennell, August 2016**

Photo by Jordan Clayton

# 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.

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  - Water Availability Index

## Utah General Summary September 1, 2016

*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](mailto:Randy.Julander@ut.usda.gov).*

### **Current Valley Conditions (SCAN)**

For the third month in a row, valley precipitation was light this month, averaging 0.9 inches across the state. This brought the water year (Oct-Aug) valley total to 10.3 inches. Precipitation was again lowest in Northern Utah with just 0.2 inches and 0.1 inches in the Northern Mountain and North Central areas, respectively. Not surprisingly, the Southeast area experienced the most precipitation during August at 1.8 inches. Despite the lack of widespread monsoonal moisture, statewide soil moisture is at 35% – the same as last year's value. Soil temperatures at end of August were a little warmer than normal. Overall, precipitation-to-date totals are continuing to trend slightly lower this water year when compared to 2015 values, as we wind down the 2016 water year.

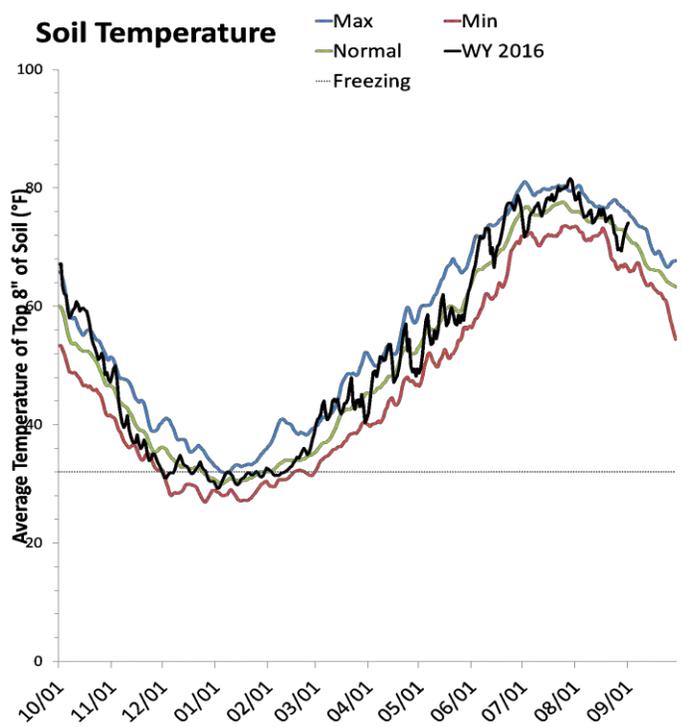
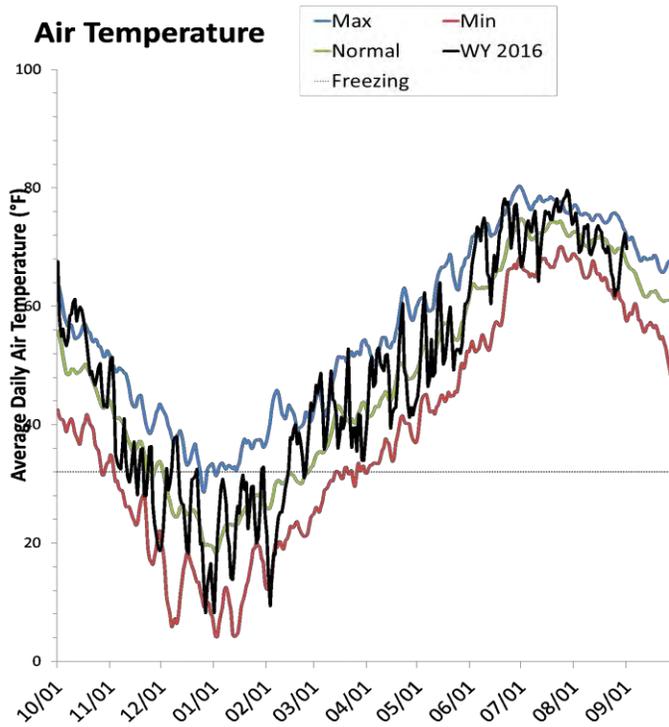
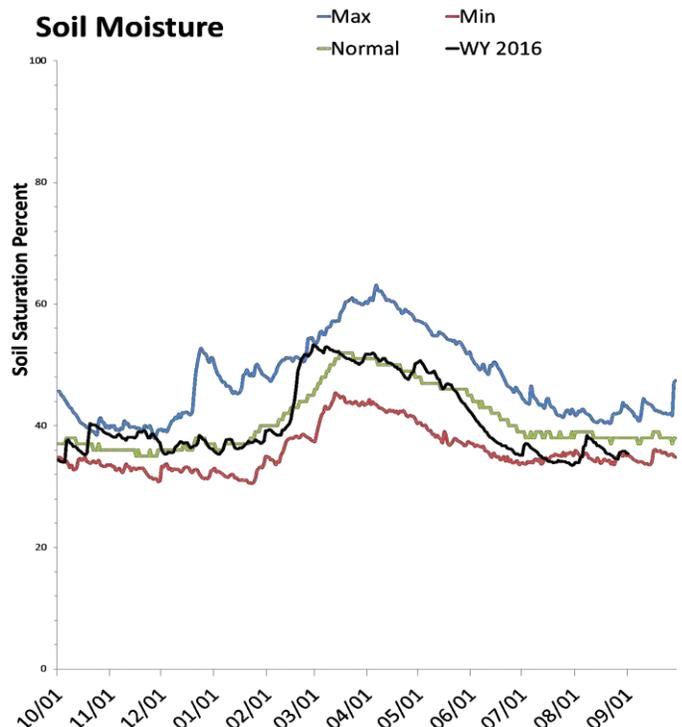
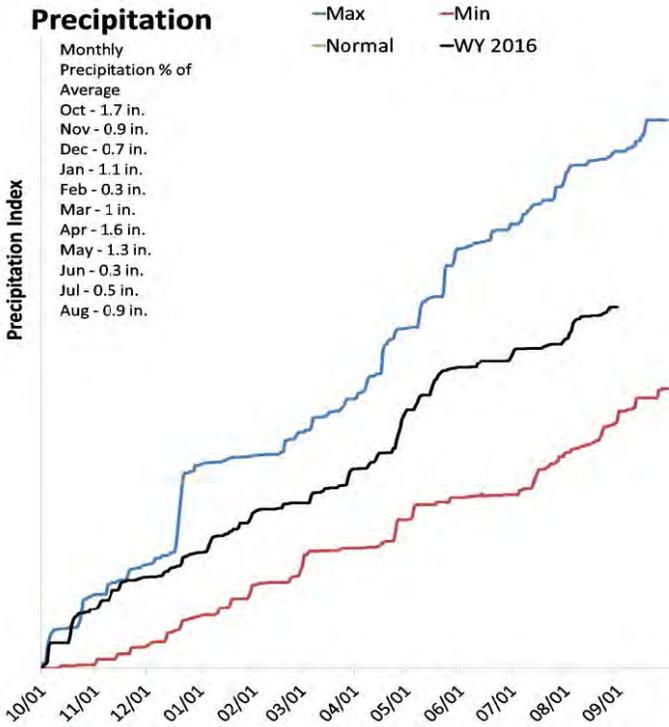
### **Current Mountain Conditions (SNOTEL)**

And the fifth year is a bust, it had been 4 years in a row – for above average August precipitation but this August was very dry over most of the state. Northern Utah saw between 20% and 60% of normal precipitation, central Utah had 65% to 90%, southwestern Utah was near normal and the southeast corner was above average at about 160%. Hot and dry conditions make for exceptional hay production if you have the water and there has been substantial water used this month – 9% of total capacity. Seasonal precipitation statewide is near normal at 90% of average. Streamflow at most locations is still flowing between 25 and 75 percentile with an increasing number at the lower end in the below and much below normal categories. Soil moisture values continue to decrease in northern and central Utah and are basically flat in southern Utah. Statewide soil moisture values are at 28% compared to 50% last year – much, much drier conditions. Reservoir storage for the entire state is at 47% of capacity – down 9% from last month and 4% lower than the 51% of last year. Some reservoirs have had substantial drawdowns such as Echo (-24%) and Piute (-21%) and others are near empty – Piute, Sevier Bridge, Gunnison, Woodruff Creek, Upper and Lower Enterprise and others.

# Statewide SCAN

9/1/2016

The average precipitation at SCAN sites within Utah was 0.9 inches in August, which brings the seasonal accumulation (Oct-Aug) to 10.3 inches. Soil moisture is at 35% compared to 35% last year.



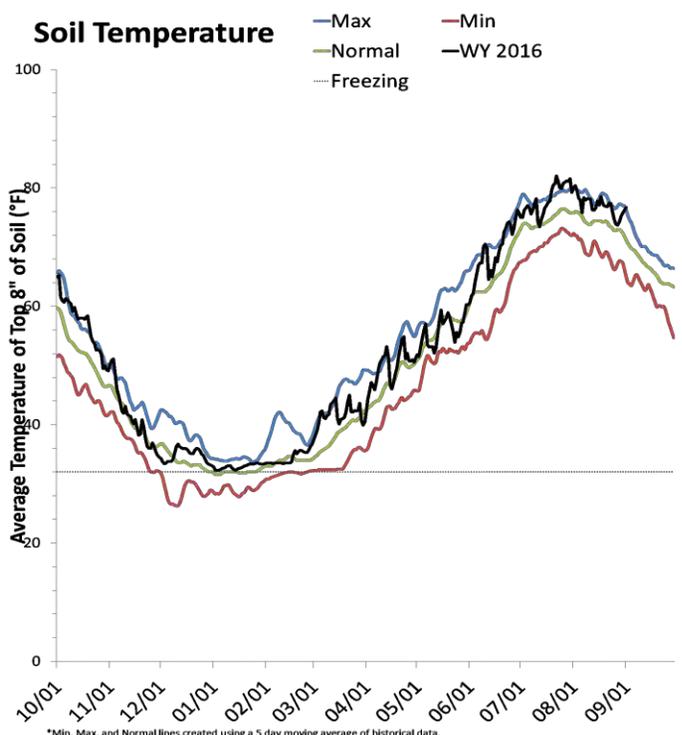
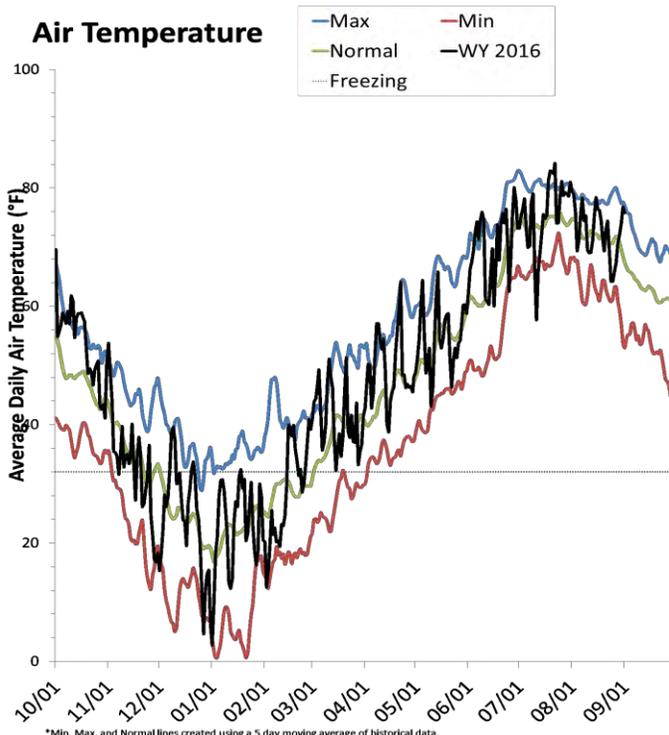
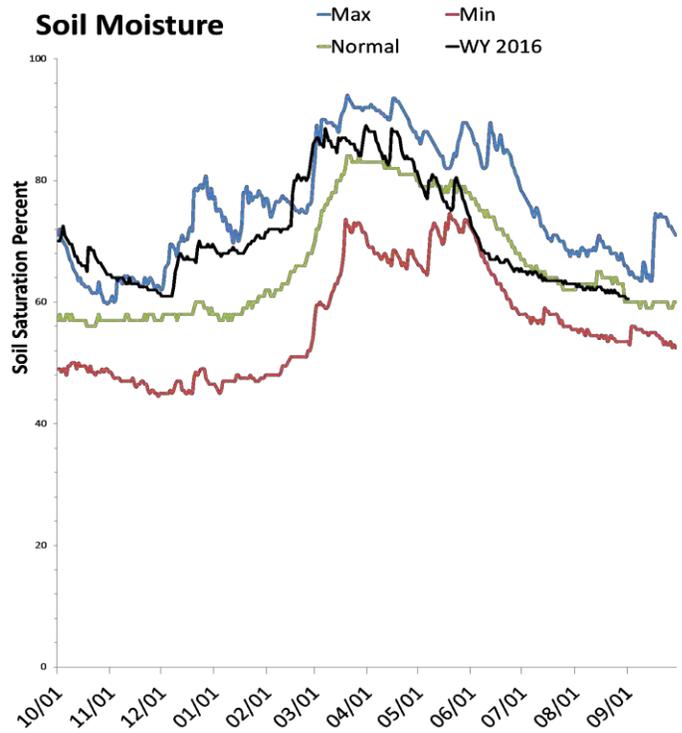
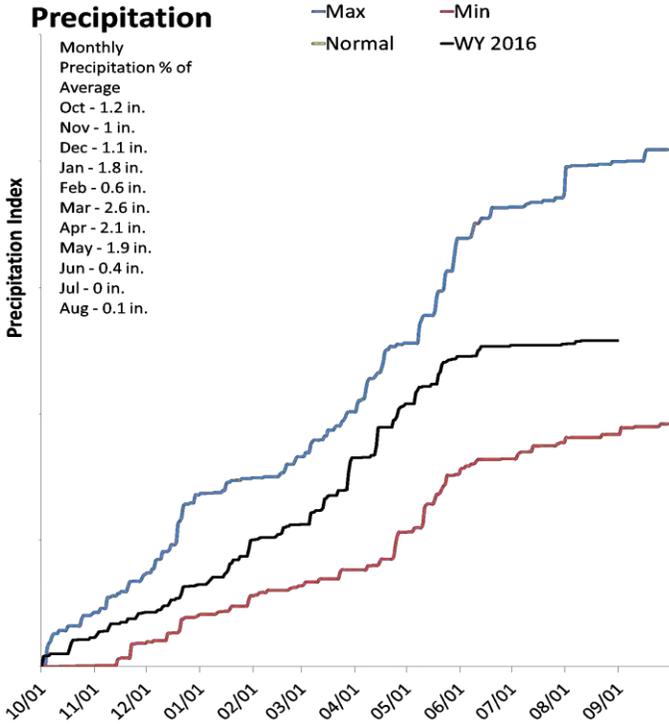
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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# North Central

9/1/2016

The average precipitation in August at SCAN sites within the basin was 0.1 inches, which brings the seasonal accumulation (Oct-Aug) to 12.9 inches. Soil moisture is at 62% compared to 65% last year.



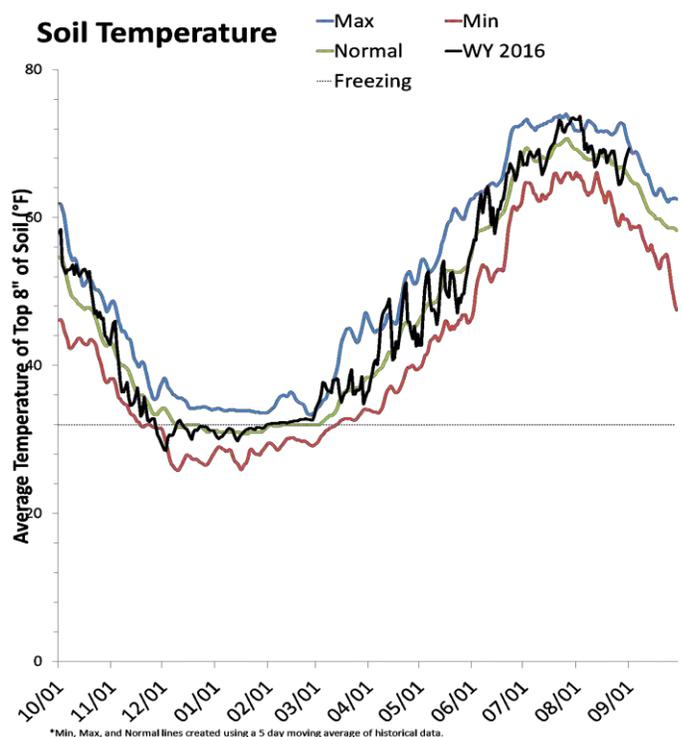
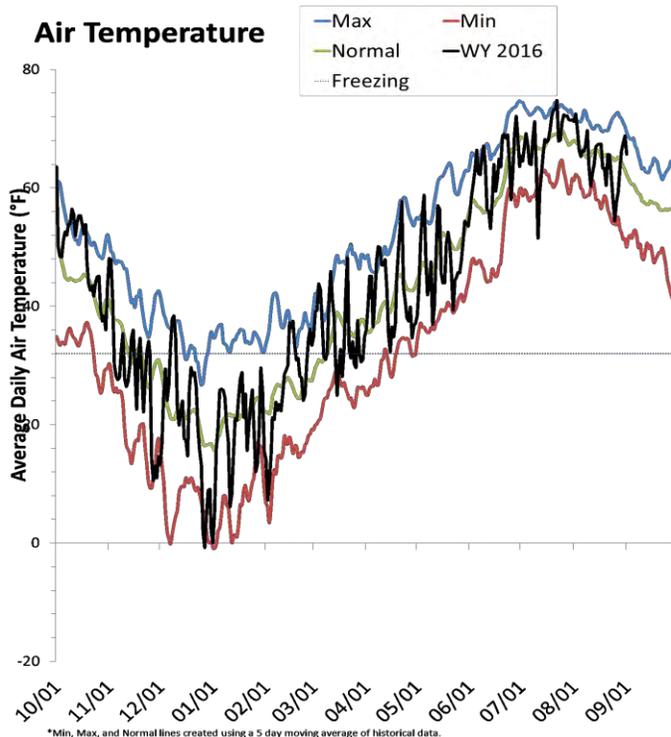
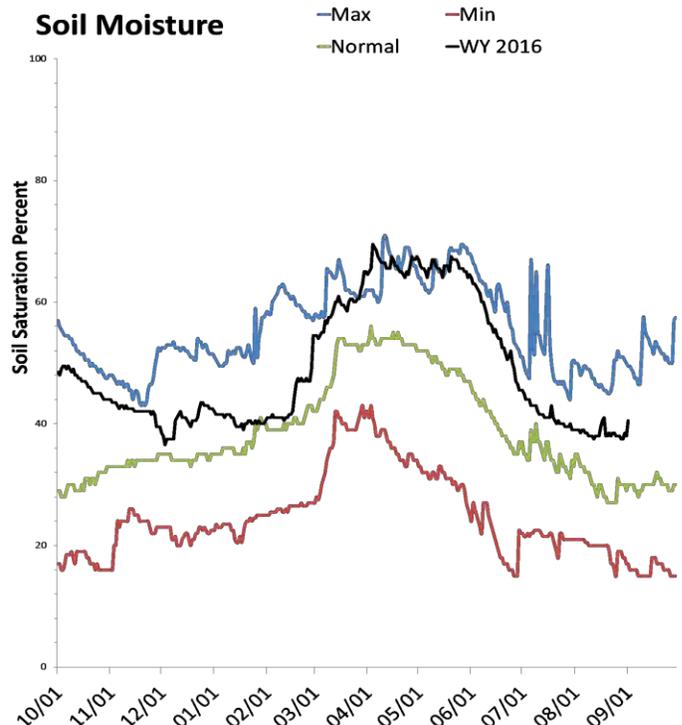
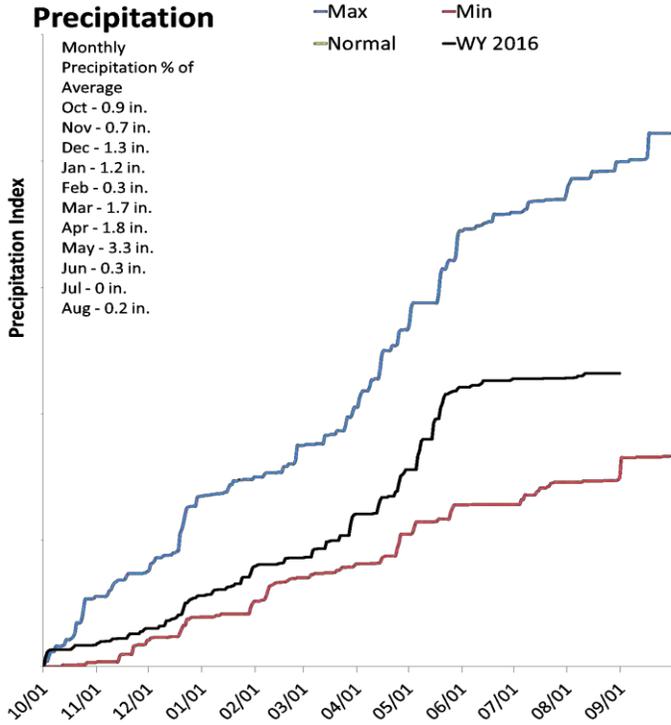
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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# Northern Mountains

9/1/2016

The average precipitation in August at SCAN sites within the basin was 0.2 inches, which brings the seasonal accumulation (Oct-Aug) to 11.6 inches. Soil moisture is at 33% compared to 35% last year.



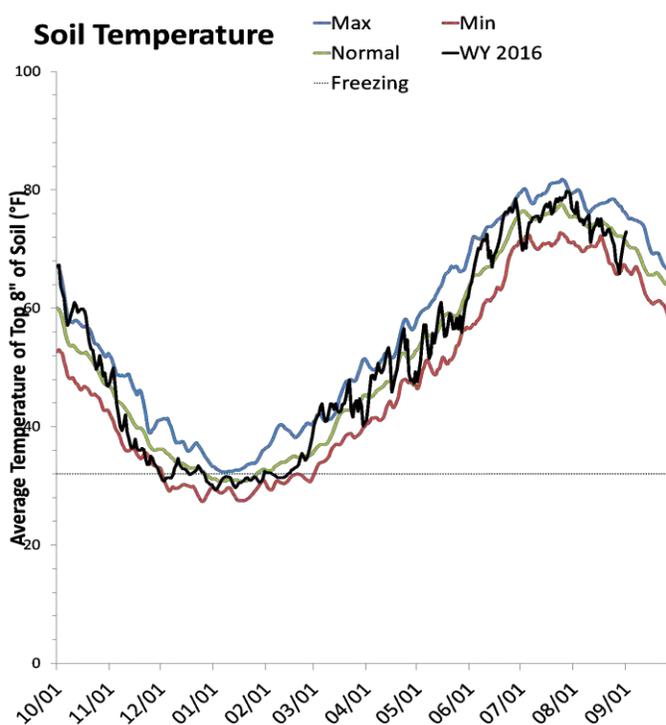
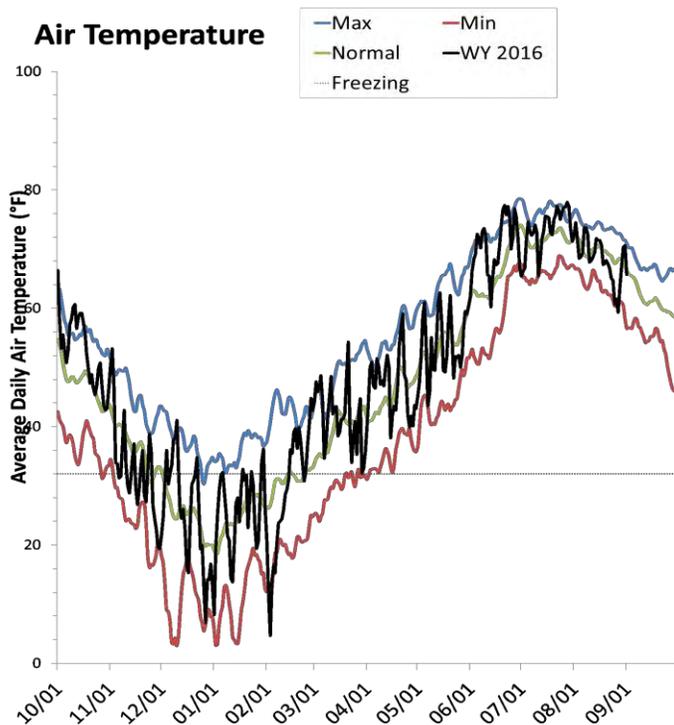
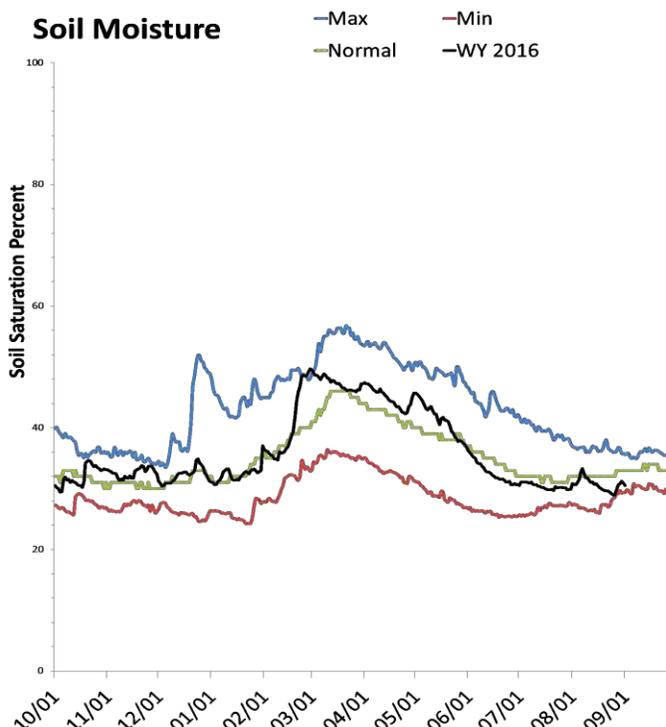
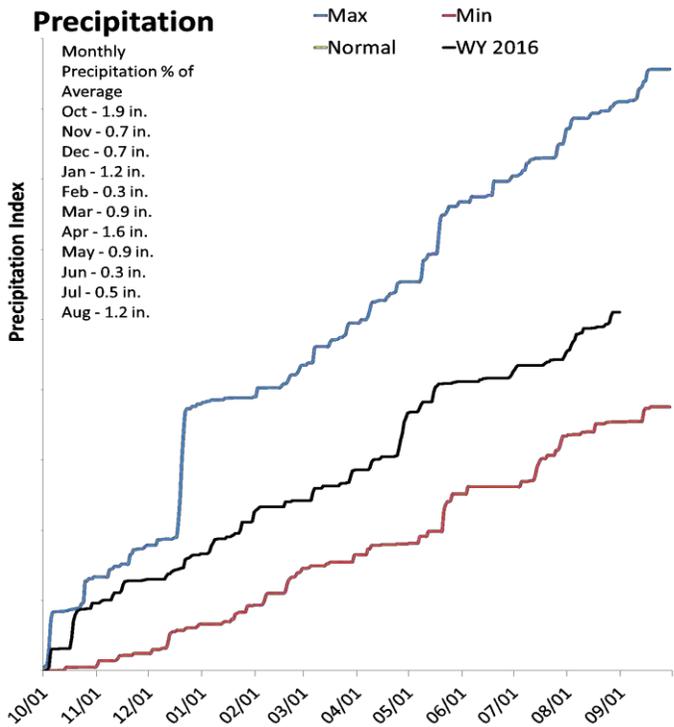
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# South Central

9/1/2016

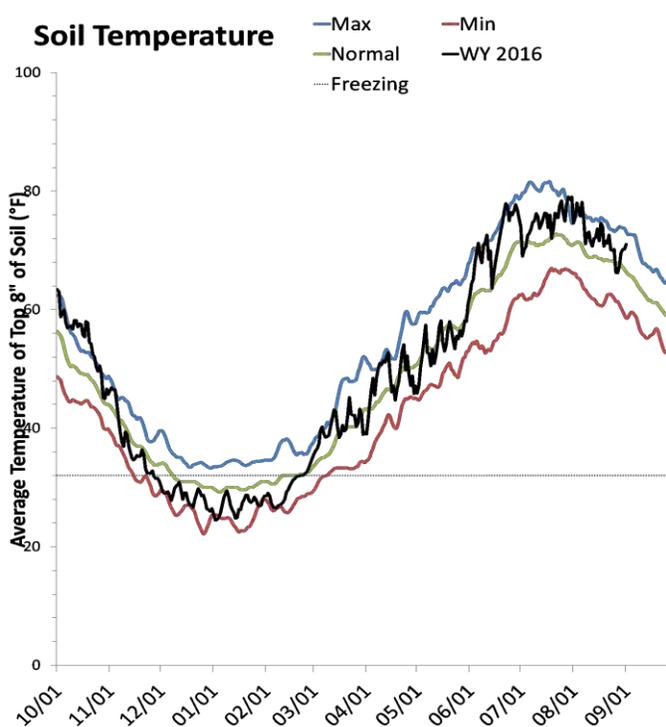
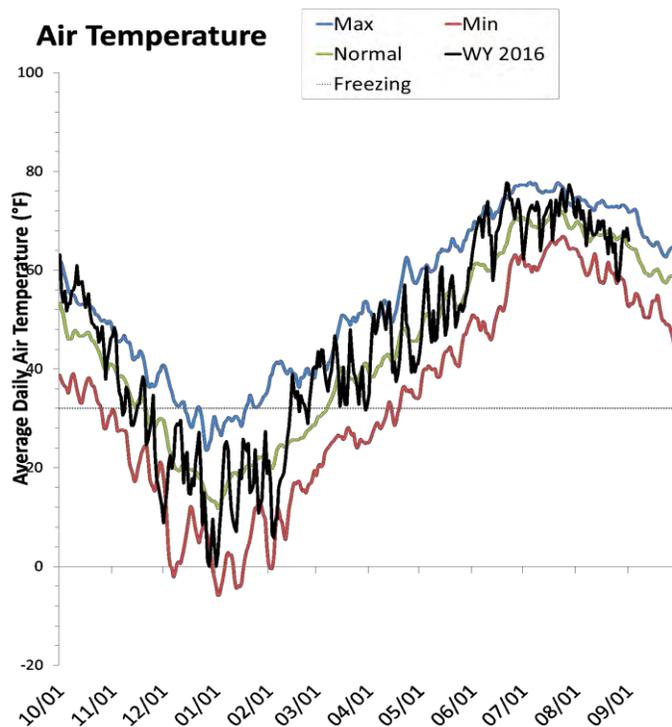
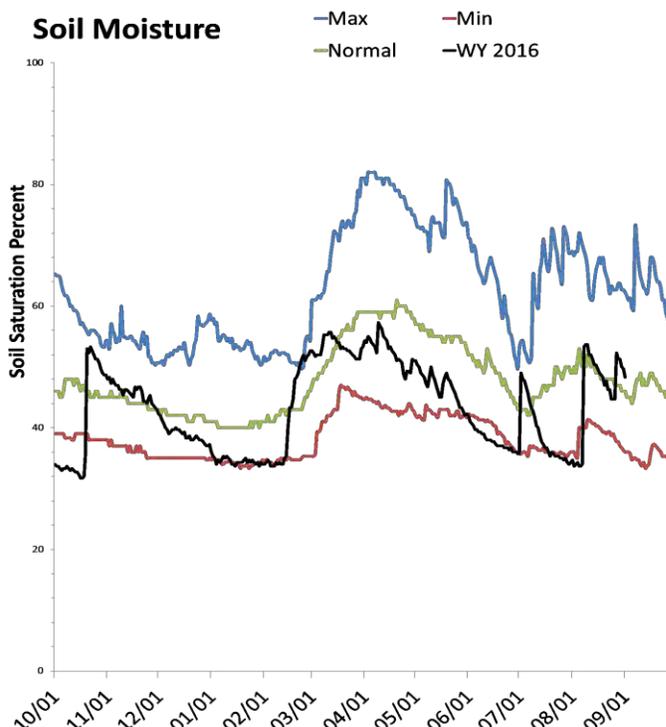
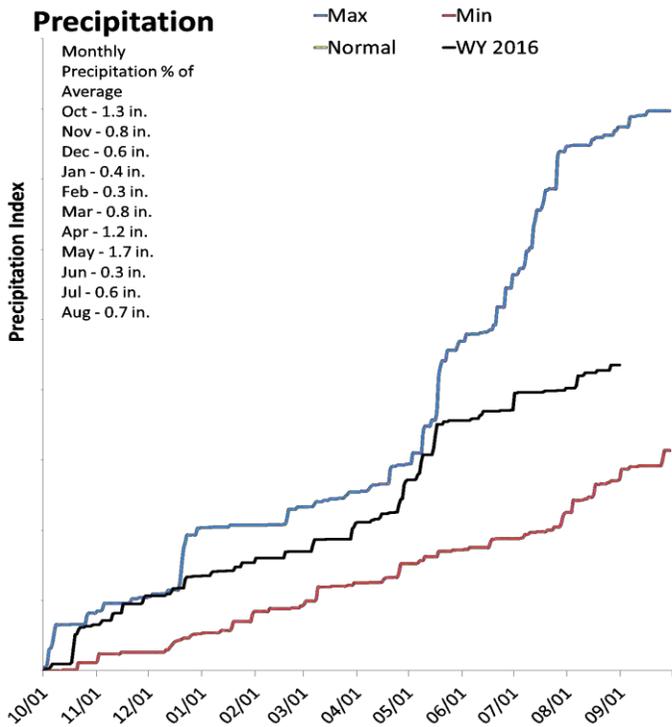
The average precipitation in August at SCAN sites within the basin was 1.2 inches, which brings the seasonal accumulation (Oct-Aug) to 10.2 inches. Soil moisture is at 31% compared to 32% last year.



# Uintah Basin

9/1/2016

The average precipitation in August at SCAN sites within the basin was 0.7 inches, which brings the seasonal accumulation (Oct-Aug) to 8.7 inches. Soil moisture is at 49% compared to 36% last year.



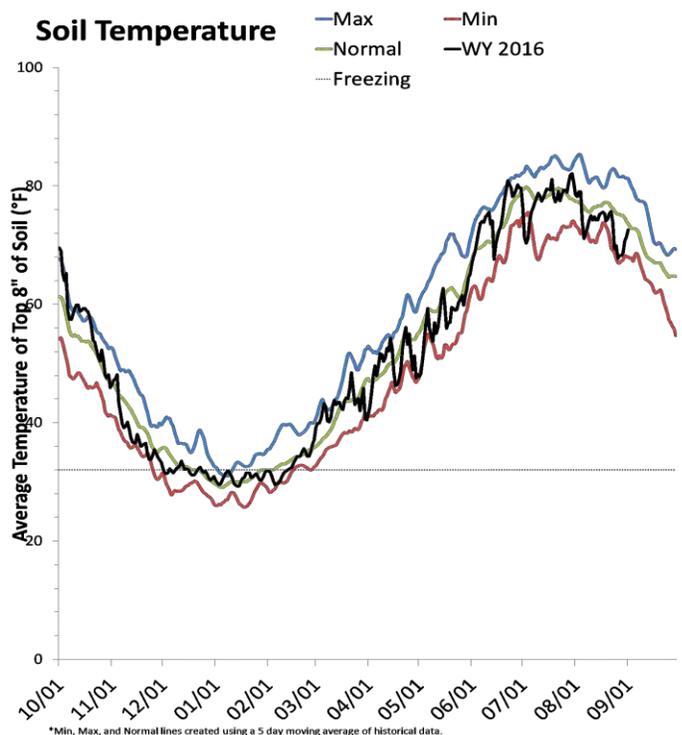
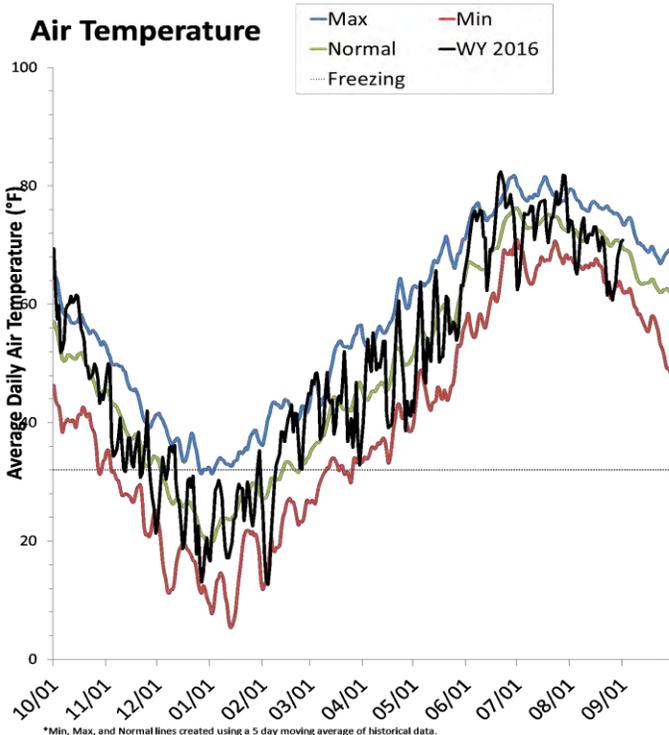
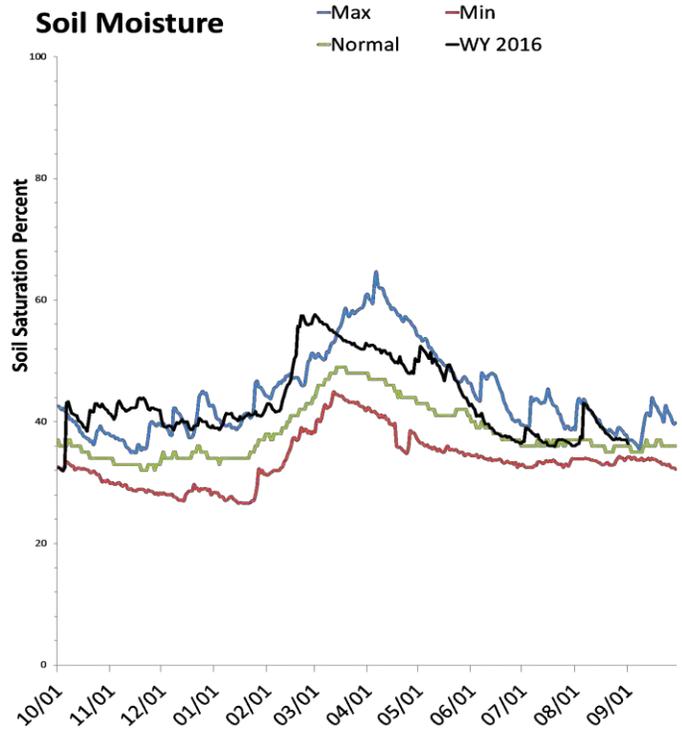
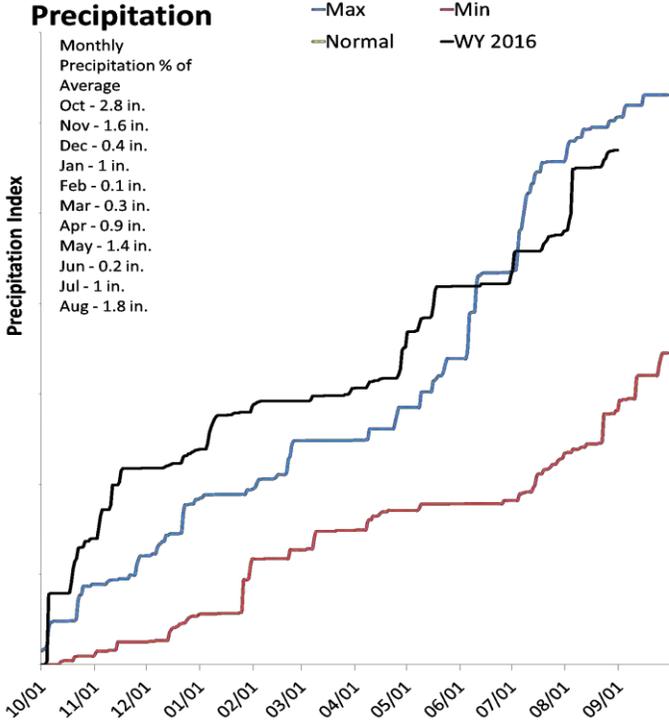
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# Southeast

9/1/2016

The average precipitation in August at SCAN sites within the basin was 1.8 inches, which brings the seasonal accumulation (Oct-Aug) to 11.4 inches. Soil moisture is at 37% compared to 34% last year.



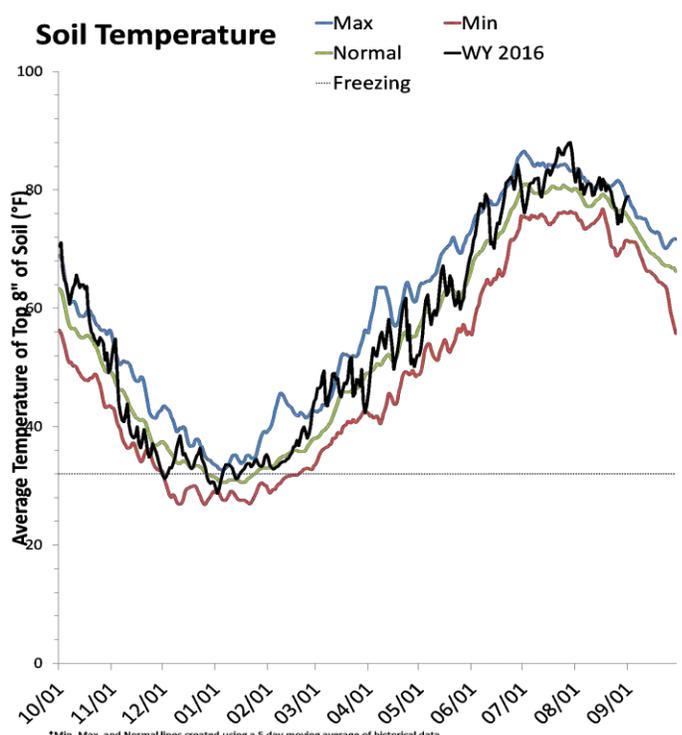
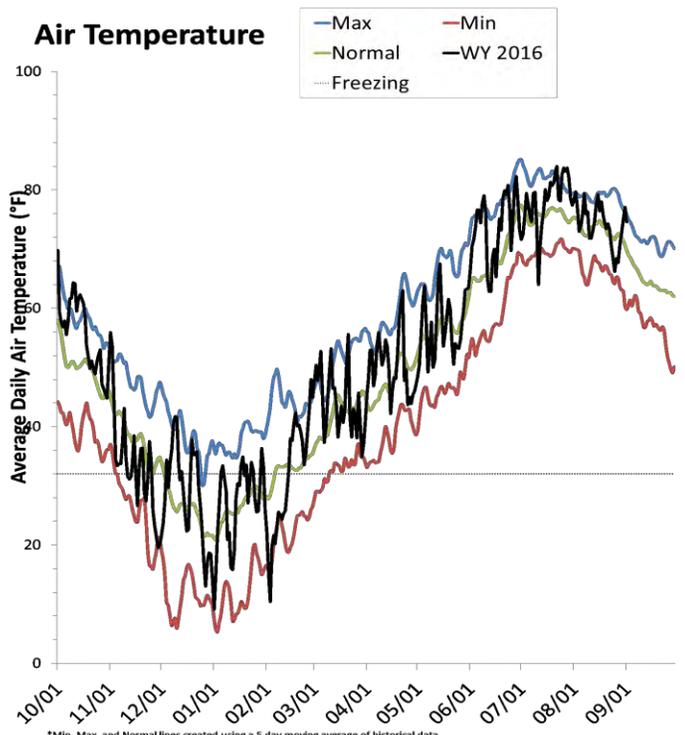
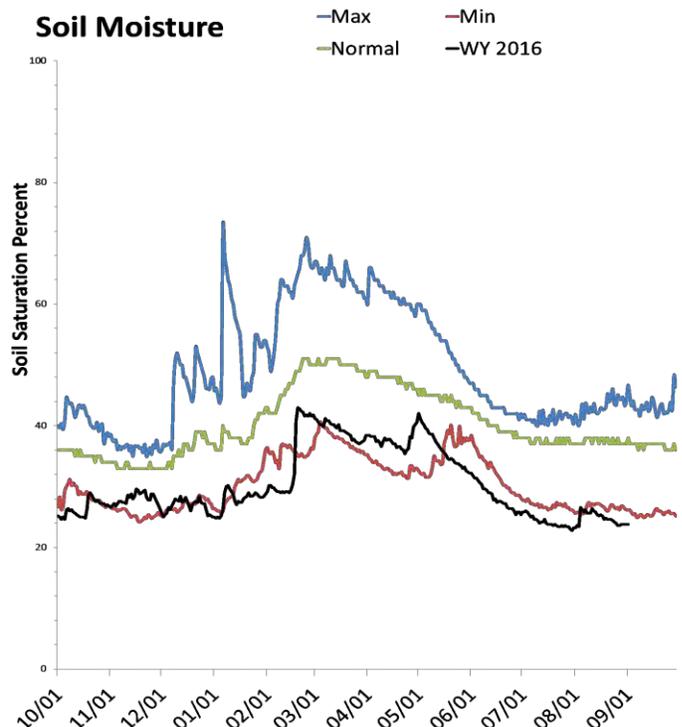
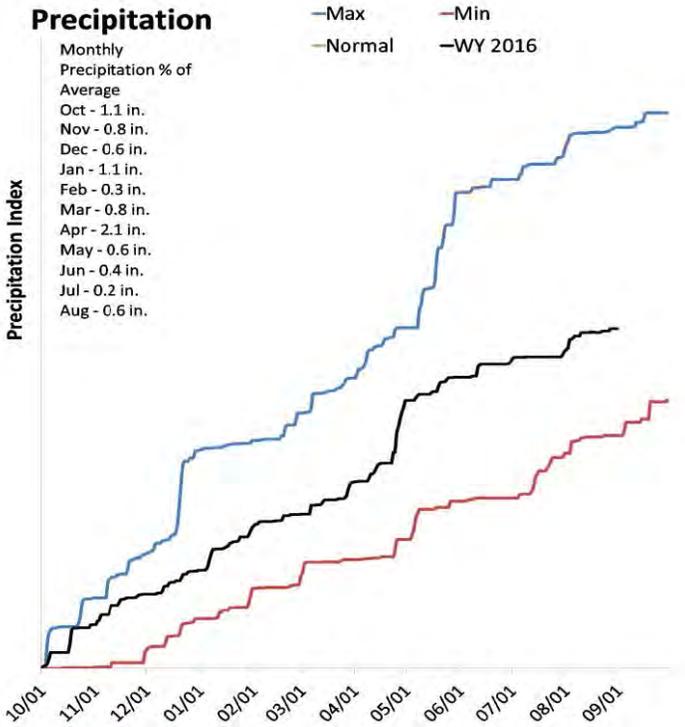
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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# Western and Dixie

9/1/2016

The average precipitation in August at SCAN sites within the basin was 0.6 inches, which brings the seasonal accumulation (Oct-Aug) to 8.6 inches. Soil moisture is at 24% compared to 36% last year.



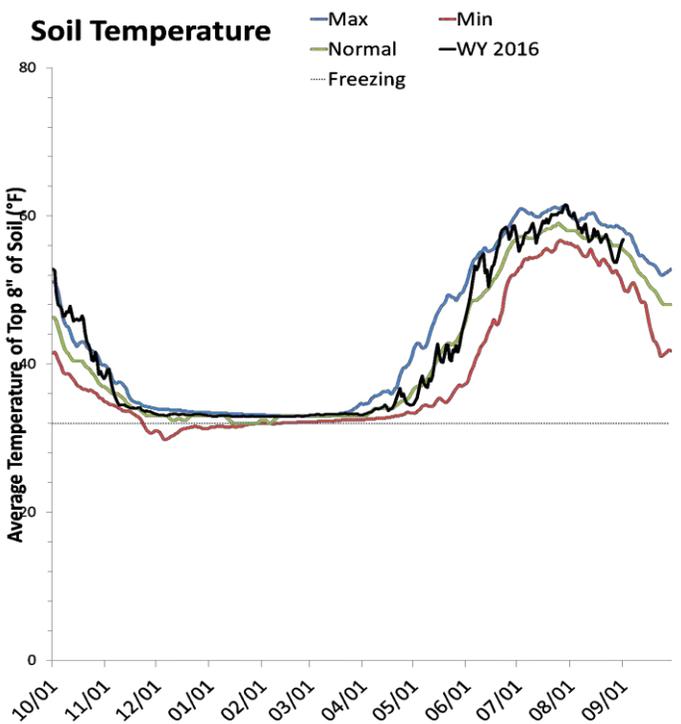
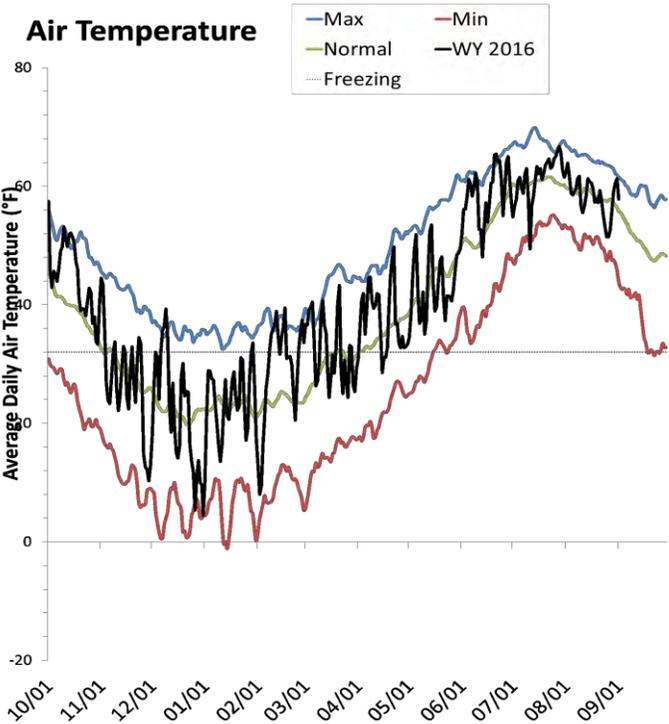
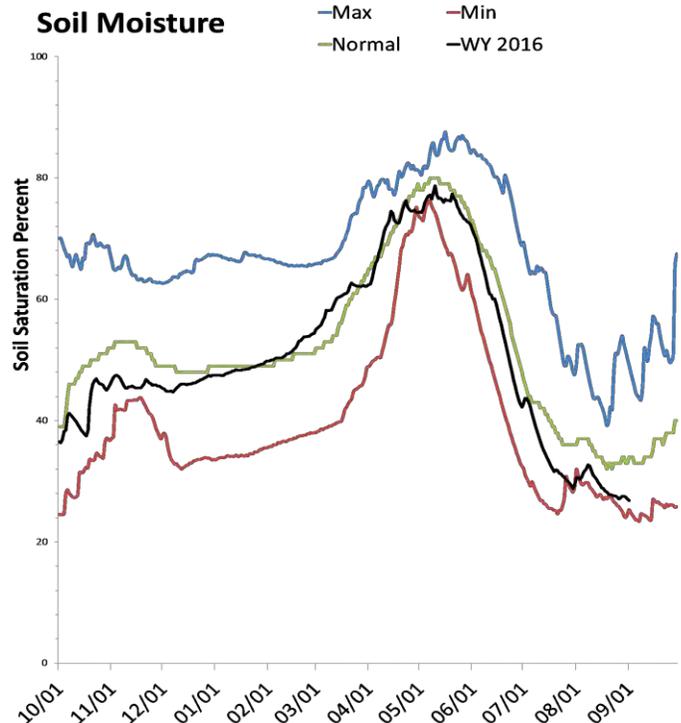
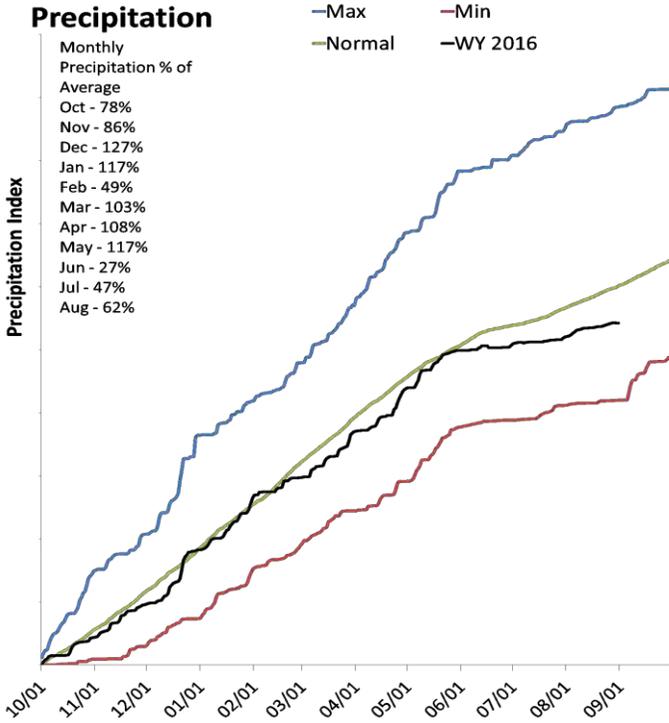
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# Statewide SNOTEL

9/1/2016

Precipitation at SNOTEL sites during August was much below average at 64%, which brings the seasonal accumulation (Oct-Aug) to 90% of average. Soil moisture is at 28% compared to 50% last year. Reservoir storage is at 47% of capacity, compared to 51% last year.



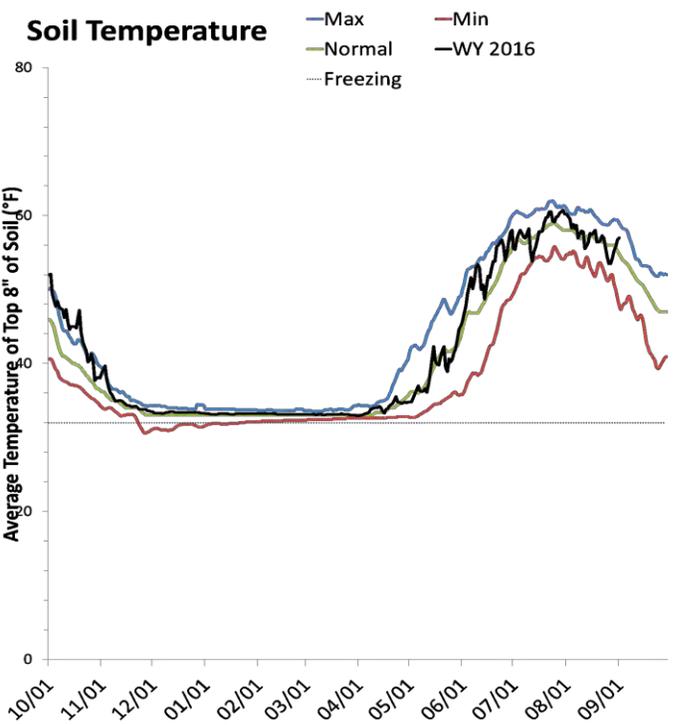
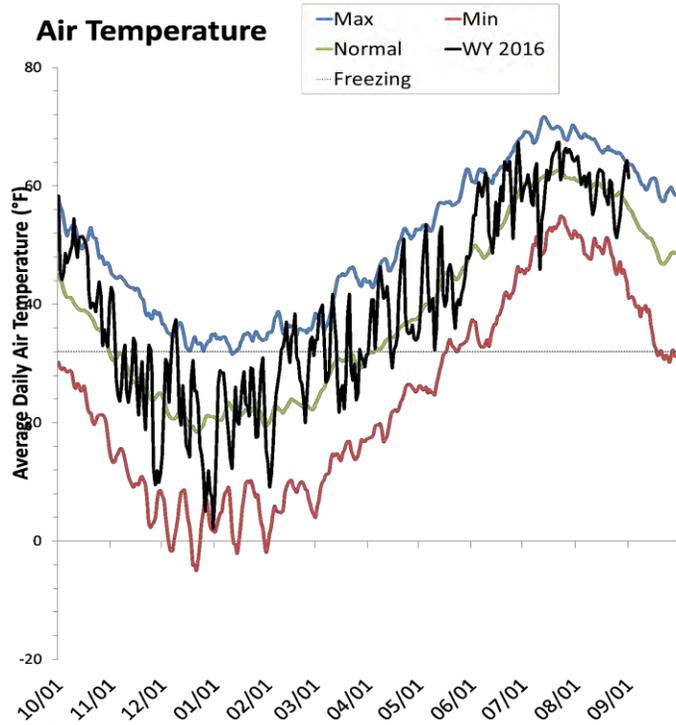
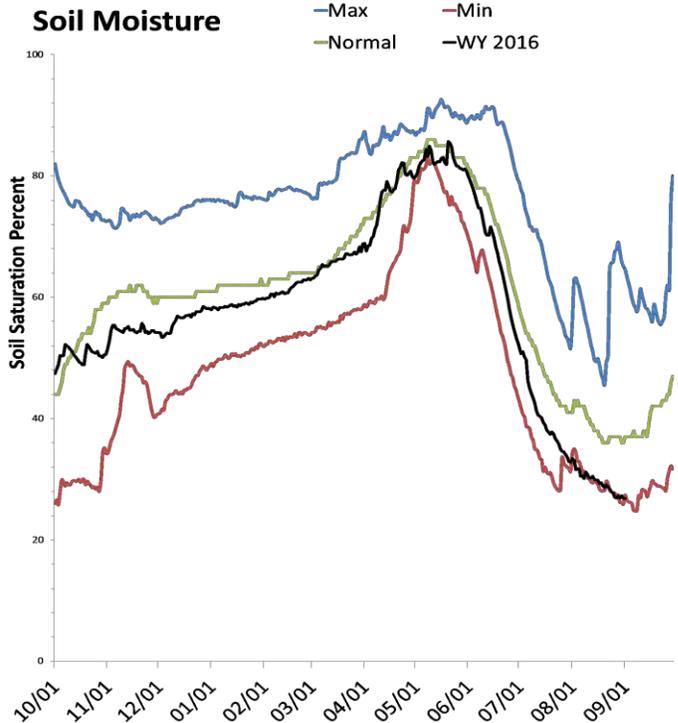
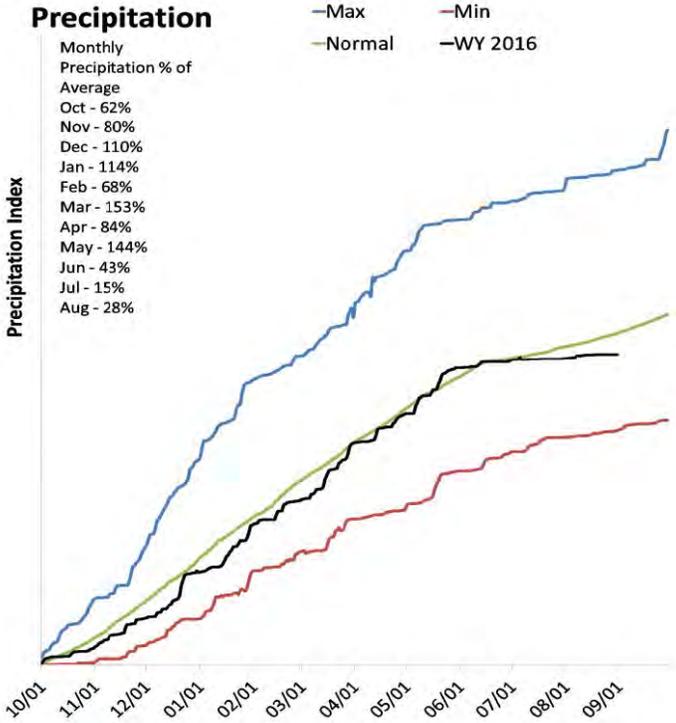
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# Bear River Basin

9/1/2016

Precipitation in August was much below average at 32%, which brings the seasonal accumulation (Oct-Aug) to 93% of average. Soil moisture is at 27% compared to 67% last year. Reservoir storage is at 37% of capacity, compared to 41% last year. The water availability index for the Bear River is 41%, 70% for Woodruff Narrows and 32% for the Little Bear.



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

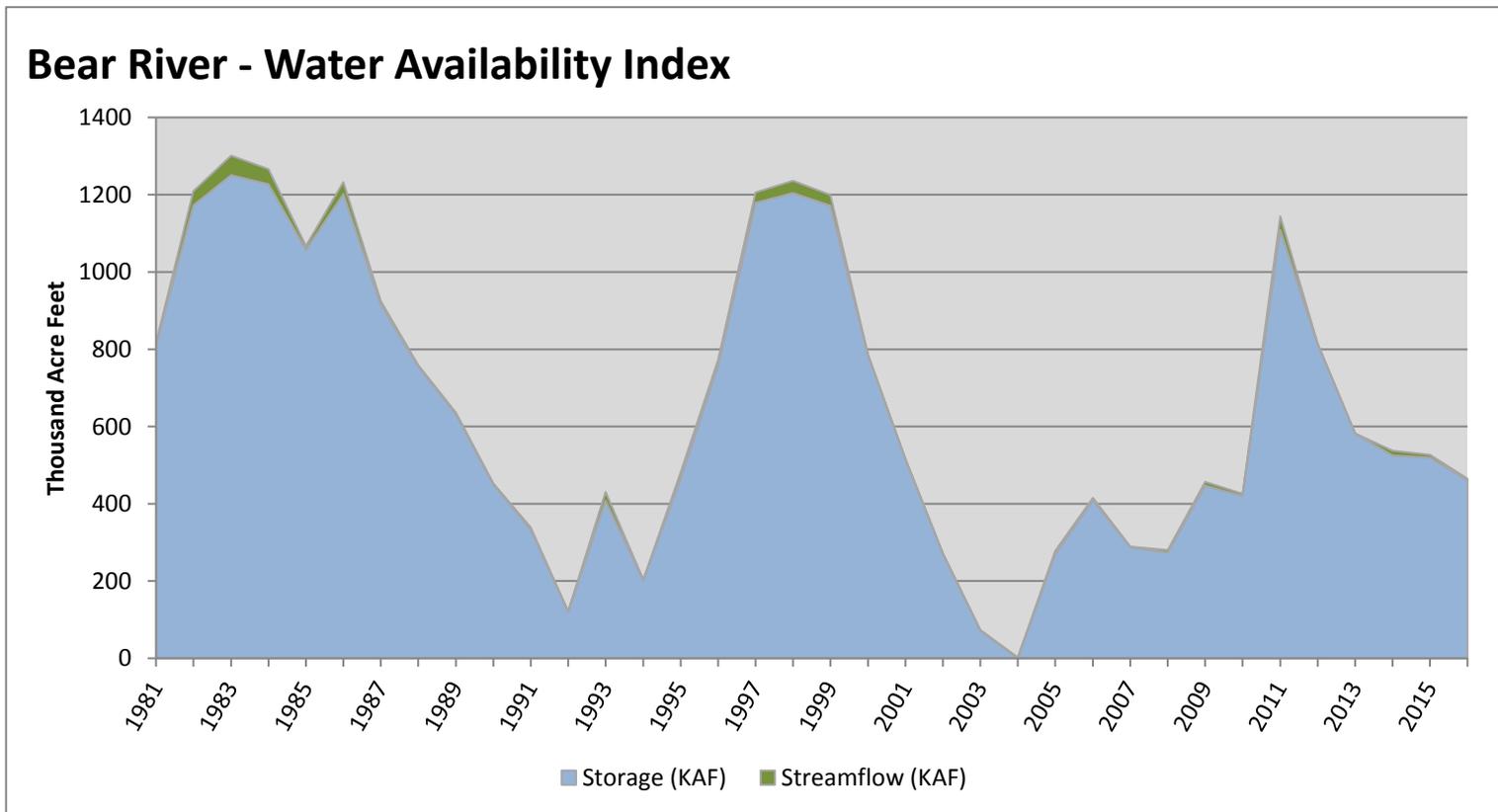
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Bear River</b>	<b>461.05</b>	<b>3.96</b>	<b>465.01</b>	<b>41</b>	<b>-0.79</b>	<b>90, 09, 95, 01</b>

<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.

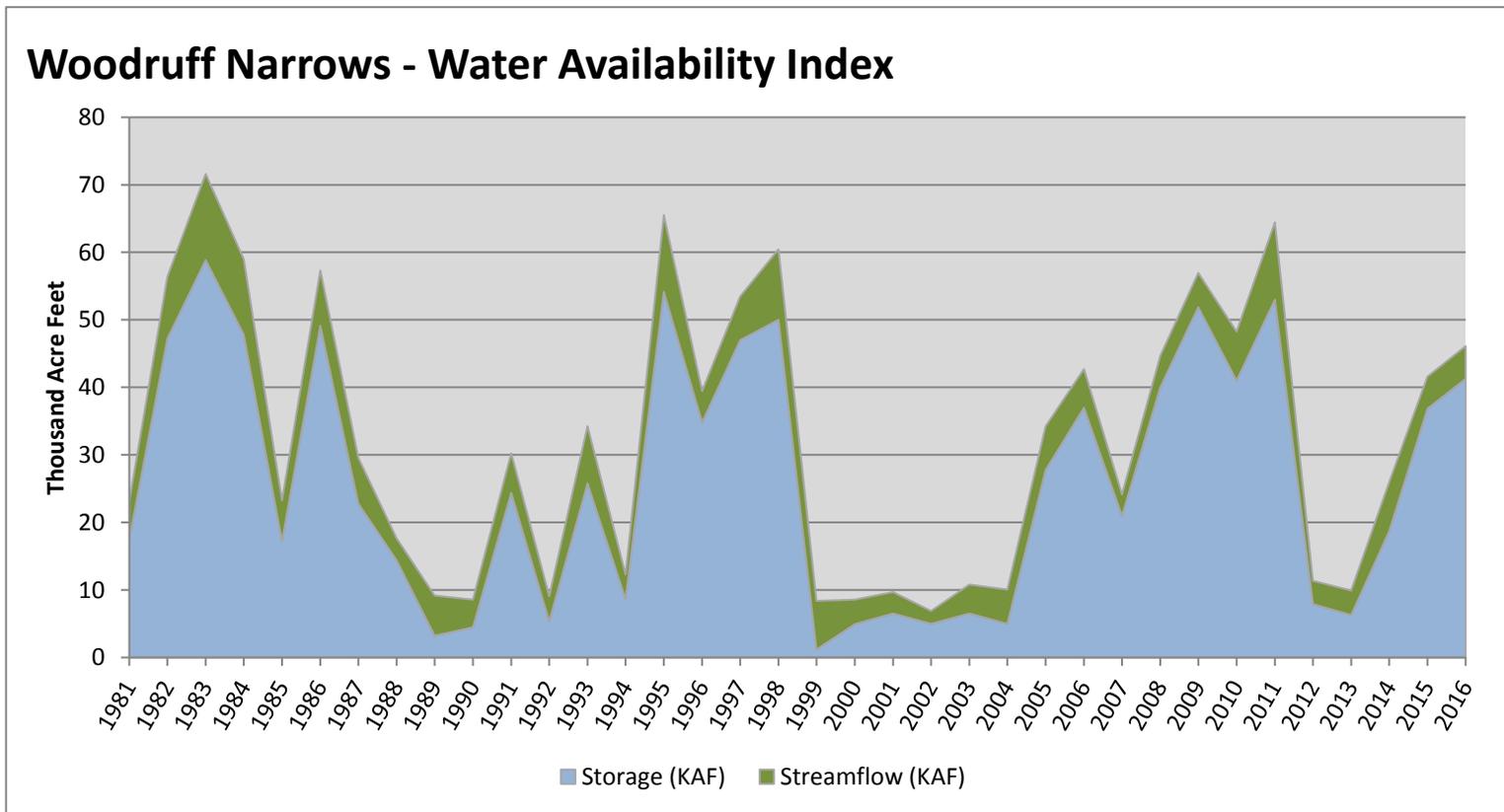


September 1, 2016

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	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Woodruff Narrows</b>	<b>41.27</b>	<b>4.86</b>	<b>46.13</b>	<b>70</b>	<b>1.69</b>	<b>06, 08, 10, 97</b>

<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.

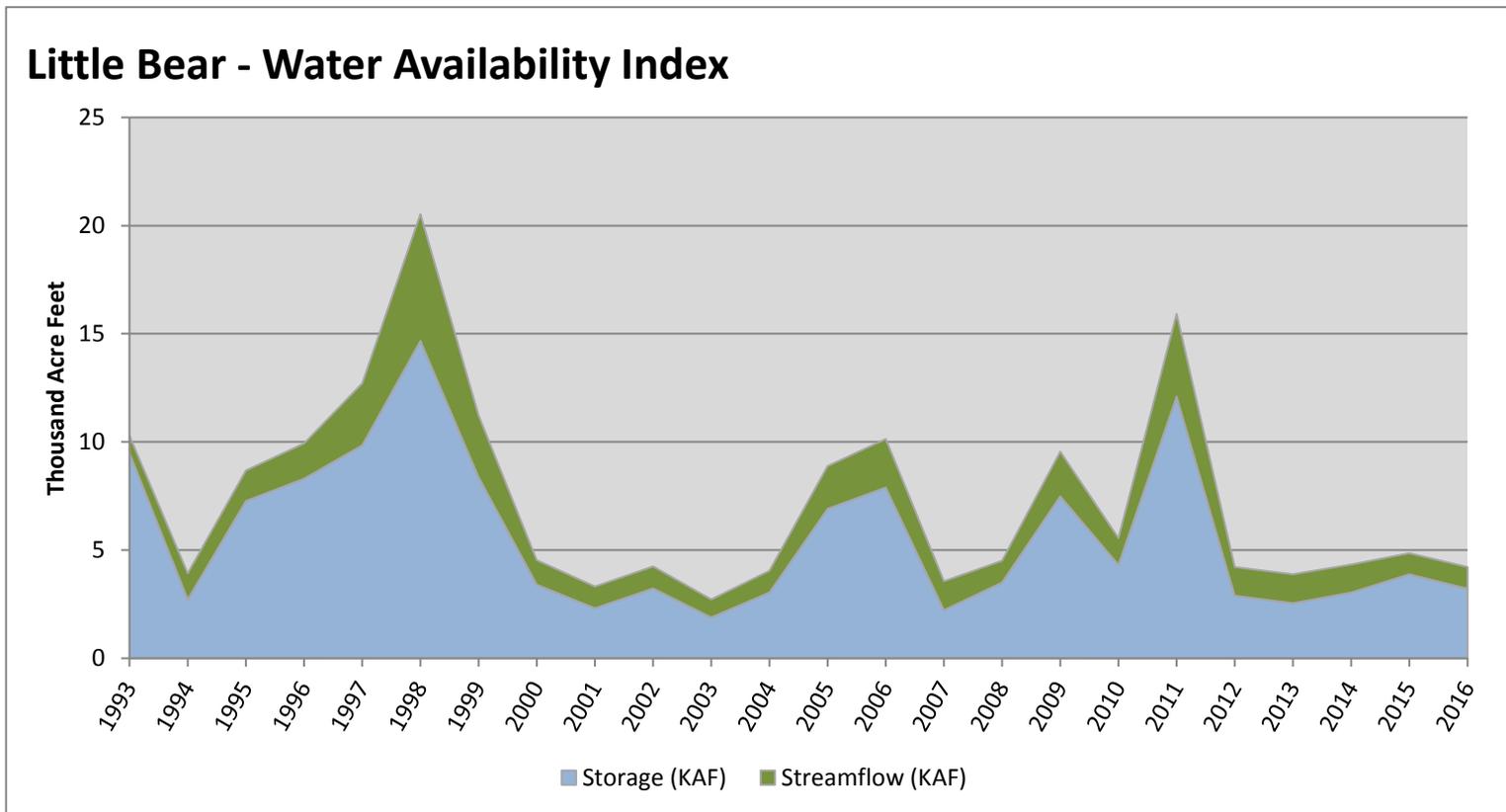


September 1, 2016

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Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Little Bear</b>	<b>3.21</b>	<b>1.01</b>	<b>4.22</b>	<b>32</b>	<b>-1.5</b>	<b>04, 12, 02, 14</b>

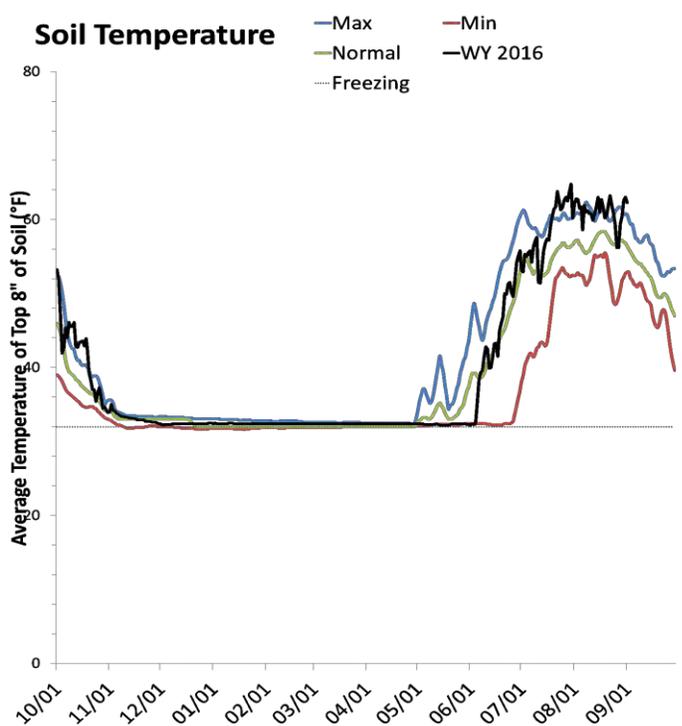
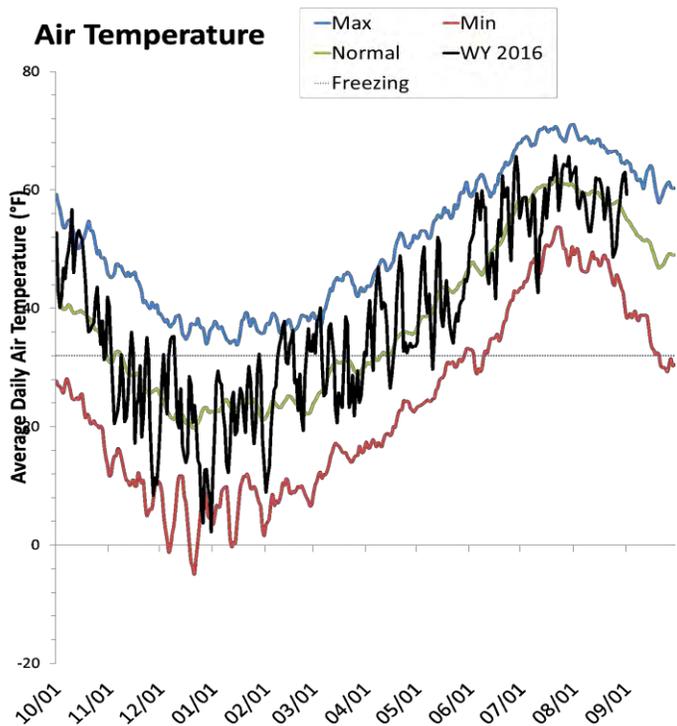
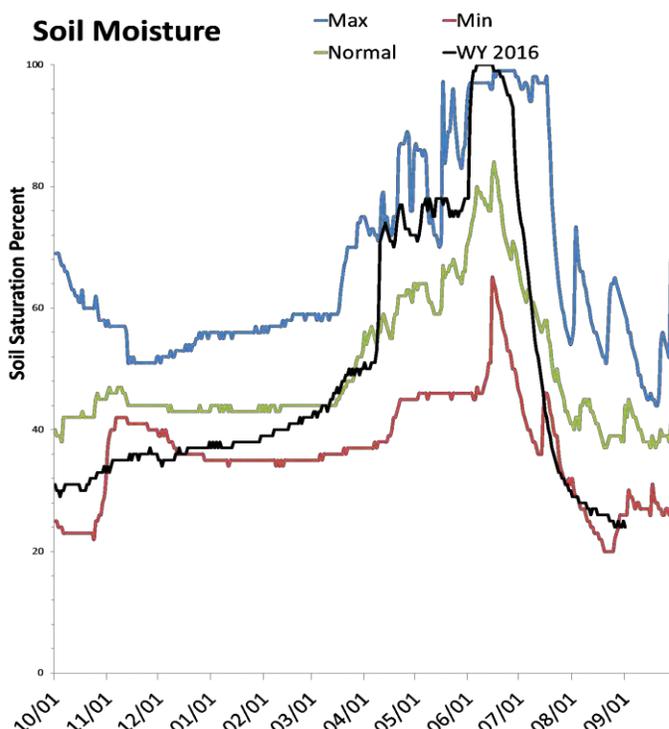
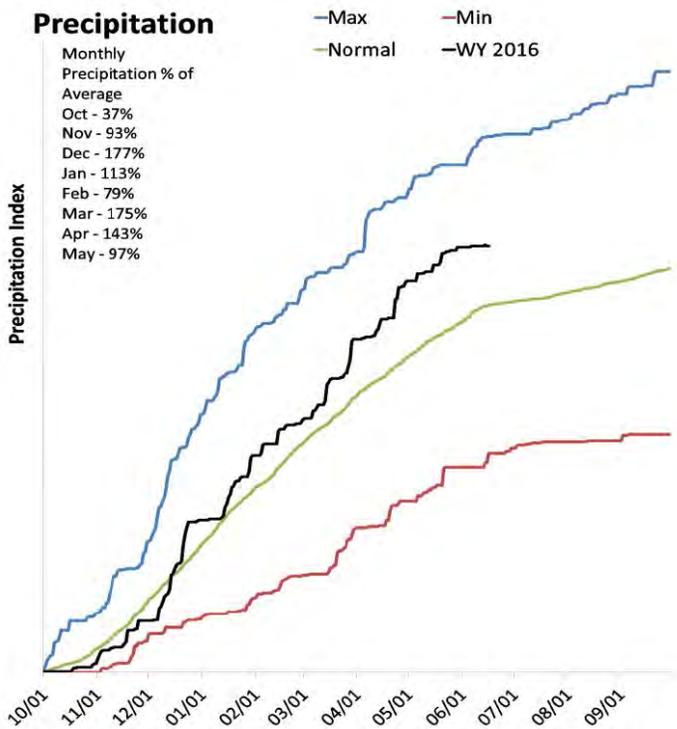
<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.



# Raft River Basin

9/1/2016

Precipitation in August was much below average at 20%, which brings the seasonal accumulation (Oct-Aug) to 86% of average. Soil moisture is at 25% compared to 61% last year. Precipitation estimated since June due to a site down.



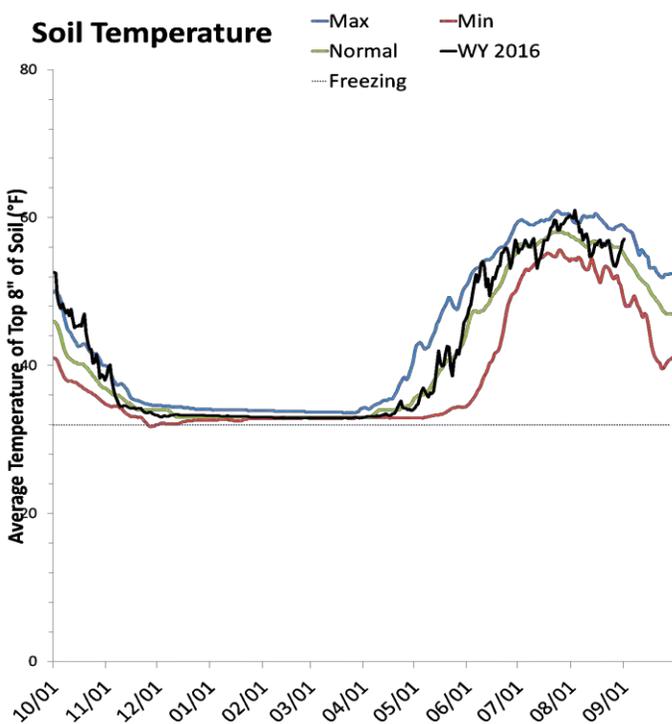
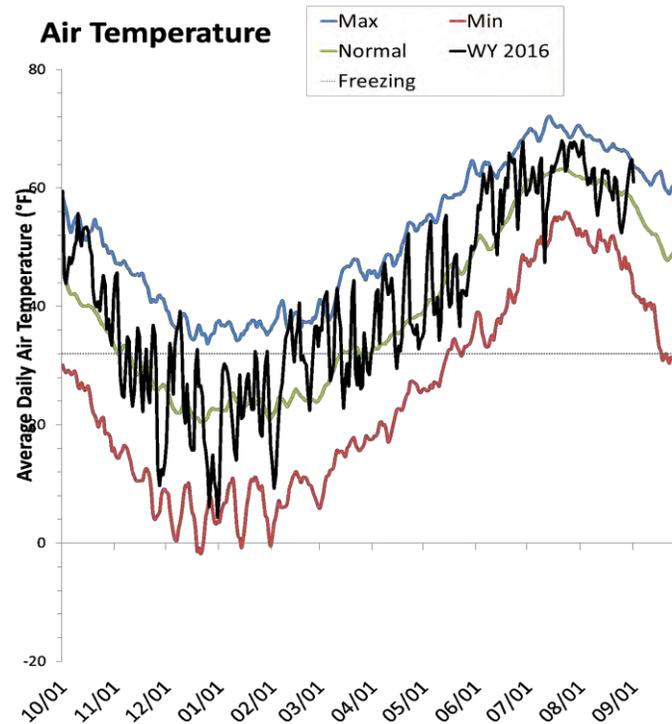
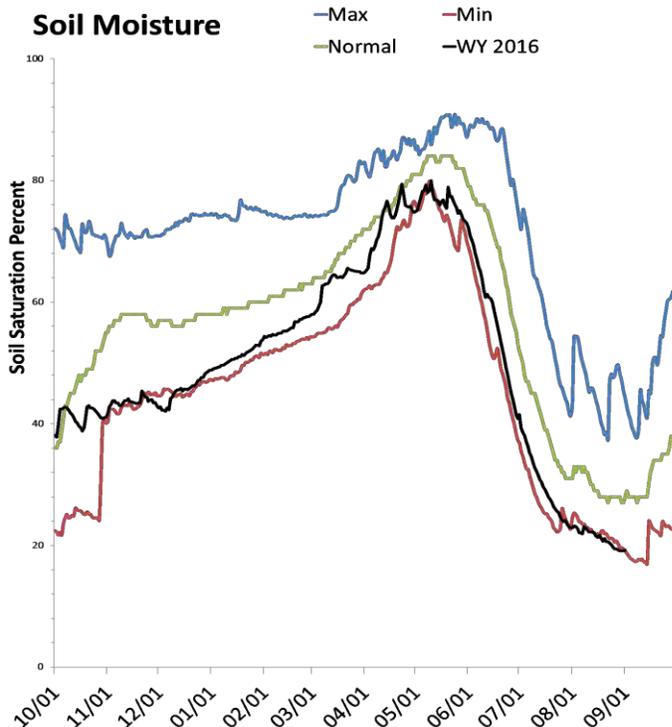
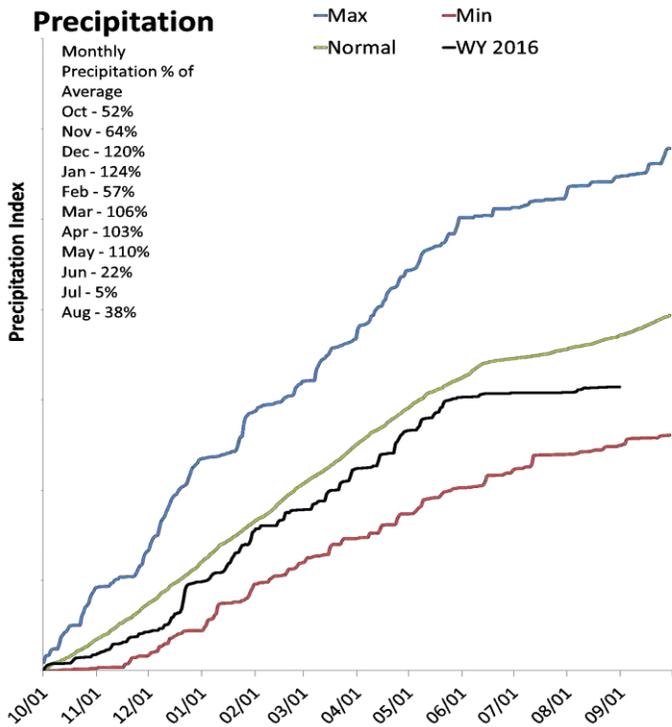
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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# Weber & Ogden River Basins

9/1/2016

Precipitation in August was much below average at 38%, which brings the seasonal accumulation (Oct-Aug) to 85% of average. Soil moisture is at 19% compared to 46% last year. Reservoir storage is at 50% of capacity, compared to 40% last year. The water availability index for the Ogden River is 62% and 11% for the Weber River.



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

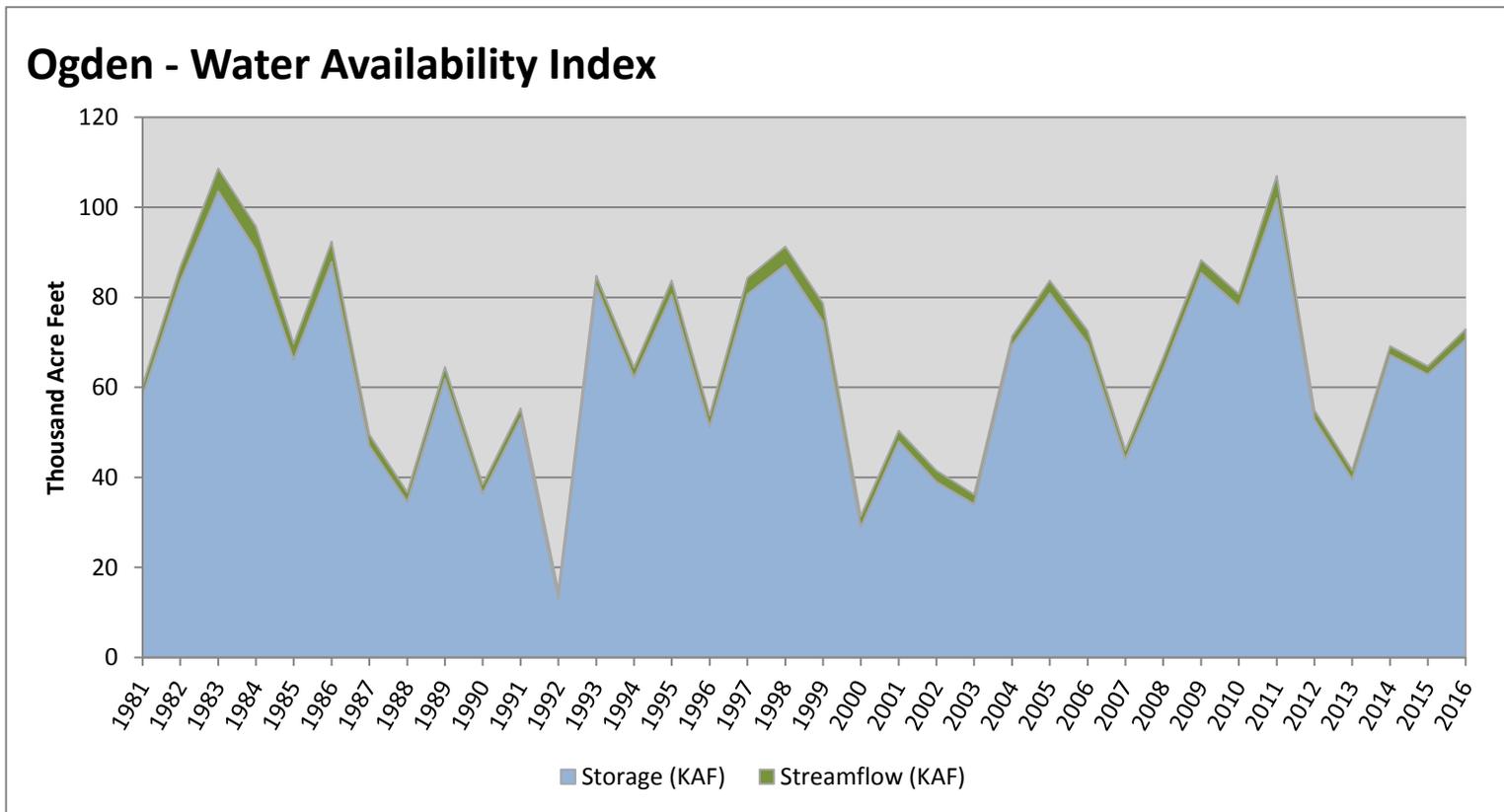
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September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Ogden</b>	<b>70.61</b>	<b>2.32</b>	<b>72.93</b>	<b>62</b>	<b>1.01</b>	<b>04, 06, 99, 10</b>

<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.

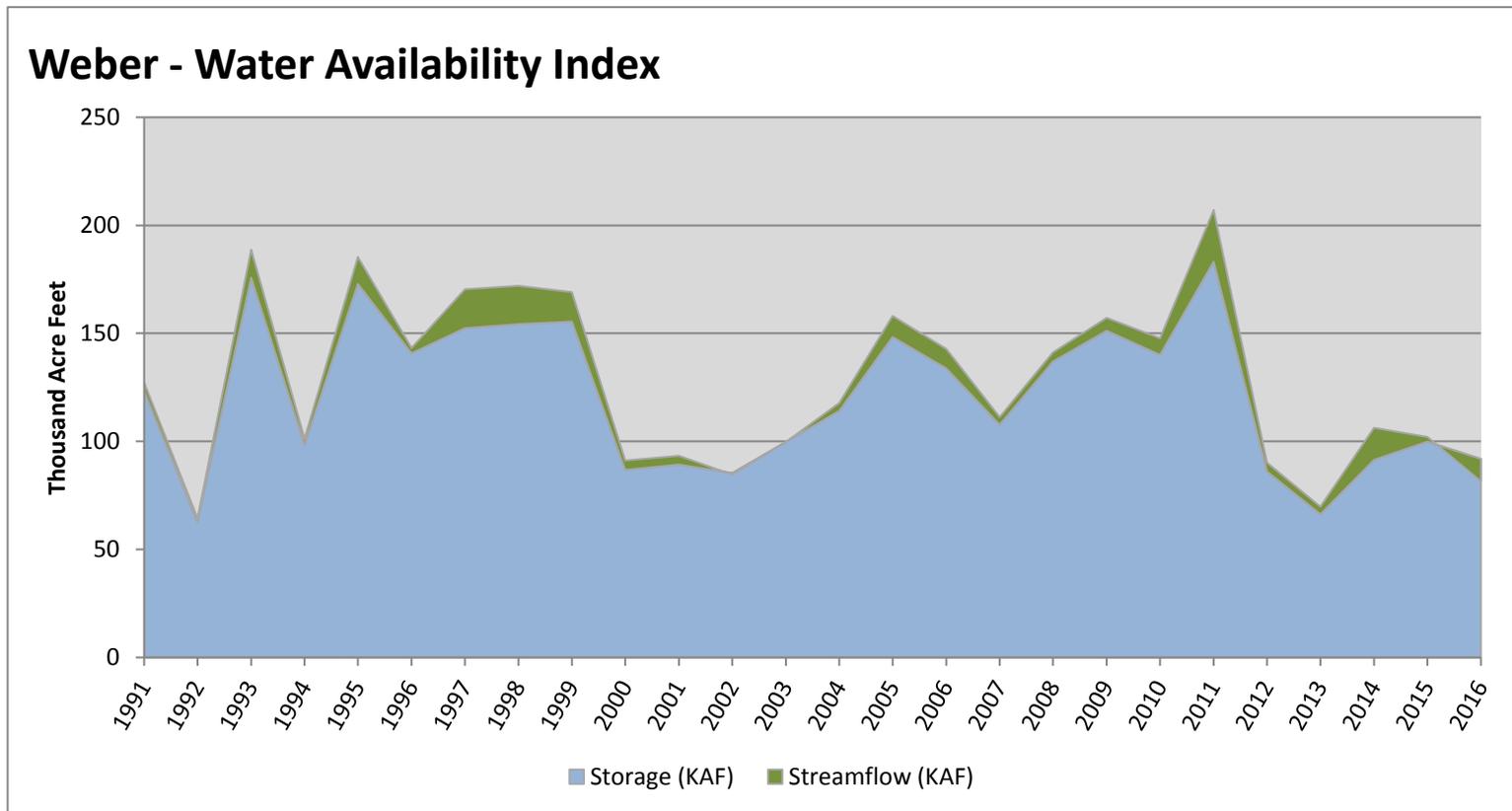


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## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Weber</b>	<b>91.87</b>	<b>-10.30</b>	<b>81.57</b>	<b>11</b>	<b>-3.24</b>	<b>92, 13, 02, 12</b>

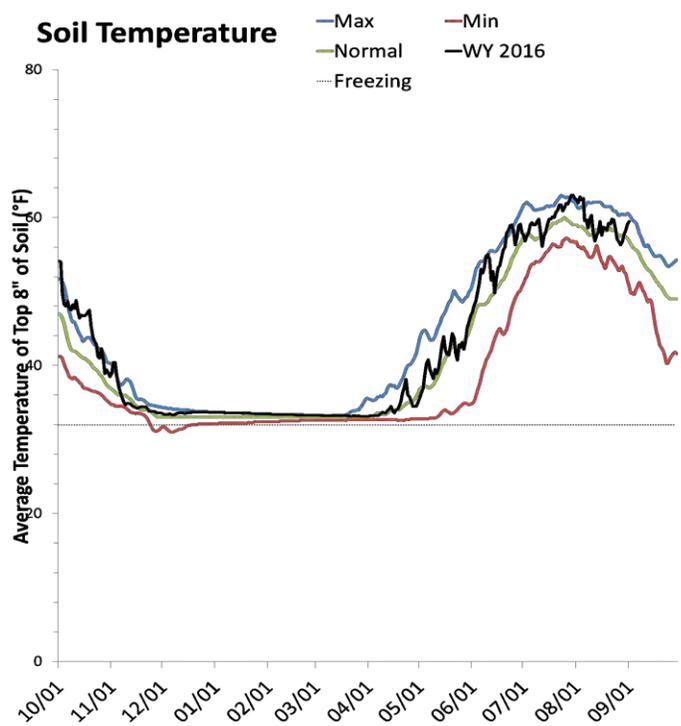
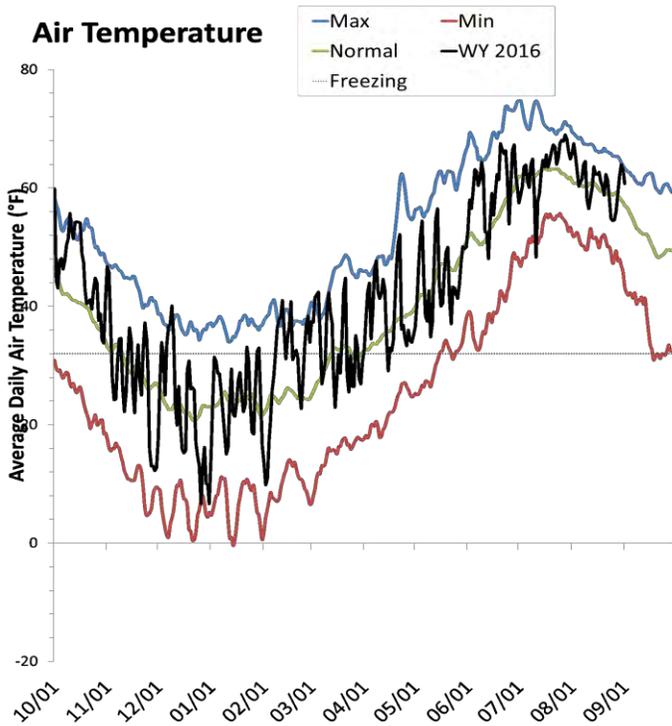
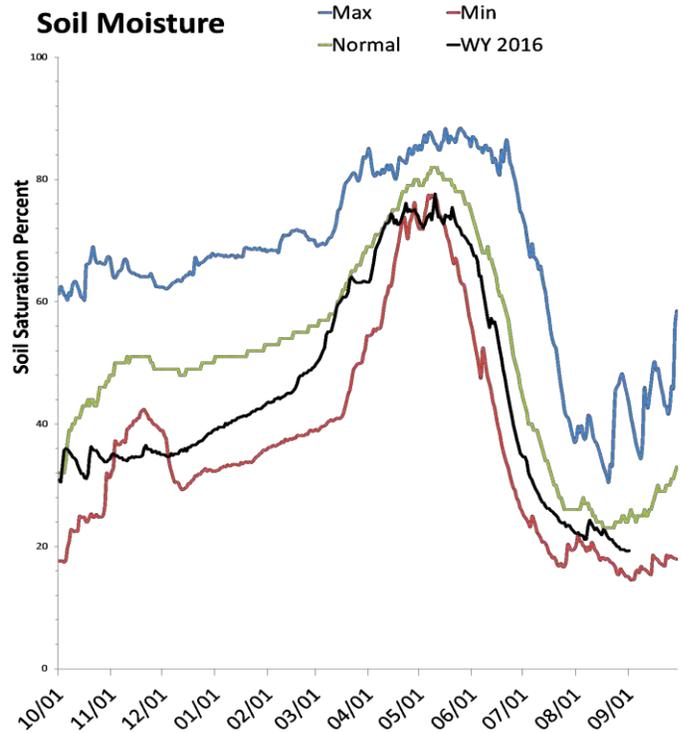
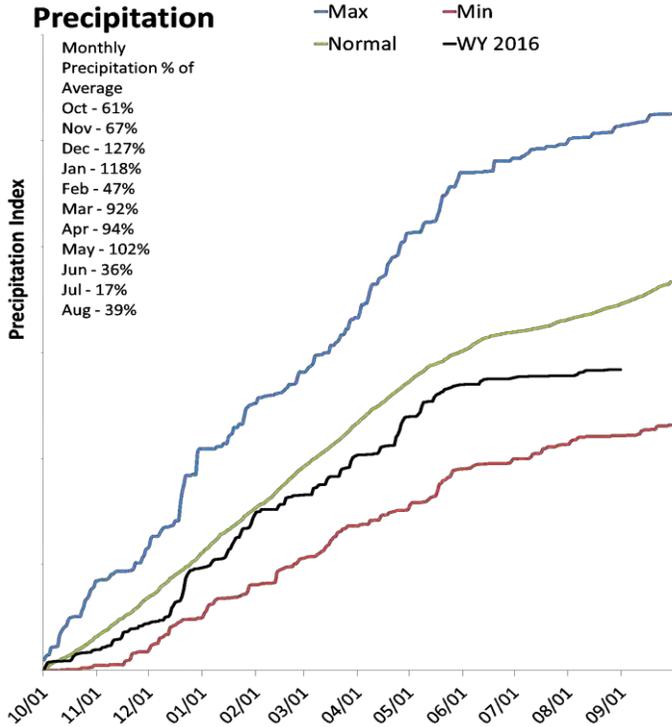
<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.



# Provo & Jordan River Basins

9/1/2016

Precipitation in August was much below average at 39%, which brings the seasonal accumulation (Oct-Aug) to 82% of average. Soil moisture is at 19% compared to 45% last year. Reservoir storage is at 56% of capacity, compared to 63% last year. The water availability index for the Provo River is 41%.



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

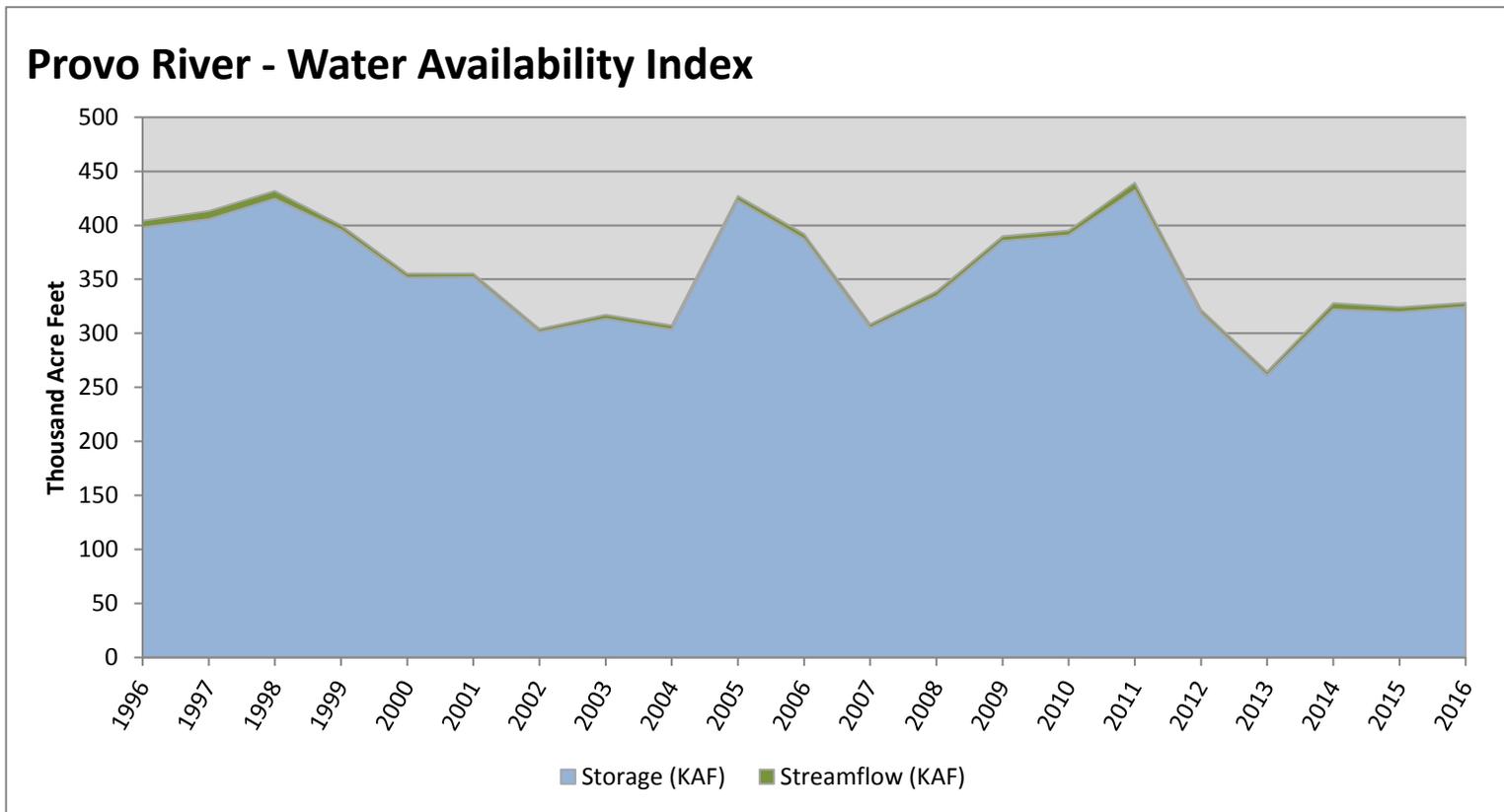
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Provo River</b>	<b>324.69</b>	<b>3.61</b>	<b>328.30</b>	<b>41</b>	<b>-0.76</b>	<b>15, 14, 08, 01</b>

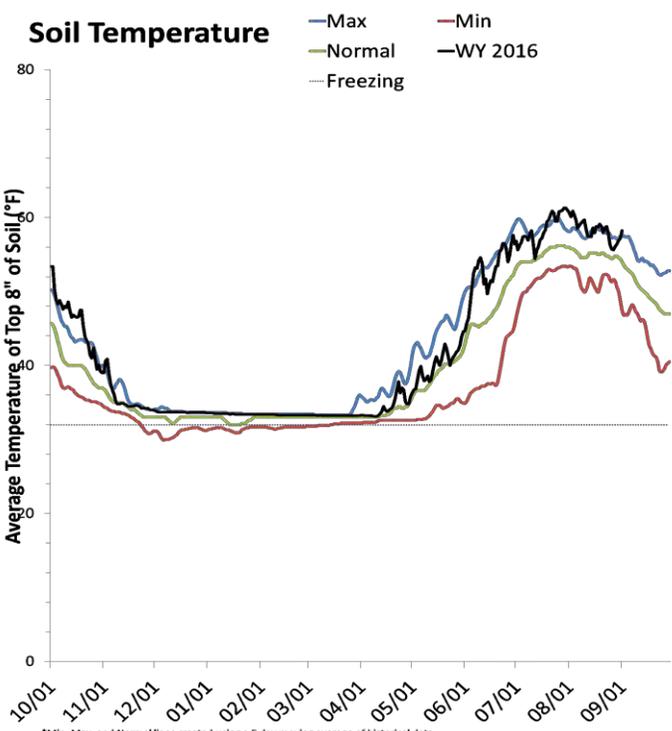
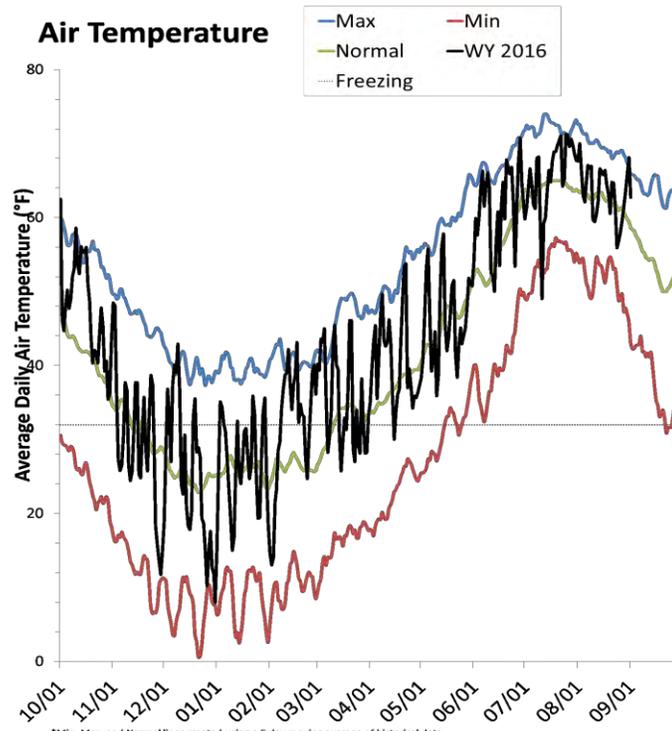
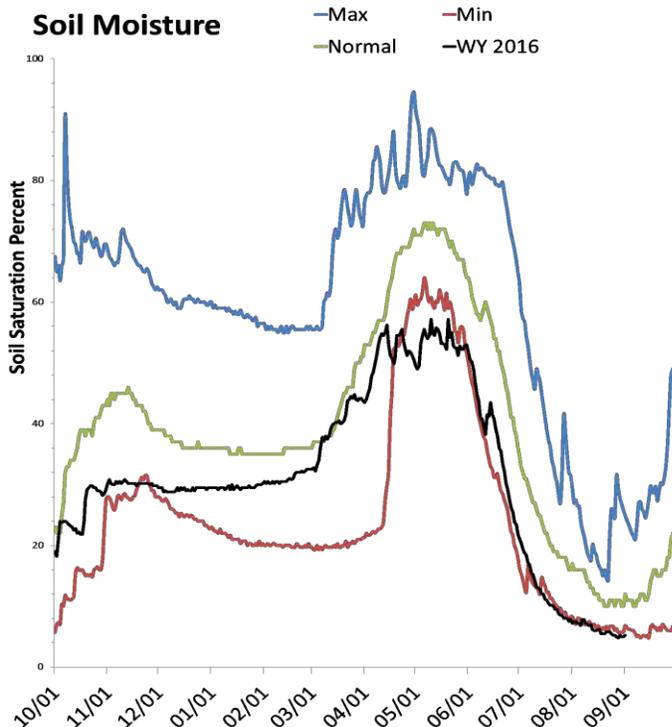
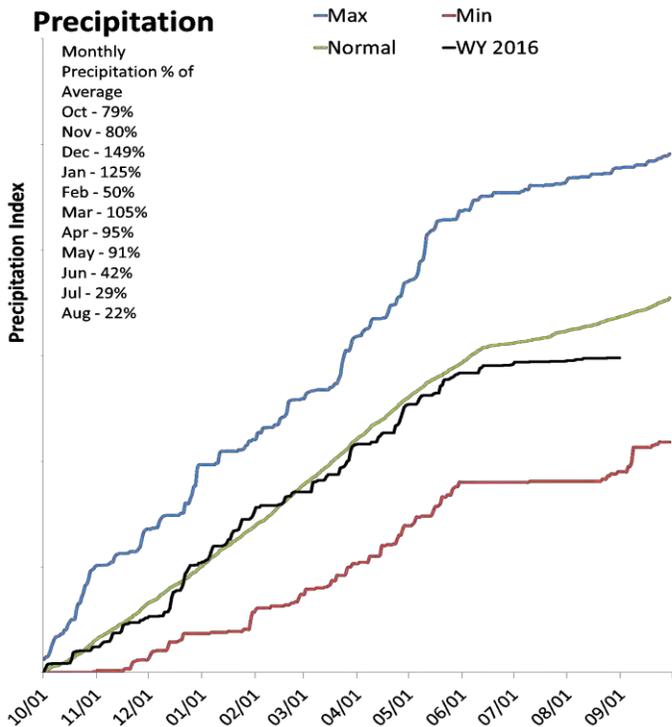
<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.



# Tooele & Vernon Creek Basins

9/1/2016

Precipitation in August was much below average at 23%, which brings the seasonal accumulation (Oct-Aug) to 88% of average. Soil moisture is at 5% compared to 25% last year. Reservoir storage is at 13% of capacity, compared to 46% last year.



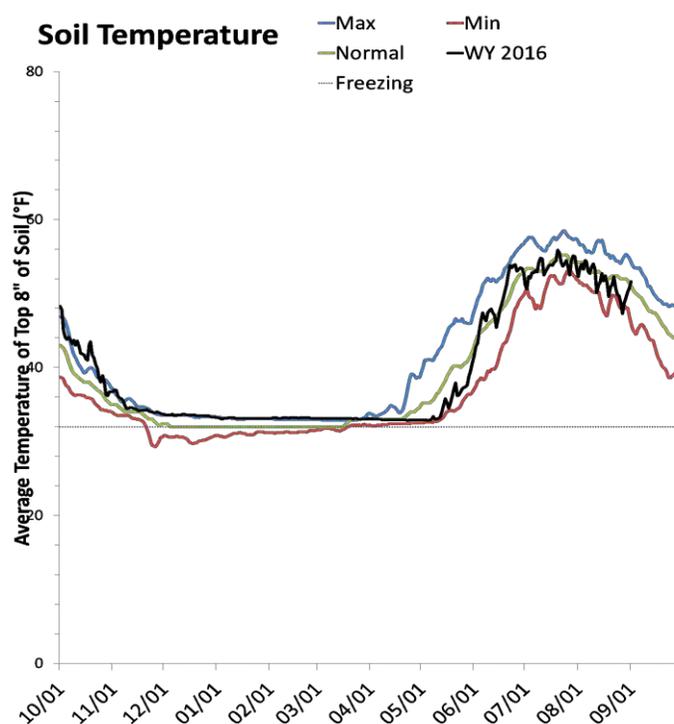
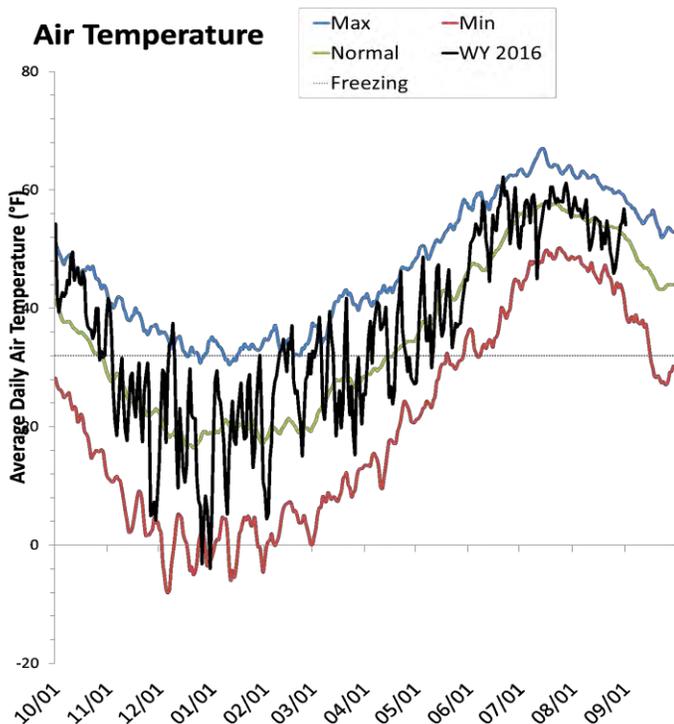
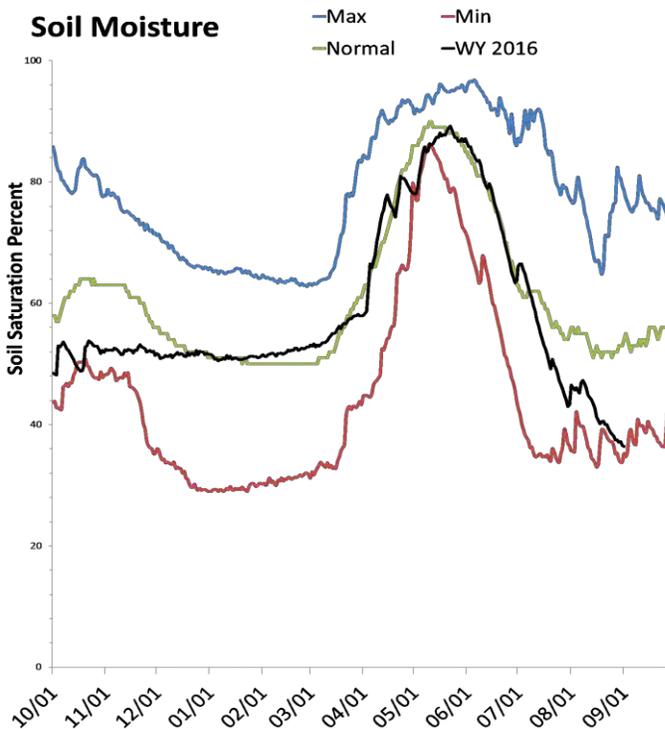
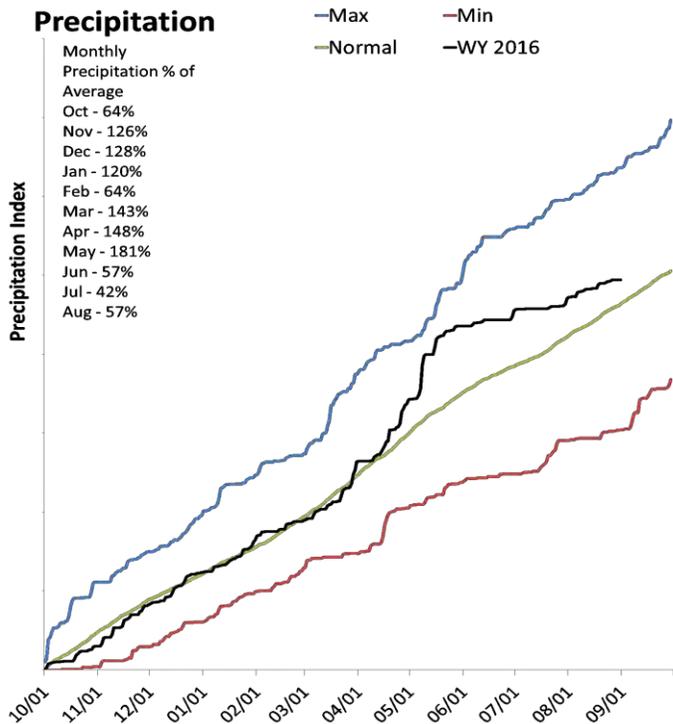
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

# Northeastern Uintah Basin

9/1/2016

Precipitation in August was much below average at 58%, which brings the seasonal accumulation (Oct-Aug) to 107% of average. Soil moisture is at 38% compared to 80% last year. Reservoir storage is at 86% of capacity, compared to 93% last year. The Water Availability Index for Blacks Fork is 35% and 39% for Smiths Creek.



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

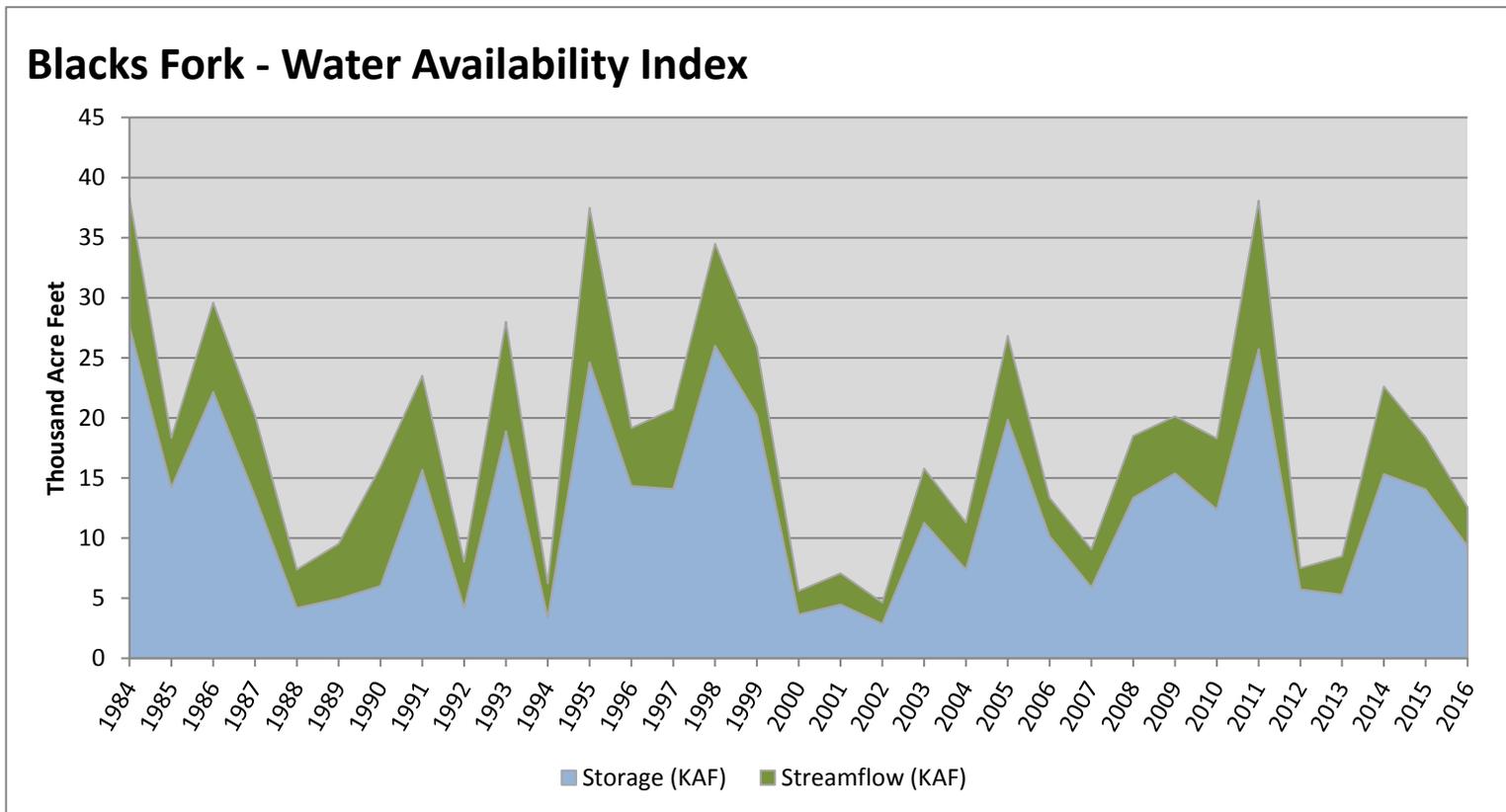
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Blacks Fork</b>	<b>9.32</b>	<b>3.25</b>	<b>12.57</b>	<b>35</b>	<b>-1.23</b>	<b>89, 04, 06, 03</b>

<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.

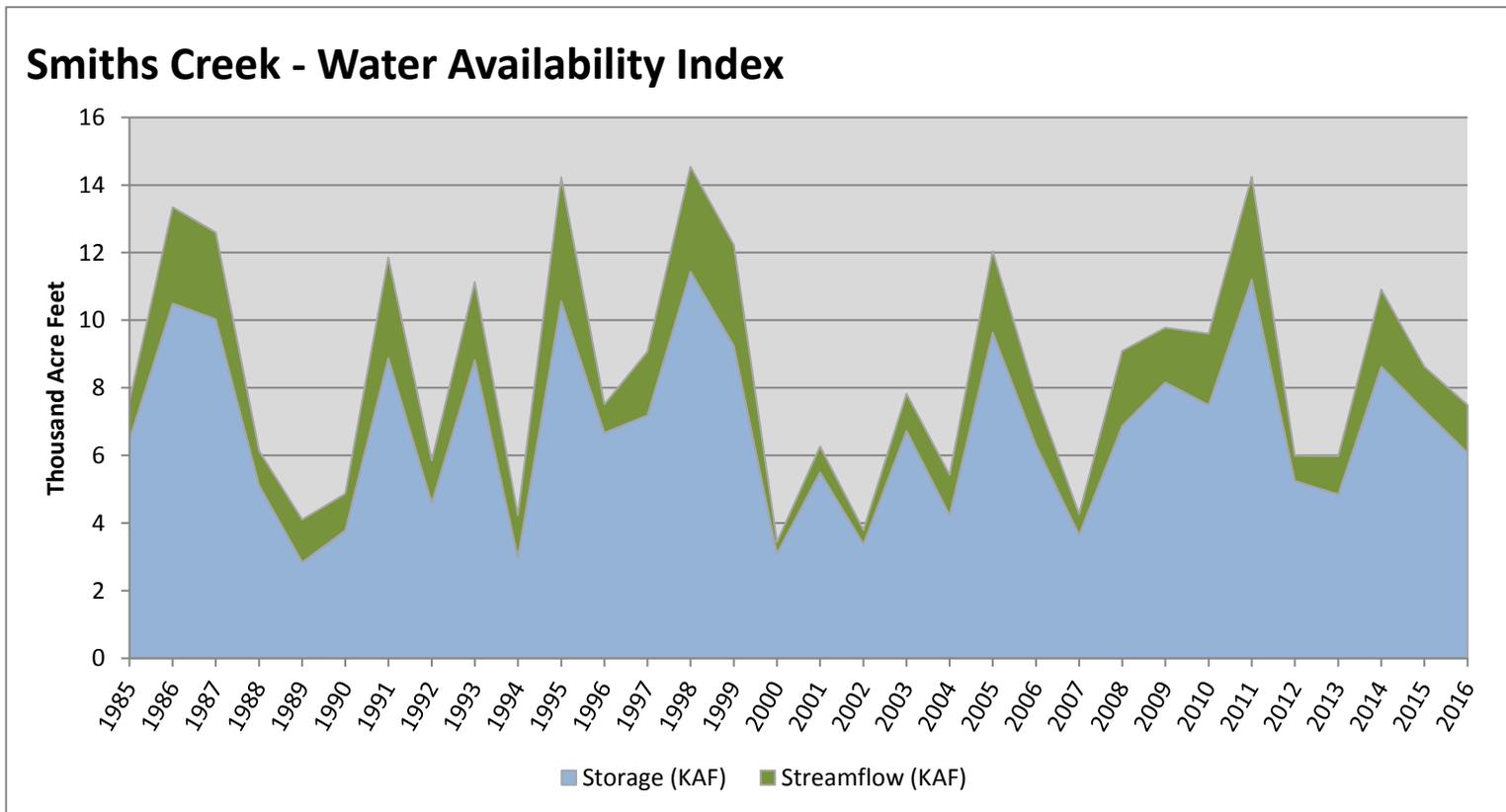


September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Smiths Creek</b>	<b>6.08</b>	<b>1.41</b>	<b>7.49</b>	<b>39</b>	<b>-0.88</b>	<b>88, 01, 96, 85</b>

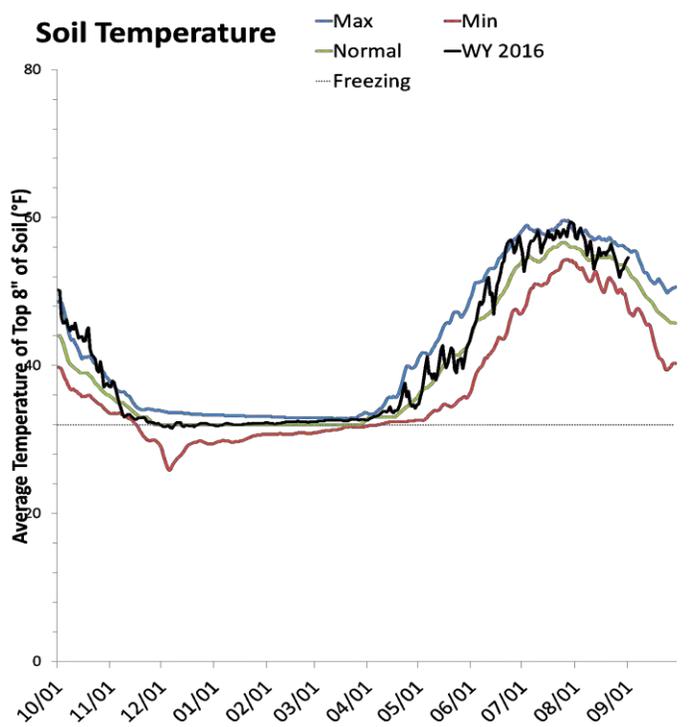
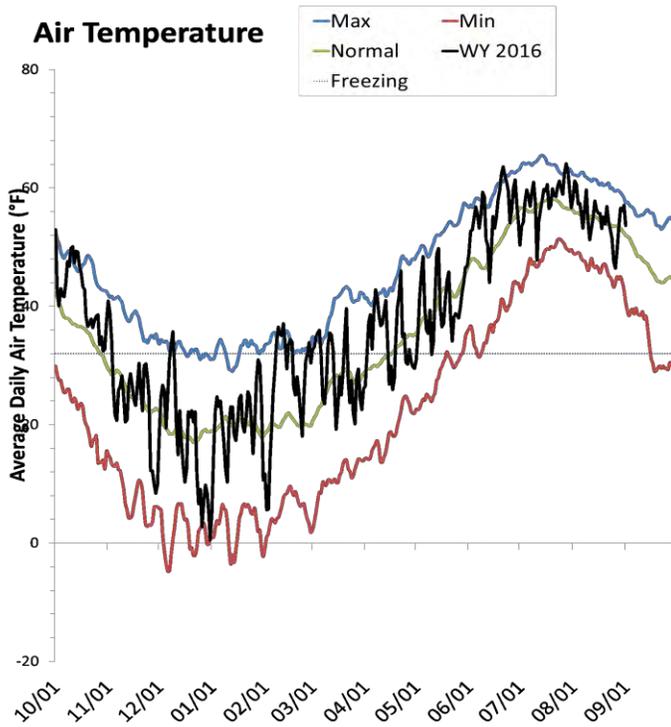
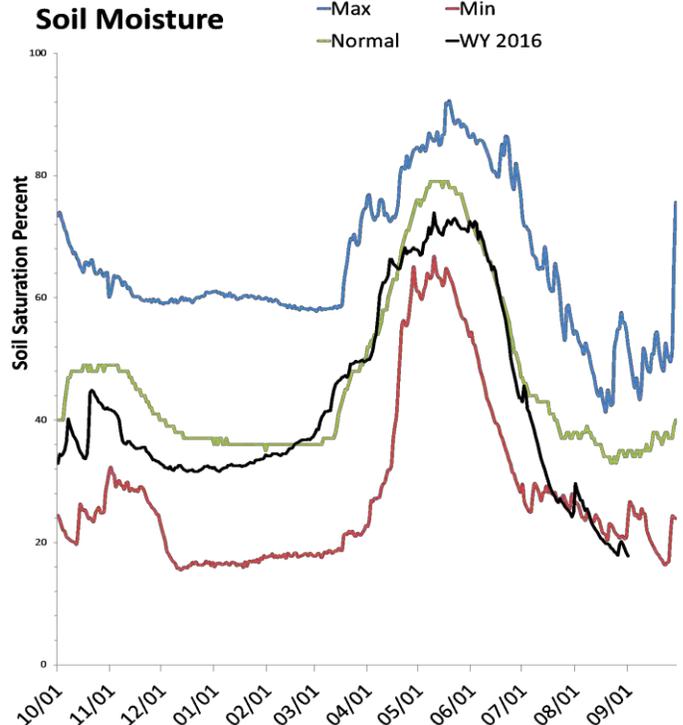
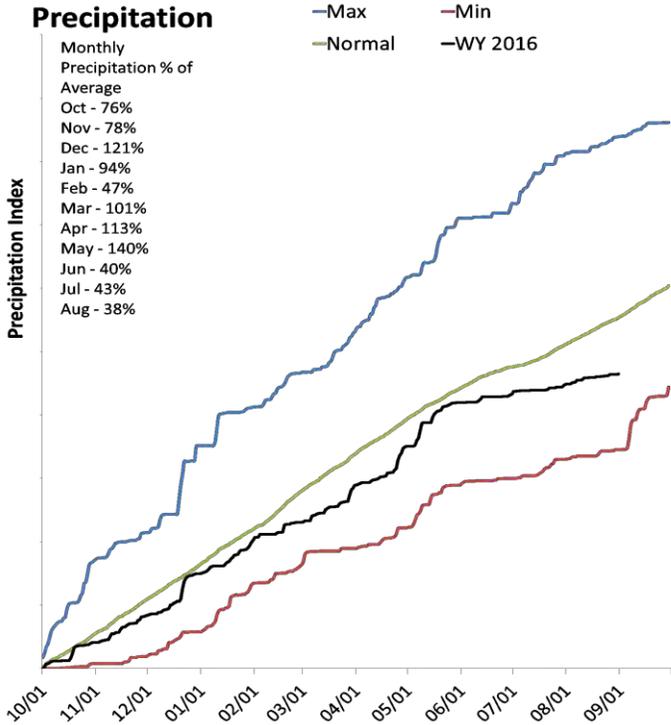
<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.



# Duchesne River Basin

9/1/2016

Precipitation in August was much below average at 39%, which brings the seasonal accumulation (Oct-Aug) to 84% of average. Soil moisture is at 20% compared to 57% last year. Reservoir storage is at 69% of capacity, compared to 72% last year. The water availability index for the Western Uintahs is 60% and 32% for the Eastern Uintahs.



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

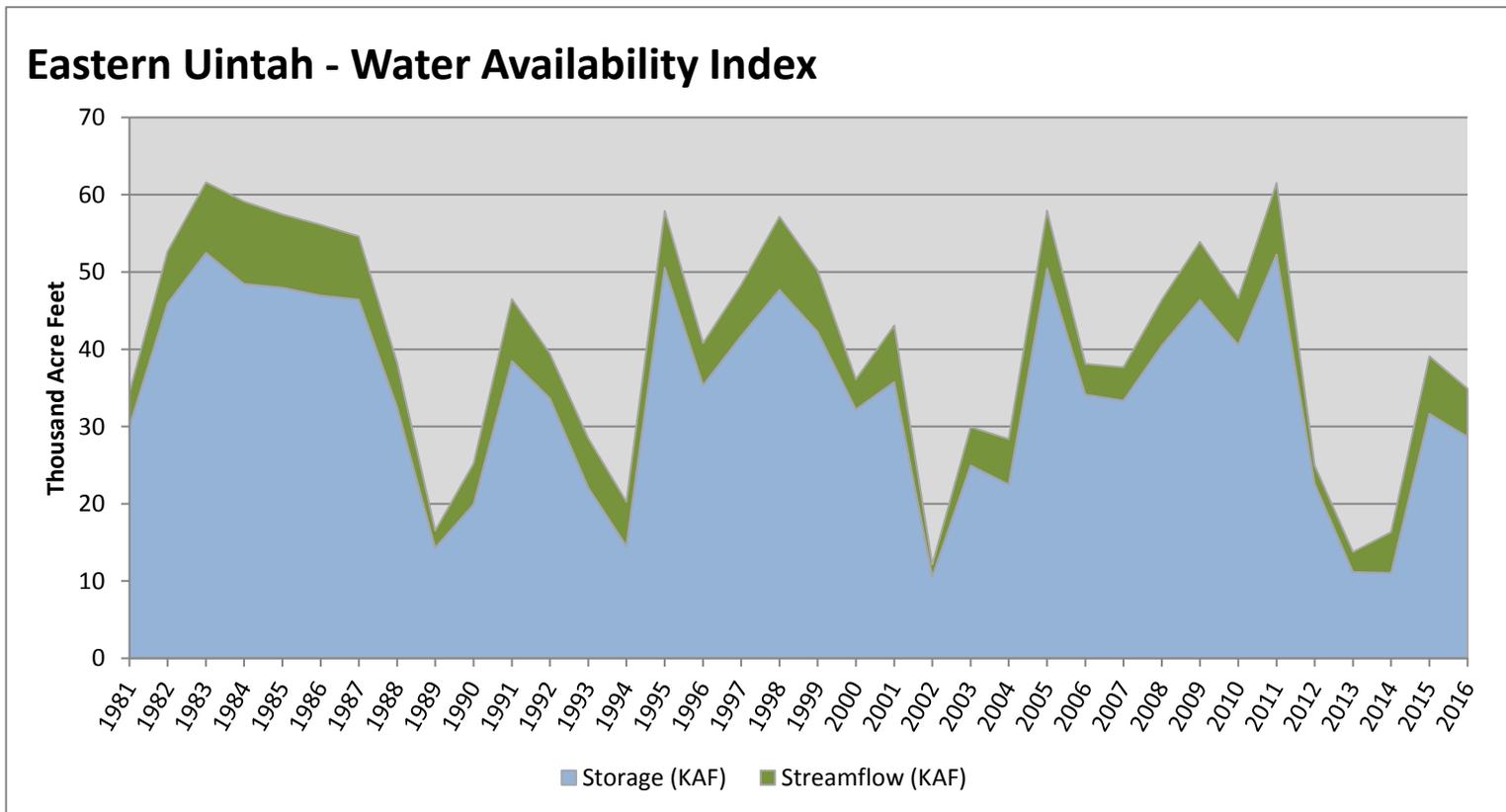
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Eastern Uintah</b>	<b>28.66</b>	<b>6.24</b>	<b>34.90</b>	<b>32</b>	<b>-1.46</b>	<b>03, 81, 00, 07</b>

<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.

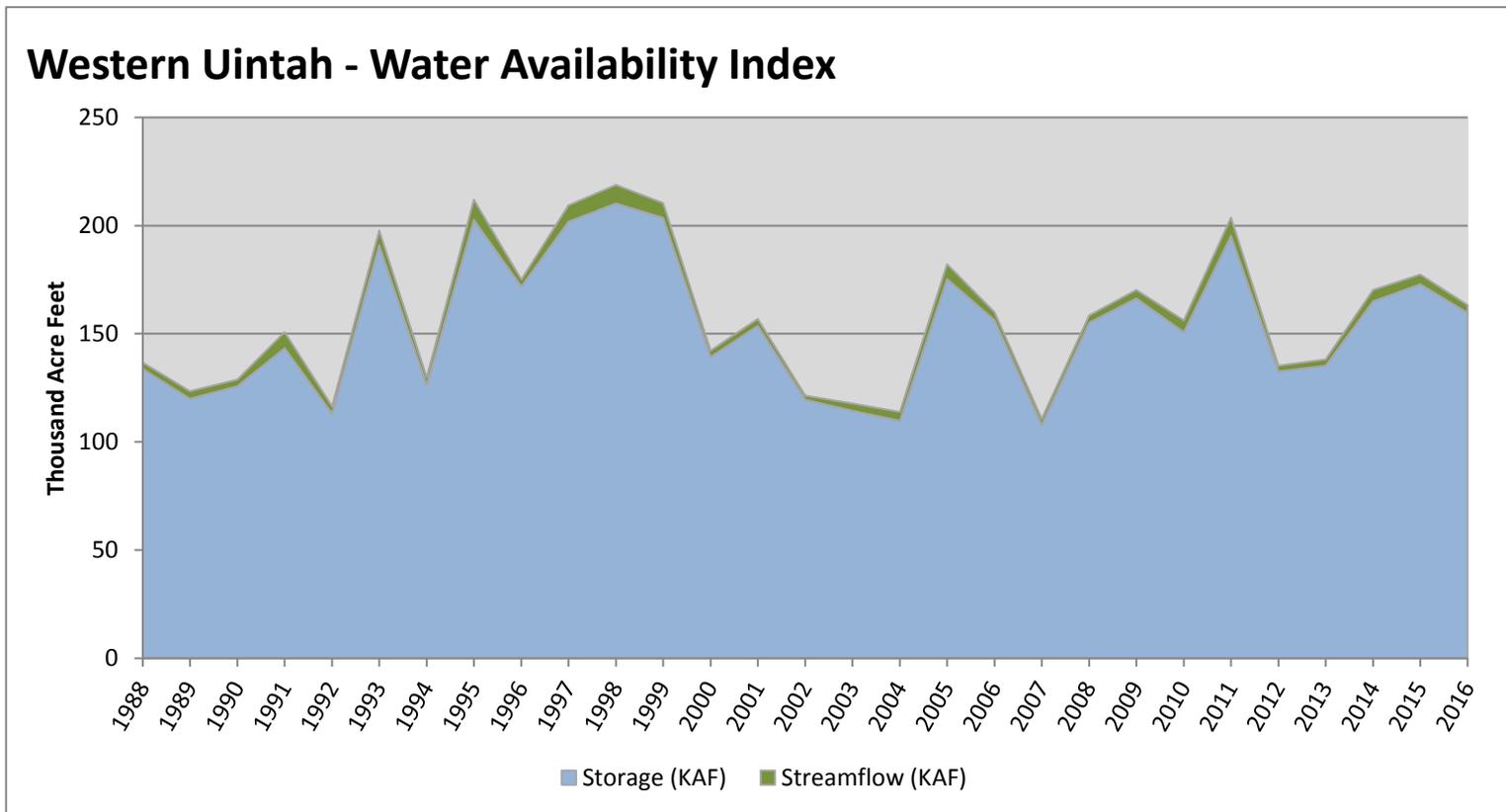


September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Western Uintah</b>	<b>159.72</b>	<b>3.55</b>	<b>163.27</b>	<b>60</b>	<b>0.83</b>	<b>08, 06, 09, 14</b>

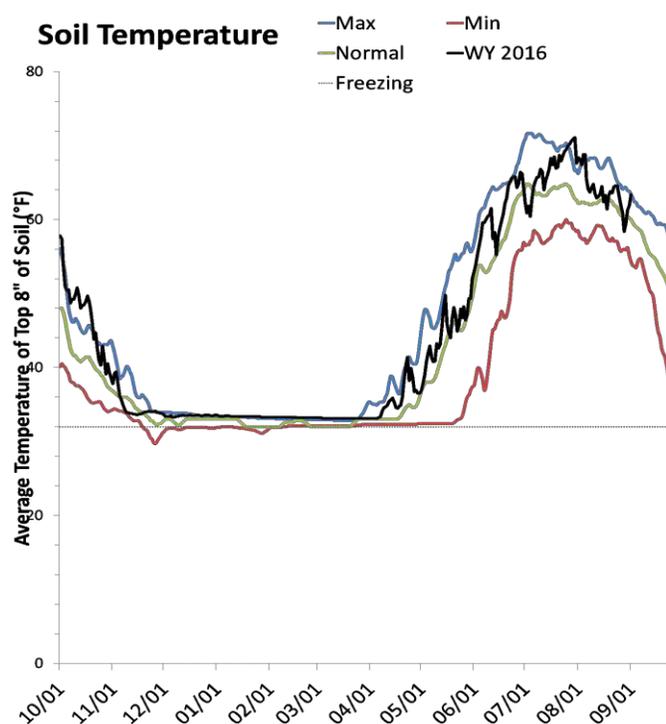
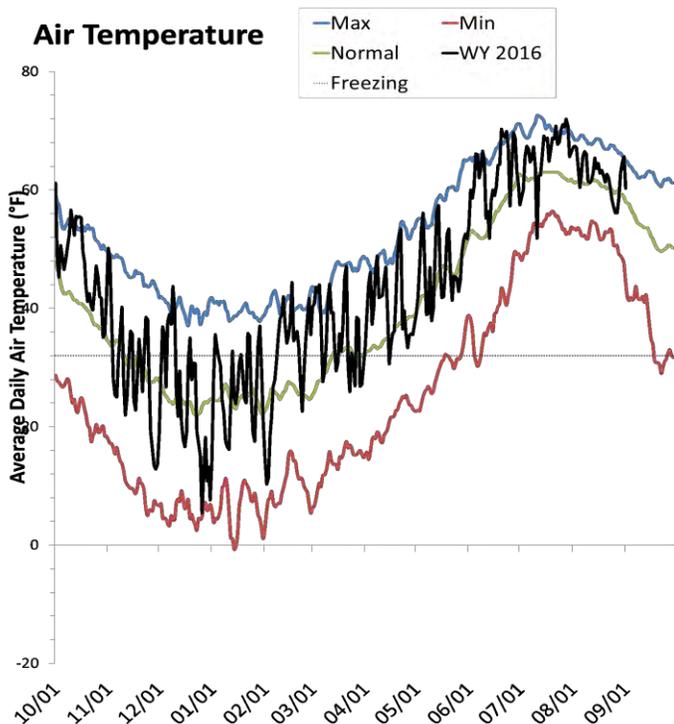
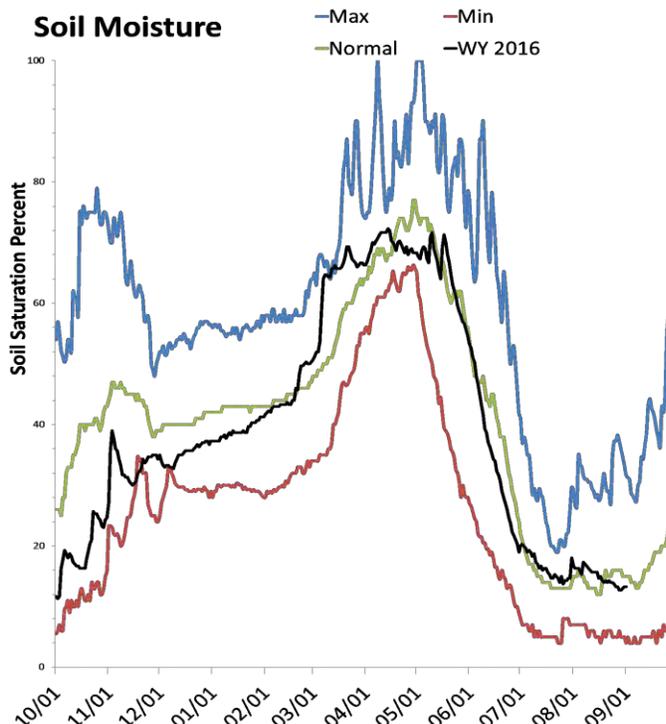
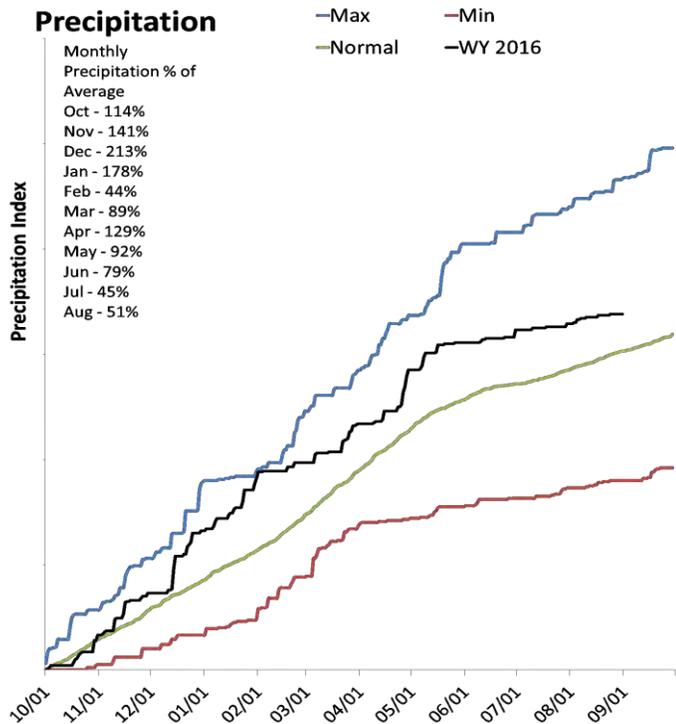
<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.



# Lower Sevier River Basin

9/1/2016

Precipitation in August was much below average at 50%, which brings the seasonal accumulation (Oct-Aug) to 112% of average. Soil moisture is at 13% compared to 31% last year. Reservoir storage is at 4% of capacity, compared to 13% 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.

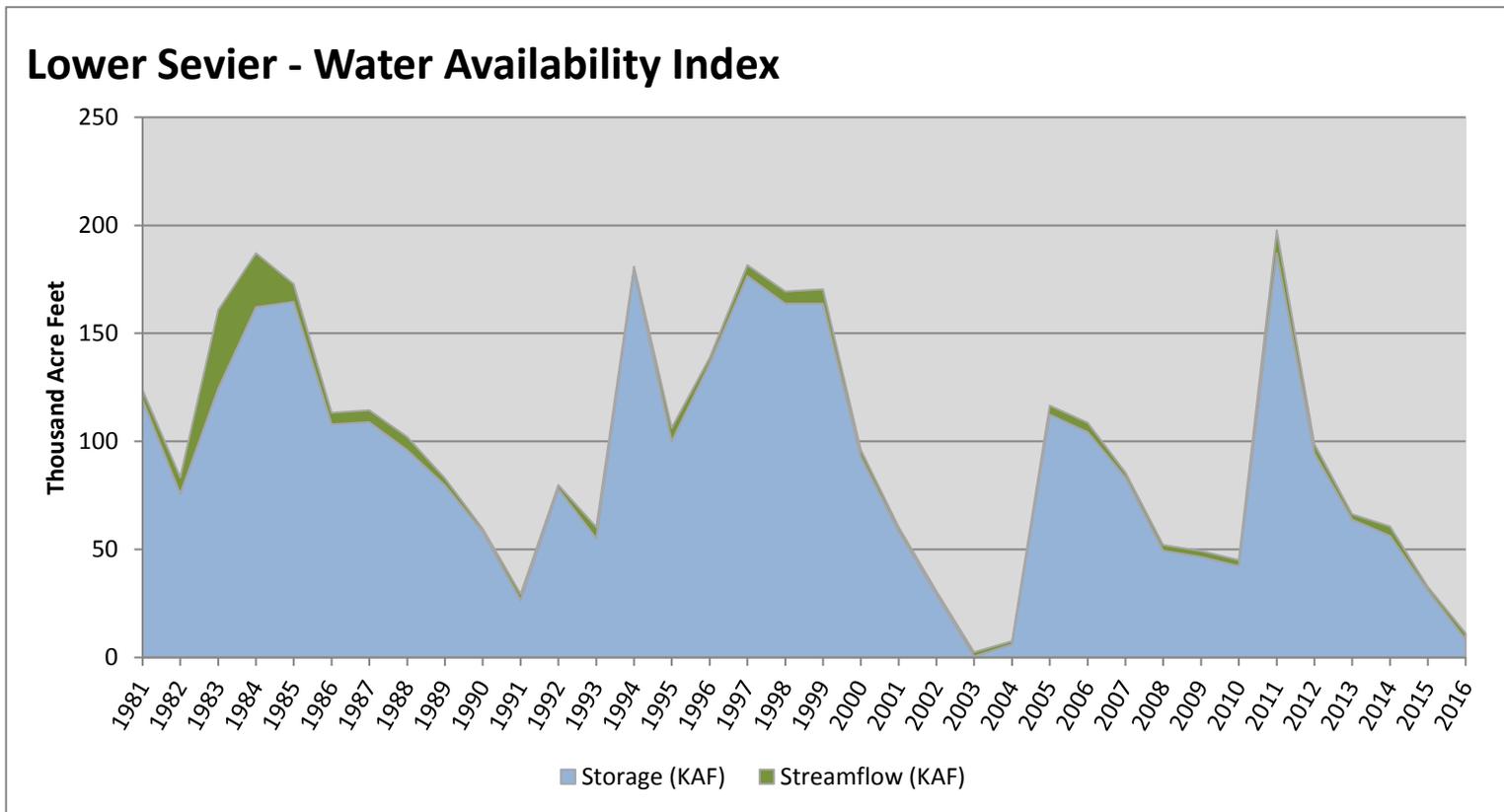
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Lower Sevier</b>	<b>8.29</b>	<b>2.90</b>	<b>11.19</b>	<b>8</b>	<b>-3.49</b>	<b>03, 04, 91, 02</b>

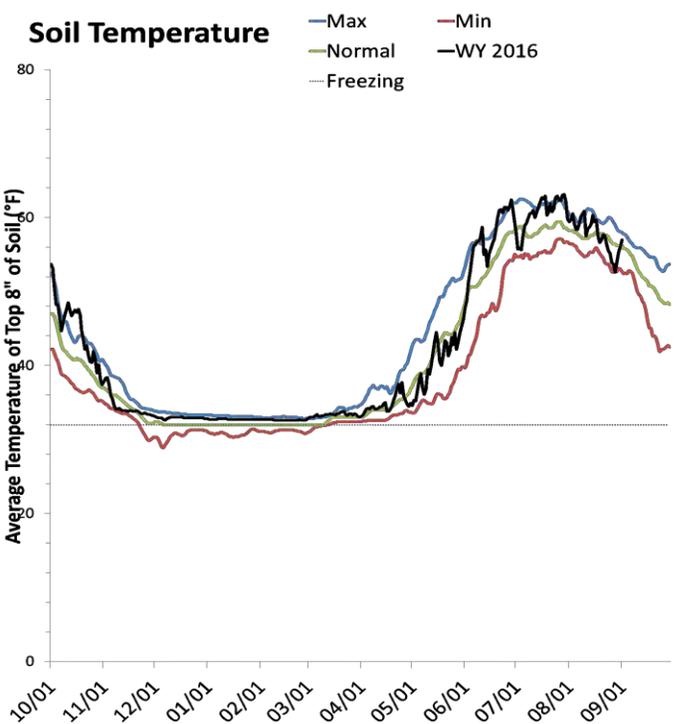
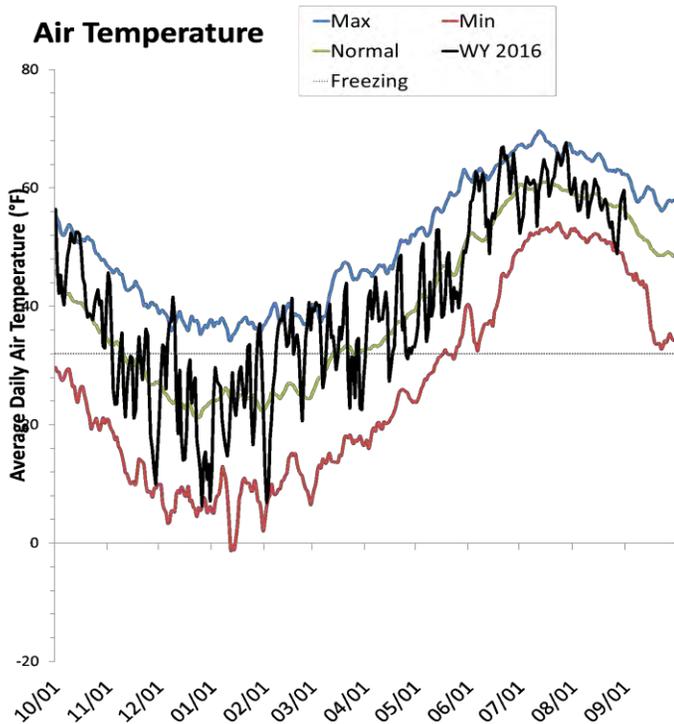
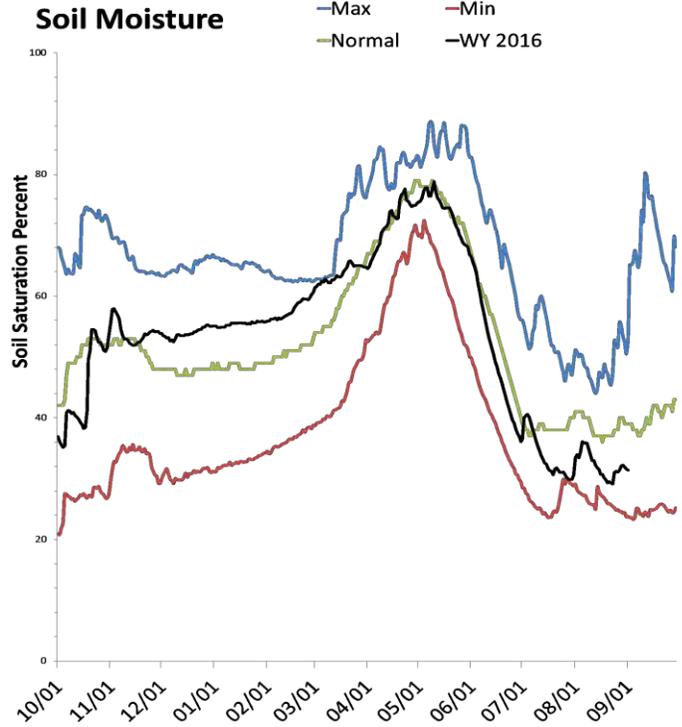
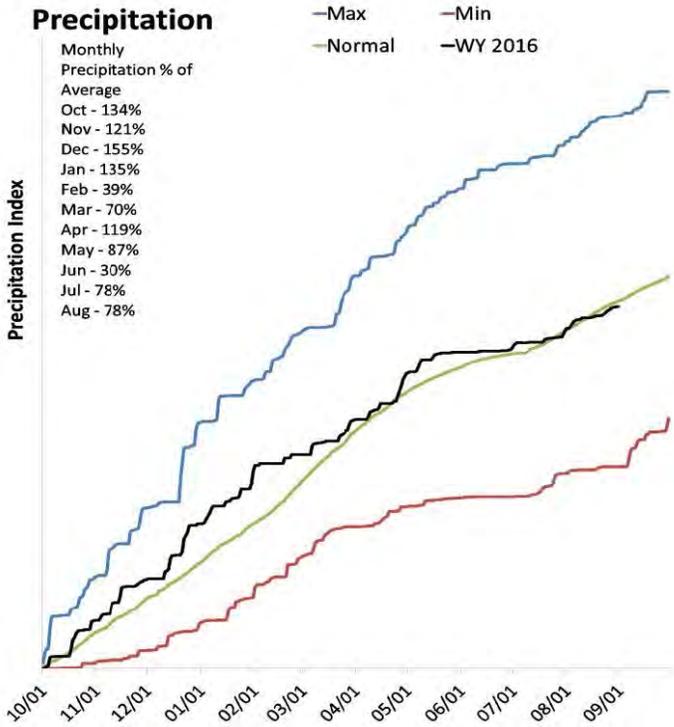
<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.



# Upper Sevier River Basin

9/1/2016

Precipitation in August was below average at 77%, which brings the seasonal accumulation (Oct-Aug) to 98% of average. Soil moisture is at 32% compared to 48% last year. Reservoir storage is at 22% of capacity, compared to 22% last year. The water availability index for the Upper Sevier is 30%.



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

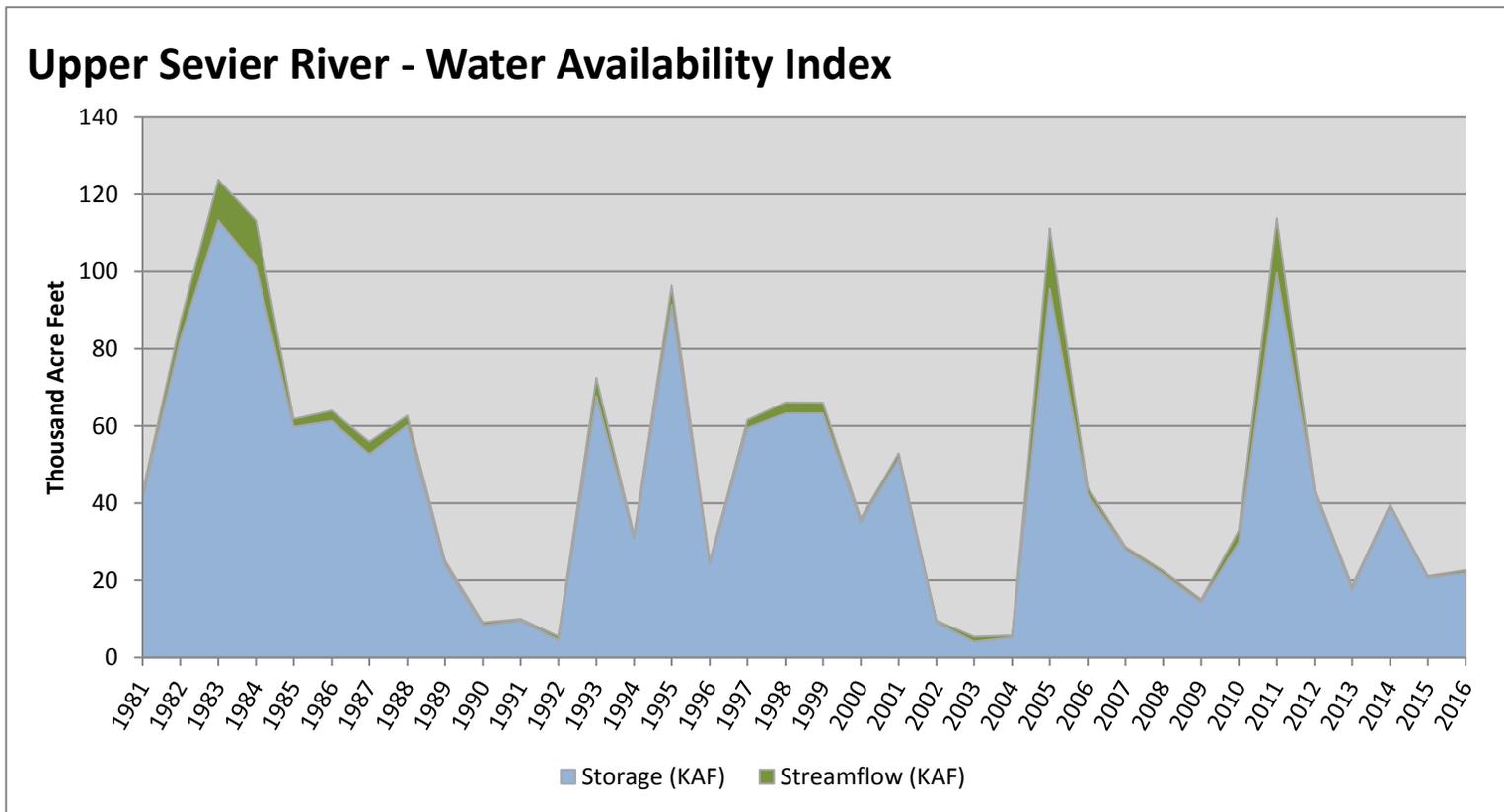
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Upper Sevier River</b>	<b>21.91</b>	<b>0.74</b>	<b>22.65</b>	<b>30</b>	<b>-1.69</b>	<b>15, 08, 96, 89</b>

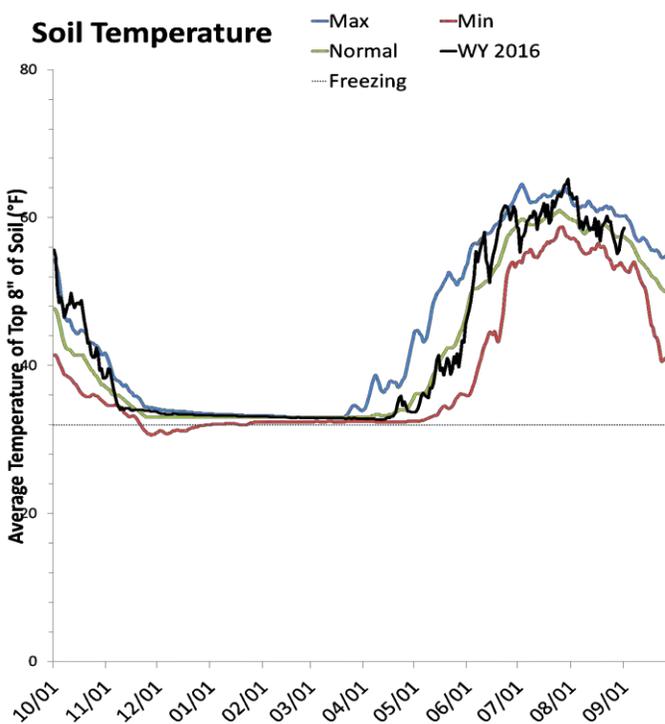
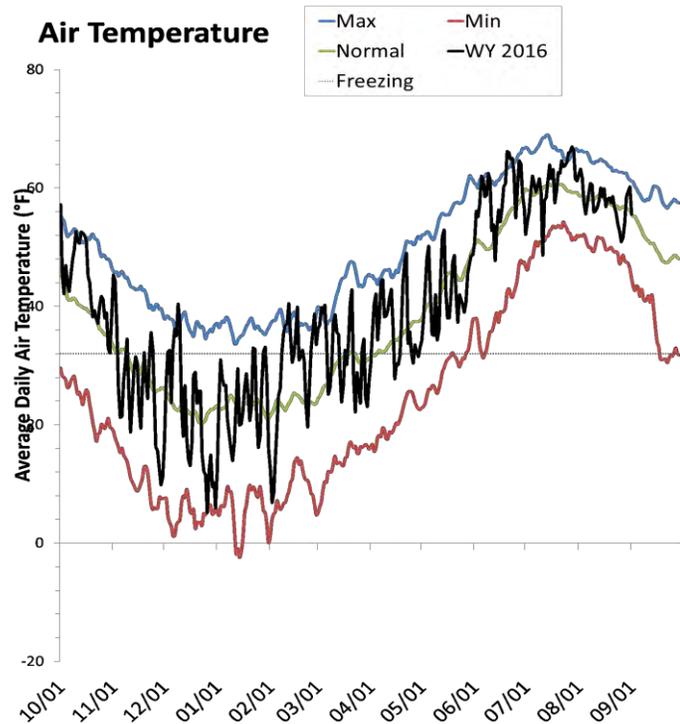
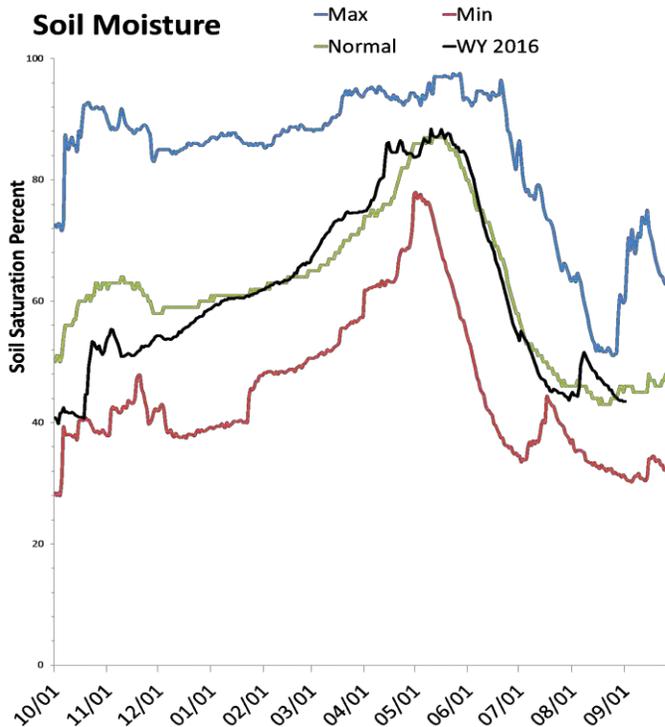
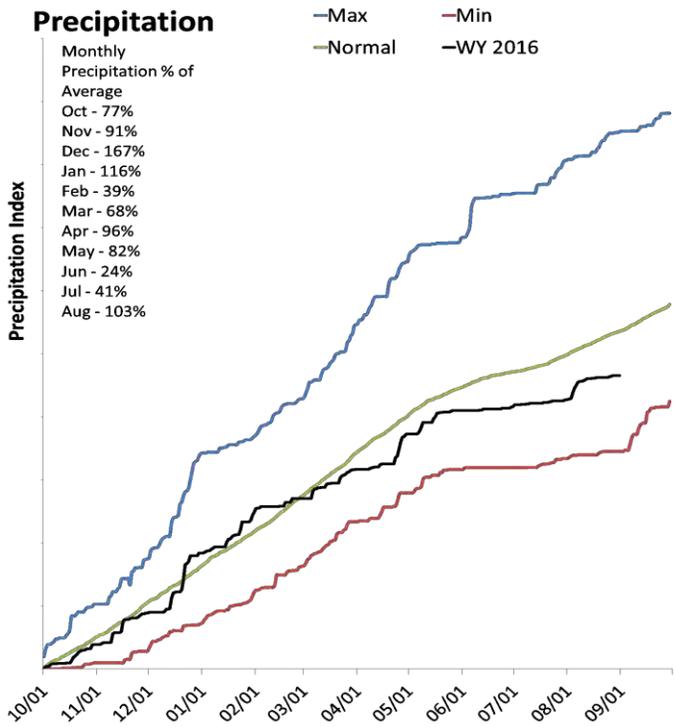
<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.



# San Pitch River Basin

9/1/2016

Precipitation in August was near average at 102%, which brings the seasonal accumulation (Oct-Aug) to 87% of average. Soil Moisture is at 43% compared to 49% last year. Reservoir storage is at 0% of capacity, compared to 0% last year. The water availability index for the San Pitch is 14%.



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

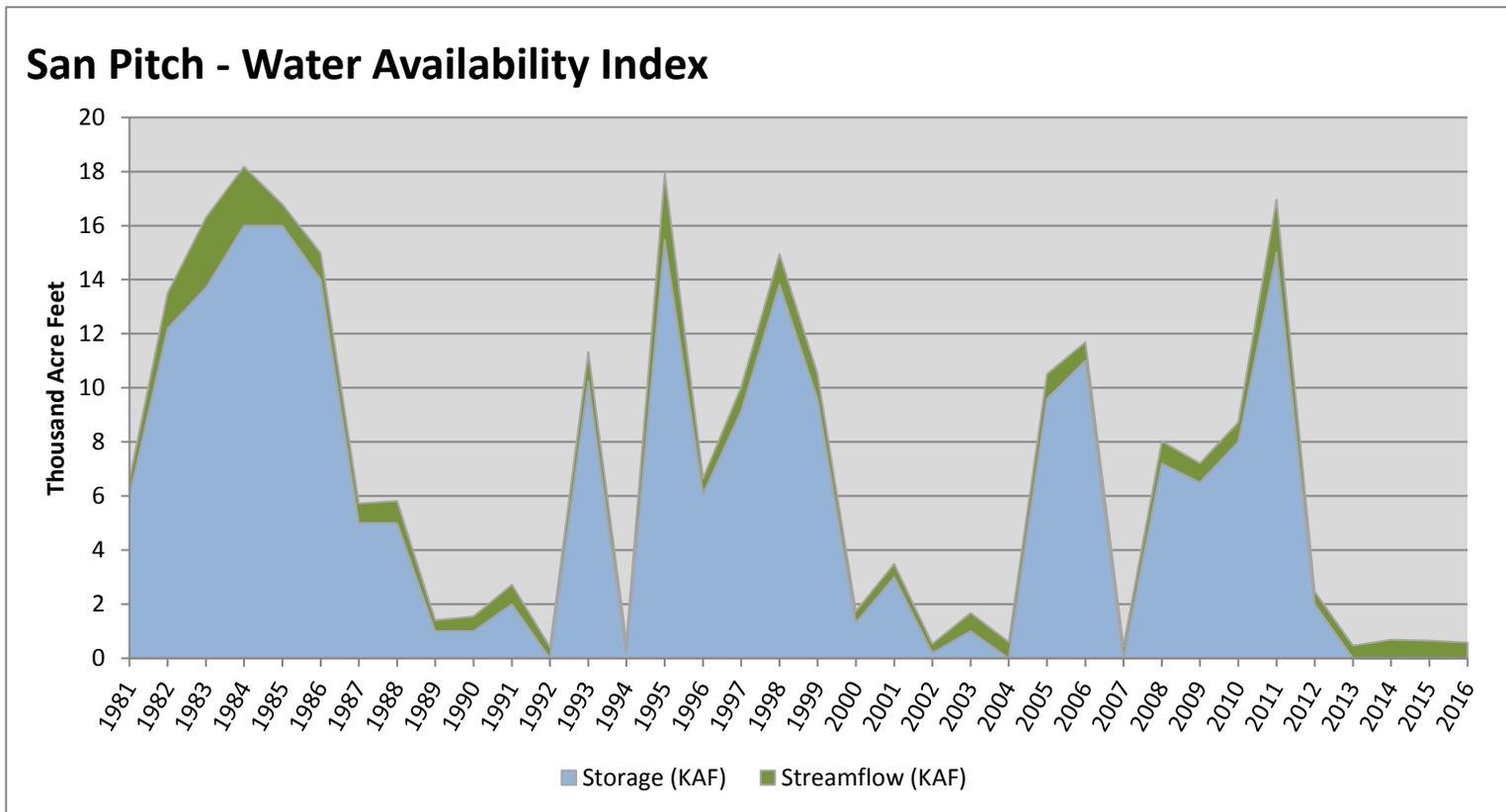
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>San Pitch</b>	<b>0.00</b>	<b>0.58</b>	<b>0.58</b>	<b>14</b>	<b>-3.04</b>	<b>13, 02, 04, 94</b>

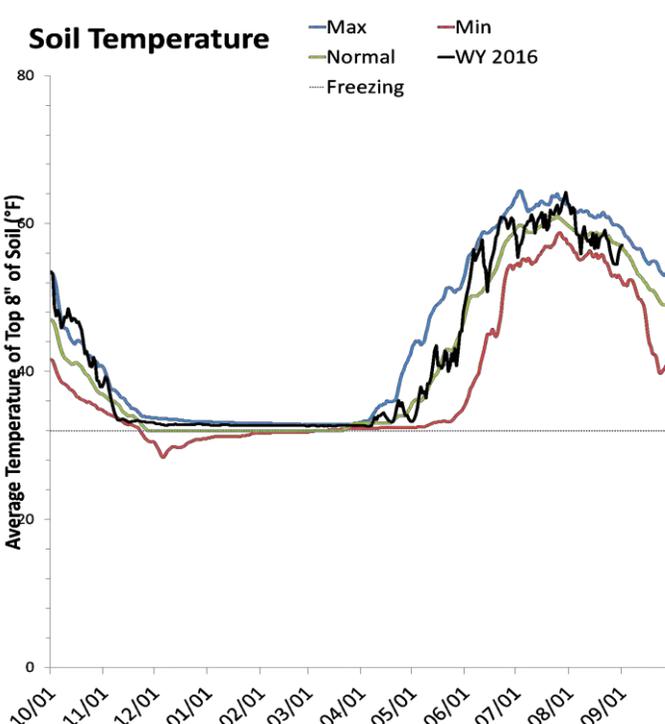
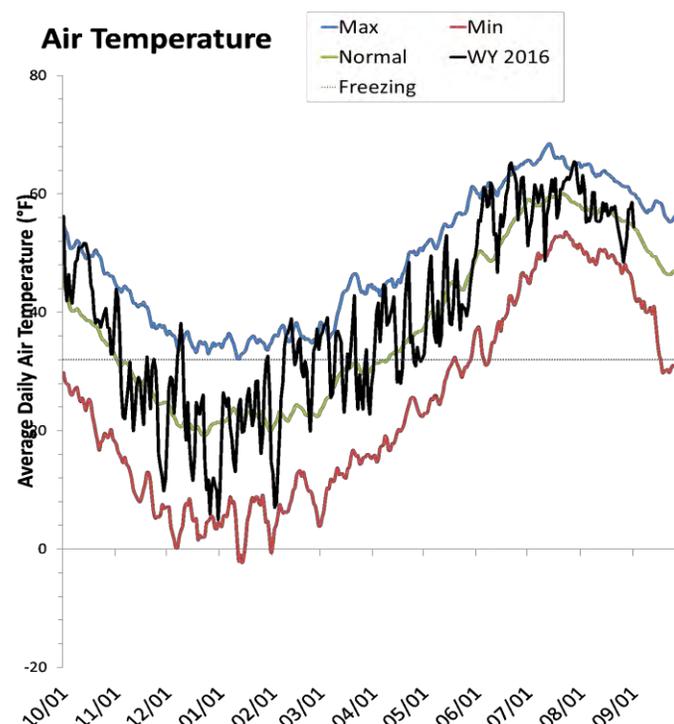
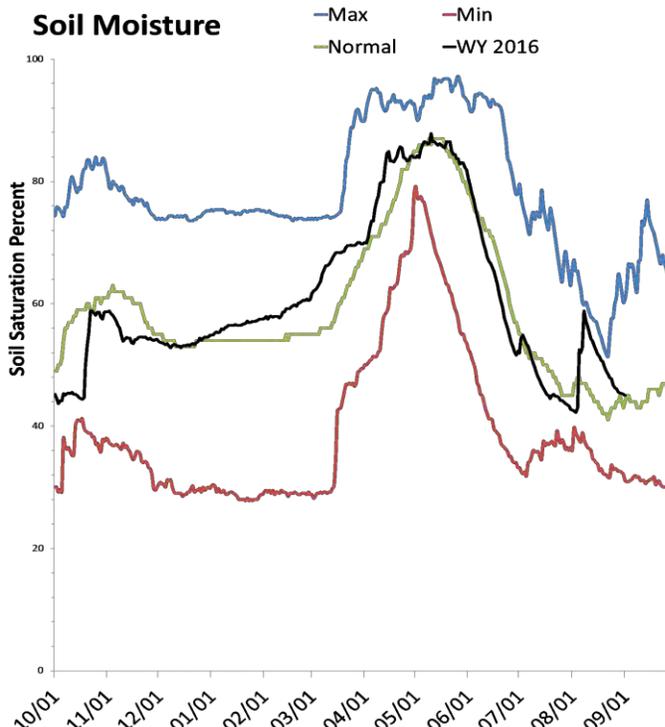
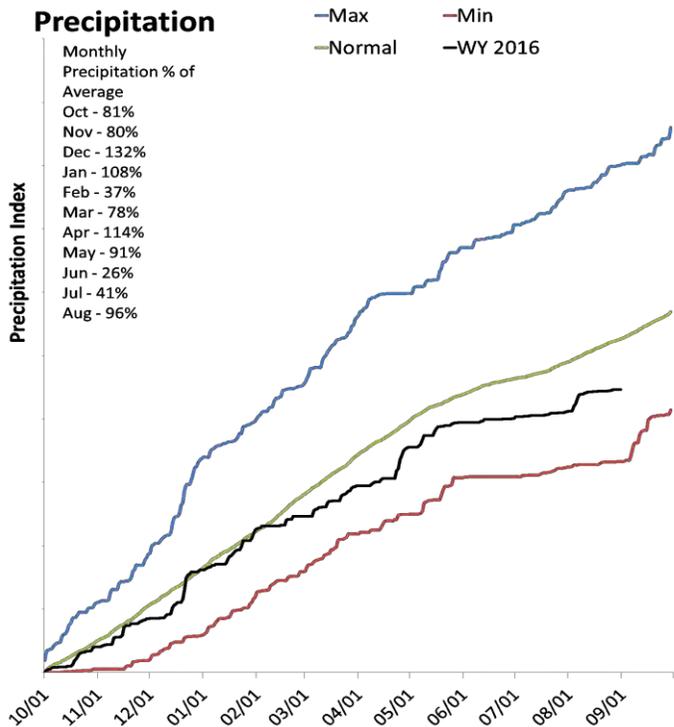
<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.



# Price & San Rafael Basins

9/1/2016

Precipitation in August was near average at 95%, which brings the seasonal accumulation (Oct-Aug) to 85% of average. Soil moisture is at 45% compared to 55% last year. Reservoir storage is at 41% of capacity, compared to 44% last year. The water availability index for the Price River is 16%, and 19% for Joe's Valley.



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

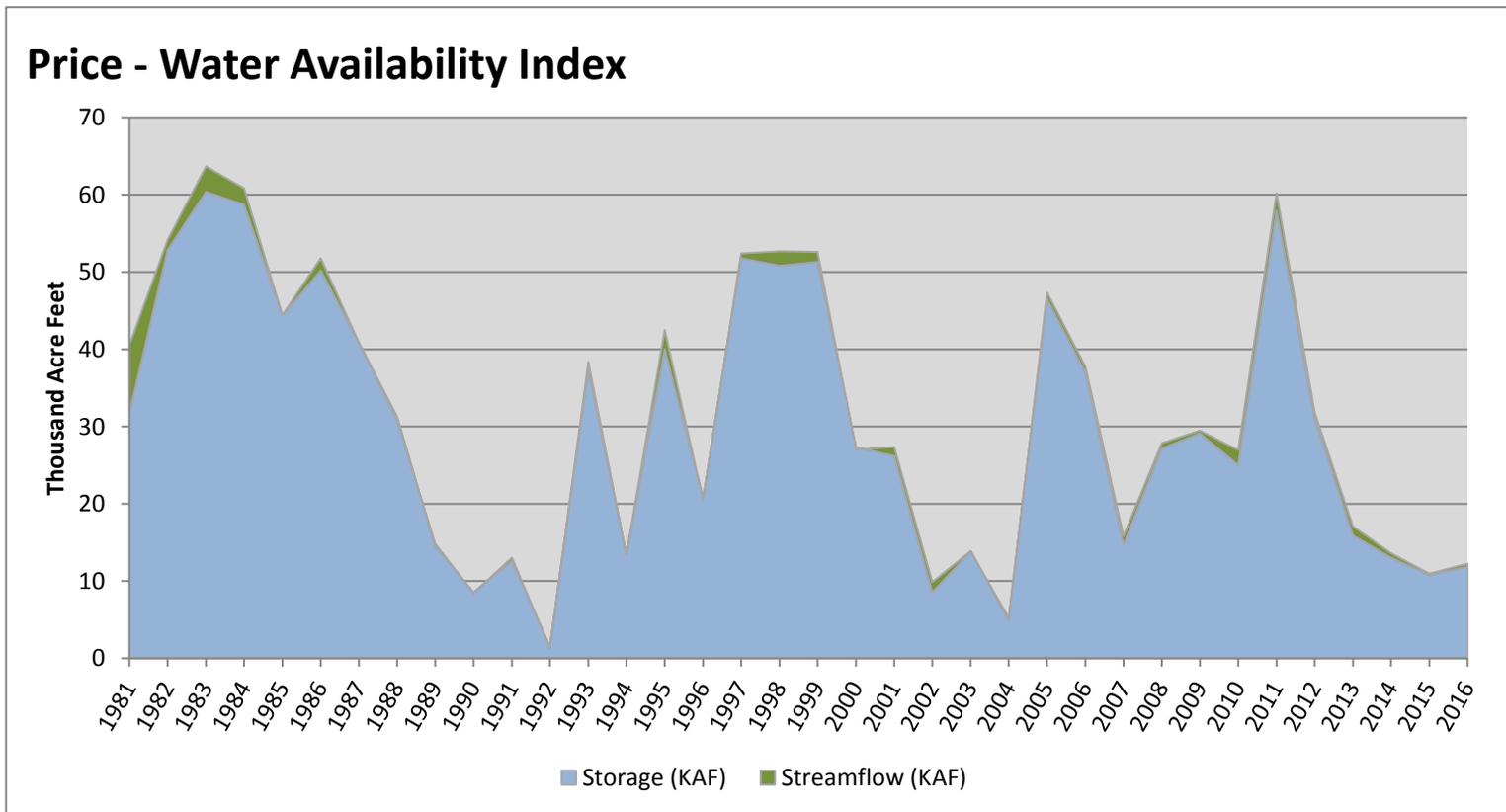
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Price</b>	<b>11.86</b>	<b>0.38</b>	<b>12.24</b>	<b>16</b>	<b>-2.82</b>	<b>02, 15, 91, 94</b>

<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.

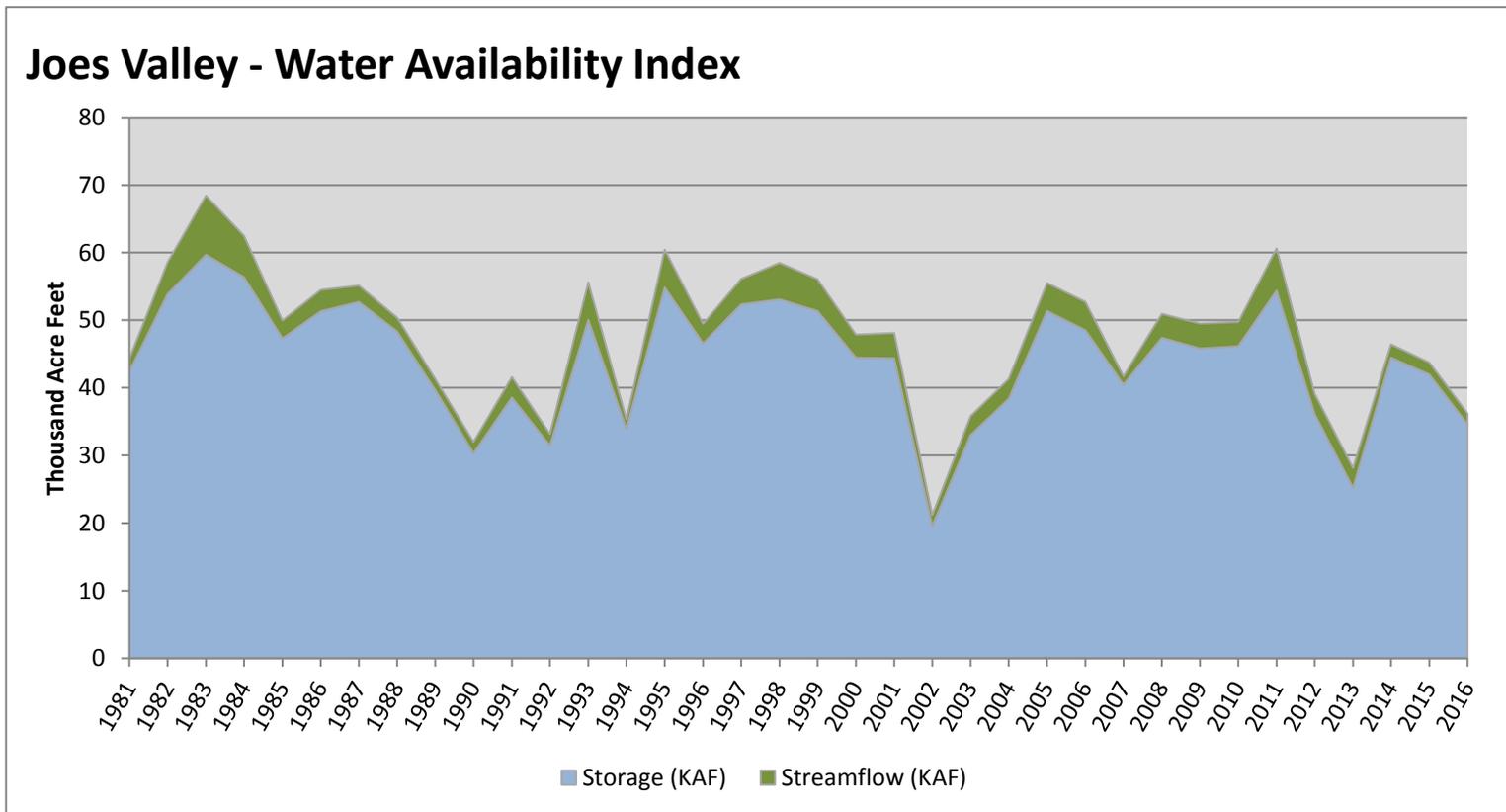


September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Joese Valley</b>	<b>34.59</b>	<b>1.62</b>	<b>36.21</b>	<b>19</b>	<b>-2.59</b>	<b>94, 03, 12, 04</b>

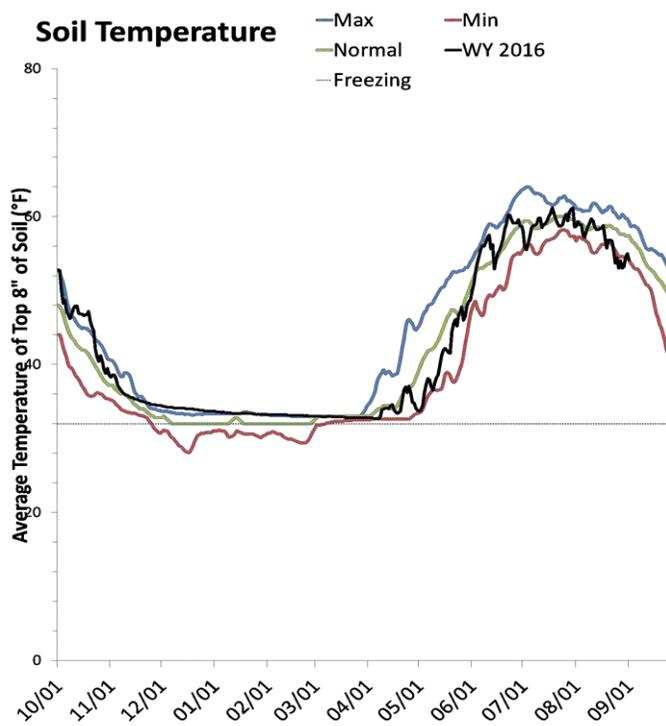
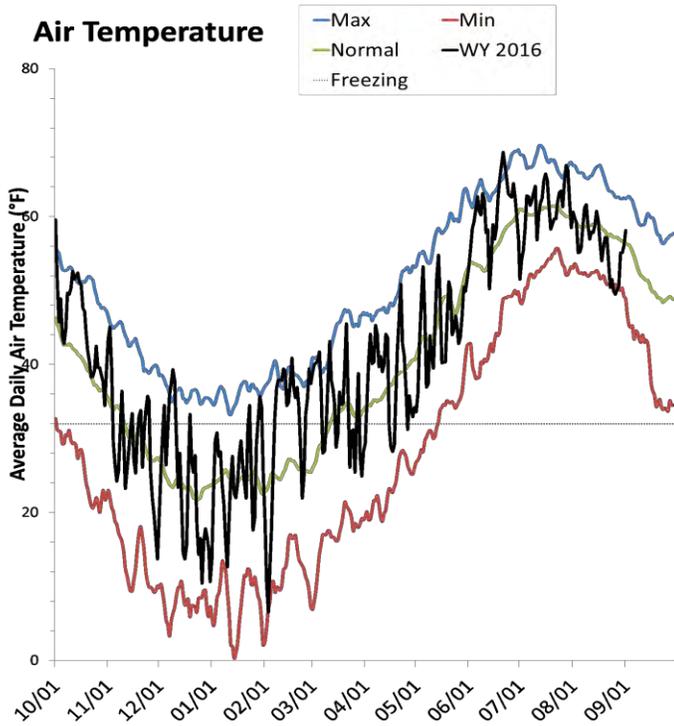
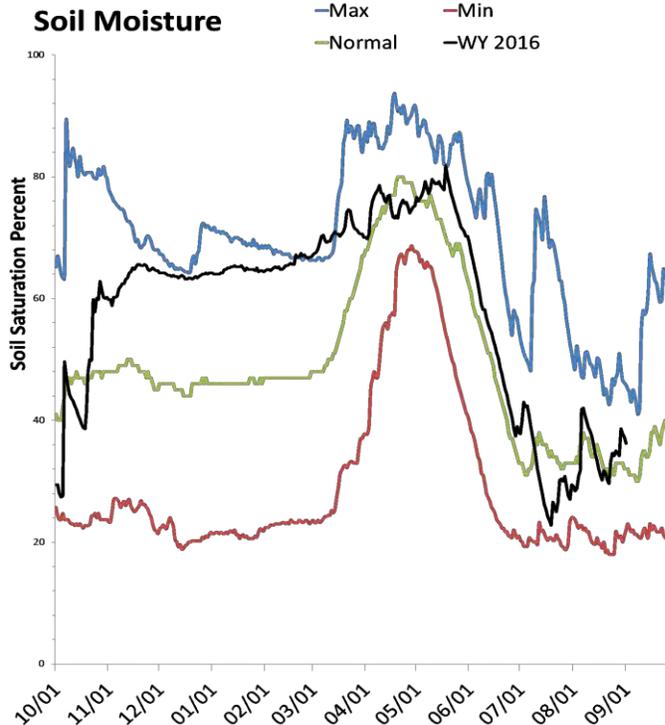
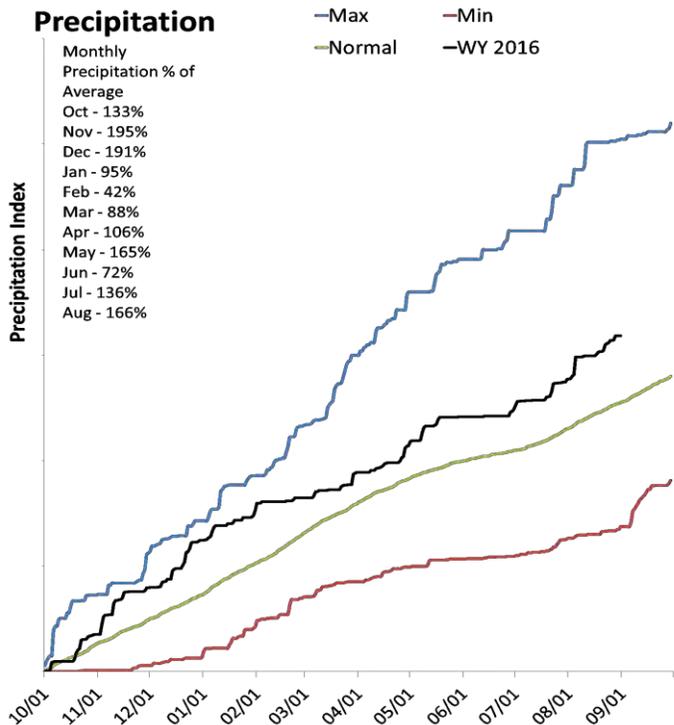
<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.



# Southeastern Utah Basin

9/1/2016

Precipitation in August was much above average at 163%, which brings the seasonal accumulation (Oct-Aug) to 125% of average. Soil moisture is at 40% compared to 48% last year. Reservoir storage is at 78% of capacity, compared to 59% last year. The water availability index for Moab is 77%.



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

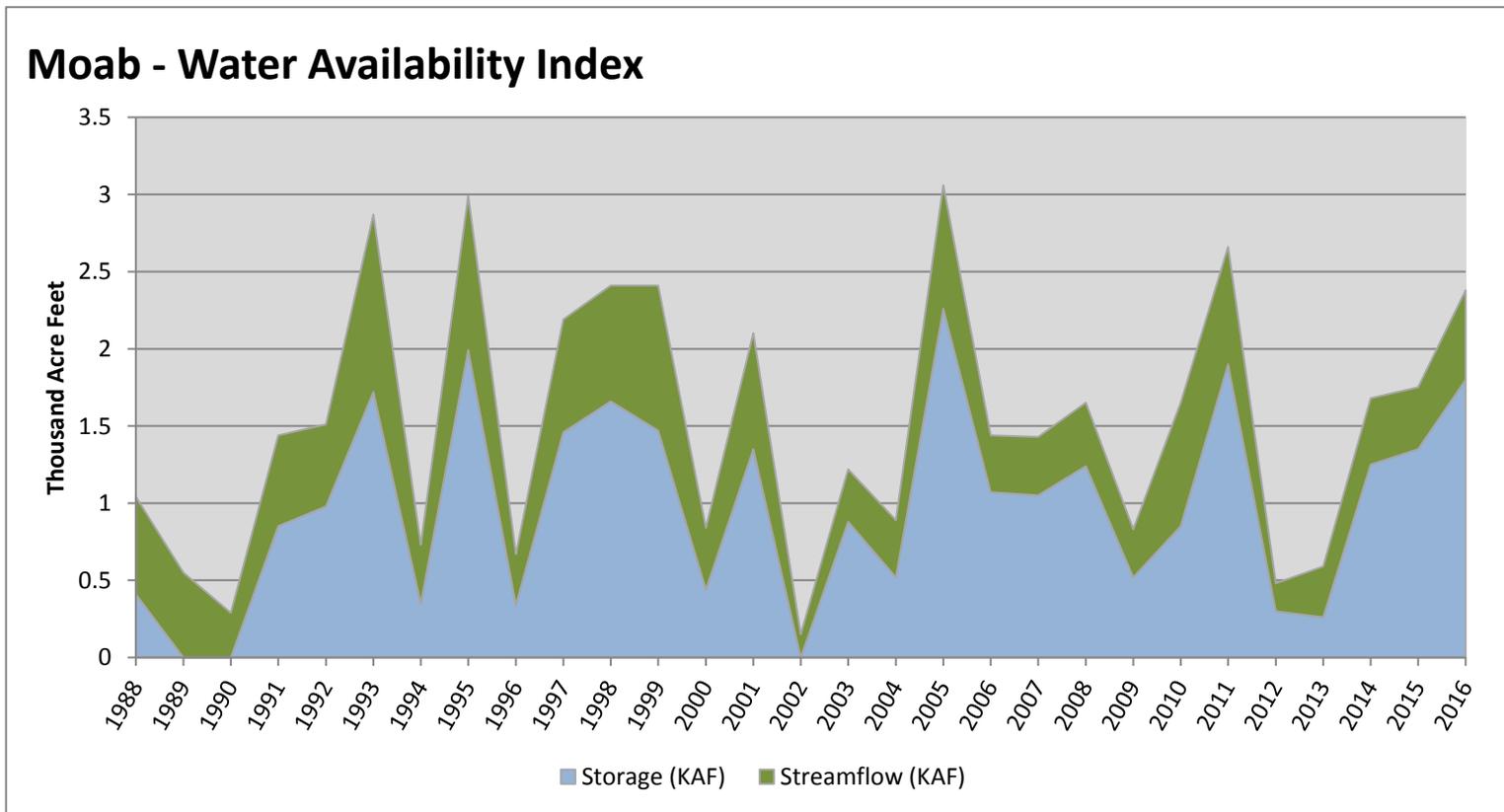
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Moab</b>	<b>1.80</b>	<b>0.58</b>	<b>2.38</b>	<b>77</b>	<b>2.22</b>	<b>01, 97, 98, 99</b>

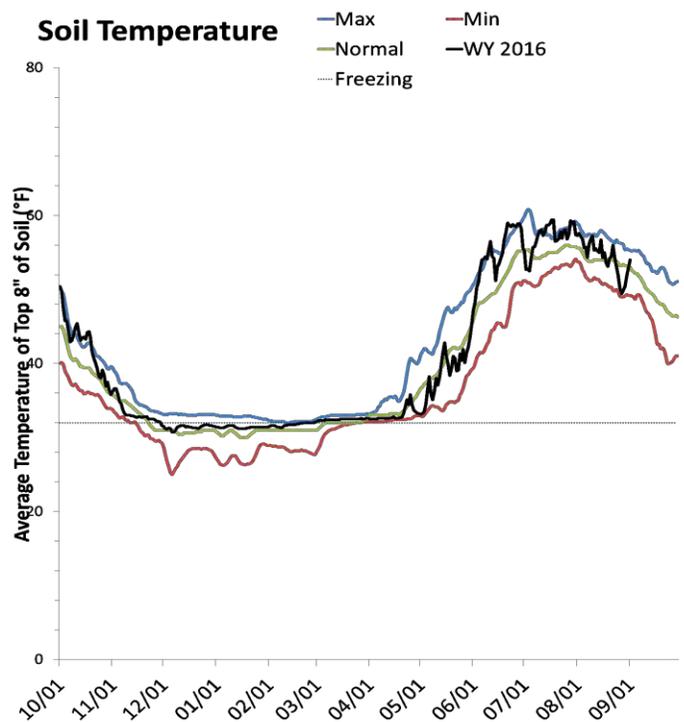
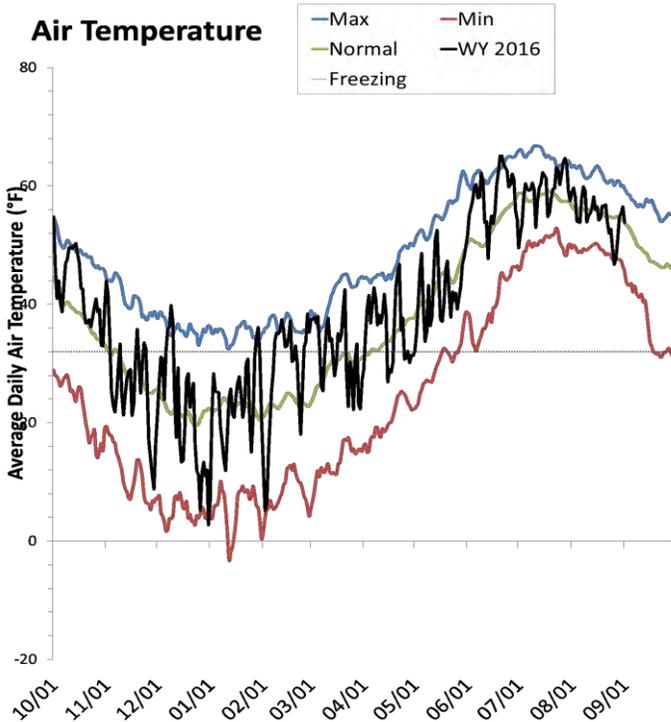
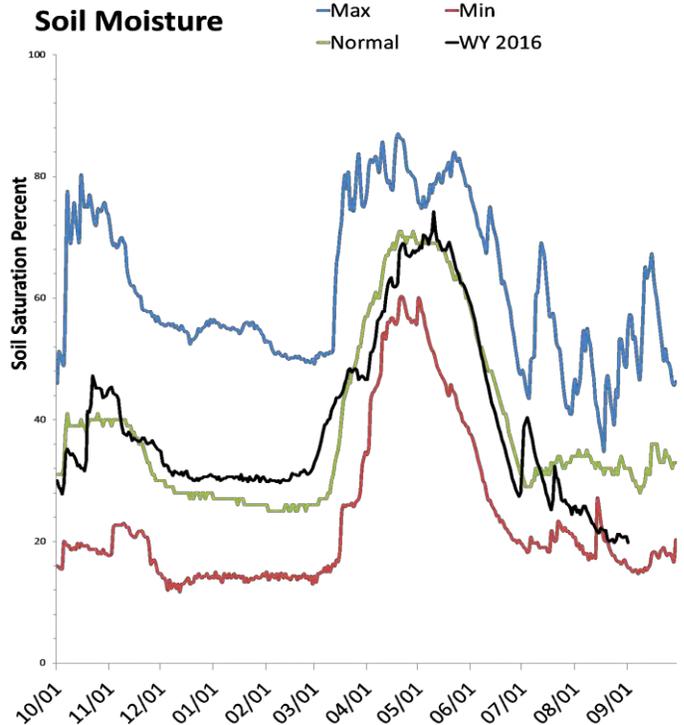
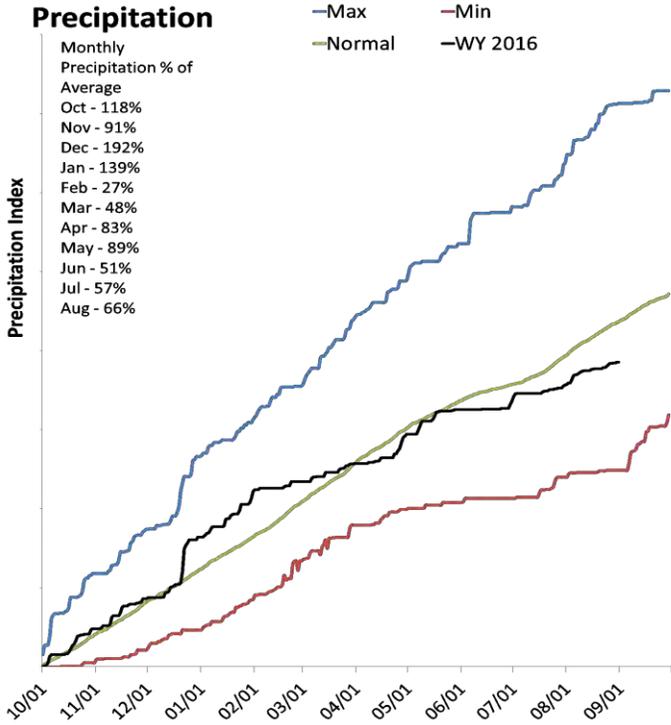
<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.



# Dirty Devil Basin

9/1/2016

Precipitation in August was much below average at 65%, which brings the seasonal accumulation (Oct-Aug) to 88% of average. Soil moisture is at 22% compared to 34% last year.



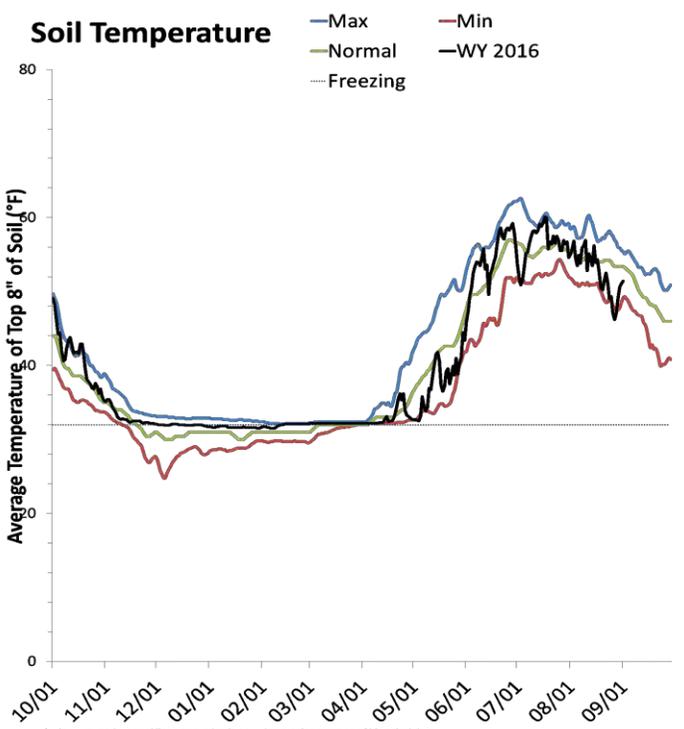
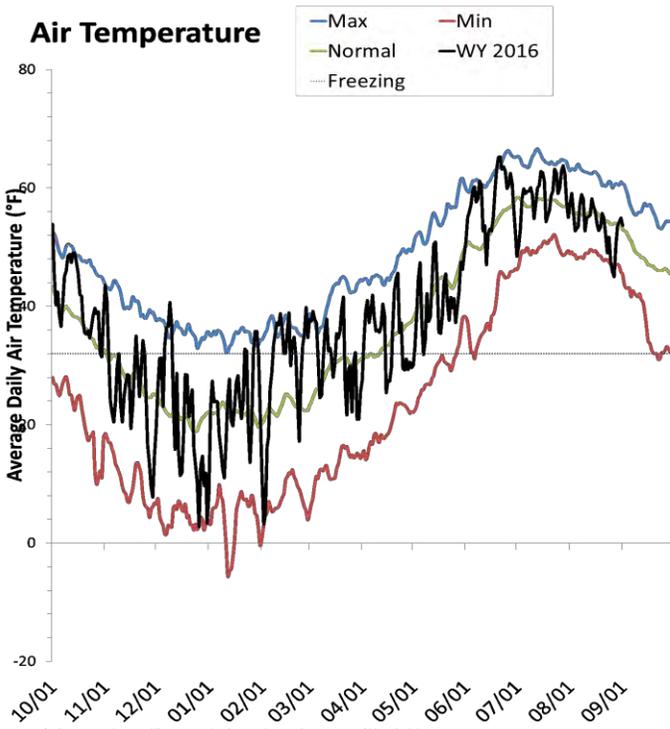
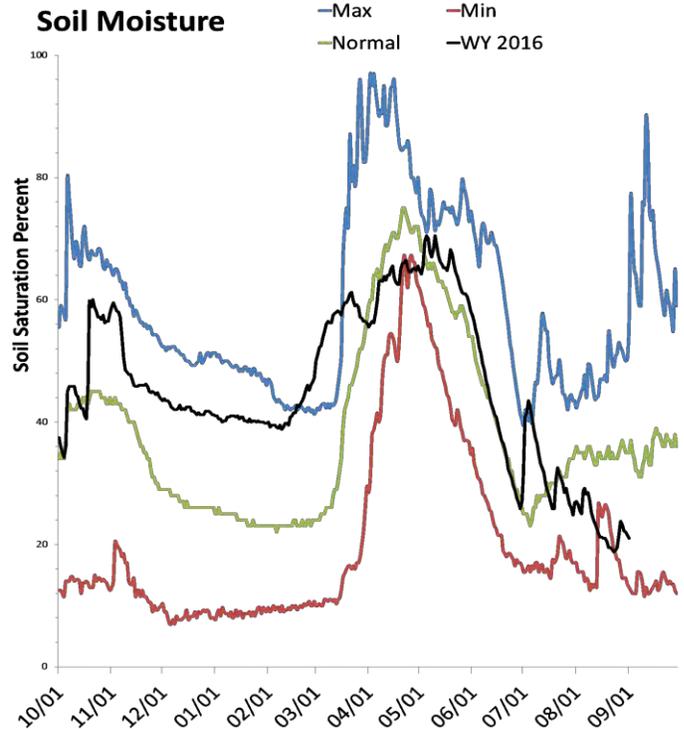
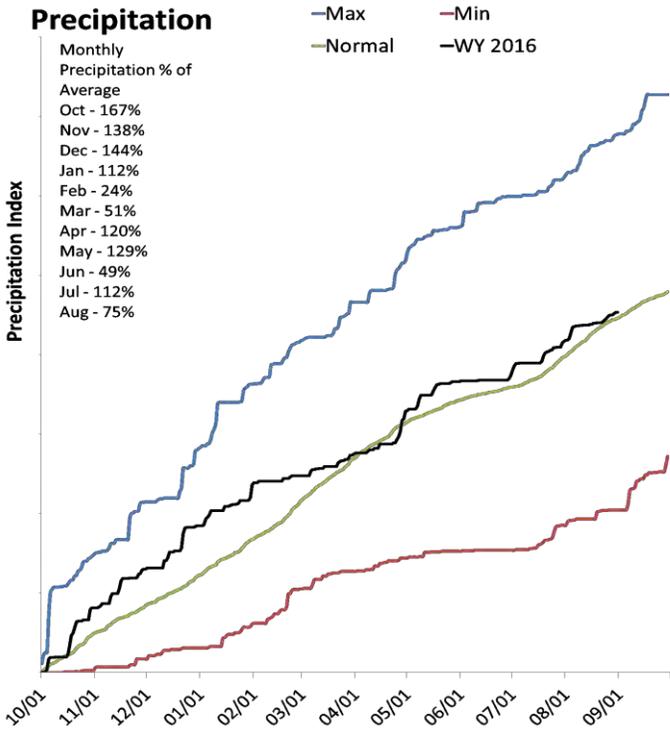
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

# Escalante River Basin

9/1/2016

Precipitation in August was below average at 73%, which brings the seasonal accumulation (Oct-Aug) to 101% of average. Soil moisture is at 22% compared to 35% last year.



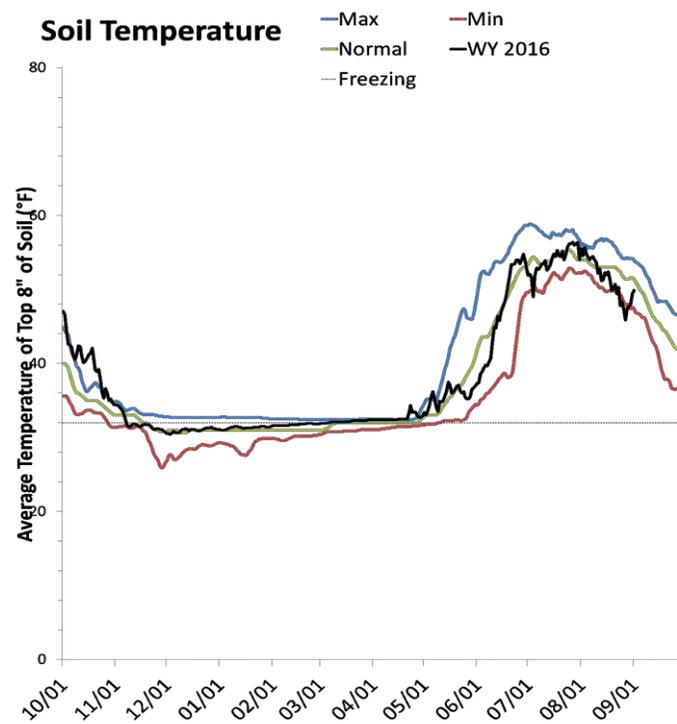
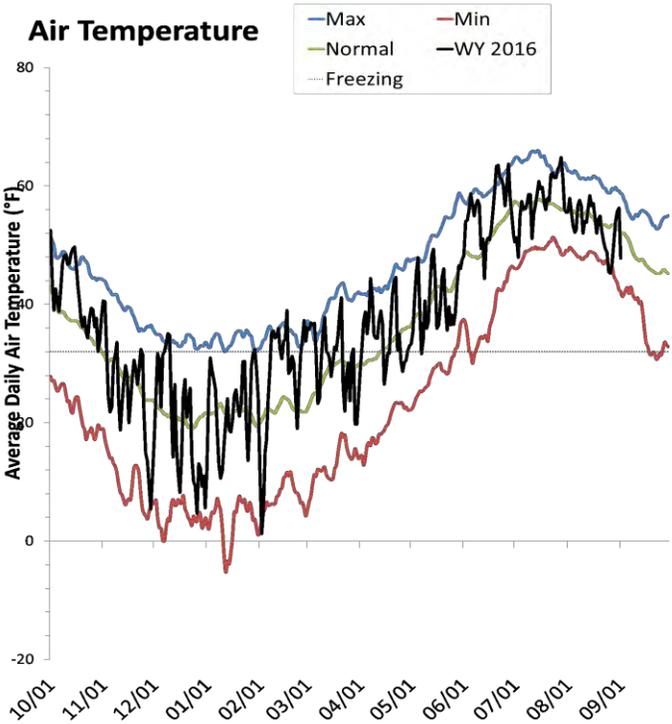
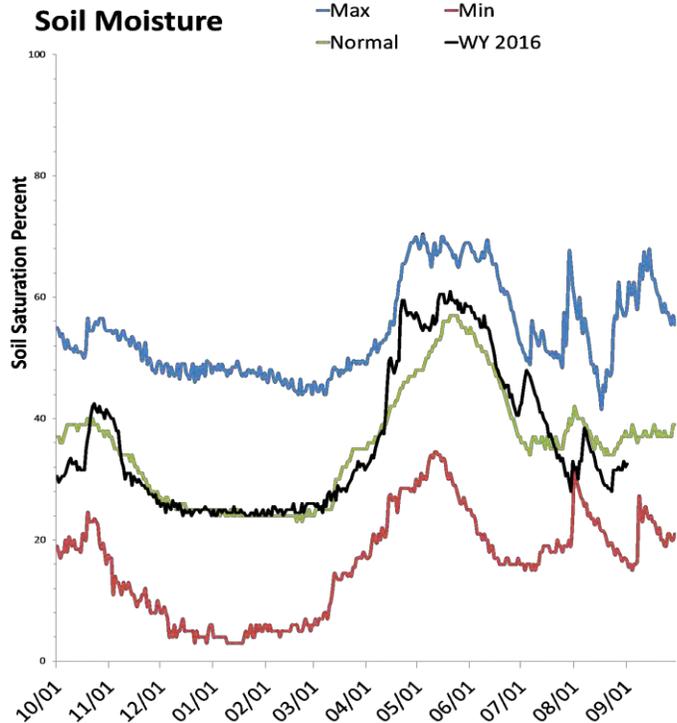
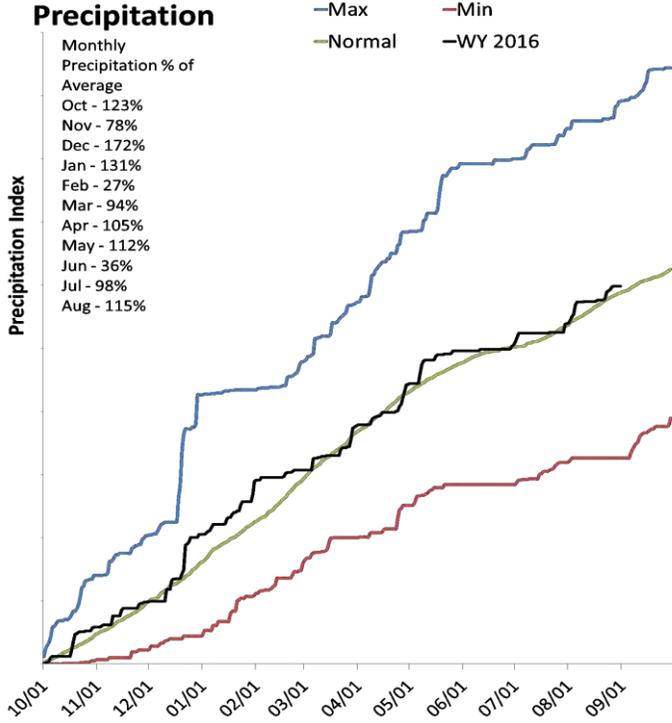
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

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

# Beaver River Basin

9/1/2016

Precipitation in August was above average at 113%, which brings the seasonal accumulation (Oct-Aug) to 102% of average. Soil moisture is at 32% compared to 35% last year. Reservoir storage is at 15% of capacity, compared to 16% last year. The water availability index for the Beaver River is 35%.



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

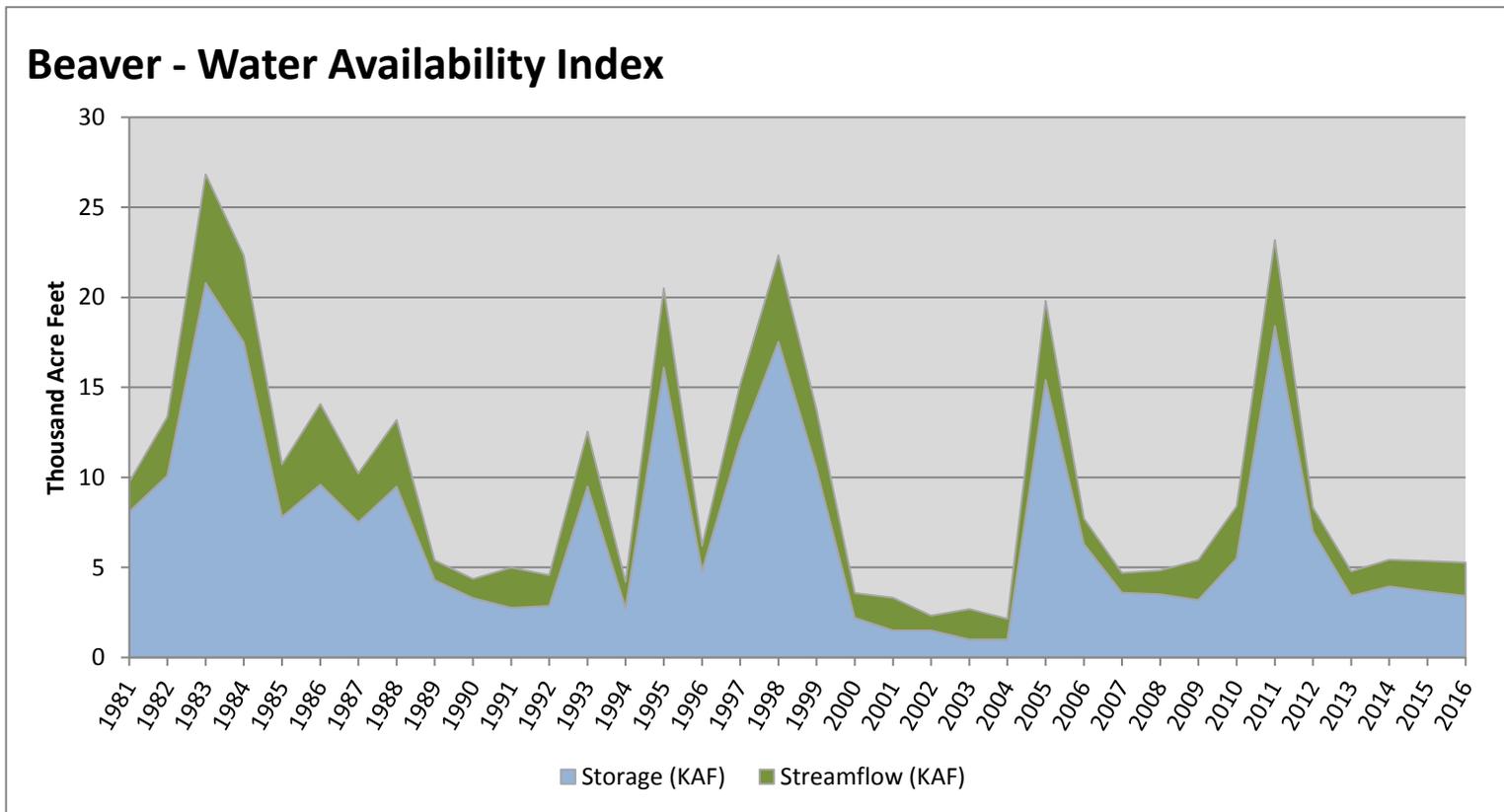
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Beaver</b>	<b>3.42</b>	<b>1.85</b>	<b>5.27</b>	<b>35</b>	<b>-1.24</b>	<b>08, 91, 15, 89</b>

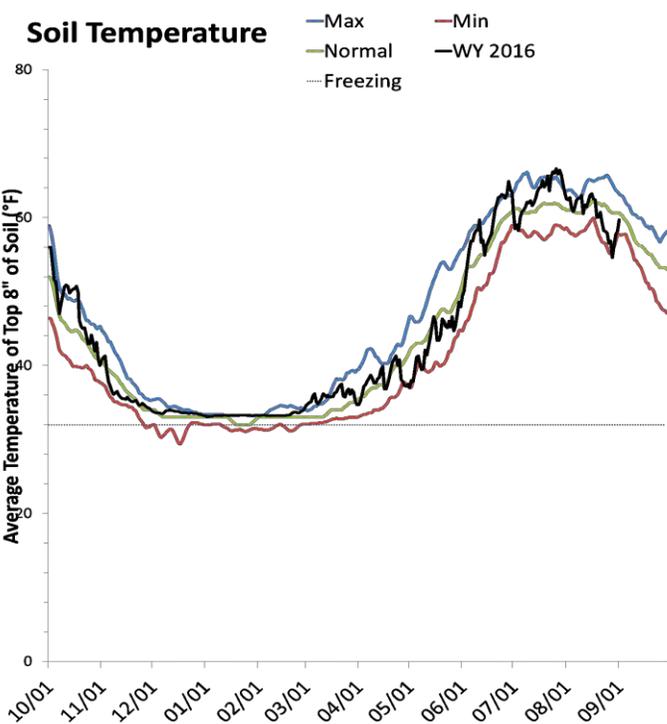
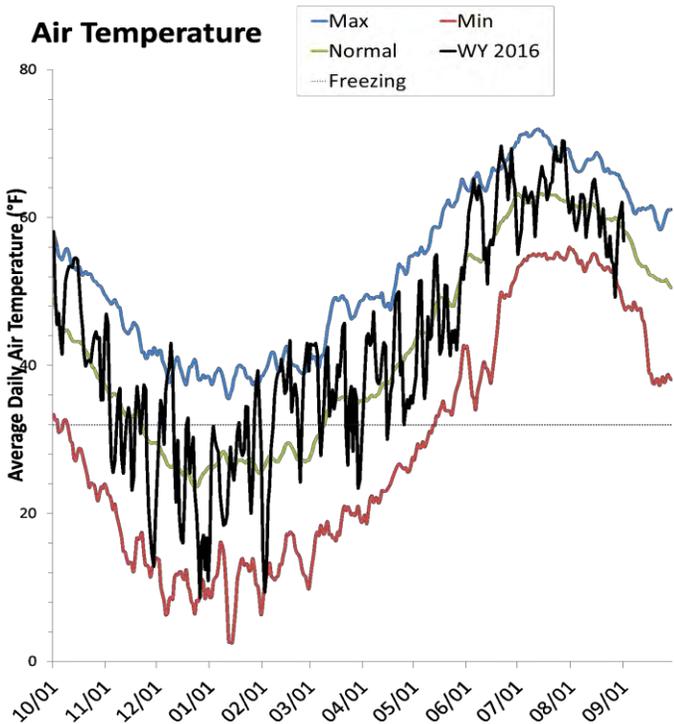
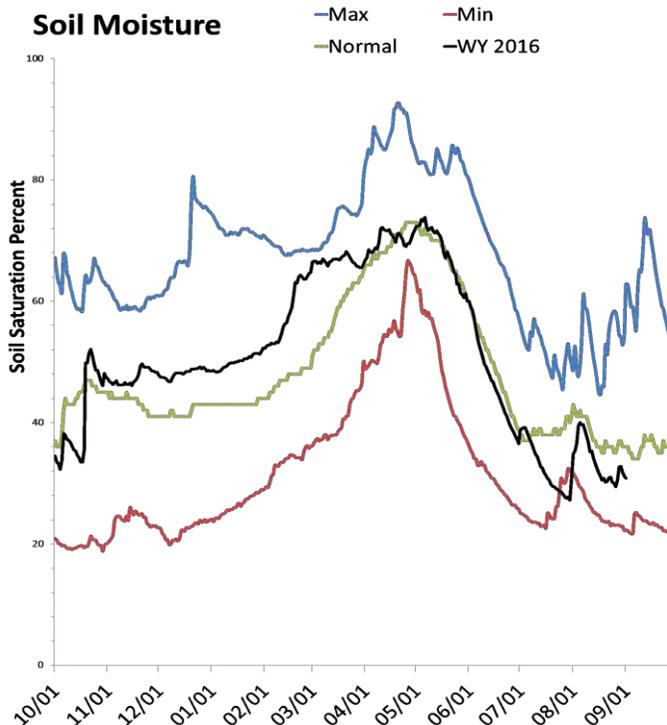
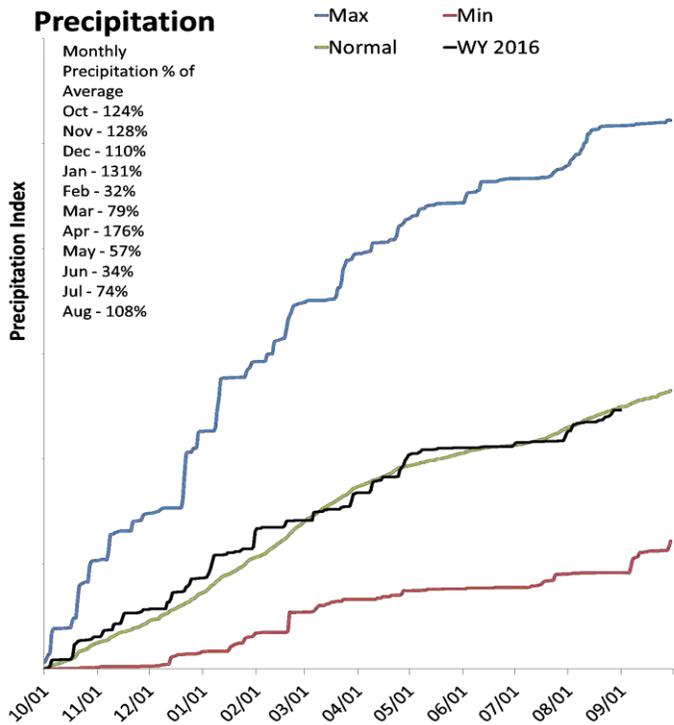
<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.



# Southwestern Utah Basin

9/1/2016

Precipitation in August was near average at 109%, which brings the seasonal accumulation (Oct-Aug) to 99% of average. Soil moisture is at 33% compared to 38% last year. Reservoir storage is at 54% of capacity, compared to 52% last year. The water availability index for the Virgin River is 70%.



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

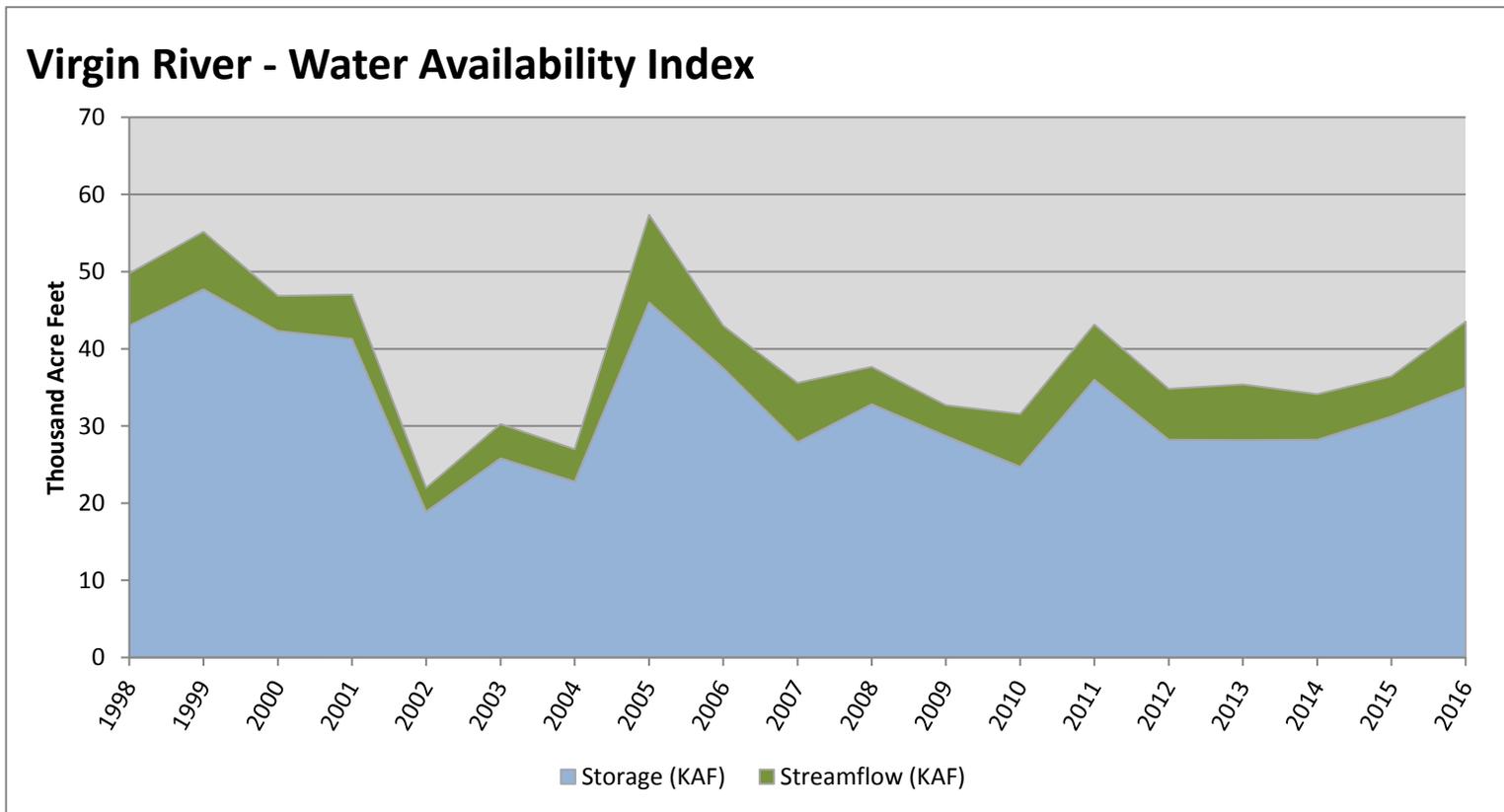
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM <sup>*</sup> Storage	August Flow	Storage + Flow	Percentile	WAI <sup>#</sup>	Years with similiar WAI
	KAF <sup>^</sup>	KAF <sup>^</sup>	KAF <sup>^</sup>	%		
<b>Virgin River</b>	<b>34.98</b>	<b>8.54</b>	<b>43.52</b>	<b>70</b>	<b>1.67</b>	<b>06, 11, 00, 01</b>

<sup>\*</sup>EOM, end of month; <sup>#</sup>WAI, Water Availability Index; <sup>^</sup>KAF, thousand acre-feet.



September 1, 2016

## Water Availability Index

Basin or Region	Aug EOM* Storage	August Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
<b>Bear River</b>	<b>461</b>	<b>4.0</b>	<b>465</b>	<b>41</b>	<b>-0.8</b>	<b>90, 09, 95, 01</b>
<b>Woodruff Narrows</b>	<b>41.3</b>	<b>4.9</b>	<b>46.1</b>	<b>70</b>	<b>1.7</b>	<b>06, 08, 10, 97</b>
<b>Little Bear</b>	<b>3.2</b>	<b>1.0</b>	<b>4.2</b>	<b>32</b>	<b>-1.5</b>	<b>04, 12, 02, 14</b>
<b>Ogden</b>	<b>70.6</b>	<b>2.3</b>	<b>72.9</b>	<b>62</b>	<b>1.0</b>	<b>04, 06, 99, 10</b>
<b>Weber</b>	<b>91.9</b>	<b>-10.3</b>	<b>81.6</b>	<b>11</b>	<b>-3.2</b>	<b>92, 13, 02, 12</b>
<b>Provo River</b>	<b>324.7</b>	<b>3.6</b>	<b>328.3</b>	<b>41</b>	<b>-0.8</b>	<b>15, 14, 08, 01</b>
<b>Western Uintah</b>	<b>159.7</b>	<b>3.6</b>	<b>163.3</b>	<b>60</b>	<b>0.8</b>	<b>08, 06, 09, 14</b>
<b>Eastern Uintah</b>	<b>28.7</b>	<b>6.2</b>	<b>34.9</b>	<b>32</b>	<b>-1.5</b>	<b>03, 81, 00, 07</b>
<b>Blacks Fork</b>	<b>9.3</b>	<b>3.3</b>	<b>12.6</b>	<b>35</b>	<b>-1.2</b>	<b>89, 04, 06, 03</b>
<b>Price</b>	<b>11.9</b>	<b>0.4</b>	<b>12.2</b>	<b>16</b>	<b>-2.8</b>	<b>02, 15, 91, 94</b>
<b>Smiths Creek</b>	<b>6.1</b>	<b>1.4</b>	<b>7.5</b>	<b>39</b>	<b>-0.9</b>	<b>88, 01, 96, 85</b>
<b>Joes Valley</b>	<b>34.6</b>	<b>1.6</b>	<b>36.2</b>	<b>19</b>	<b>-2.6</b>	<b>94, 03, 12, 04</b>
<b>Moab</b>	<b>1.8</b>	<b>0.6</b>	<b>2.4</b>	<b>77</b>	<b>2.2</b>	<b>01, 97, 98, 99</b>
<b>Upper Sevier River</b>	<b>21.9</b>	<b>0.7</b>	<b>22.7</b>	<b>30</b>	<b>-1.7</b>	<b>15, 08, 96, 89</b>
<b>San Pitch</b>	<b>0.0</b>	<b>0.6</b>	<b>0.6</b>	<b>14</b>	<b>-3.0</b>	<b>13, 02, 04, 94</b>
<b>Lower Sevier</b>	<b>8.3</b>	<b>2.9</b>	<b>11.2</b>	<b>8</b>	<b>-3.5</b>	<b>03, 04, 91, 02</b>
<b>Beaver</b>	<b>3.4</b>	<b>1.9</b>	<b>5.3</b>	<b>35</b>	<b>-1.2</b>	<b>08, 91, 15, 89</b>
<b>Virgin River</b>	<b>35.0</b>	<b>8.5</b>	<b>43.5</b>	<b>70</b>	<b>1.7</b>	<b>06, 11, 00, 01</b>

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

### What is a Water Availability Index?

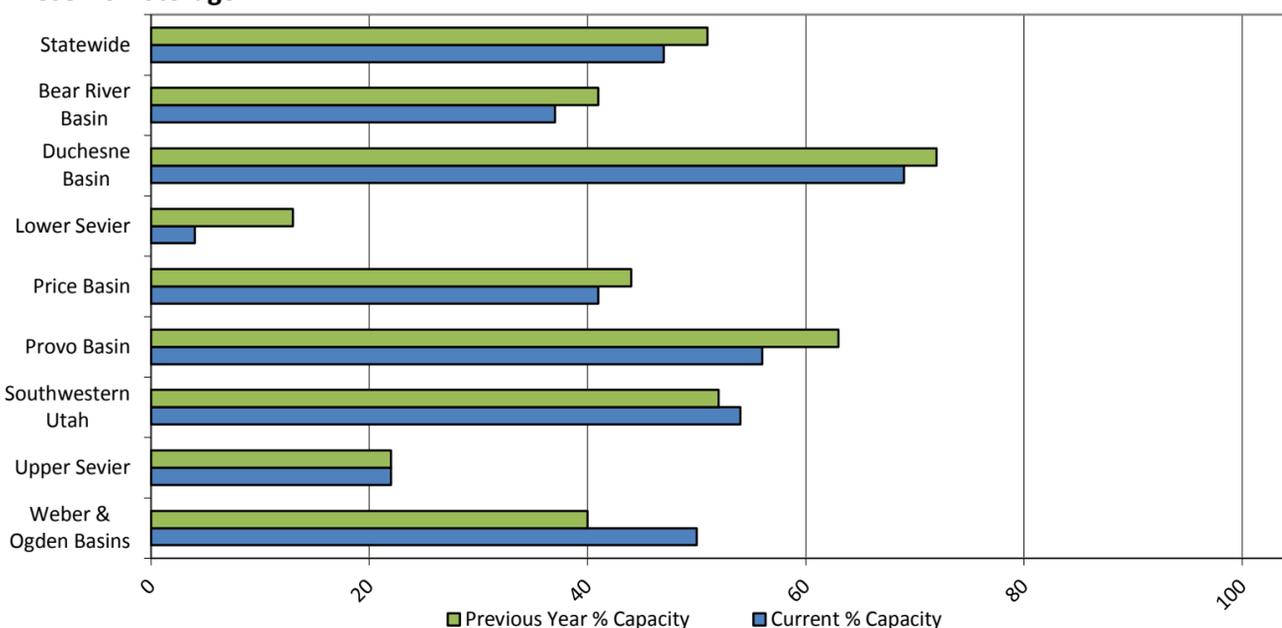
The Water Availability Index (WAI) is an observed hydrologic indicator of current surface water availability within a watershed. The index is calculated by combining current reservoir storage with the previous months streamflow. WAI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry) 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/](http://www.ut.nrcs.usda.gov/snow/) on the water supply page. The entire period of historical record for reservoir storage and streamflow is available.

<b>Reservoir Storage Summary for the end of August 2016</b>	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	8.2	11.0		25.7	32%	43%			
Causey Reservoir	3.7	4.0	3.4	7.1	52%	56%	48%	108%	118%
Cleveland Lake	1.9	3.4		5.4	35%	63%			
Currant Creek Reservoir	14.3	14.6	15.1	15.5	92%	94%	97%	95%	97%
Deer Creek Reservoir	98.4	110.5	105.7	149.7	66%	74%	71%	93%	105%
East Canyon Reservoir	23.1	23.2	34.8	49.5	47%	47%	70%	66%	67%
Echo Reservoir	19.1	30.8	33.3	73.9	26%	42%	45%	57%	92%
Grantsville Reservoir	0.4	1.8	1.0	3.3	12%	55%	30%	39%	180%
Gunlock	4.6	3.3	5.7	10.4	44%	32%	55%	80%	58%
Gunnison Reservoir	0.0	0.0	7.0	20.3	0%	0%	34%	0%	0%
Huntington North Reservoir	2.2	1.9	1.8	4.2	53%	45%	42%	128%	107%
Hyrum Reservoir	3.2	3.9	6.7	15.3	21%	25%	44%	48%	58%
Joes Valley Reservoir	34.6	42.0	45.1	61.6	56%	68%	73%	77%	93%
Jordanelle Reservoir	226.3	209.2	272.3	320.0	71%	65%	85%	83%	77%
Ken's Lake	1.8	1.4	1.0	2.3	78%	59%	44%	178%	134%
Kolob Reservoir	5.2	5.1		5.6	93%	91%			
Lost Creek Reservoir	15.2	12.1	13.8	22.5	68%	54%	61%	110%	87%
Lower Enterprise	0.4	1.1	0.2	2.6	15%	42%	8%	200%	550%
Miller Flat Reservoir	1.8	3.1		5.2	35%	59%			
Millsite	11.5	11.1	11.8	16.7	69%	67%	71%	97%	94%
Minersville Reservoir	3.4	3.7	7.5	23.3	15%	16%	32%	46%	49%
Moon Lake Reservoir	11.0	14.5	18.7	35.8	31%	41%	52%	59%	78%
Otter Creek Reservoir	21.8	18.0	23.8	52.5	41%	34%	45%	92%	76%
Panguitch Lake	9.8	10.9	13.6	22.3	44%	49%	61%	72%	80%
Pineview Reservoir	66.9	58.9	59.8	110.1	61%	53%	54%	112%	98%
Piute Reservoir	0.1	2.6	21.2	71.8	0%	4%	30%	1%	12%
Porcupine Reservoir	5.3	7.5	5.3	11.3	47%	66%	47%	101%	142%
Quail Creek	30.4	28.0	22.9	40.0	76%	70%	57%	133%	122%
Red Fleet Reservoir	19.1	16.5	19.0	25.7	74%	64%	74%	101%	87%
Rockport Reservoir	30.2	29.3	44.4	60.9	50%	48%	73%	68%	66%
Sand Hollow Reservoir	40.0	32.4		50.0	80%	65%			
Scofield Reservoir	11.9	10.7	32.2	65.8	18%	16%	49%	37%	33%
Settlement Canyon Reservoir	0.2	0.3	0.5	1.0	18%	30%	49%	37%	61%
Sevier Bridge Reservoir	8.3	31.0	93.4	236.0	4%	13%	40%	9%	33%
Smith And Morehouse Reservoir	4.3	4.5	4.8	81.0	5%	6%	6%	89%	94%
Starvation Reservoir	127.0	133.0	130.5	165.3	77%	80%	79%	97%	102%
Stateline Reservoir	6.1	7.3	7.2	12.0	51%	61%	60%	84%	102%
Steinaker Reservoir	9.6	15.1	17.1	33.4	29%	45%	51%	56%	88%
Strawberry Reservoir	772.0	802.5	693.0	1105.9	70%	73%	63%	111%	116%
Upper Enterprise	0.3	0.6	1.7	10.0	3%	6%	17%	14%	34%
Upper Stillwater Reservoir	21.7	25.3	19.6	32.5	67%	78%	60%	111%	129%
Utah Lake	284.4	410.0	690.2	870.9	33%	47%	79%	41%	59%
Vernon Creek Reservoir	0.1	0.2	0.1	0.6	14%	25%	18%	75%	136%
Willard Bay	146.2	84.5	137.8	215.0	68%	39%	64%	106%	61%
Woodruff Creek	0.3	0.8	0.5	4.0	6%	20%	13%	50%	160%
Woodruff Narrows Reservoir	41.3	36.8	24.4	57.3	72%	64%	43%	169%	151%
Meeks Cabin Reservoir	9.3	14.1	13.2	32.5	29%	43%	41%	71%	106%
Bear Lake	461.1	519.1	635.5	1302.0	35%	40%	49%	73%	82%
<b>Basin-wide Total</b>	<b>2560.7</b>	<b>2756.6</b>	<b>3296.6</b>	<b>5453.8</b>	<b>47%</b>	<b>51%</b>	<b>60%</b>	<b>78%</b>	<b>84%</b>
<b># of reservoirs</b>	<b>43</b>	<b>43</b>	<b>43</b>	<b>43</b>	<b>43</b>	<b>43</b>	<b>43</b>	<b>43</b>	<b>43</b>

### Reservoir Storage



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**Utah Climate and  
Water Report**  
Natural Resources Conservation Service  
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