Utah Climate and Water Report

December 1, 2018

Toledo Ridge, Little Cottonwood Canyon

Photo by Jordan Clayton

Report Contents

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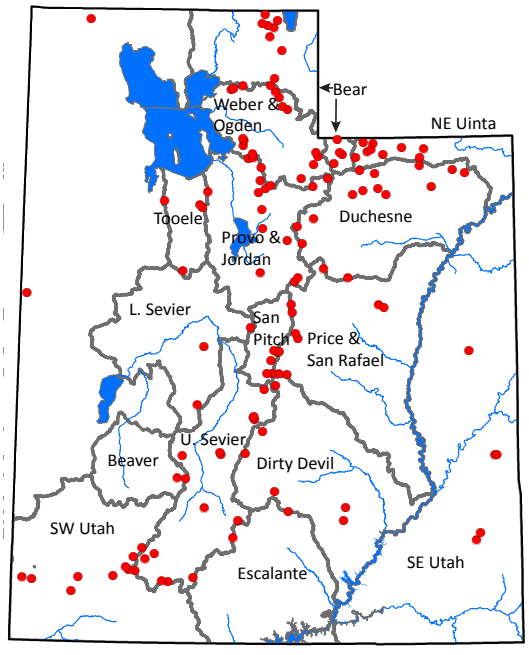
Utah Climate and Water Report

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

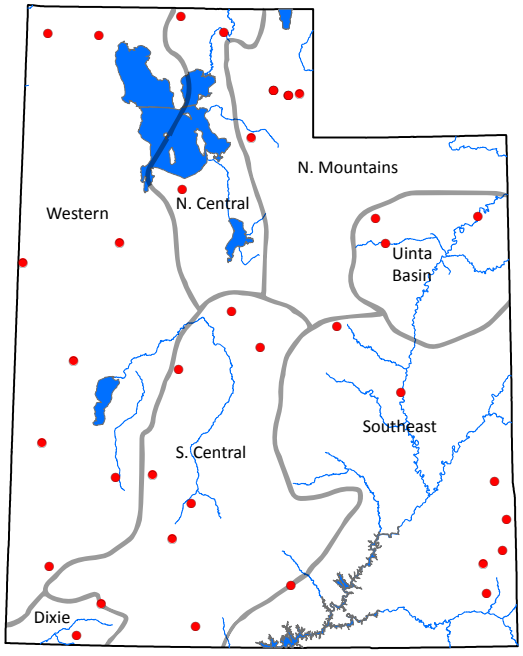
SNOTEL

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



SCAN

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



Utah General Summary
December 1, 2018

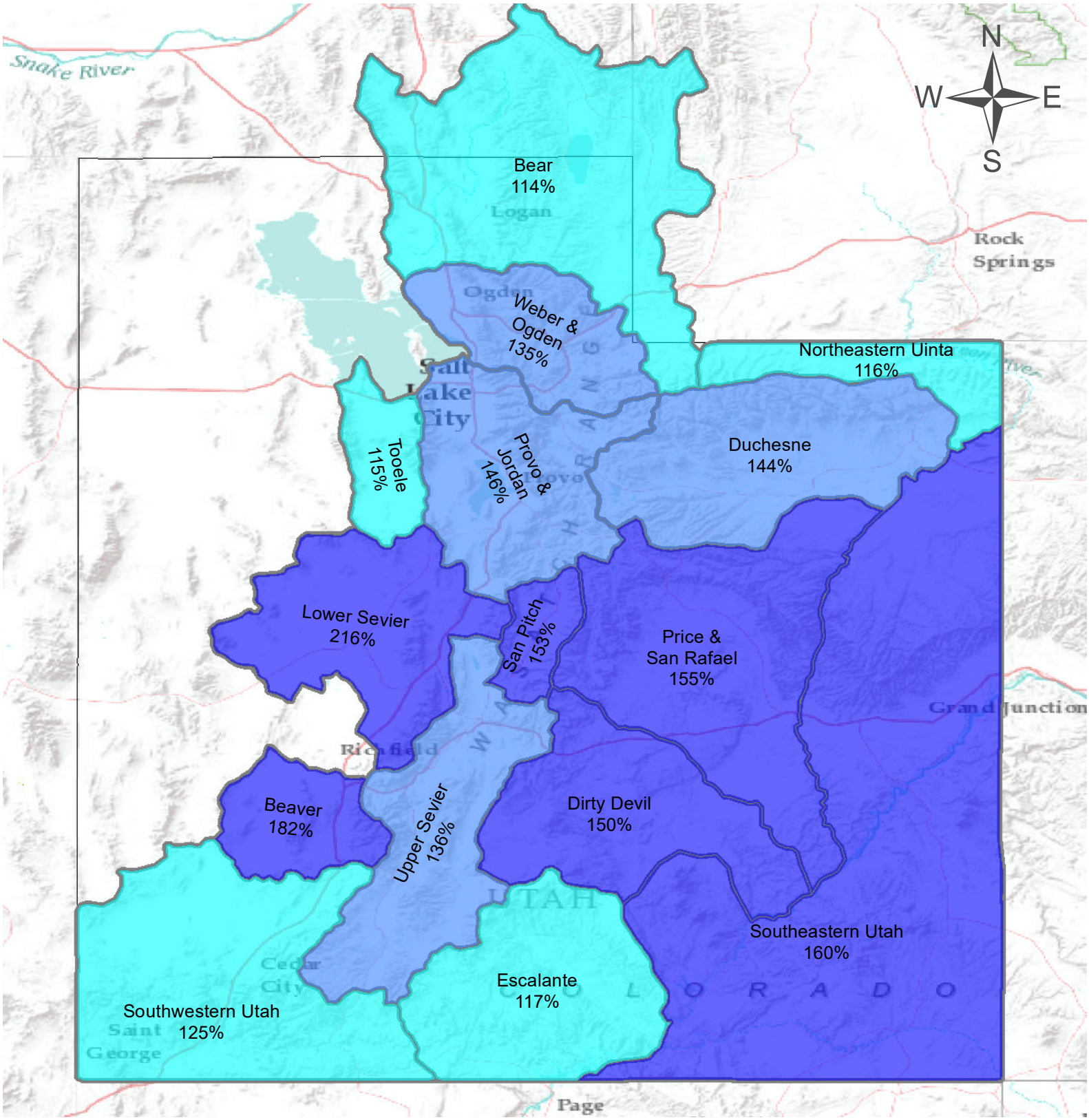
*This report has been reorganized to better reflect two distinct geographic areas being monitored – the low elevation valley sites (**S**oil **C**limate **A**nalysis **N**etwork) that are critical for agricultural production and operations, and the high elevation mountainous areas where water supply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

Current Valley Conditions (SCAN)

The 2019 water year's good momentum continued at a slower pace through November in Utah's Valley locations, with an average of 0.7 inches of precipitation. This brings the average state total precipitation to an above-average 3.3 inches. Unfortunately, the region needing it the most, Southeastern Utah, got the least amount of precipitation at a scant 0.3 inches. Because of this, the area persists in a Severe to Exceptional Drought (D2-D4). Overall, however, the state's soil moisture conditions are near normal and generally better than last year, which would have been unthinkable just three months ago. Soil and air temperatures are trending near normal to slightly below normal, like last month.

Current Mountain Conditions (SNOTEL)

The first three weeks in November were uneventful, but then Thanksgiving week arrived, and the skies finally opened up. Multiple storms over several days added up to roughly three inches of precipitation across the state, bringing the December 1 seasonal accumulation (Oct-Nov) to 135% of average. Several basins are off to a particularly good start to the new water year: the Beaver and Lower Sevier watersheds are at around 200% of average precipitation, with the Provo, Duchesne, Price-San Rafael, Dirty Devil, Southeastern Utah, and San Pitch basins not too far behind at closer to 150% of average. The snowpack in Utah's mountains is also above average- largely due to the recent wave of storms. Current statewide conditions are 127% of normal for this time of year, led by the San Pitch watershed at 149%. The recent storms increased Utah's snow water equivalent by several inches in some areas. However, it's still very early in the snow accumulation season and way too soon to know whether this winter will provide boom, bust, or average snow totals. Soil moisture levels dropped to 44% compared to 60% last month due to the dry period during the first half of November. Now that snow is on the ground, soil moisture levels will not likely change much until the spring snowmelt, and the dry soils may result in reduced runoff efficiency. Reservoir storage is currently at 55% of capacity, compared to 71% last year. Combined with below-average streamflow levels, these explain the low water availability index (WAI) values published in this report. Water managers have reason to be hopeful about this winter's snowpack, but it will take above-average precipitation totals to start to replenish water storage levels.



Statewide Precipitation

As of December 1, 2018:

135% of Normal Precipitation

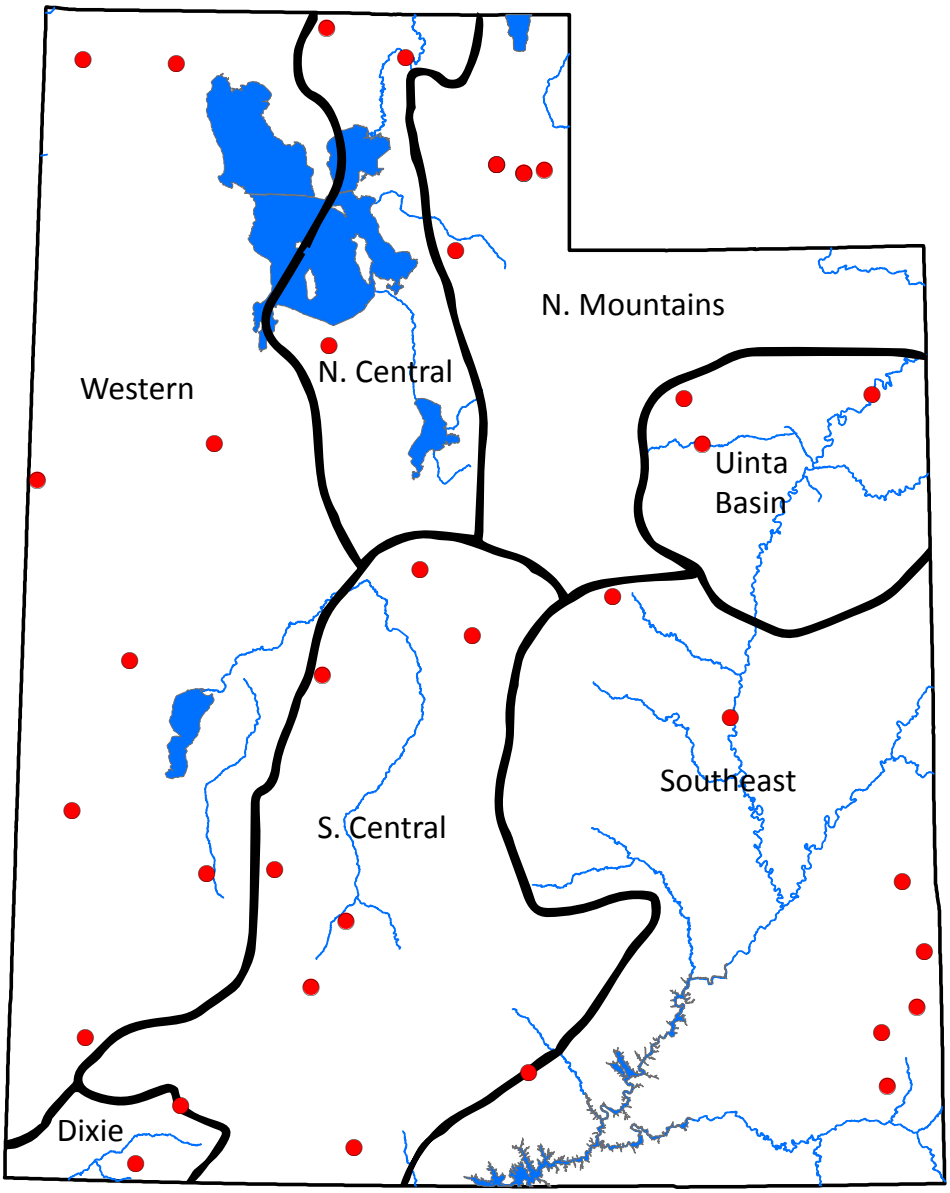
113% of Normal Precipitation Last Month

0 10 20 40 60 80 100
Miles

% of Normal

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

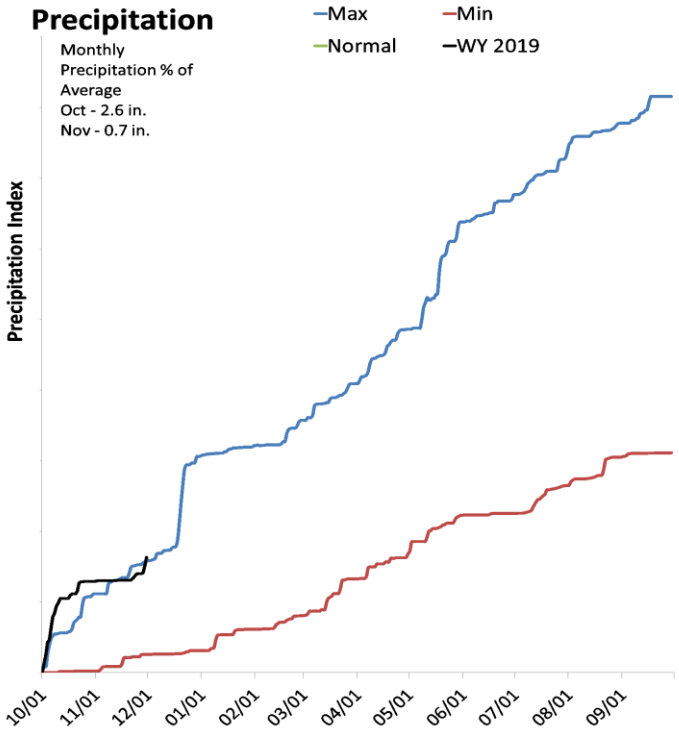
SCAN portion of report

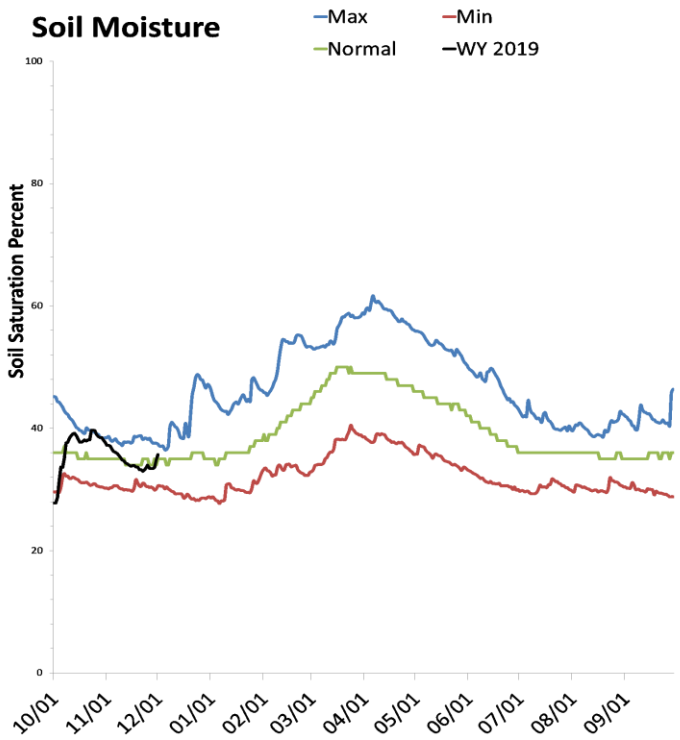


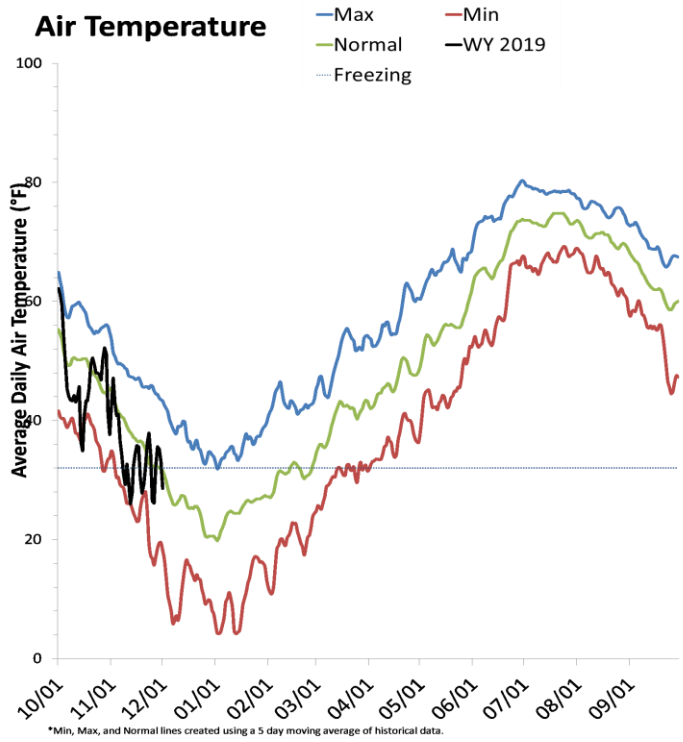
Statewide SCAN

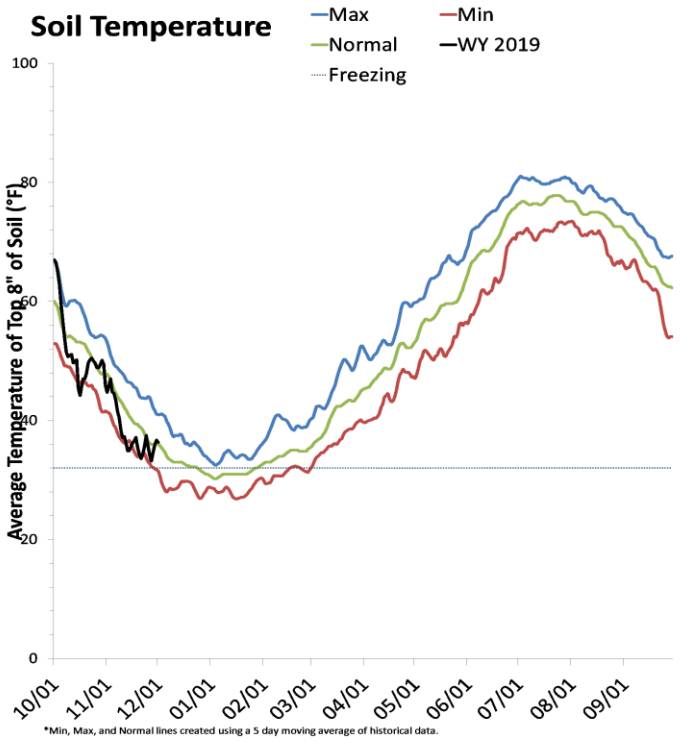
December 1, 2018

The average precipitation at SCAN sites within Utah was 0.7 inches in November, which brings the seasonal accumulation (Oct-Nov) to 3.3 inches. Soil moisture is at 36% compared to 31% last year.





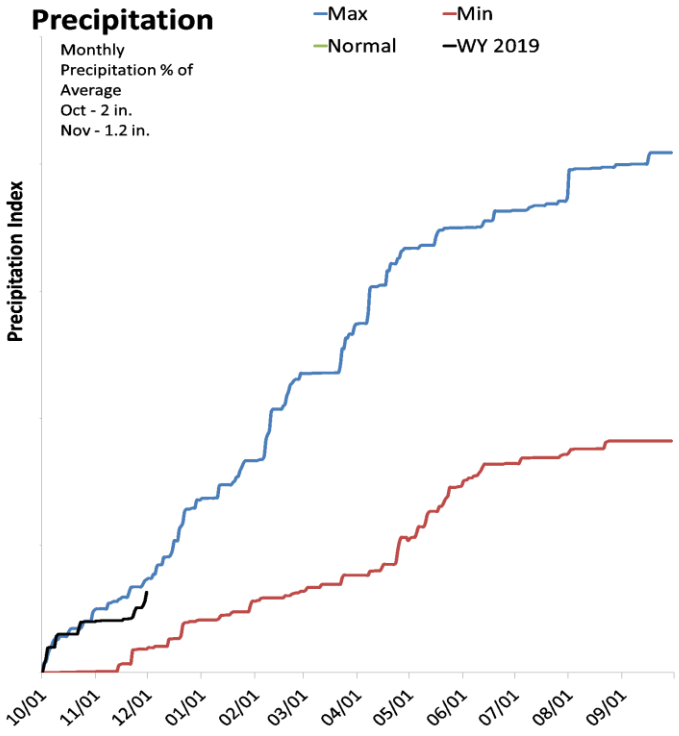


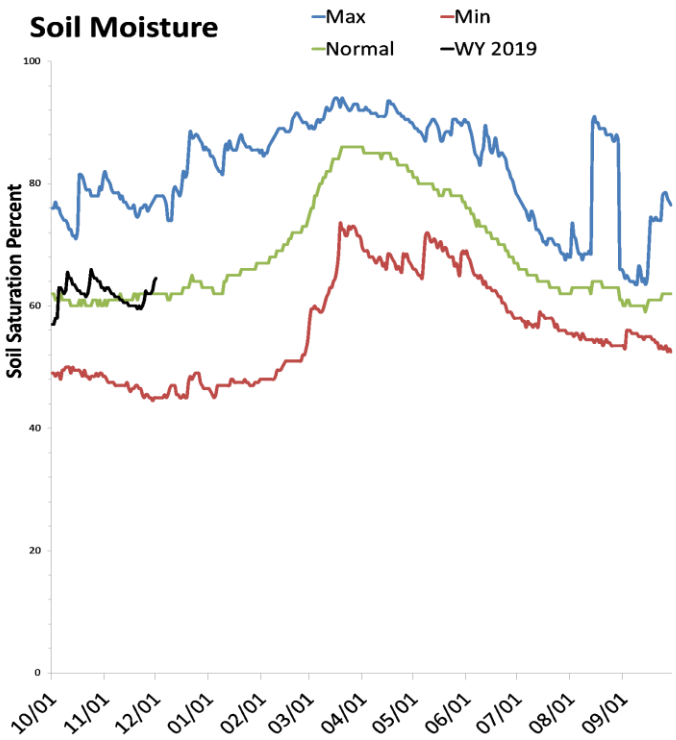


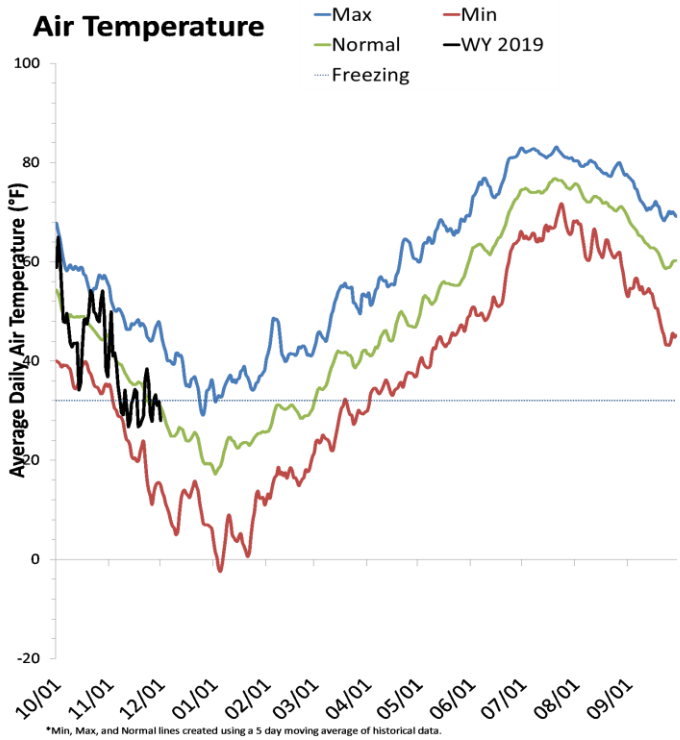
North Central

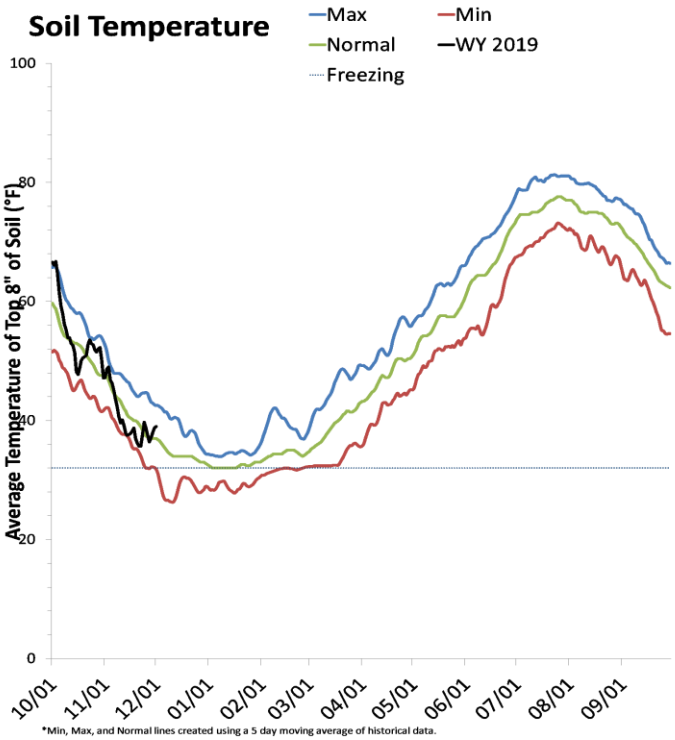
December 1, 2018

The average precipitation in November at SCAN sites within the basin was 1.2 inches, which brings the seasonal accumulation (Oct-Nov) to 3.2 inches. Soil moisture is at 64% compared to 74% last year.





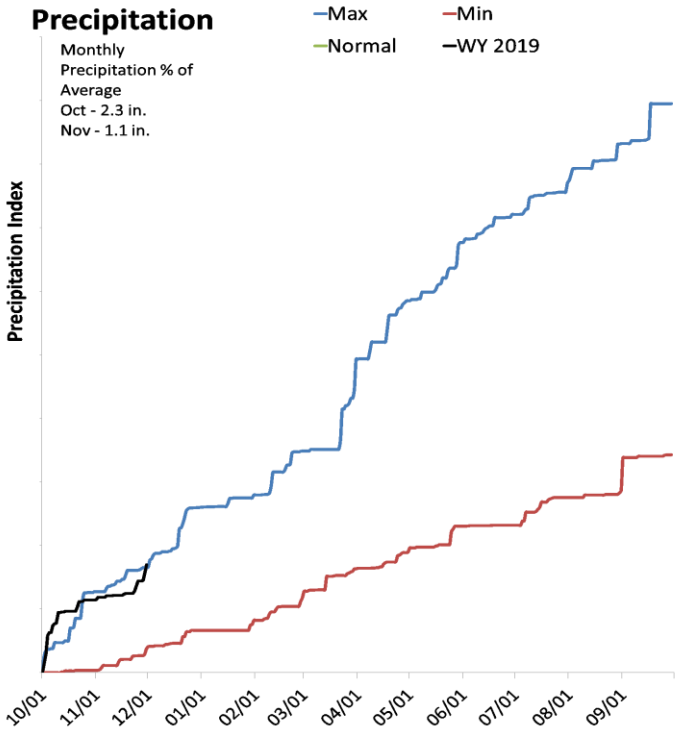


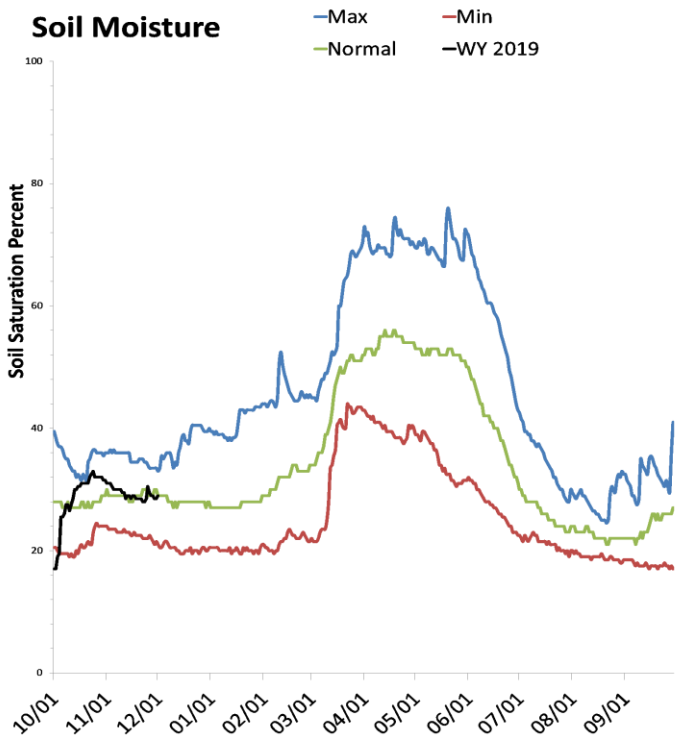


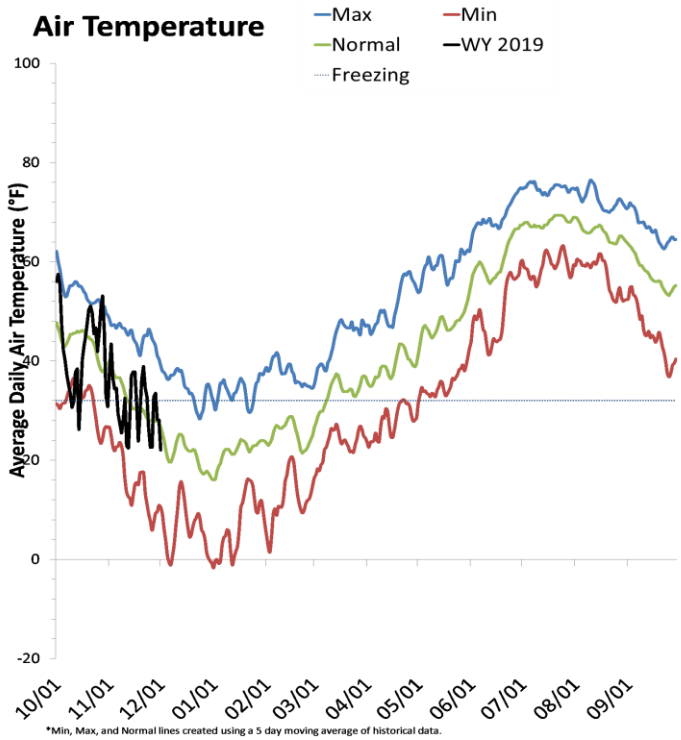
Northern Mountains

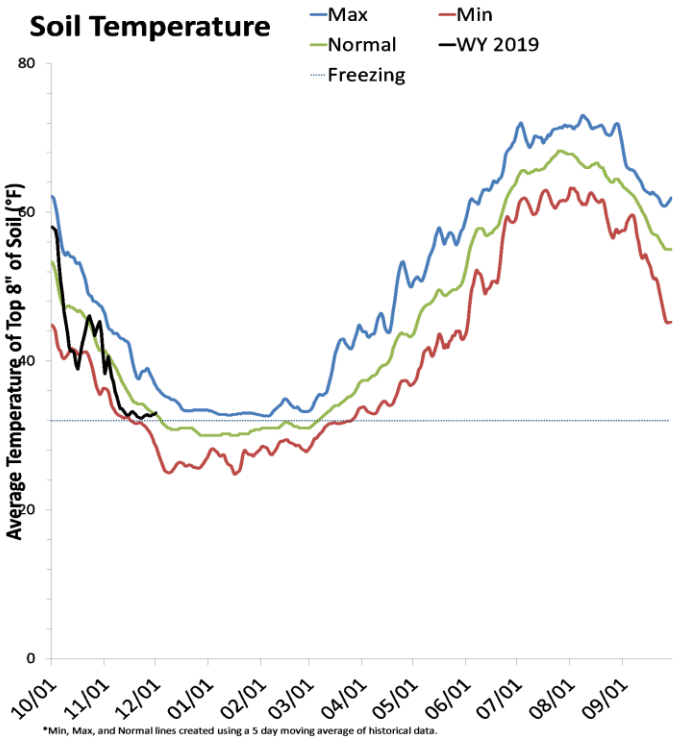
December 1, 2018

The average precipitation in November at SCAN sites within the basin was 1.1 inches, which brings the seasonal accumulation (Oct-Nov) to 3.4 inches. Soil moisture is at 29% compared to 43% last year.





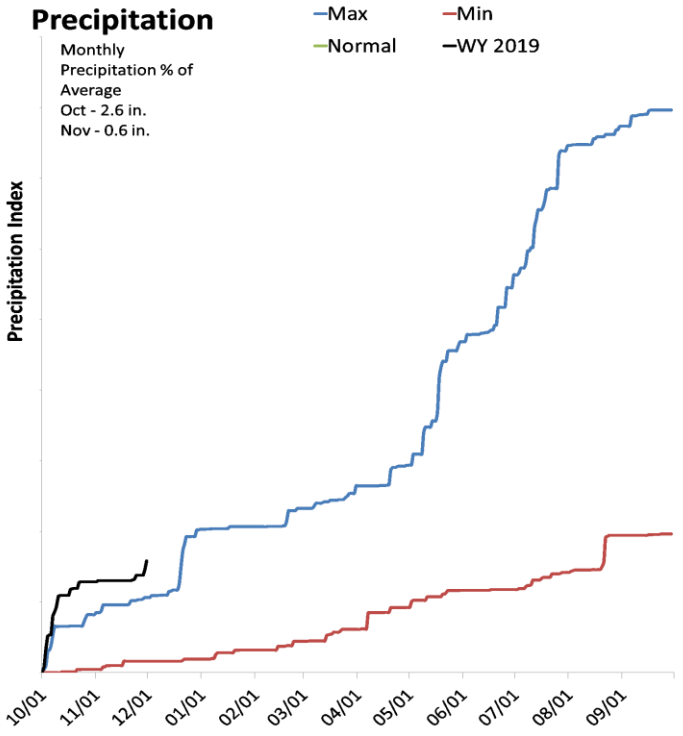


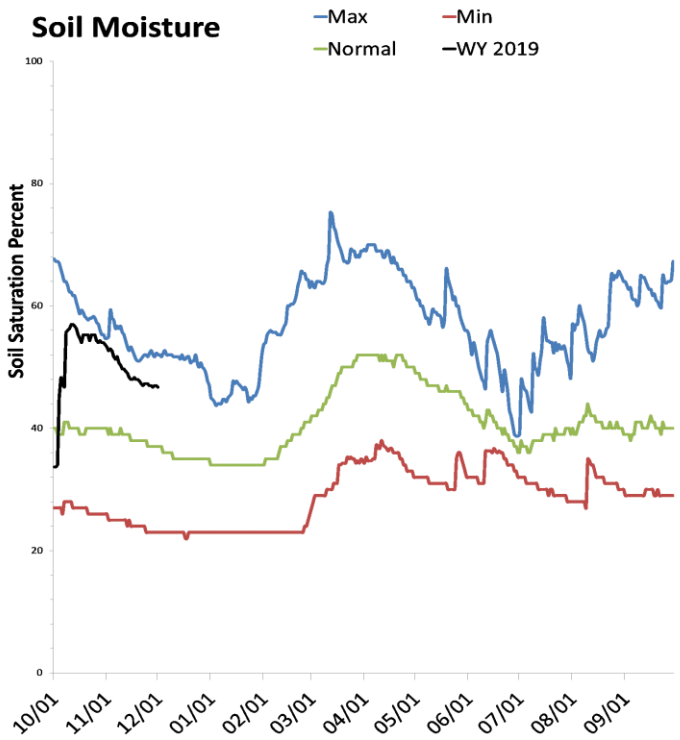


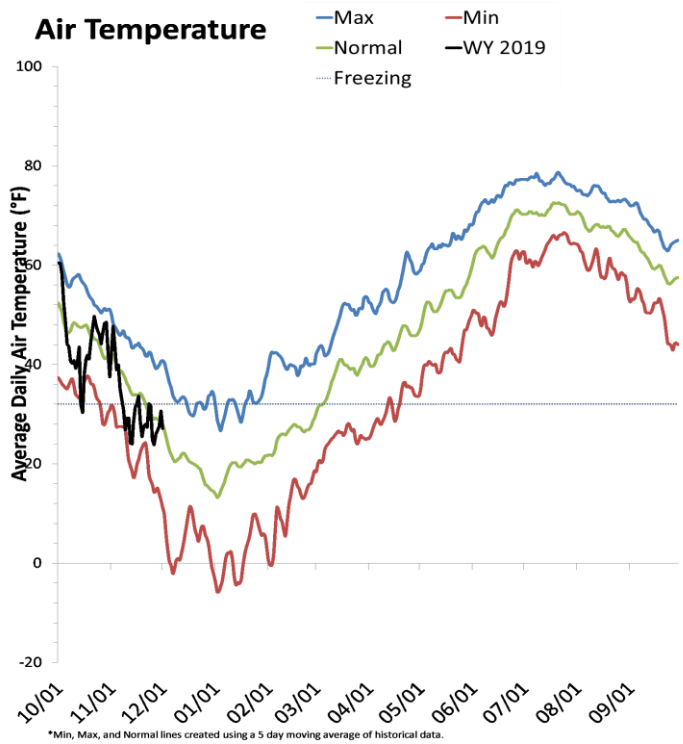
Uinta Basin

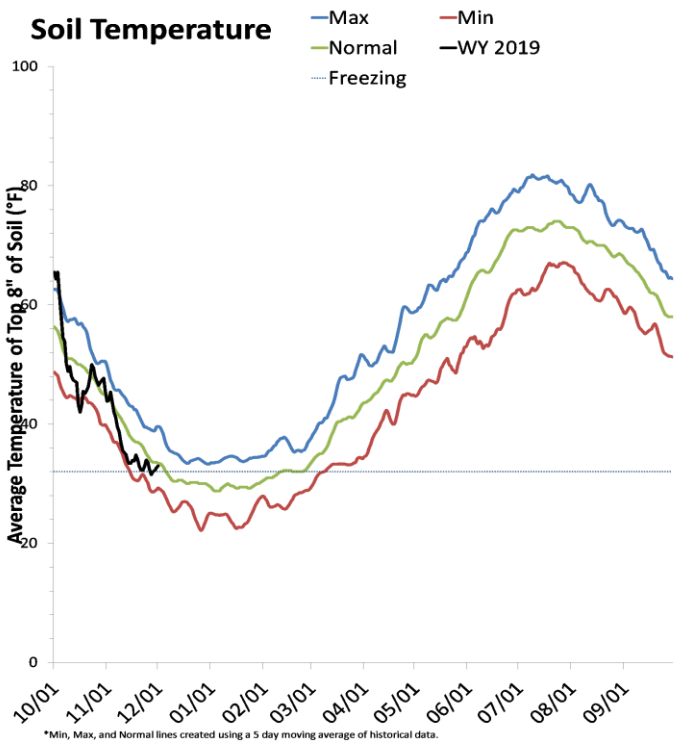
December 1, 2018

The average precipitation in November at SCAN sites within the basin was 0.6 inches, which brings the seasonal accumulation (Oct-Nov) to 3.2 inches. Soil moisture is at 47% compared to 32% last year.





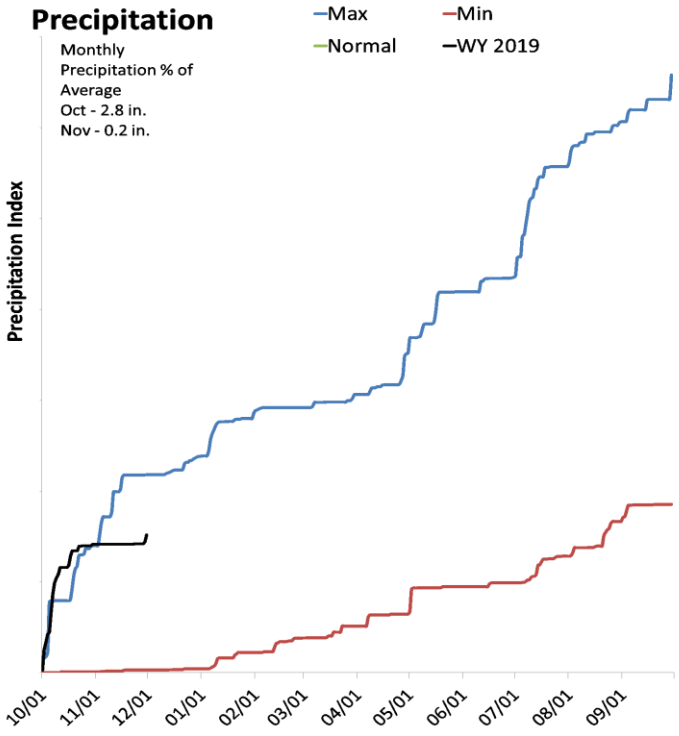


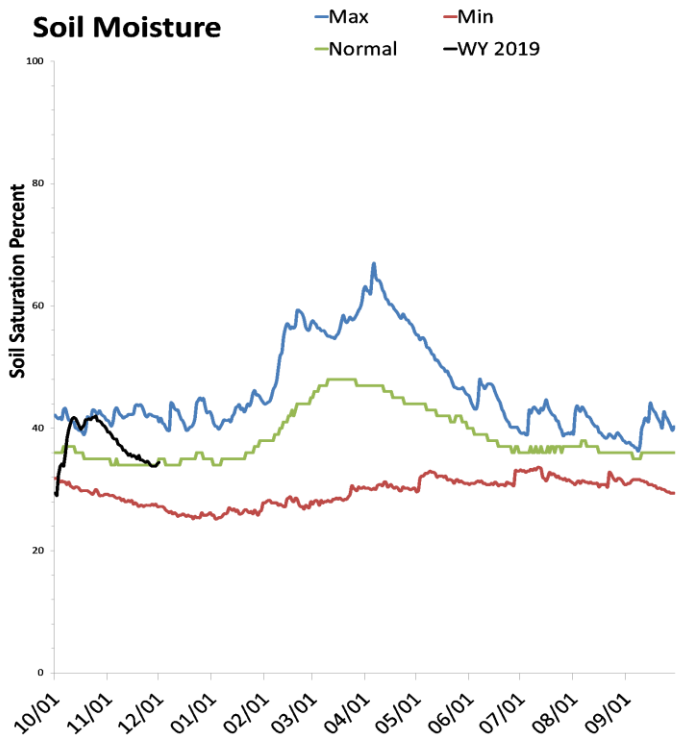


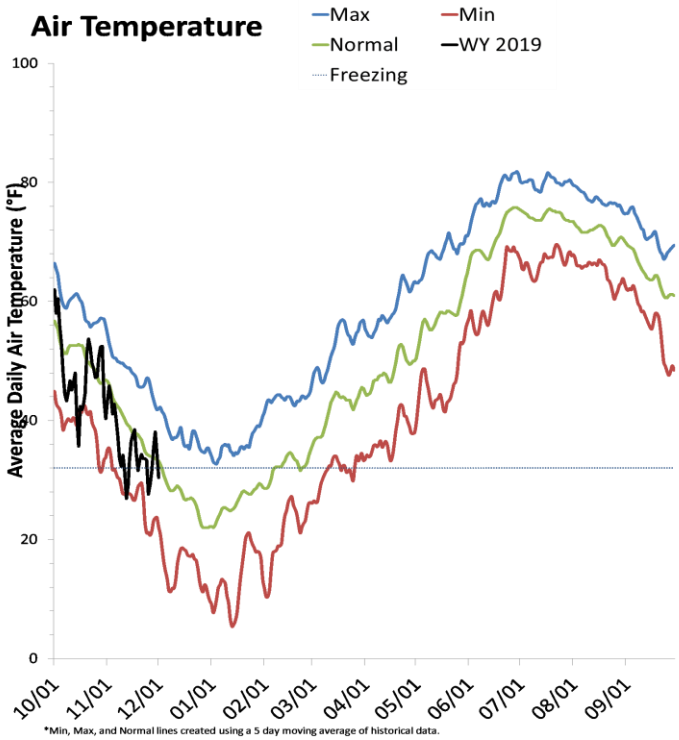
Southeast

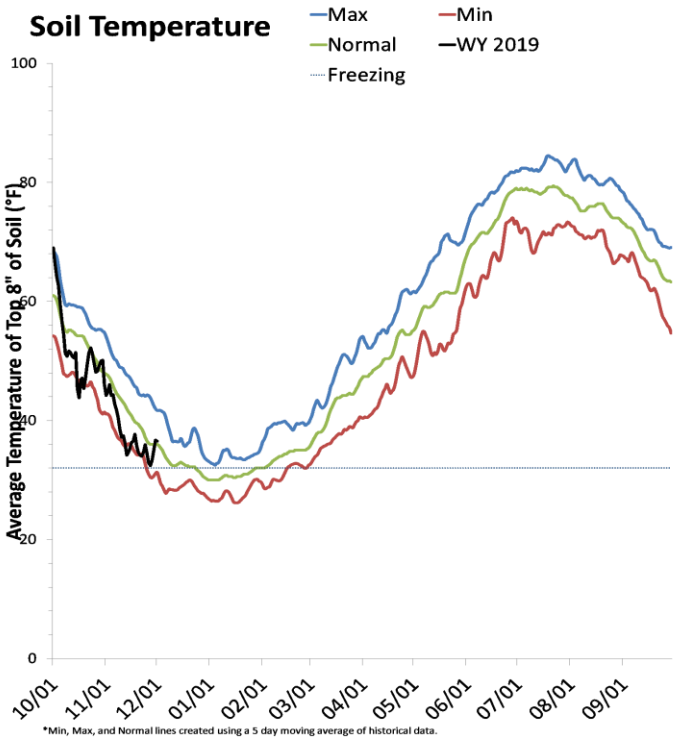
December 1, 2018

The average precipitation in November at SCAN sites within the basin was 0.2 inches, which brings the seasonal accumulation (Oct-Nov) to 3 inches. Soil moisture is at 35% compared to 30% last year.





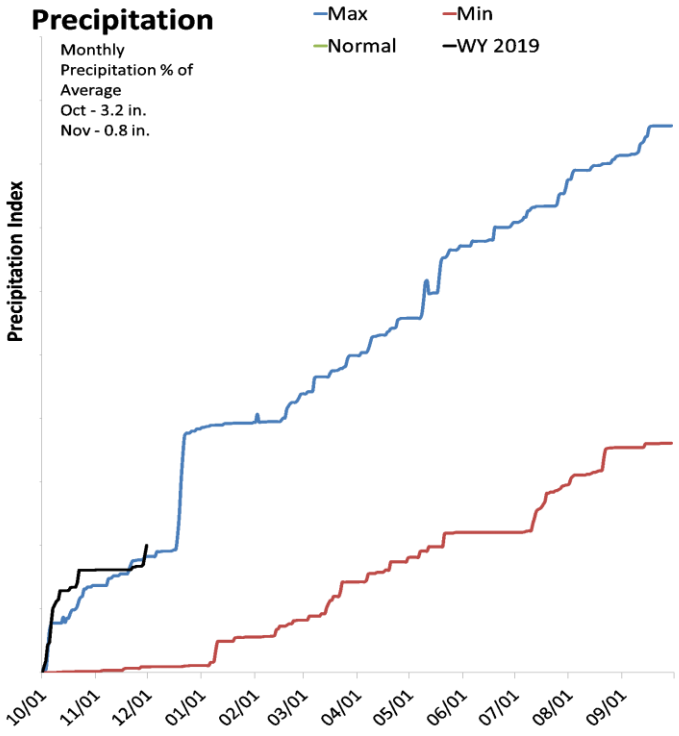


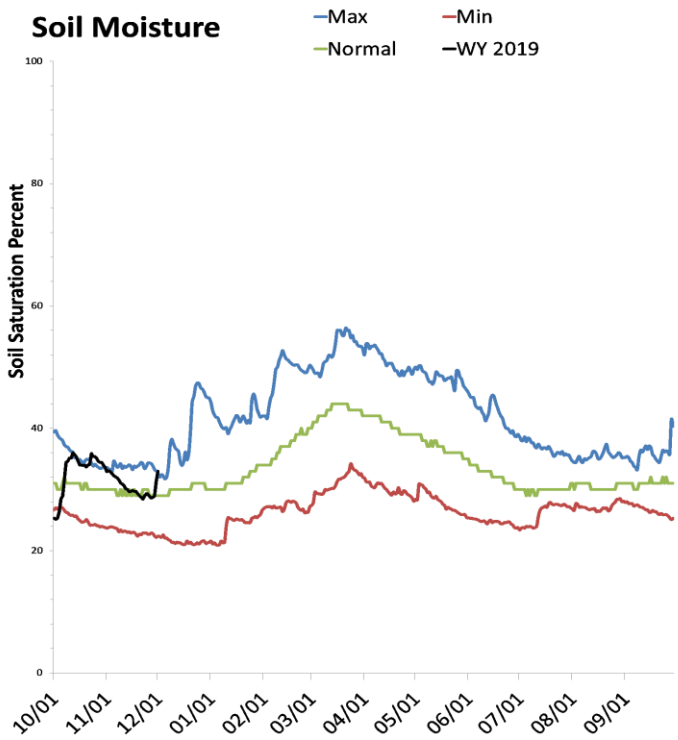


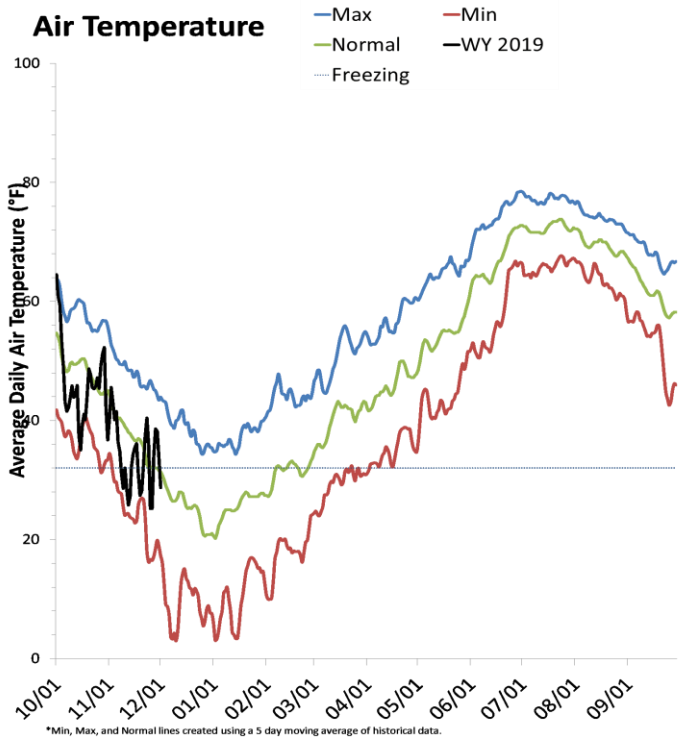
South Central

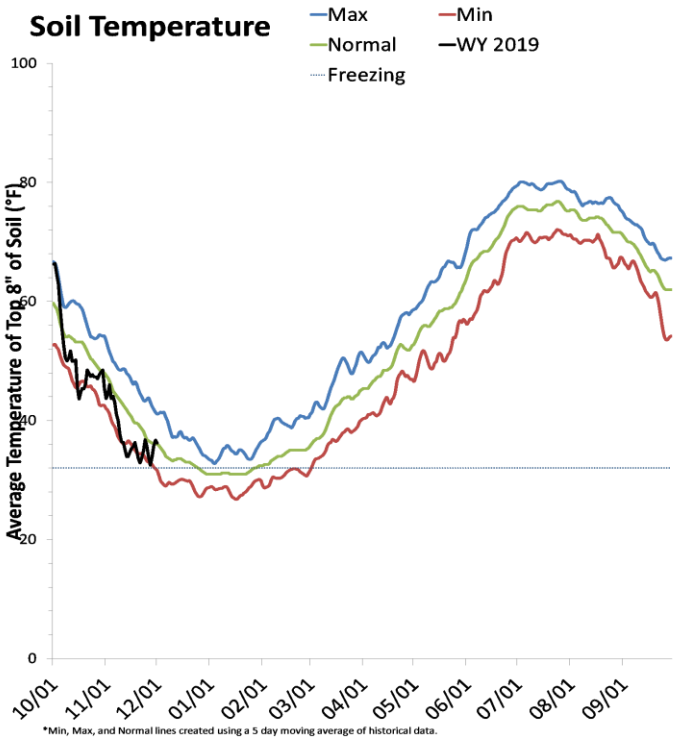
December 1, 2018

The average precipitation in November at SCAN sites within the basin was 0.8 inches, which brings the seasonal accumulation (Oct-Nov) to 4 inches. Soil moisture is at 33% compared to 24% last year.





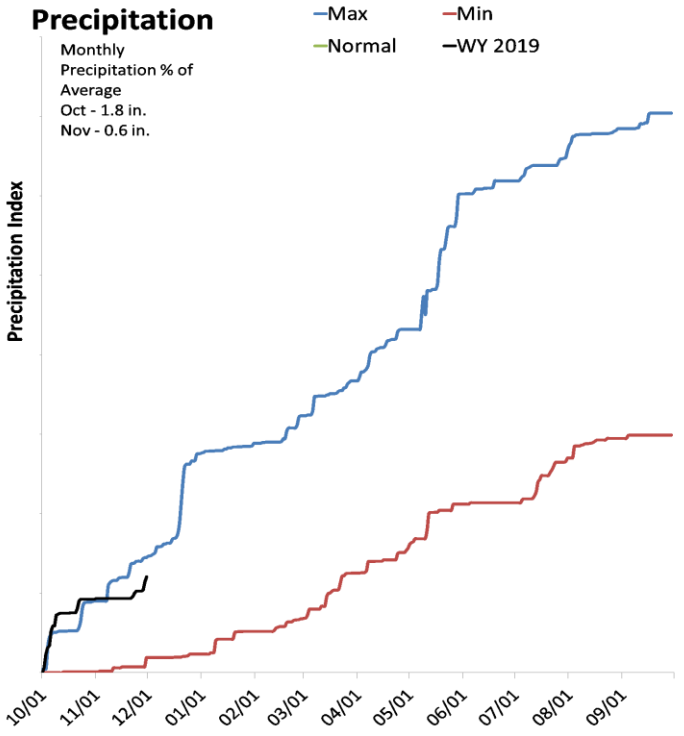


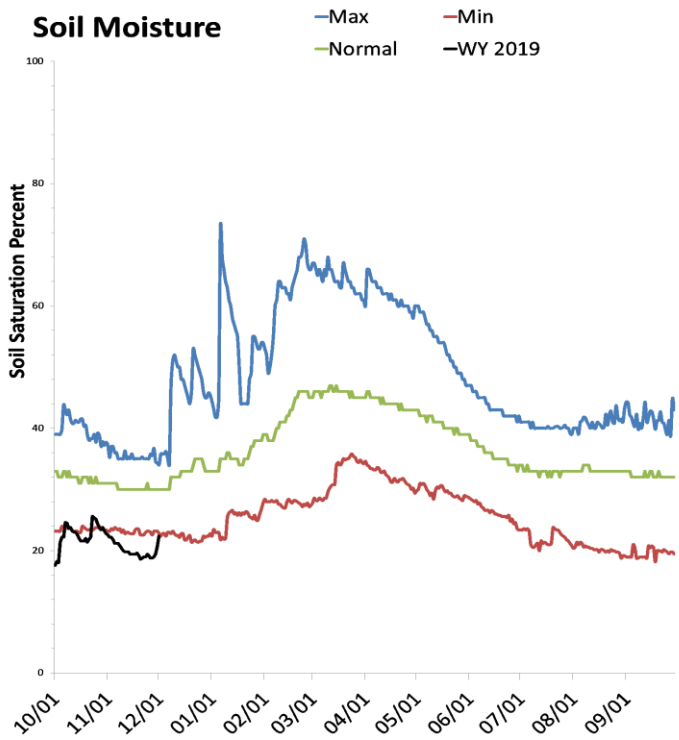


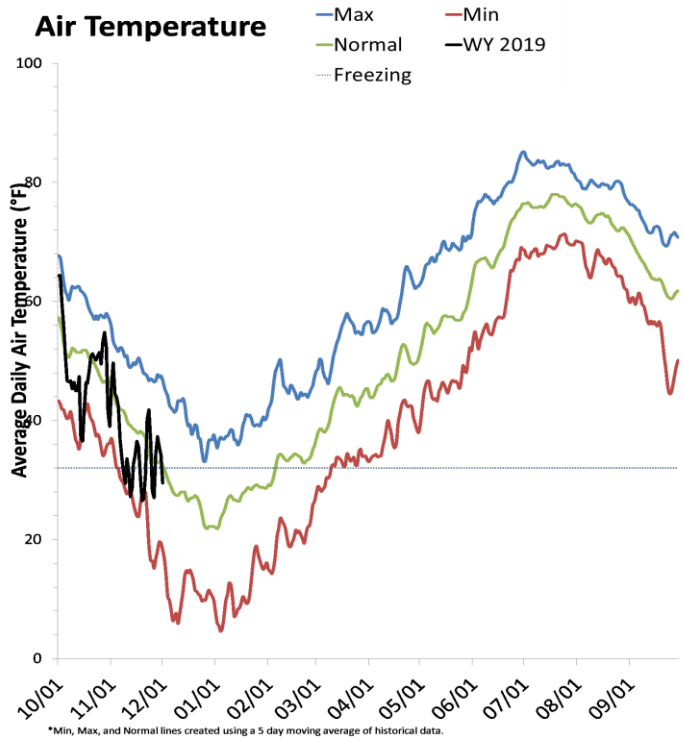
Western and Dixie

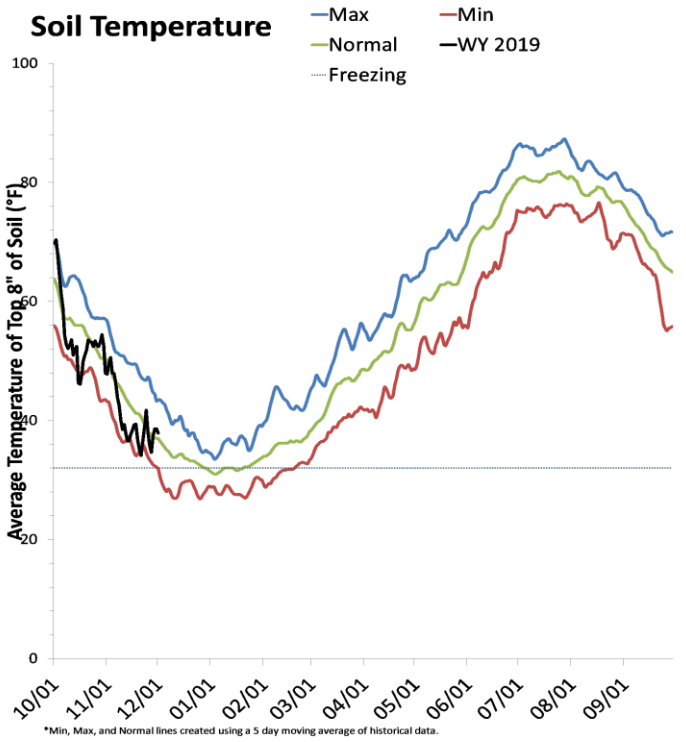
December 1, 2018

The average precipitation in November at SCAN sites within the basin was 0.6 inches, which brings the seasonal accumulation (Oct-Nov) to 2.4 inches. Soil moisture is at 22% compared to 23% last year.

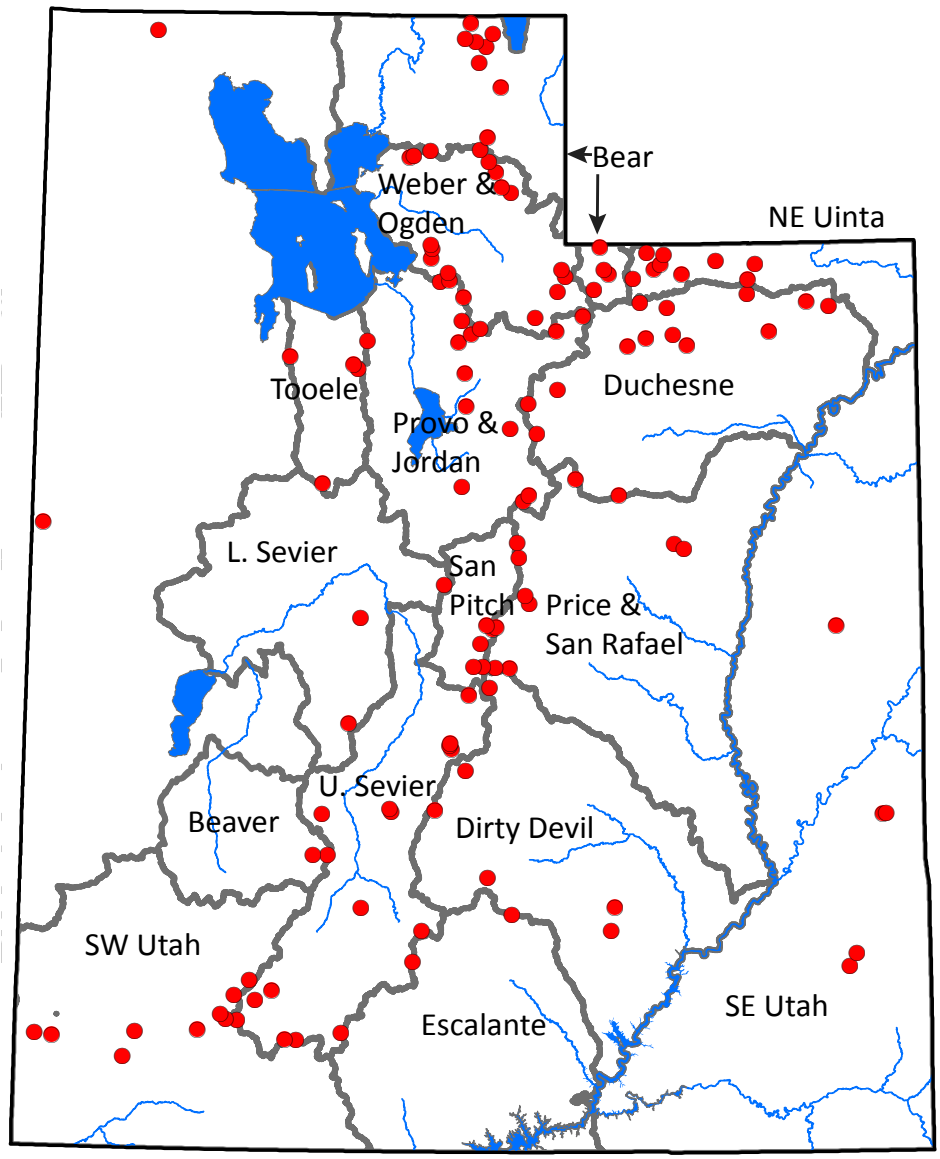








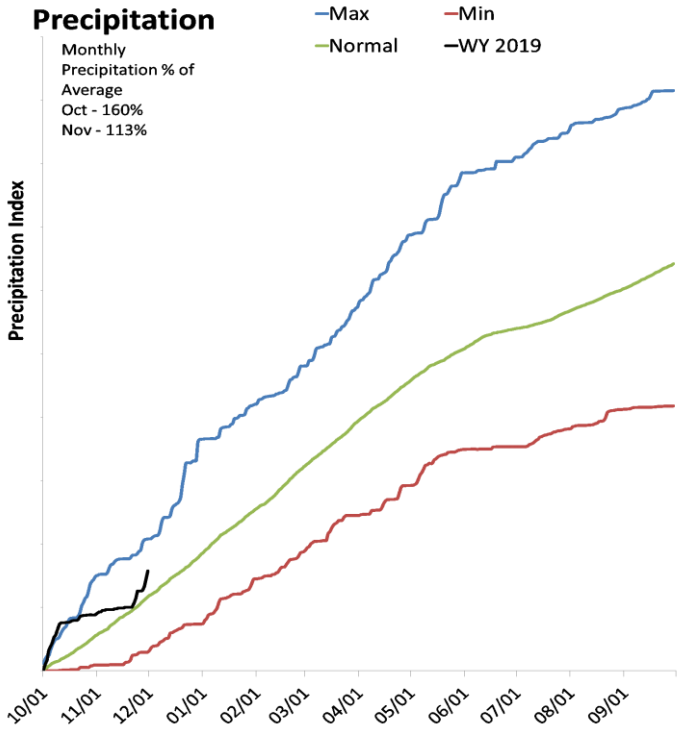
SNOTEL portion of report

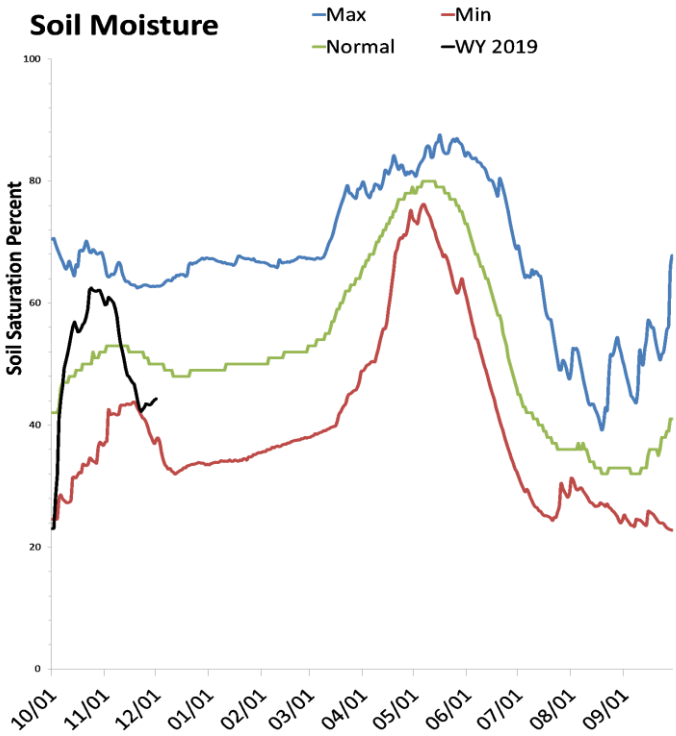


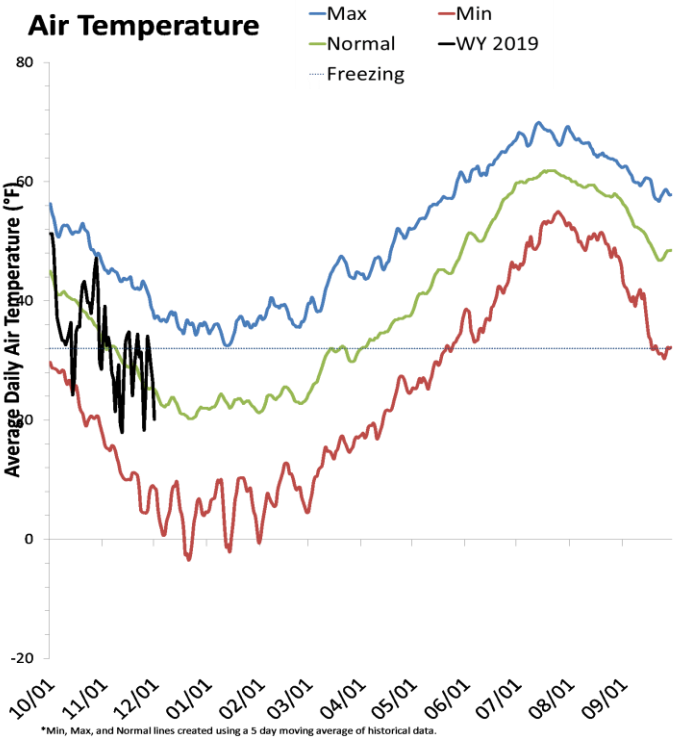
Statewide SNOTEL

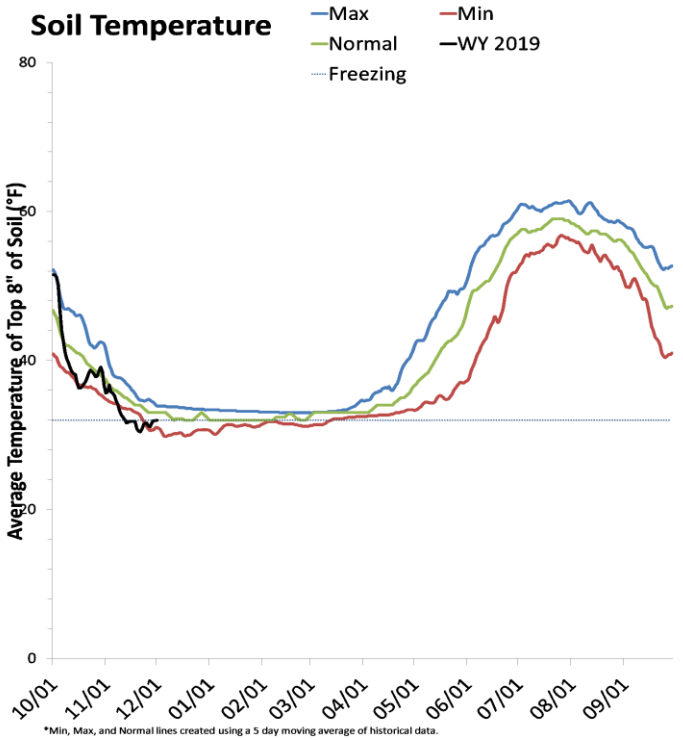
December 1, 2018

Precipitation at SNOTEL sites during November was above average at 113%, which brings the seasonal accumulation (Oct-Nov) to 135% of average. Soil moisture is at 44% compared to 52% last year. Reservoir storage is at 55% of capacity, compared to 71% last year.





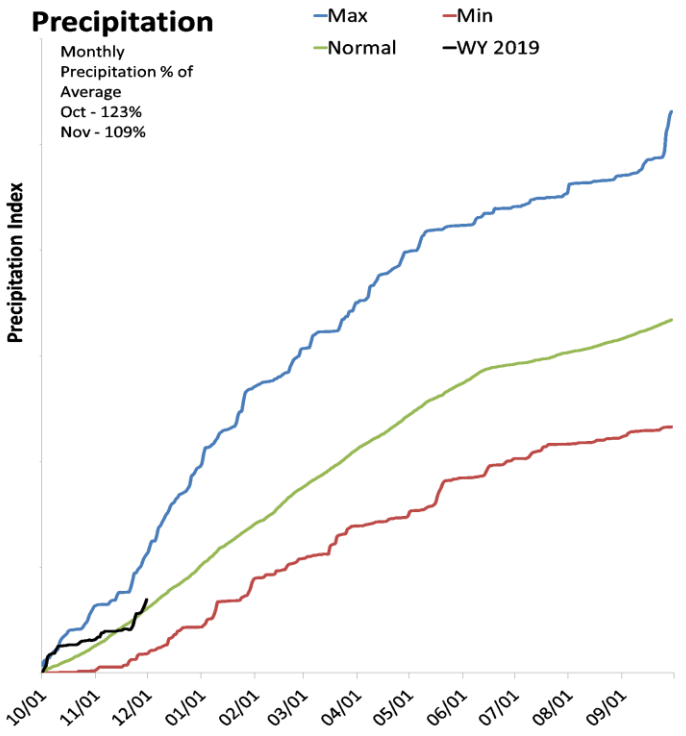


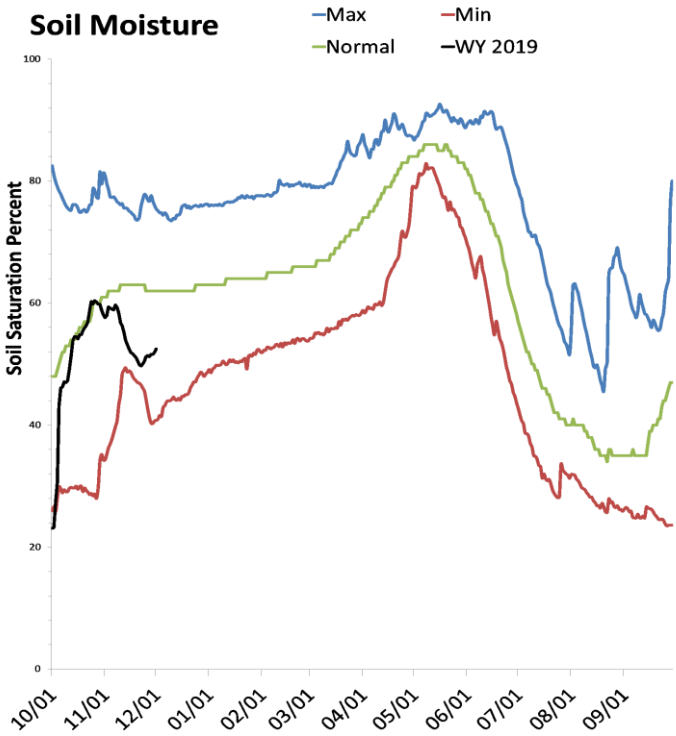


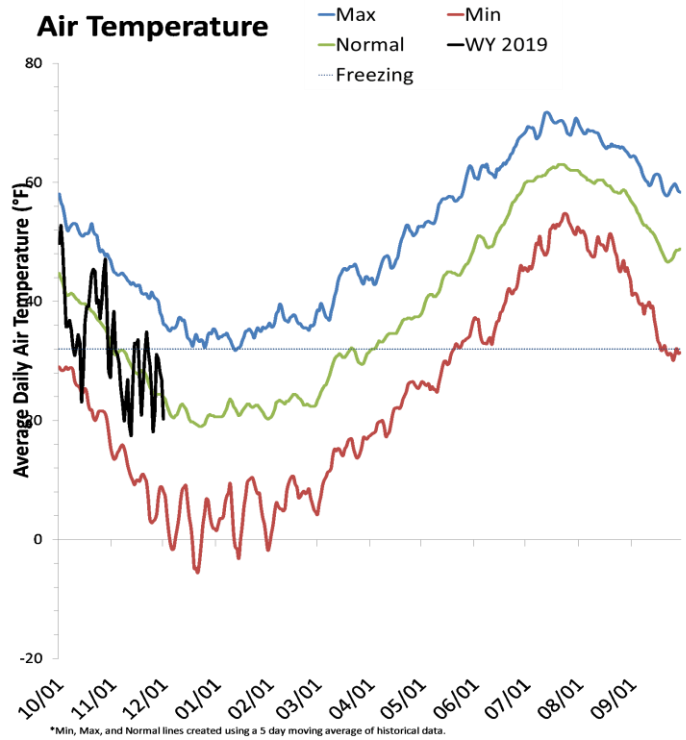
Bear River Basin

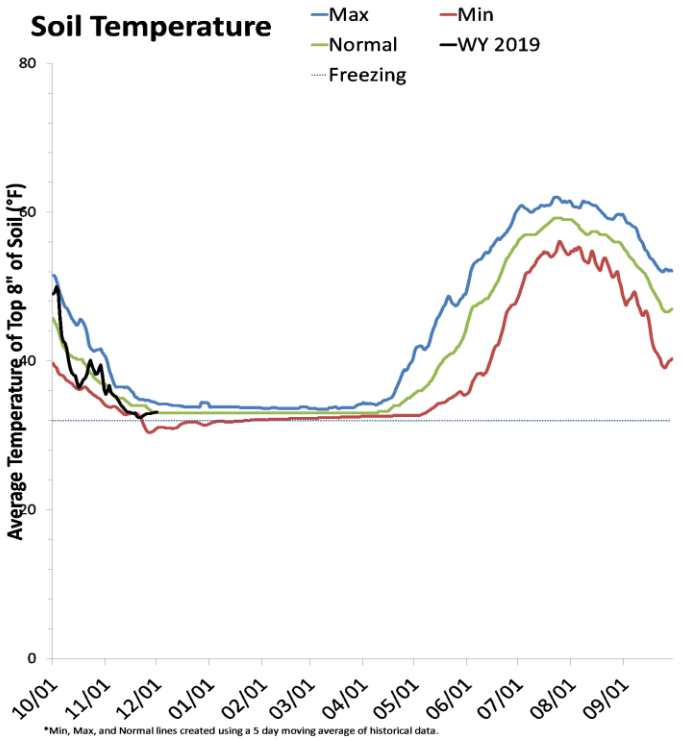
December 1, 2018

Precipitation in November was near average at 108%, which brings the seasonal accumulation (Oct-Nov) to 114% of average. Soil moisture is at 52% compared to 76% last year. Reservoir storage is at 60% of capacity, compared to 81% last year. The water availability index for the Bear River is 69%, 36% for Woodruff Narrows and 52% for the Little Bear.









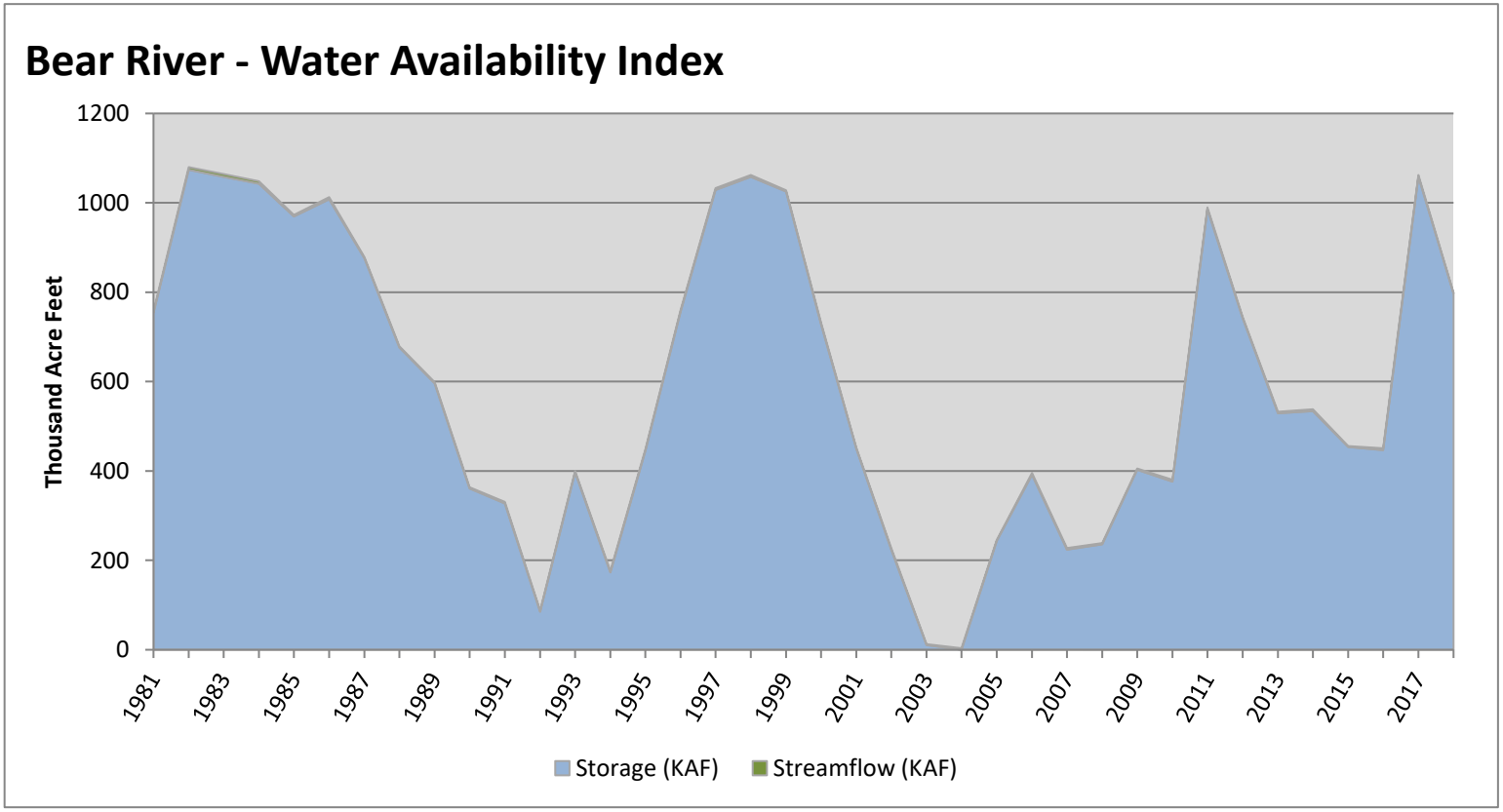
SNOTEL Data

December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Bear River	**796.81**	**2.62**	**799.43**	**69**	**1.6**	**81, 96, 87, 85**

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

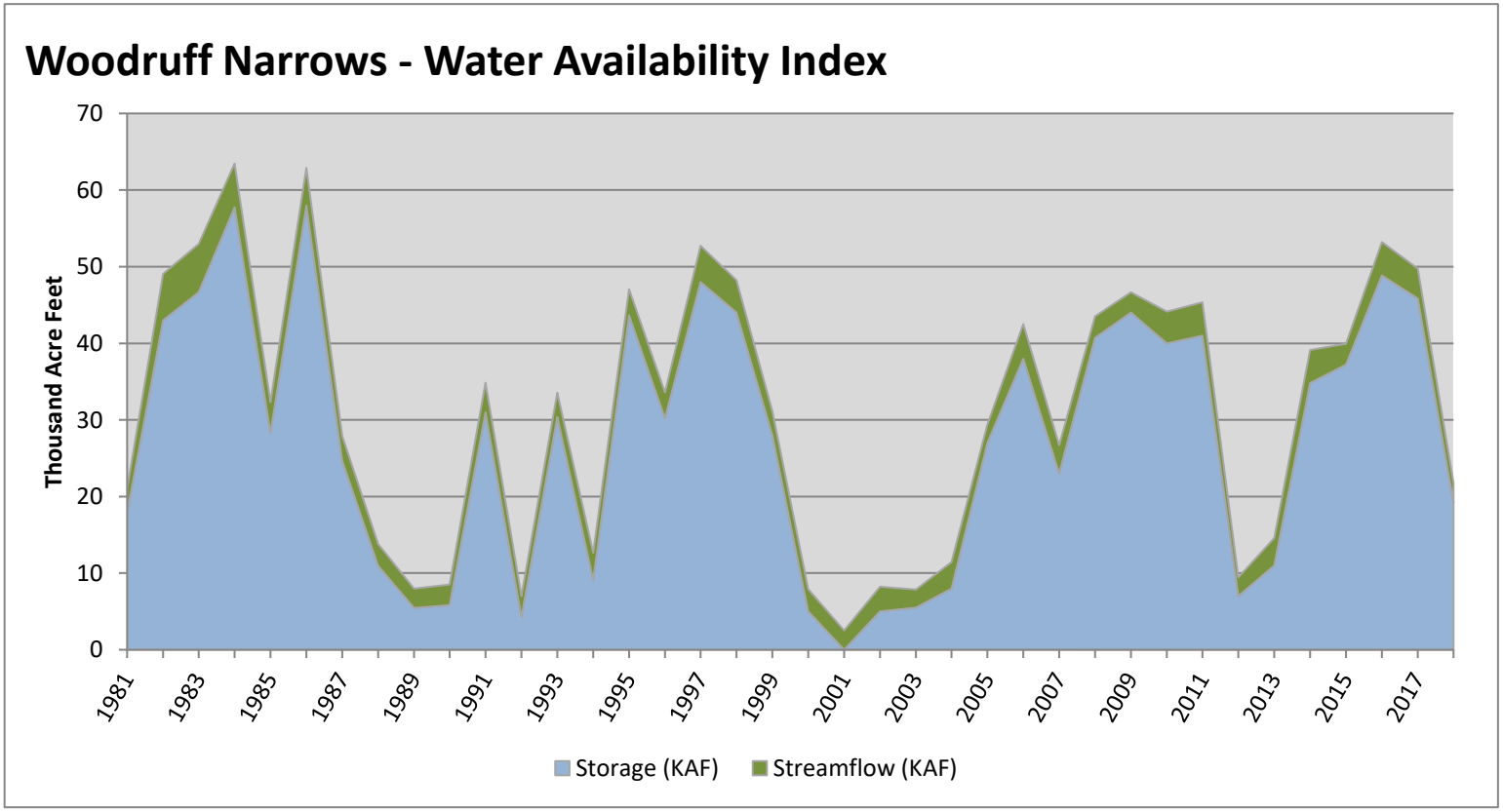


December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Woodruff Narrows	**19.16**	**2.62**	**21.78**	**36**	**-1.18**	**13, 81, 07, 87**

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

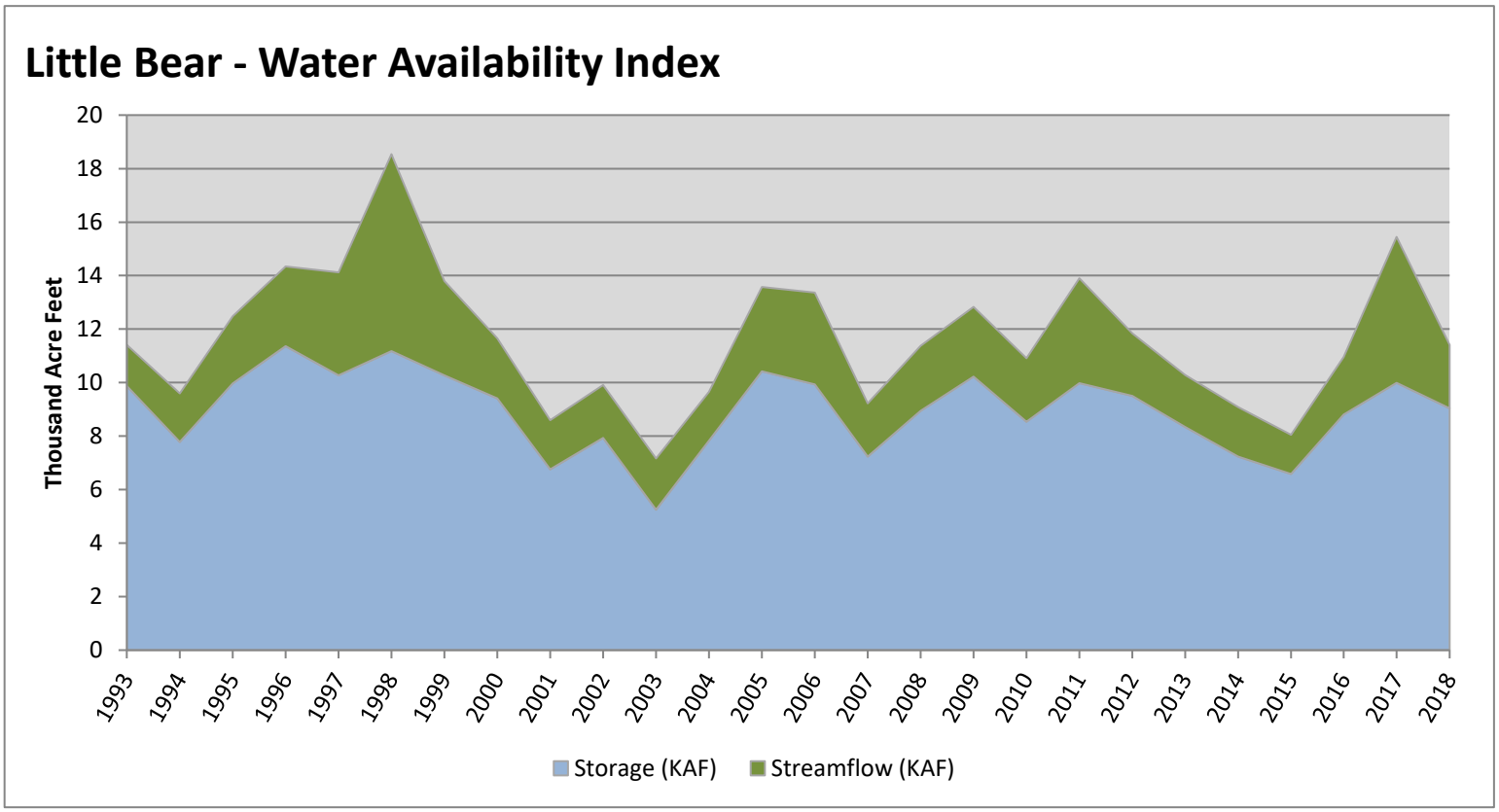


December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Little Bear	**9.04**	**2.37**	**11.41**	**52**	**0.15**	**08, 93, 00, 12**

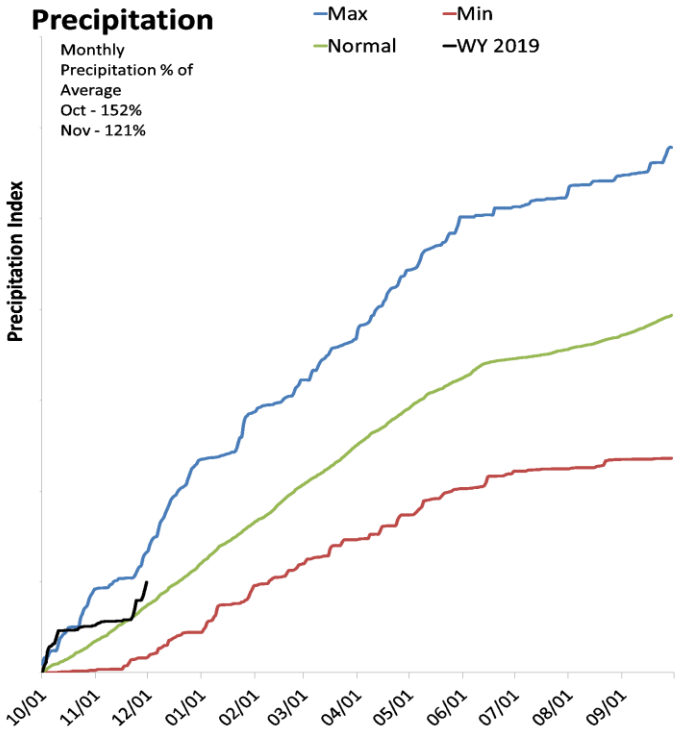
*EOM, end of month; #WAI, Water Availability Index; ^KAF, thousand acre-feet.

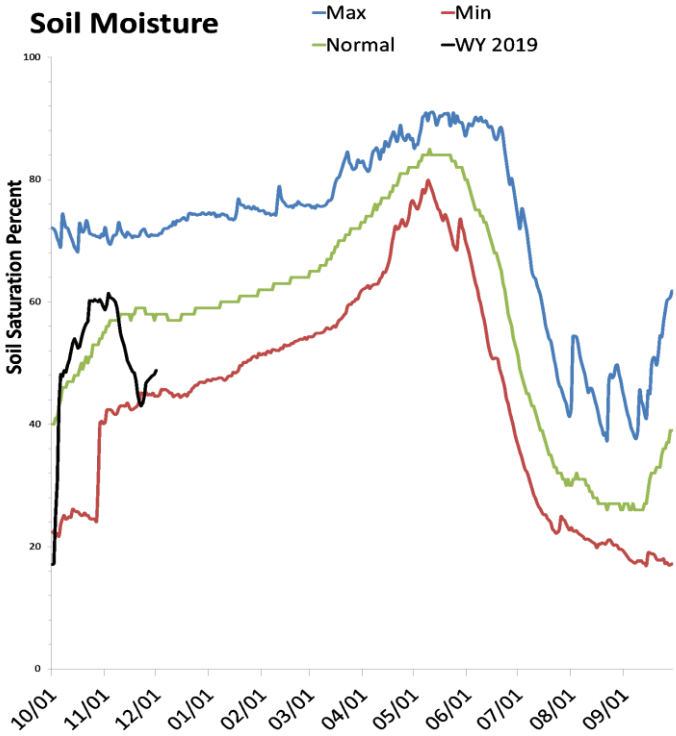


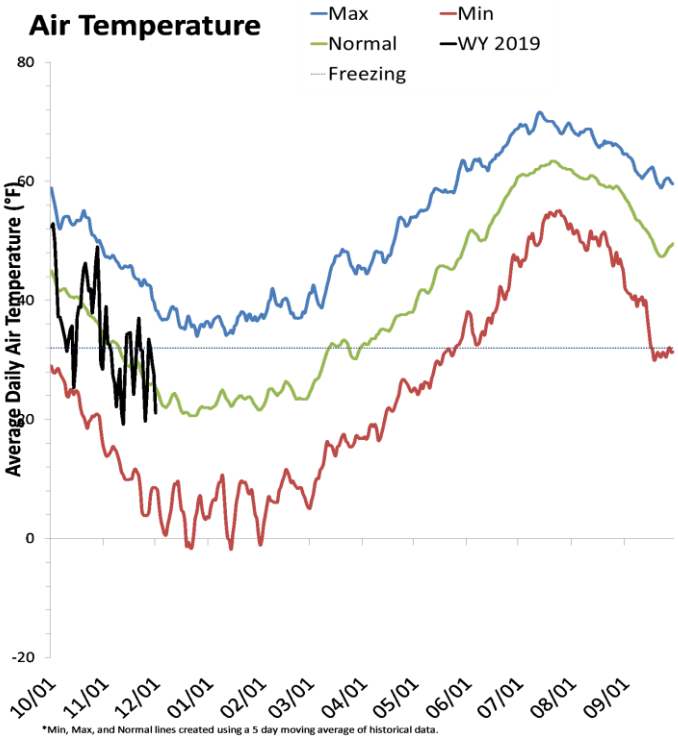
Weber & Ogden River Basins

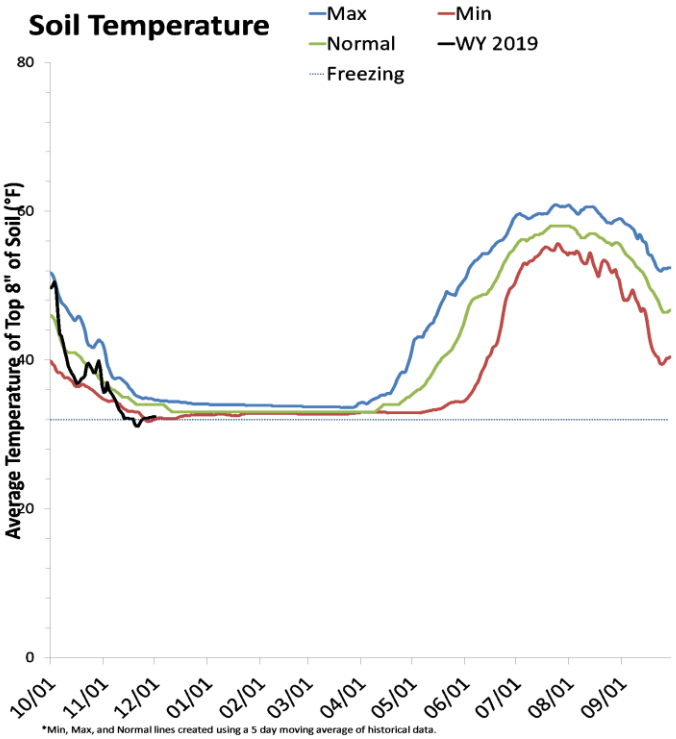
December 1, 2018

Precipitation in November was above average at 121%, which brings the seasonal accumulation (Oct-Nov) to 135% of average. Soil moisture is at 49% compared to 68% last year. Reservoir storage is at 47% of capacity, compared to 71% last year. The water availability index for the Ogden River is 33% and 17% for the Weber River.







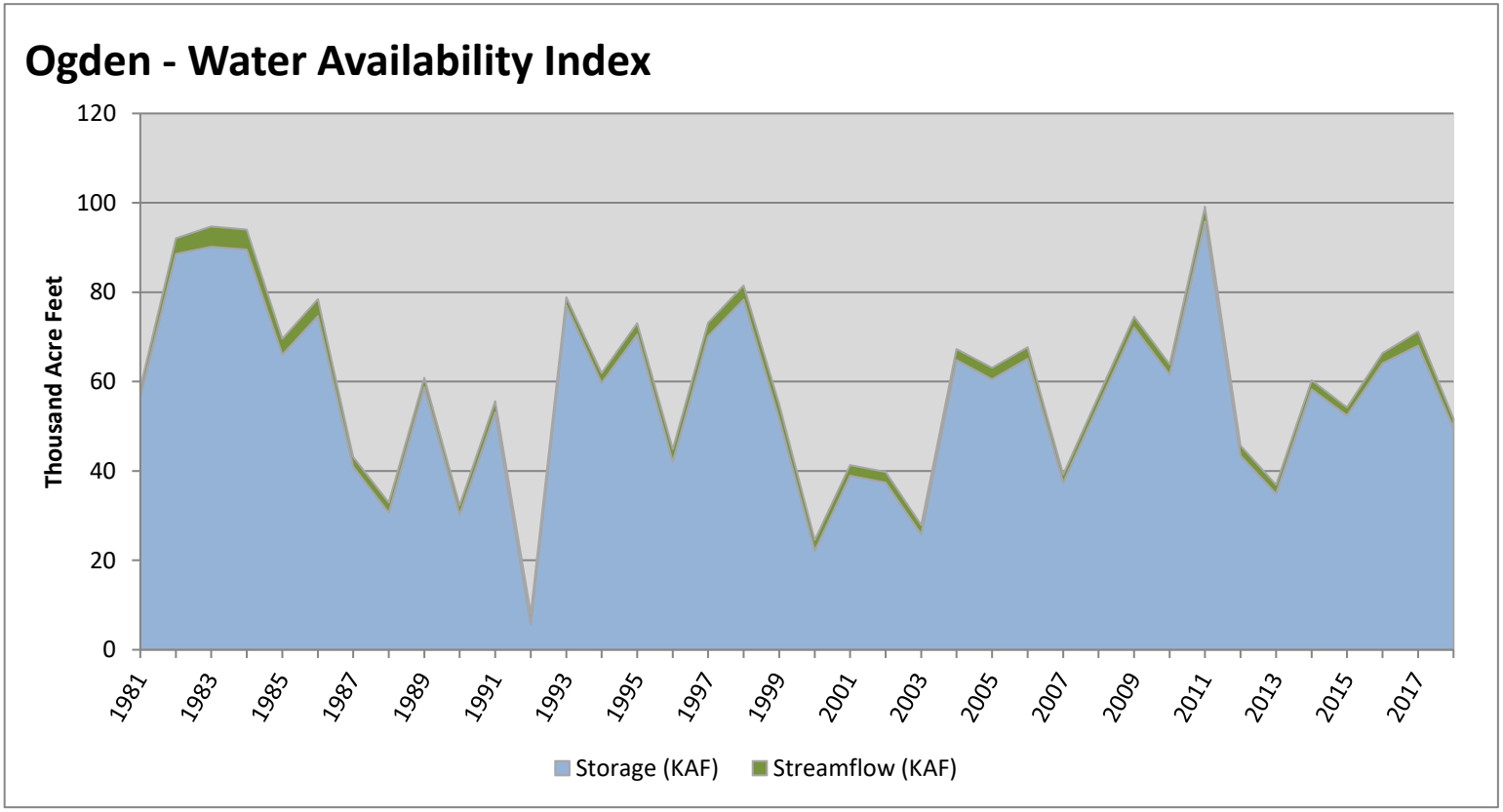


December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Ogden	**49.54**	**2.16**	**51.70**	**33**	**-1.39**	**96, 12, 15, 99**

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

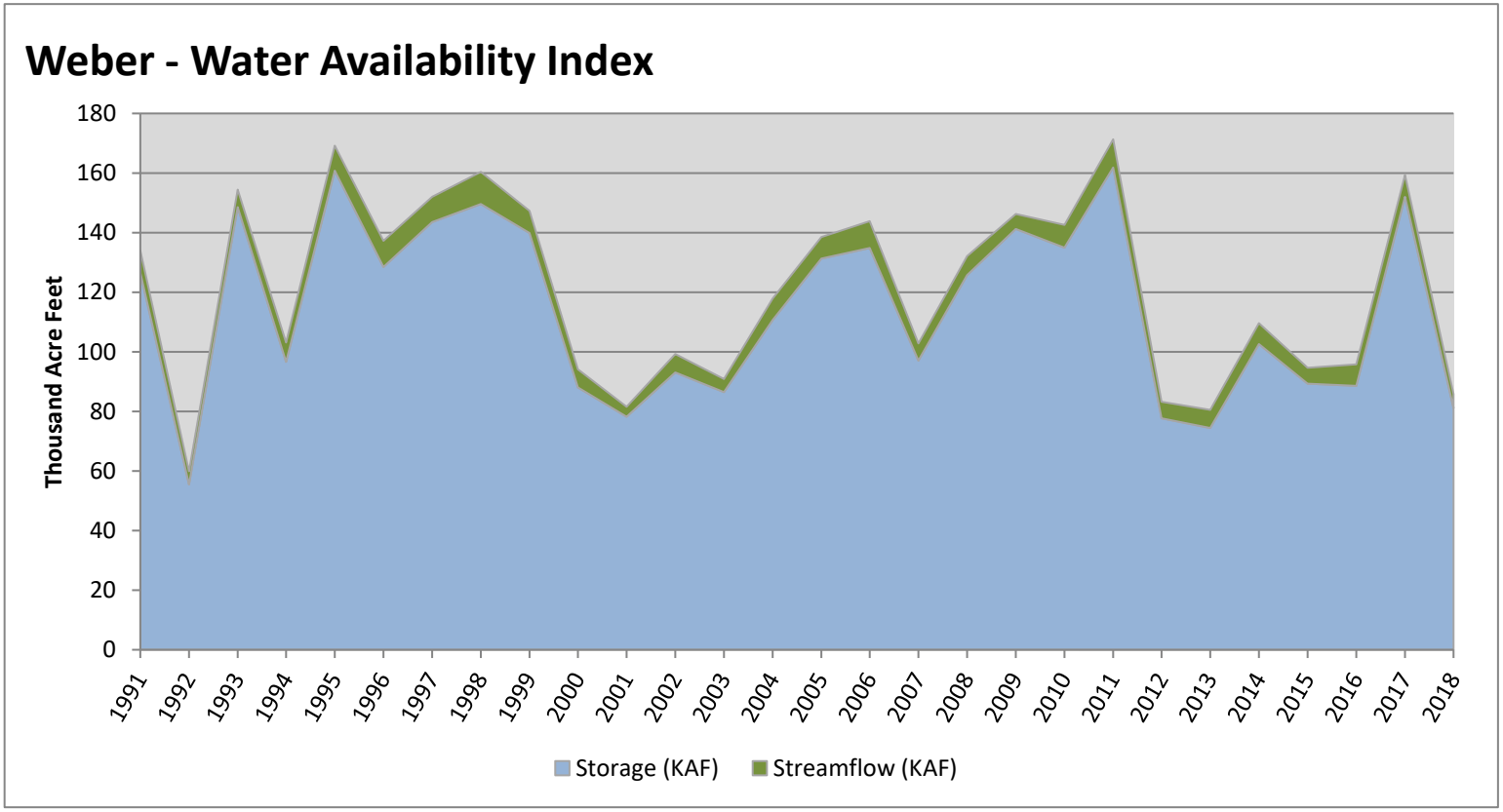


December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Weber	**81.09**	**4.77**	**85.86**	**17**	**-2.73**	**01, 12, 03, 00**

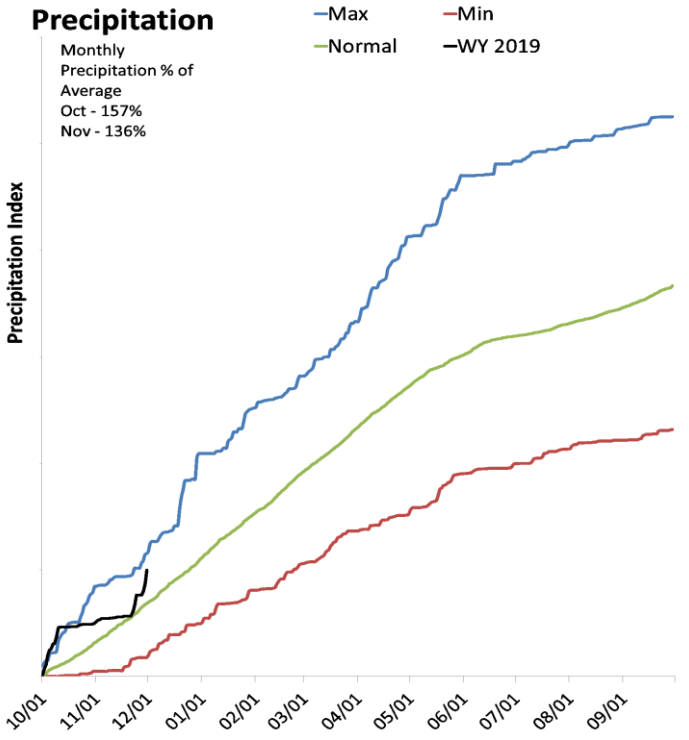
*EOM, end of month; #WAI, Water Availability Index; ^KAF, thousand acre-feet.

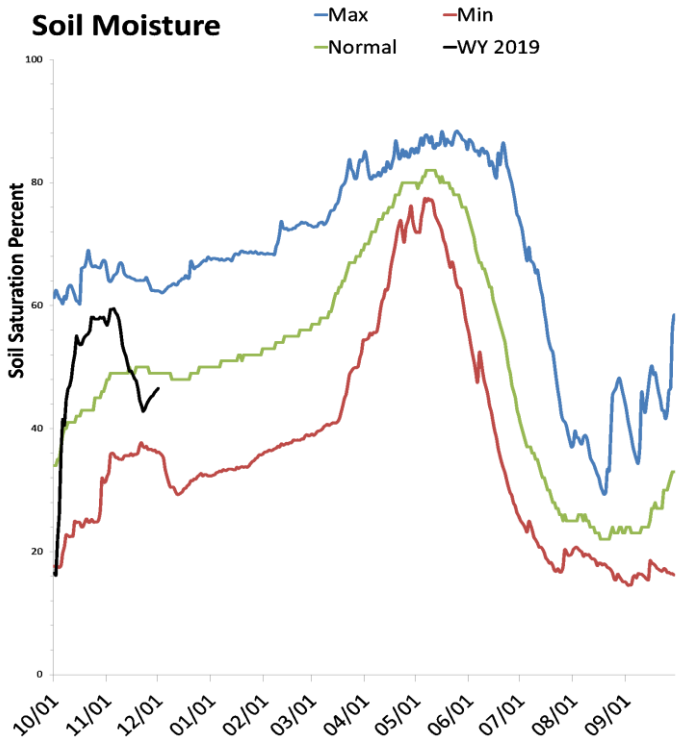


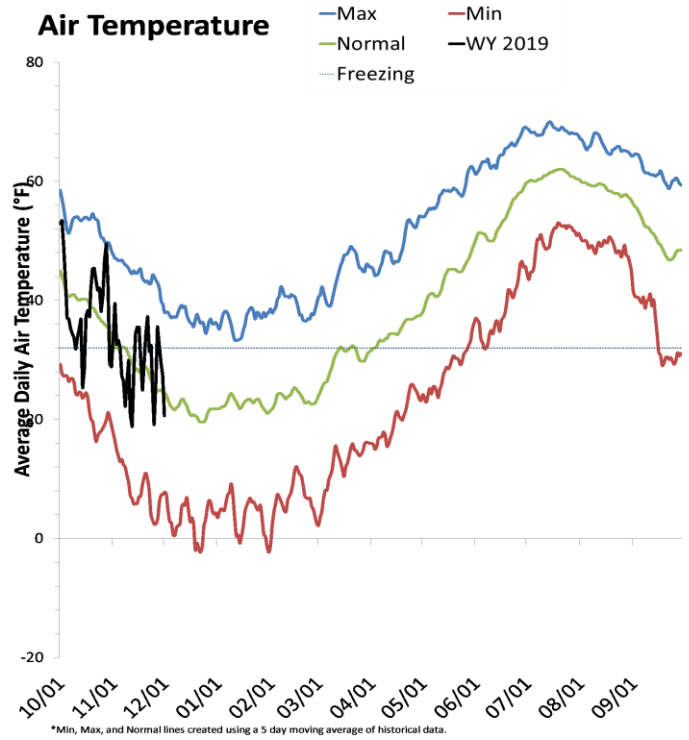
Provo & Jordan River Basins

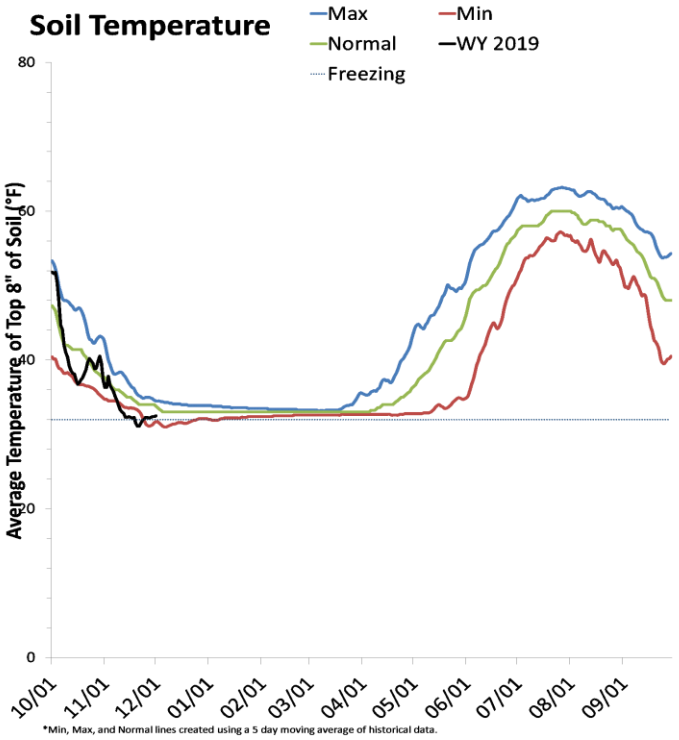
December 1, 2018

Precipitation in November was much above average at 136%, which brings the seasonal accumulation (Oct-Nov) to 146% of average. Soil moisture is at 46% compared to 54% last year. Reservoir storage is at 64% of capacity, compared to 75% last year. The water availability index for the Provo River is 33%.









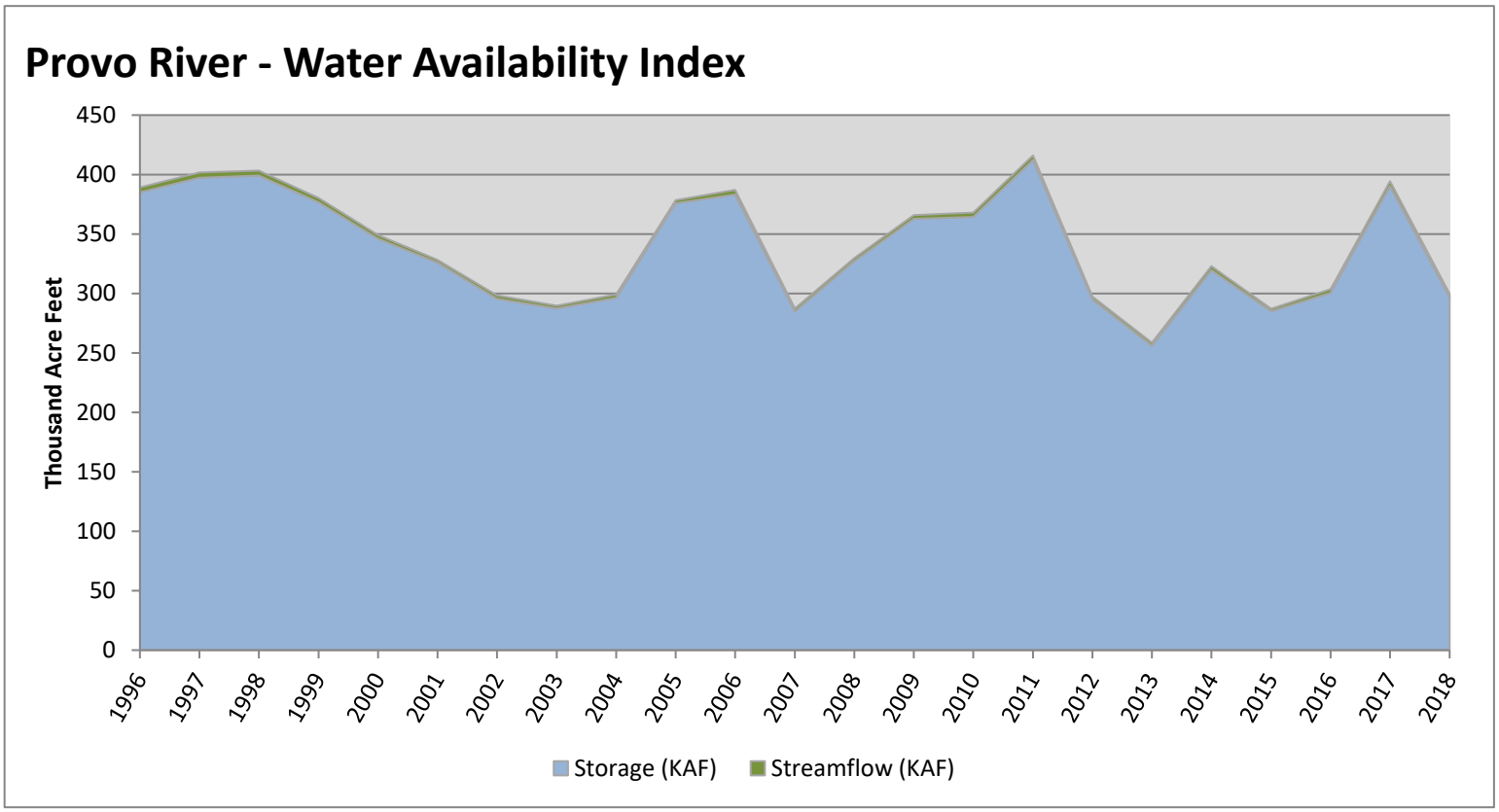
SNOTEL Data

December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Provo River	**296.92**	**2.74**	**299.66**	**33**	**-1.39**	**02, 04, 16, 14**

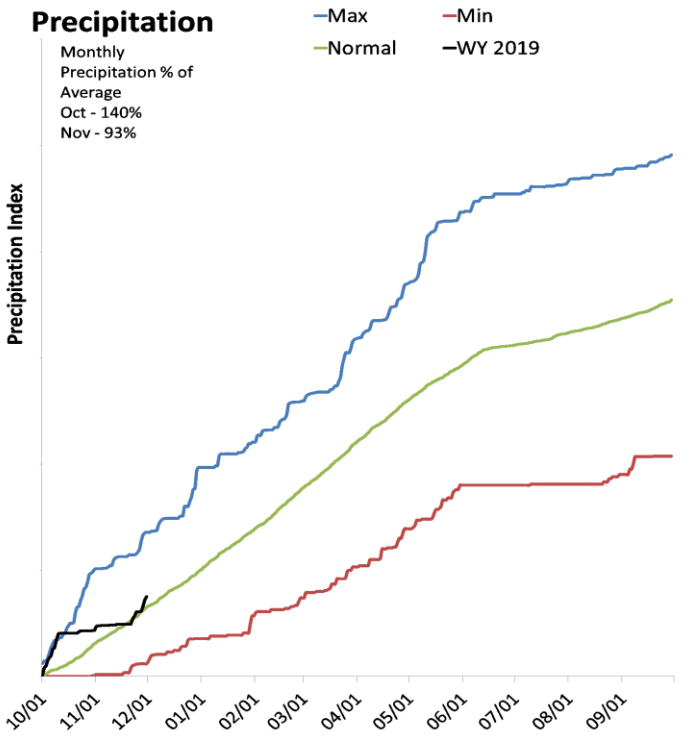
*EOM, end of month; #WAI, Water Availability Index; ^KAF, thousand acre-feet.

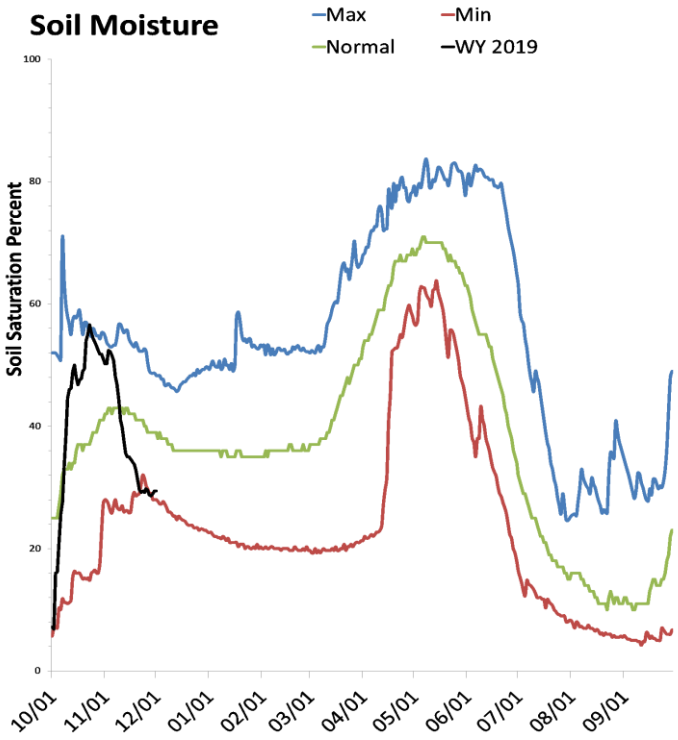


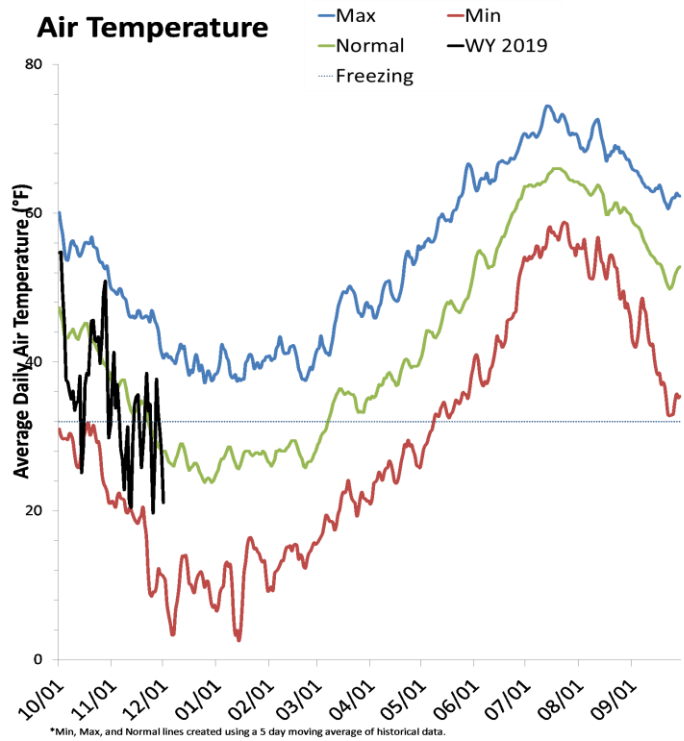
Tooele Valley & West Desert Basins

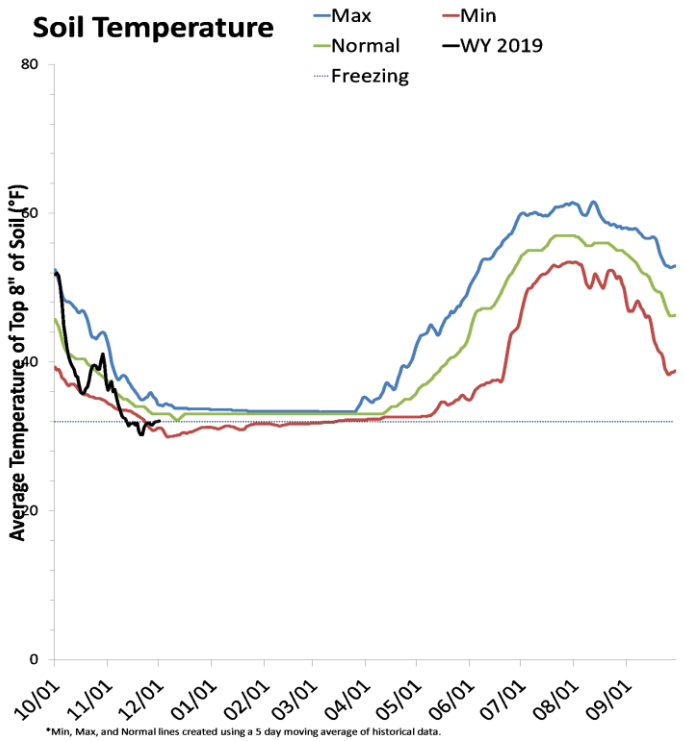
December 1, 2018

Precipitation in November was near average at 93%, which brings the seasonal accumulation (Oct-Nov) to 115% of average. Soil moisture is at 29% compared to 36% last year. Reservoir storage is at 34% of capacity, compared to 34% last year.







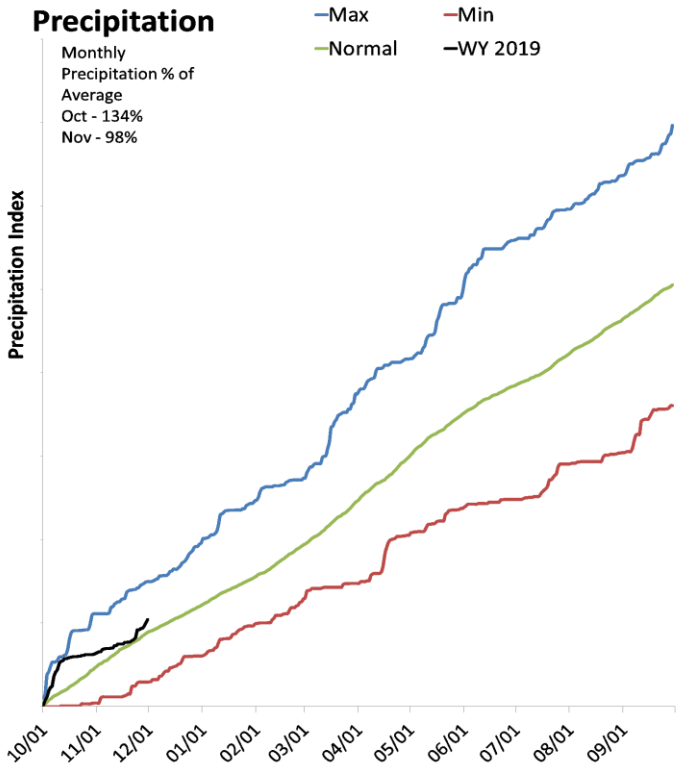


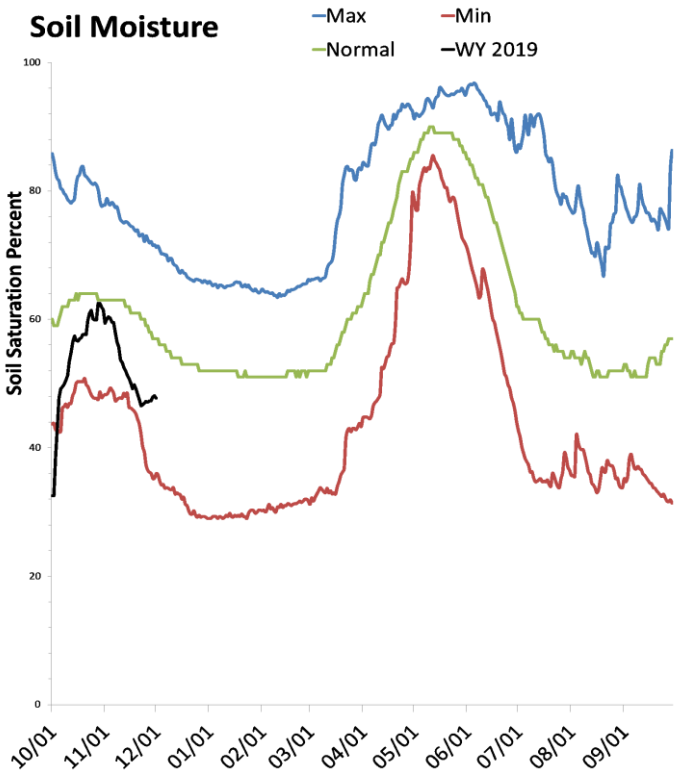
SNOTEL Data

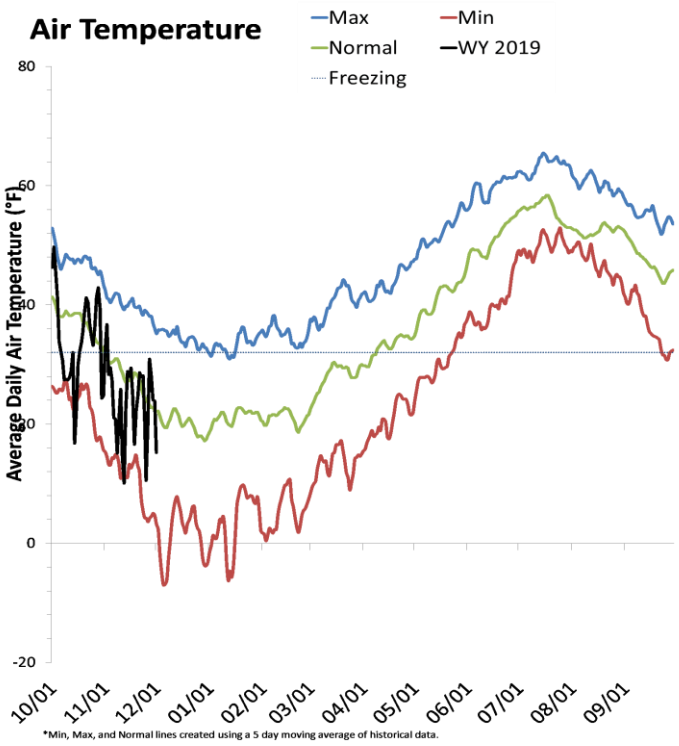
Northeastern Uinta Basin

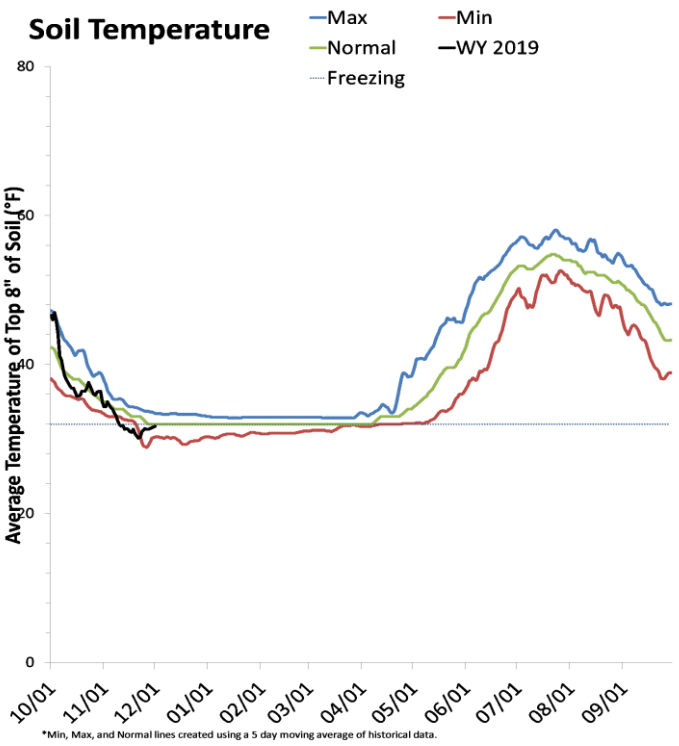
December 1, 2018

Precipitation in November was near average at 97%, which brings the seasonal accumulation (Oct-Nov) to 116% of average. Soil moisture is at 47% compared to 62% last year. Reservoir storage is at 88% of capacity, compared to 91% last year. The water availability index for Blacks Fork is 11% and 17% for Smiths Creek.









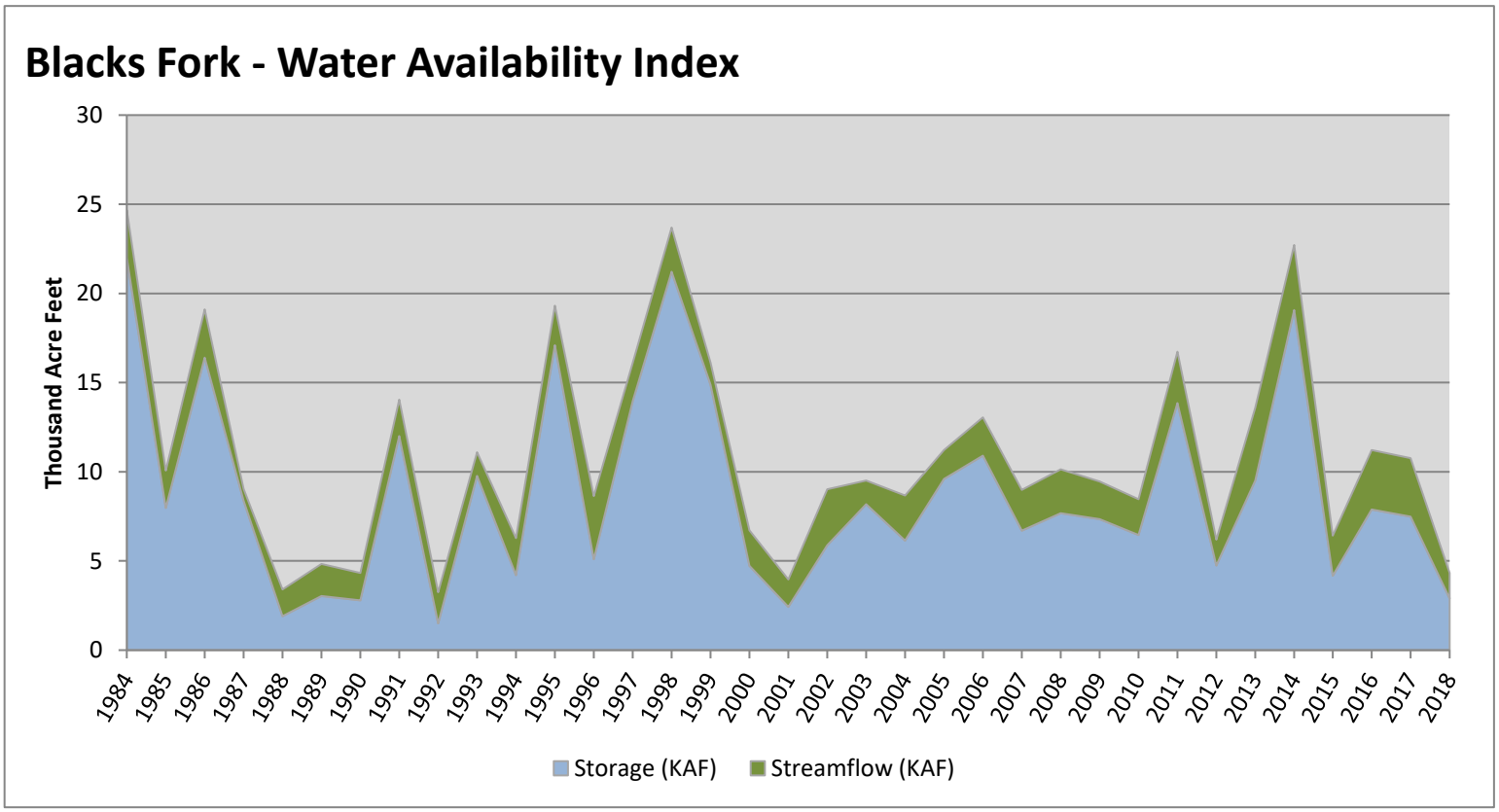
SNOTEL Data

December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Blacks Fork	**2.89**	**1.43**	**4.32**	**11**	**-3.24**	**88, 01, 90, 89**

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

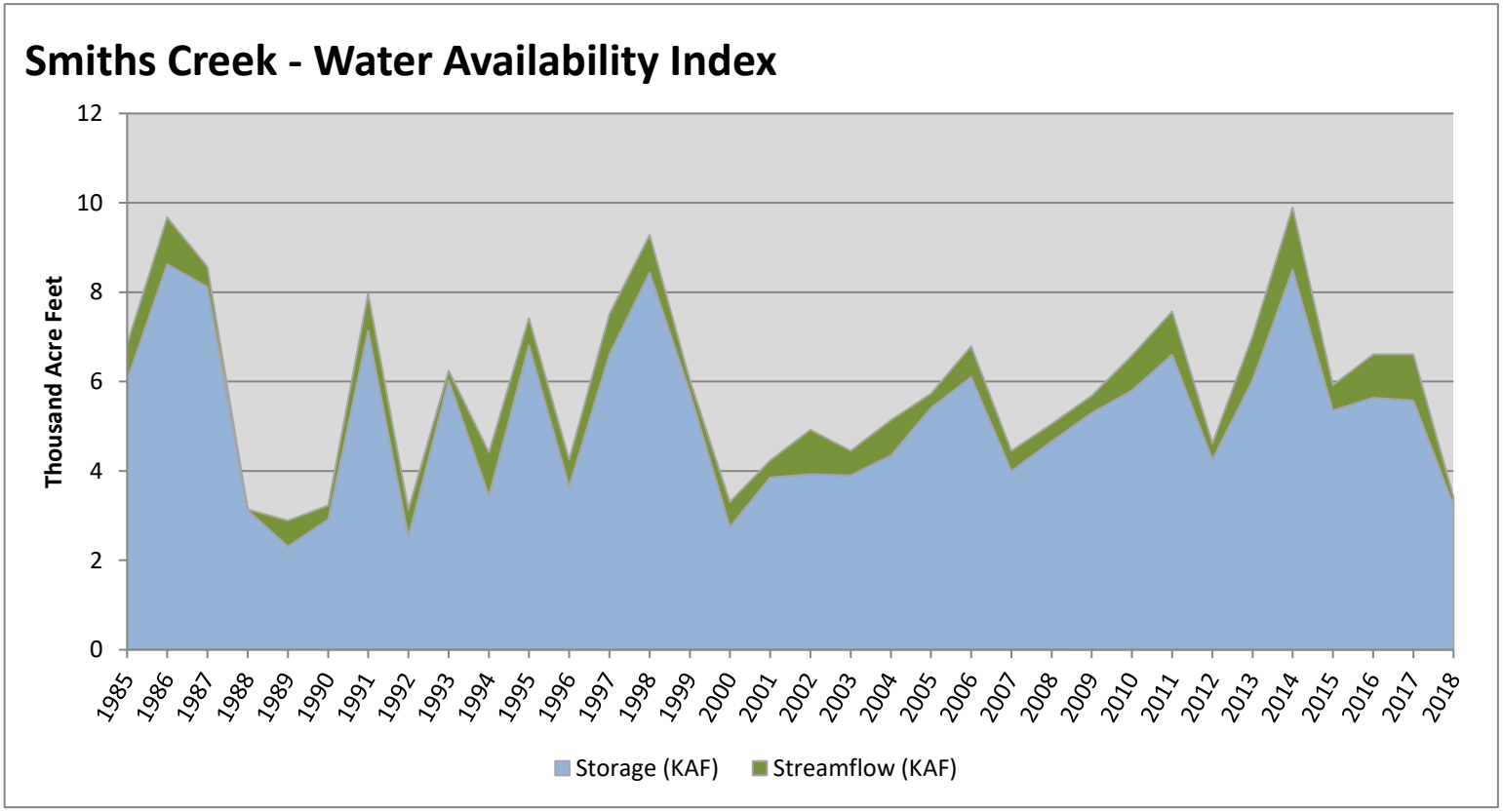


December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Smiths Creek	**3.23**	**0.19**	**3.42**	**17**	**-2.74**	**90, 00, 01, 96**

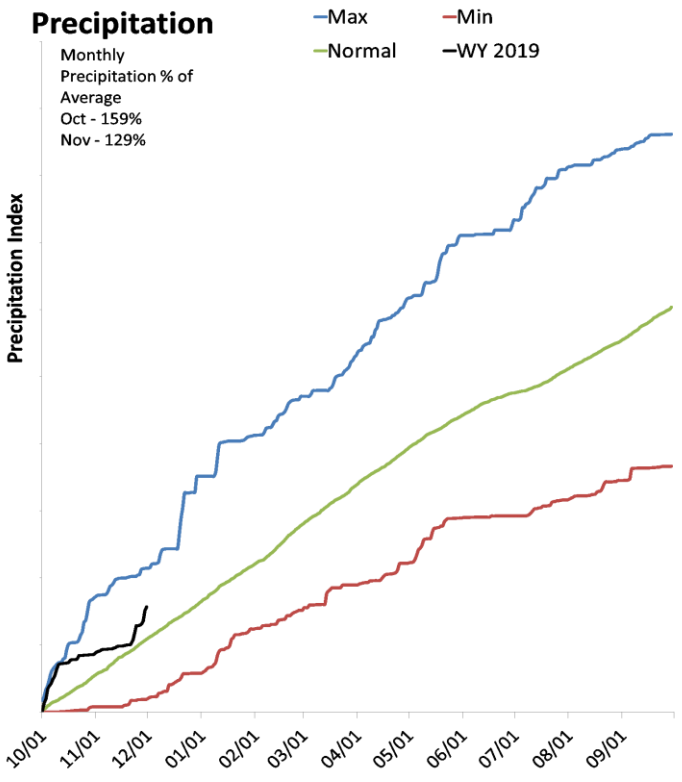
*EOM, end of month; #WAI, Water Availability Index; ^KAF, thousand acre-feet.

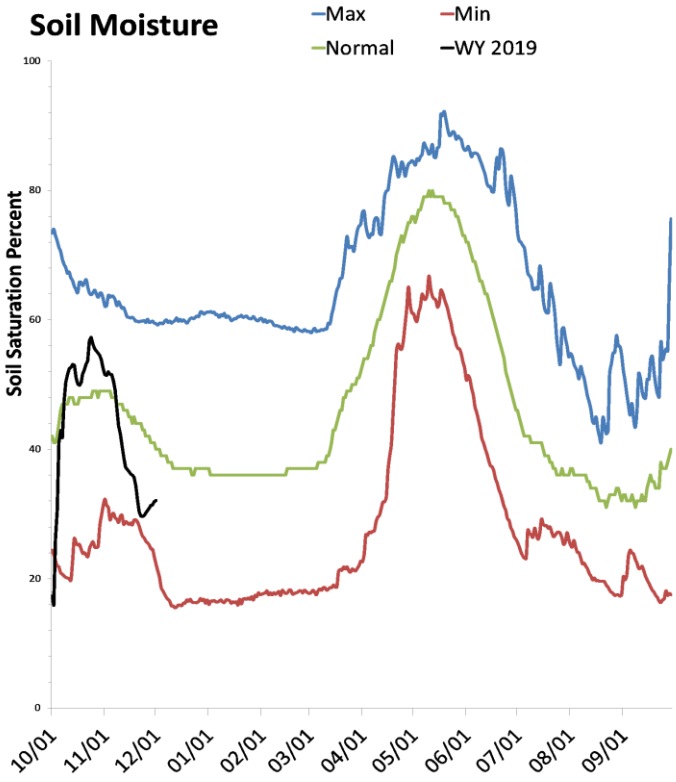


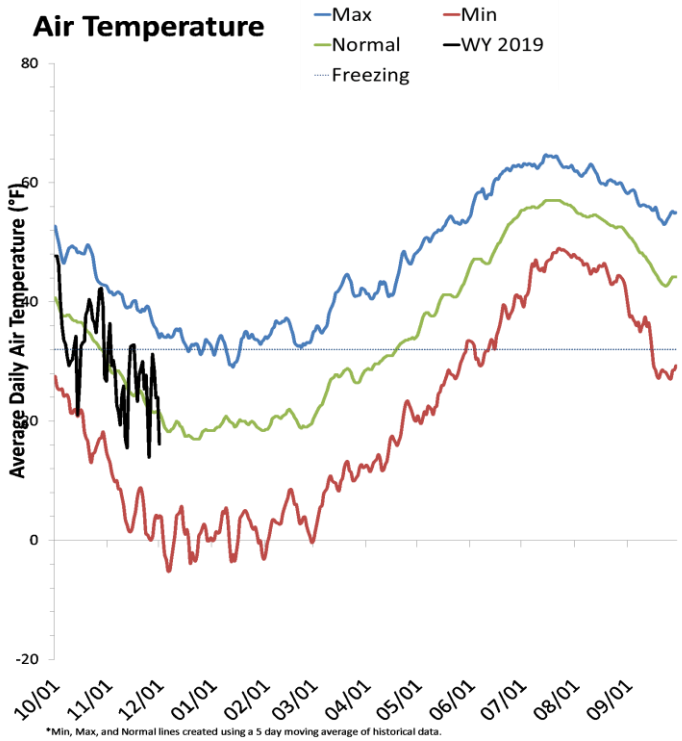
Duchesne River Basin

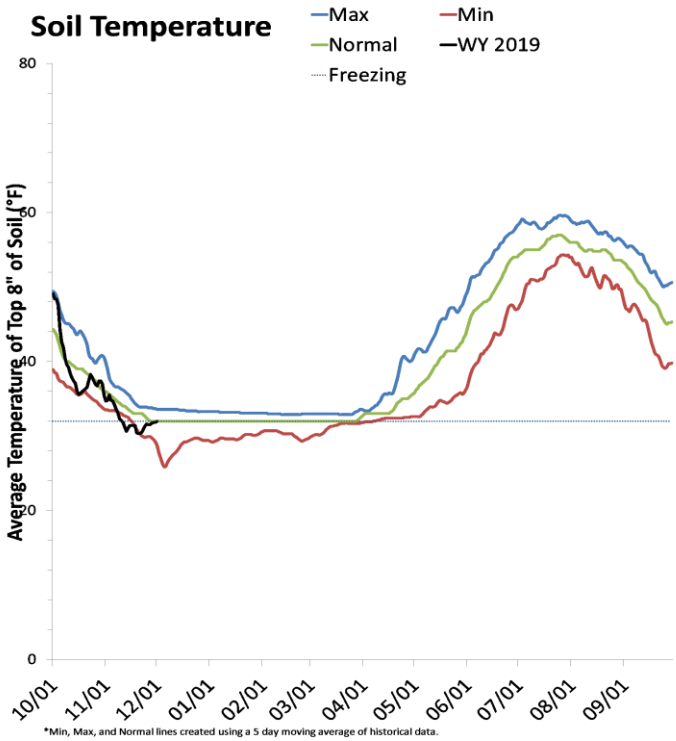
December 1, 2018

Precipitation in November was above average at 130%, which brings the seasonal accumulation (Oct-Nov) to 144% of average. Soil moisture is at 32% compared to 43% last year. Reservoir storage is at 73% of capacity, compared to 82% last year. The water availability index for the Western Uintas is 31% and 3% for the Eastern Uintas.









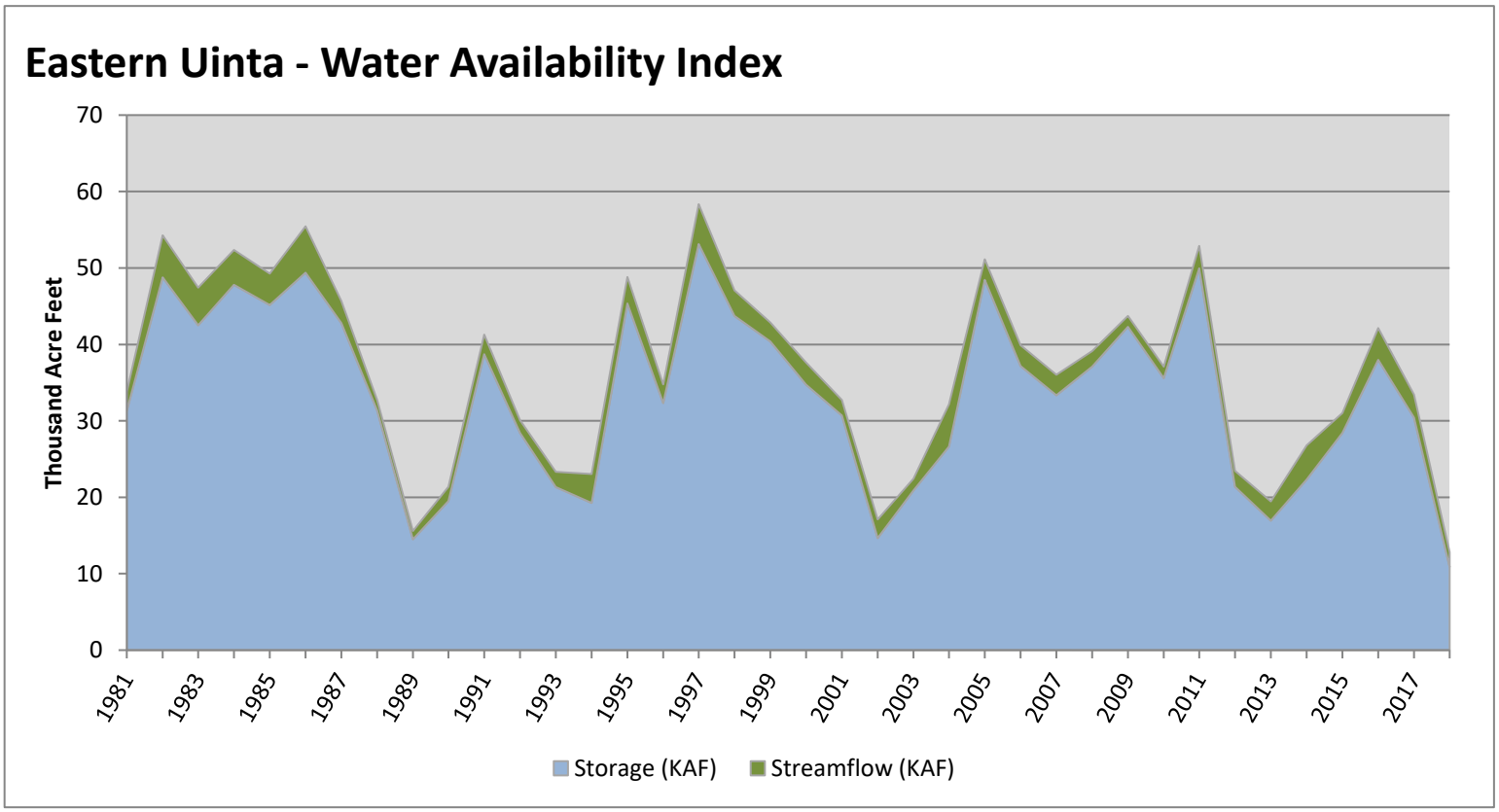
SNOTEL Data

December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Eastern Uinta	**10.89**	**1.94**	**12.83**	**3**	**-3.95**	**89, 02, 13, 90**

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

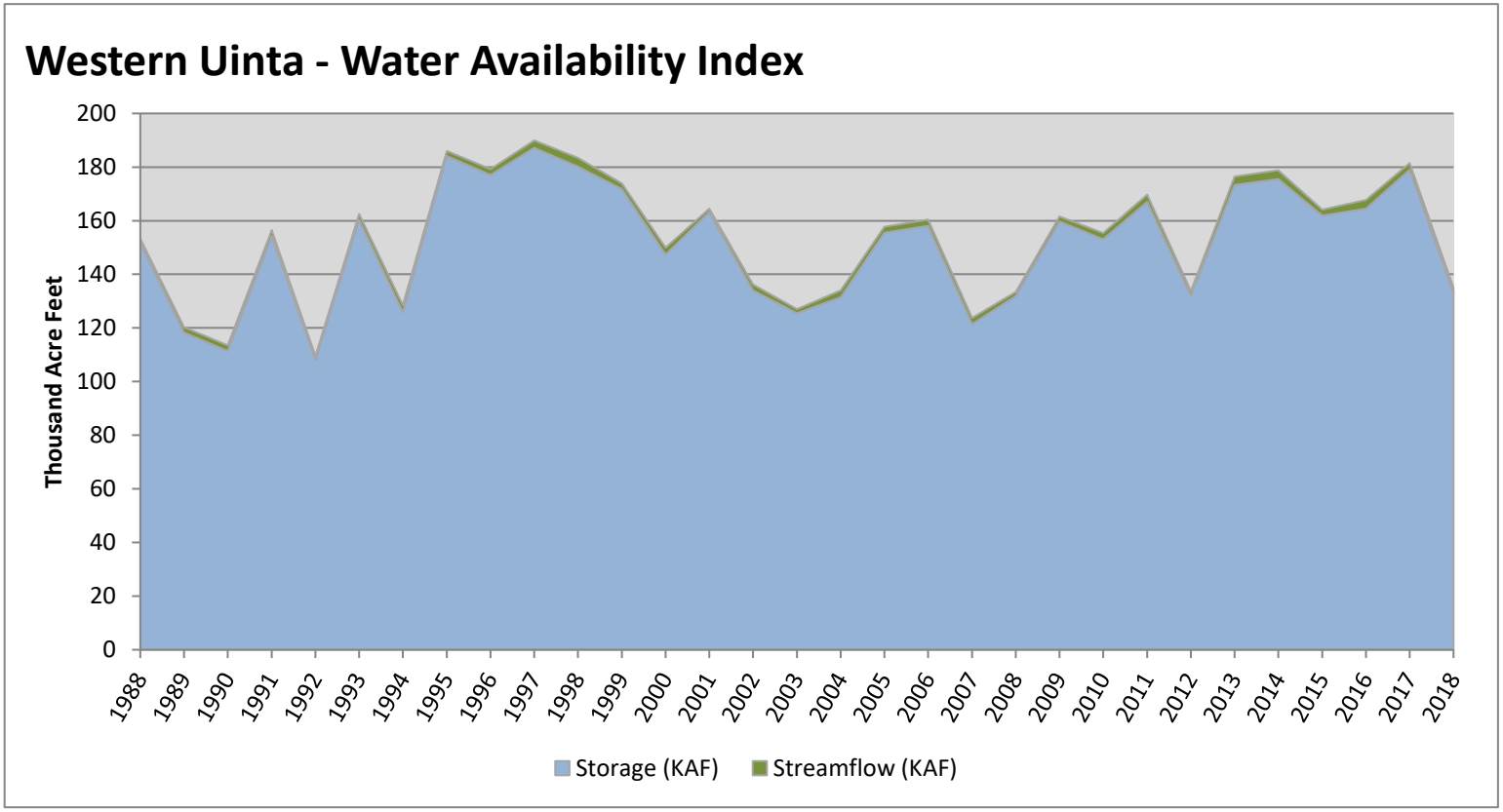


December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Western Uinta	**133.02**	**2.05**	**135.07**	**31**	**-1.56**	**12, 04, 02, 00**

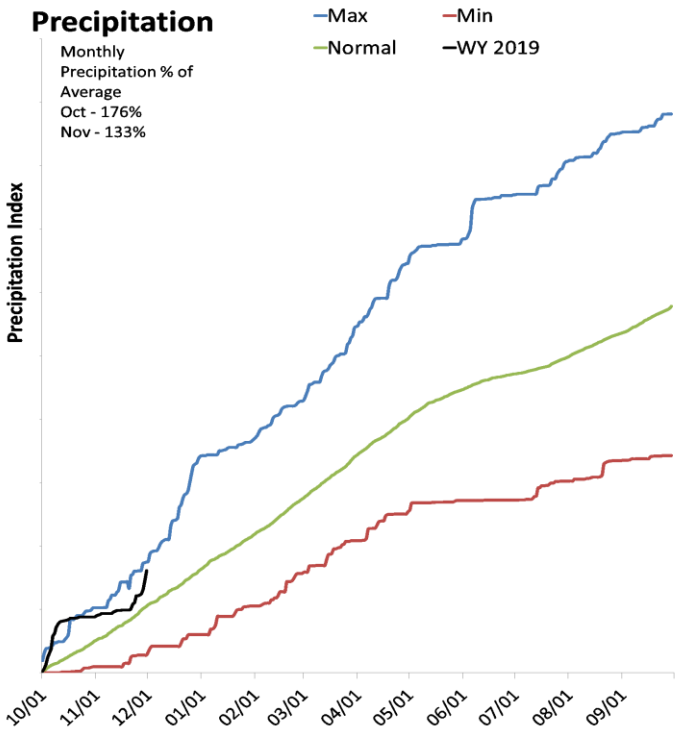
*EOM, end of month; #WAI, Water Availability Index; ^KAF, thousand acre-feet.

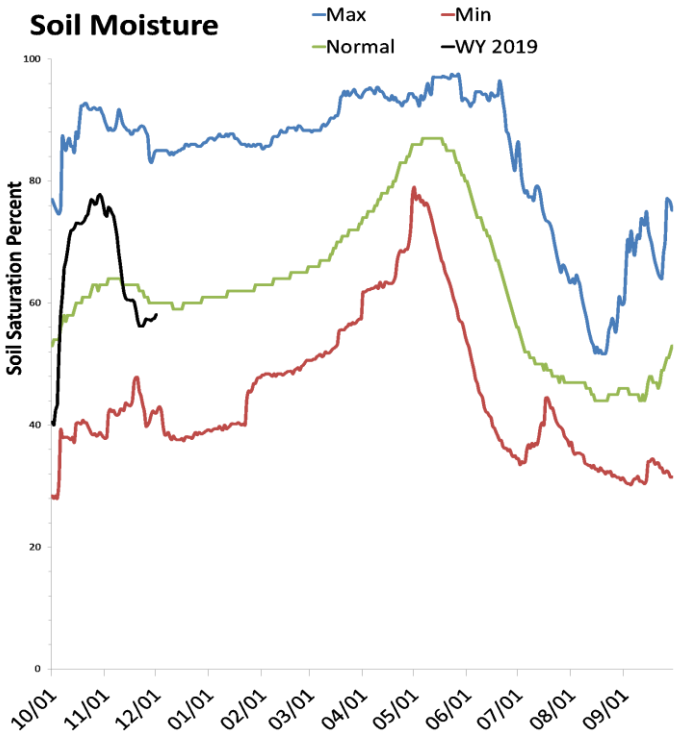


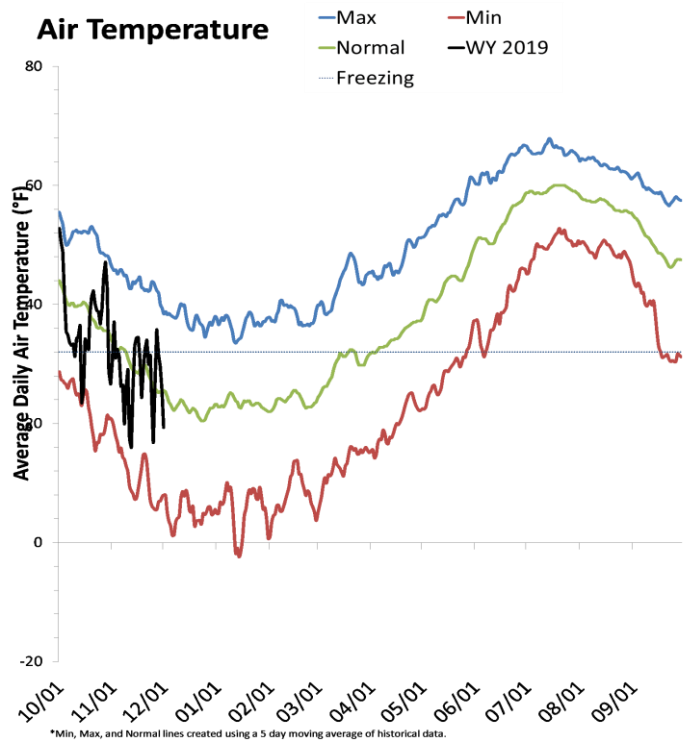
San Pitch River Basin

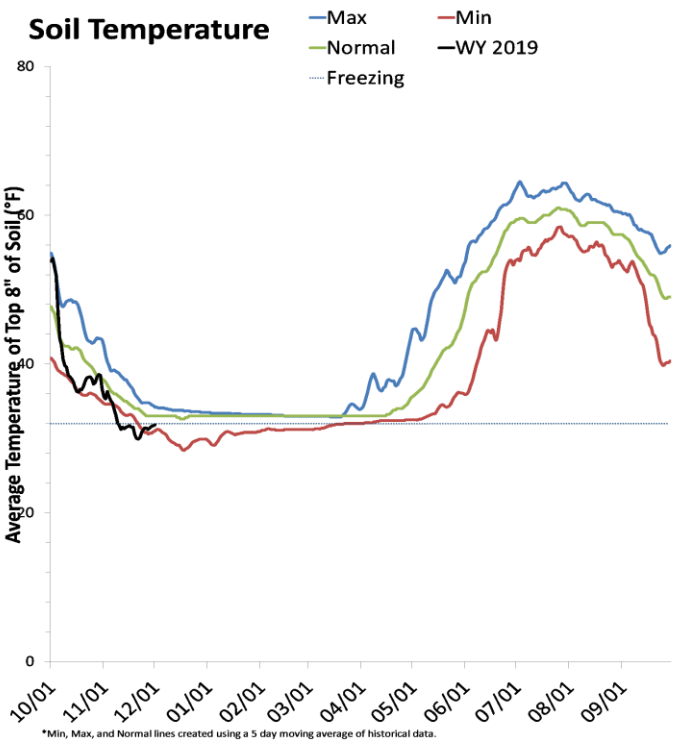
December 1, 2018

Precipitation in November was much above average at 133%, which brings the seasonal accumulation (Oct-Nov) to 153% of average. Soil Moisture is at 58% compared to 65% last year. Reservoir storage is at 0% of capacity, compared to 0% last year.The water availability index for the San Pitch is 3%.









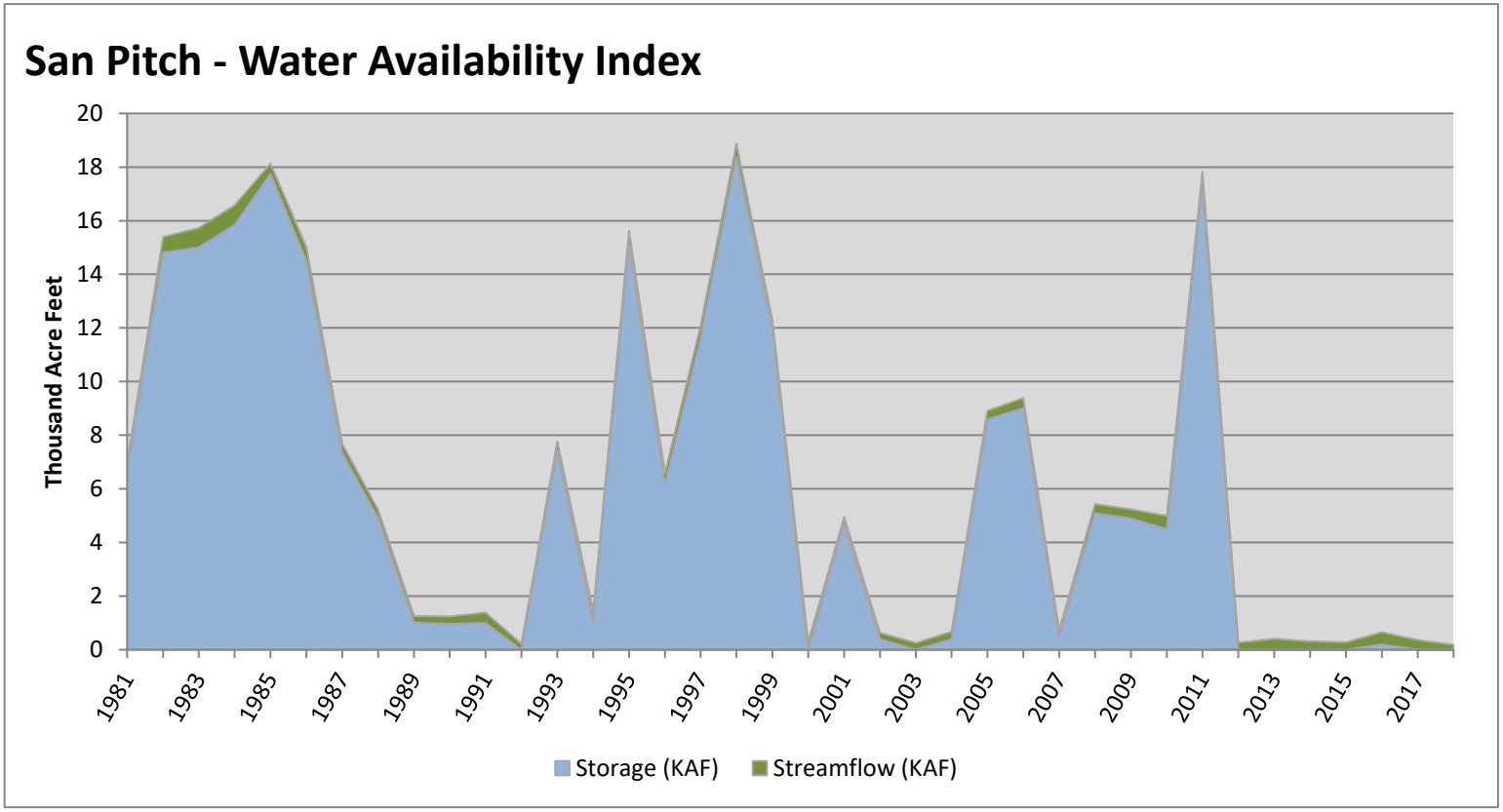
SNOTEL Data

December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
San Pitch	**0.00**	**0.19**	**0.19**	**3**	**-3.95**	**92, 03, 12, 15**

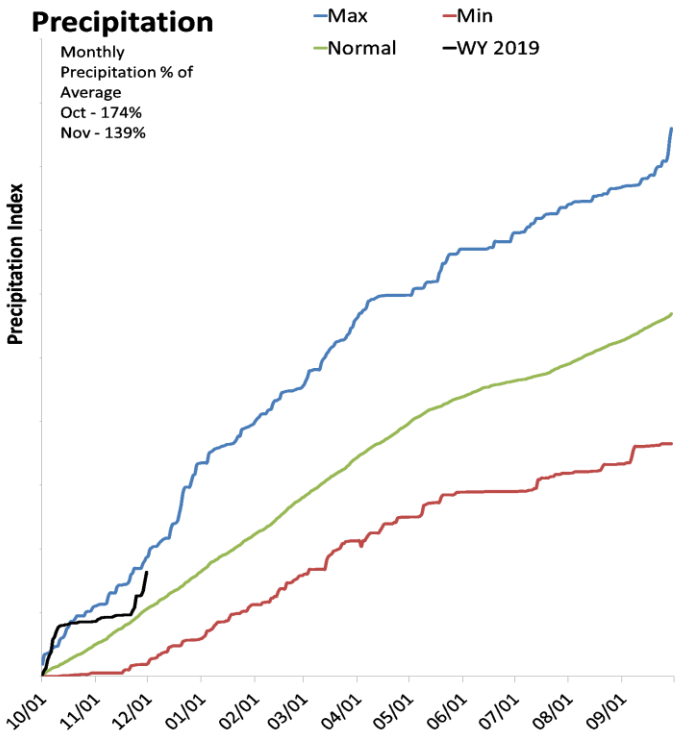
*EOM, end of month; #WAI, Water Availability Index; ^KAF, thousand acre-feet.

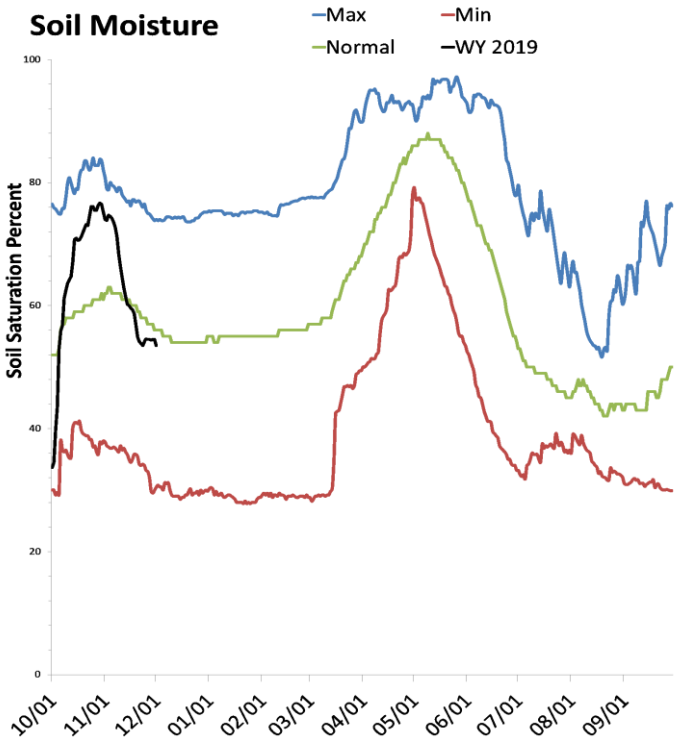


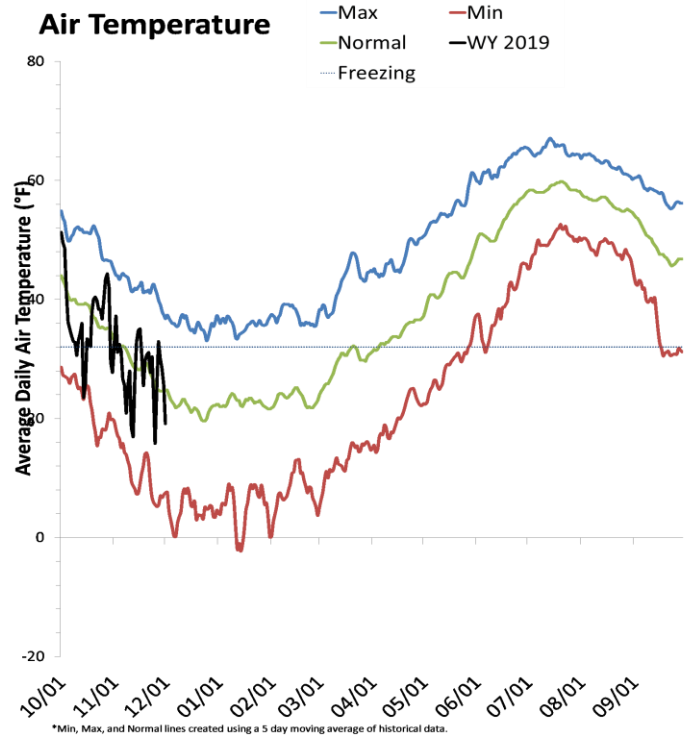
Price & San Rafael Basins

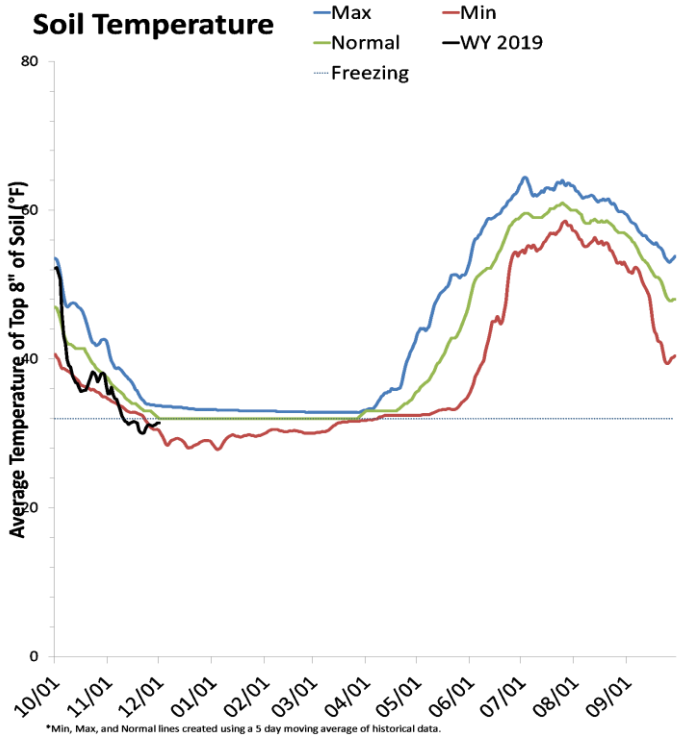
December 1, 2018

Precipitation in November was much above average at 139%, which brings the seasonal accumulation (Oct-Nov) to 155% of average. Soil moisture is at 55% compared to 58% last year. Reservoir storage is at 38% of capacity, compared to 66% last year. The water availability index for the Price River is 46%, and 10% for Joe's Valley.









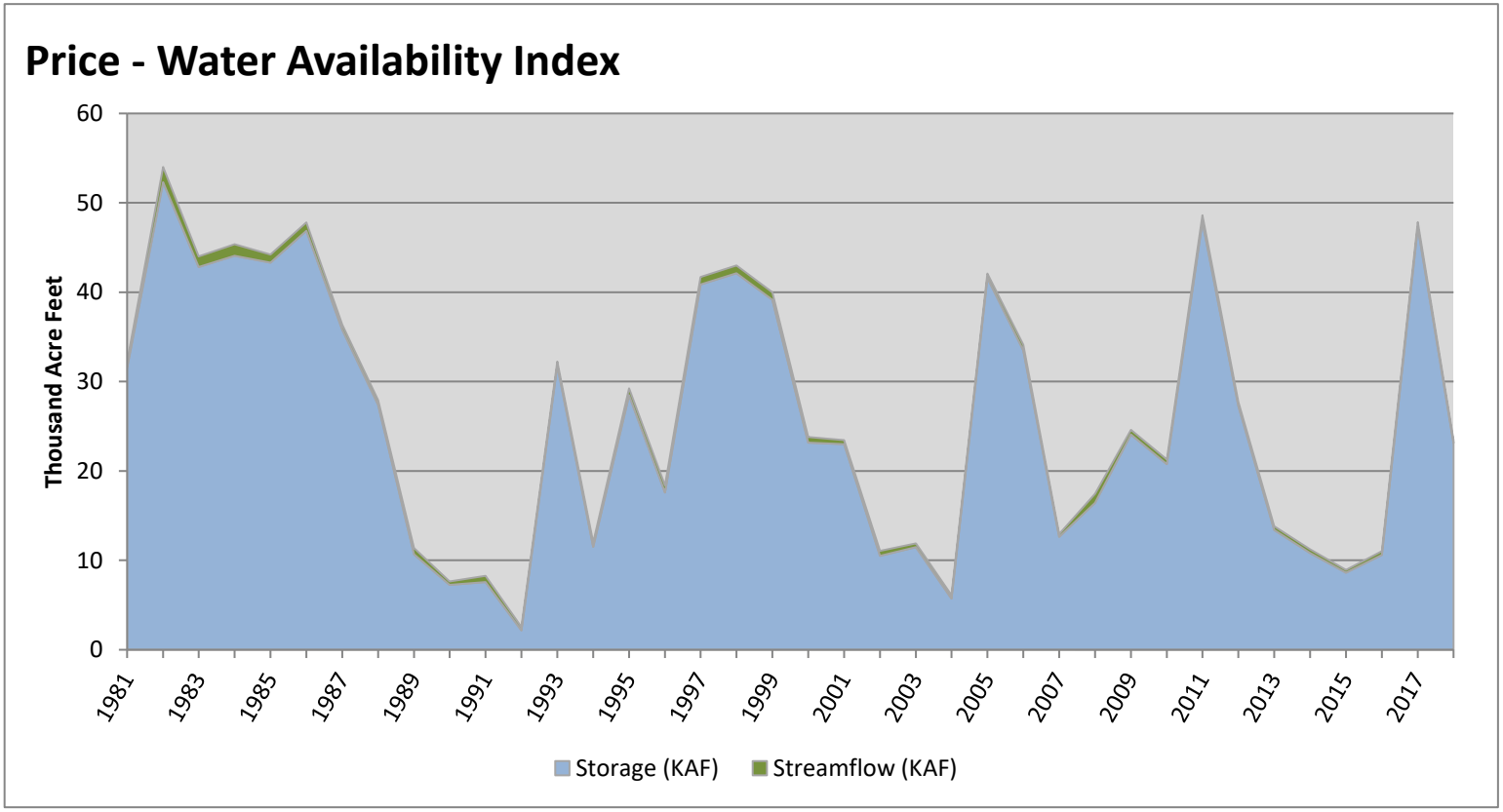
SNOTEL Data

December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Price	**23.15**	**0.31**	**23.46**	**46**	**-0.32**	**10, 01, 00, 09**

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

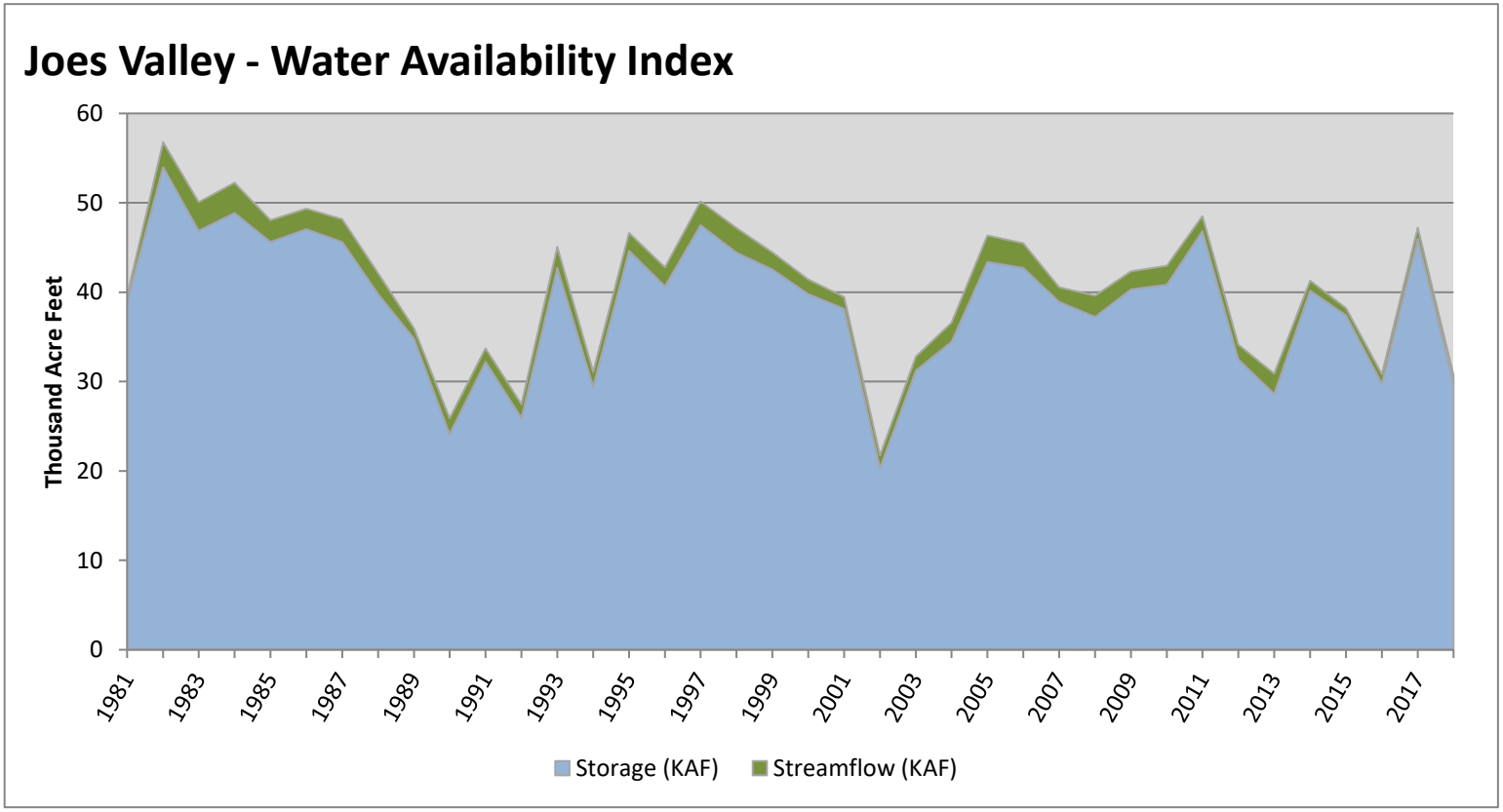


December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Joes Valley	**29.87**	**0.87**	**30.74**	**10**	**-3.31**	**90, 92, 16, 13**

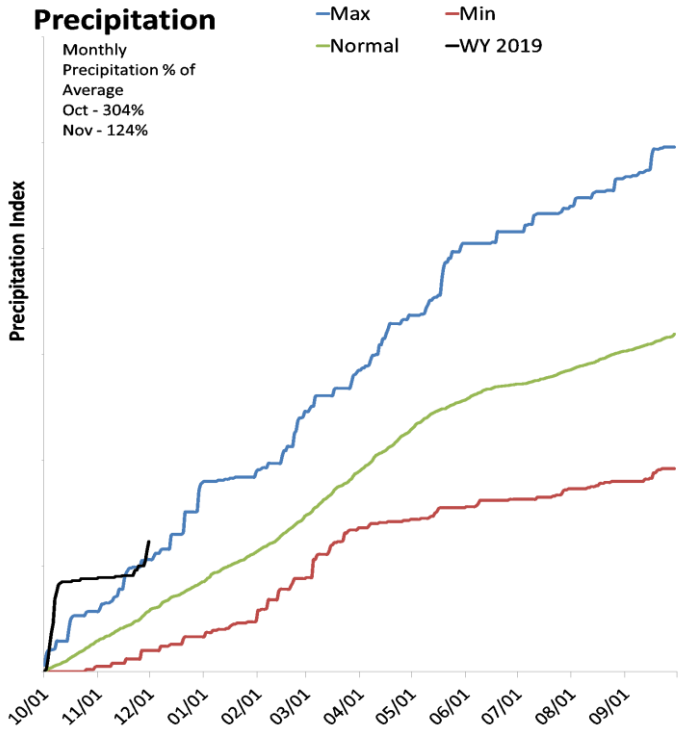
*EOM, end of month; #WAI, Water Availability Index; ^KAF, thousand acre-feet.

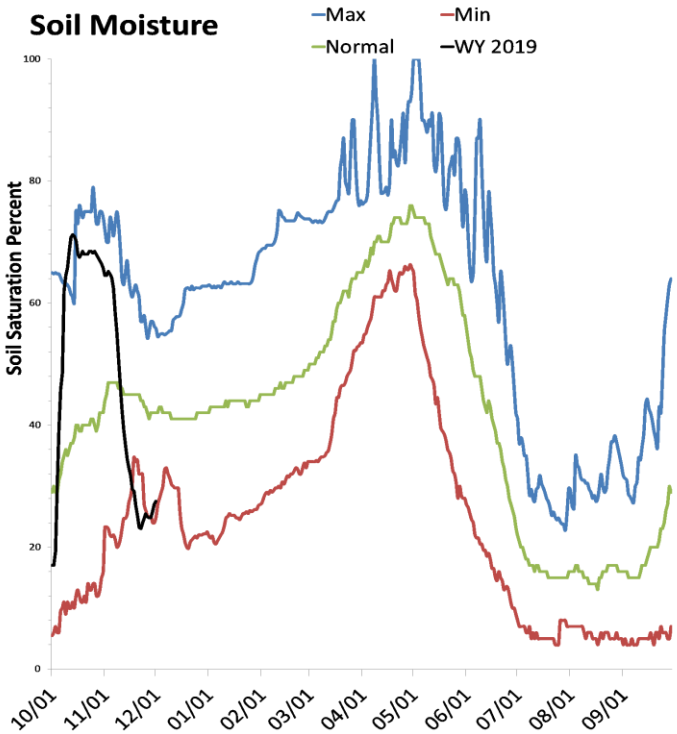


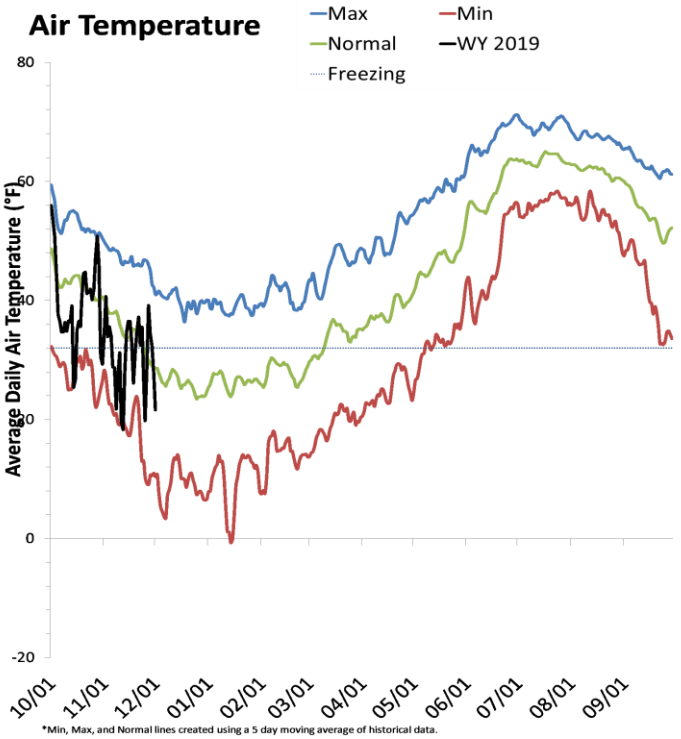
Lower Sevier Basin

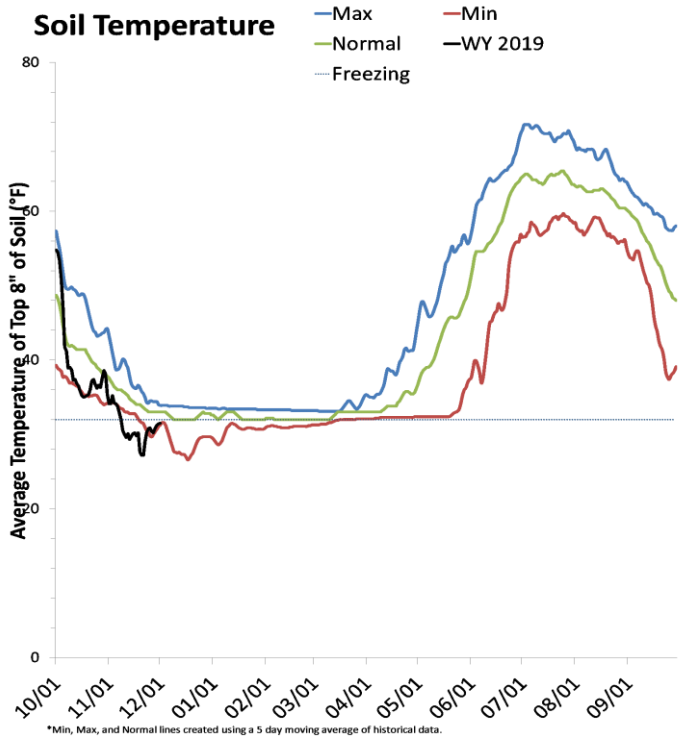
December 1, 2018

Precipitation in November was above average at 125%, which brings the seasonal accumulation (Oct-Nov) to 216% of average. Soil moisture is at 27% compared to 55% last year. Reservoir storage is at 11% of capacity, compared to 15% last year. The water availability index for the Lower Sevier is 8%.









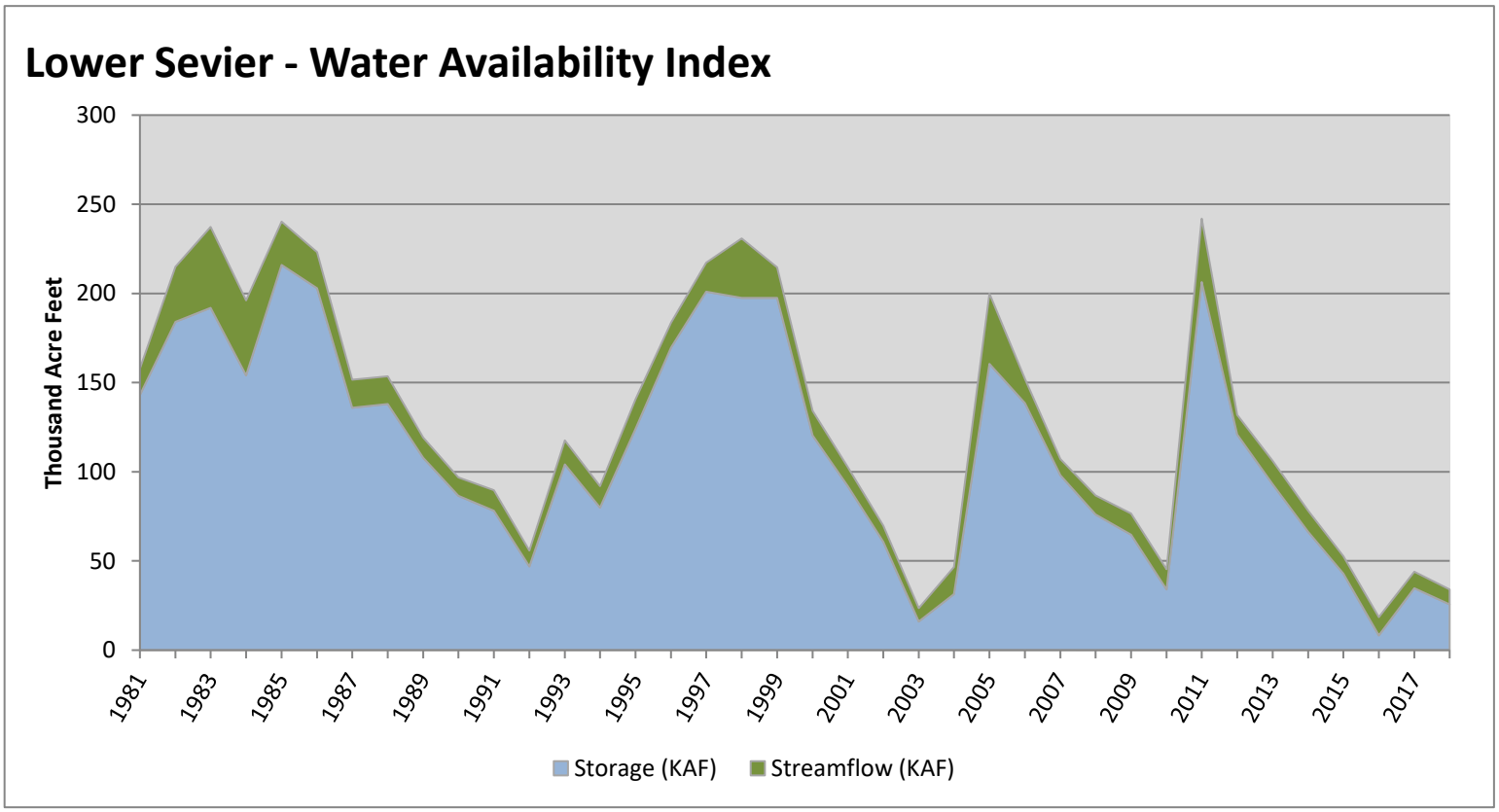
SNOTEL Data

December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Lower Sevier	**25.58**	**8.43**	**34.01**	**8**	**-3.53**	**16, 03, 17, 10**

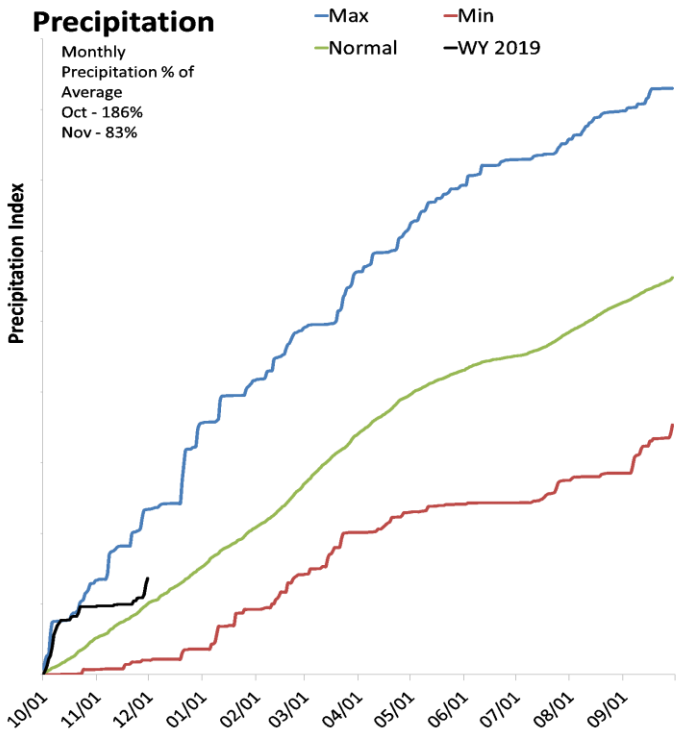
*EOM, end of month; #WAI, Water Availability Index; ^KAF, thousand acre-feet.

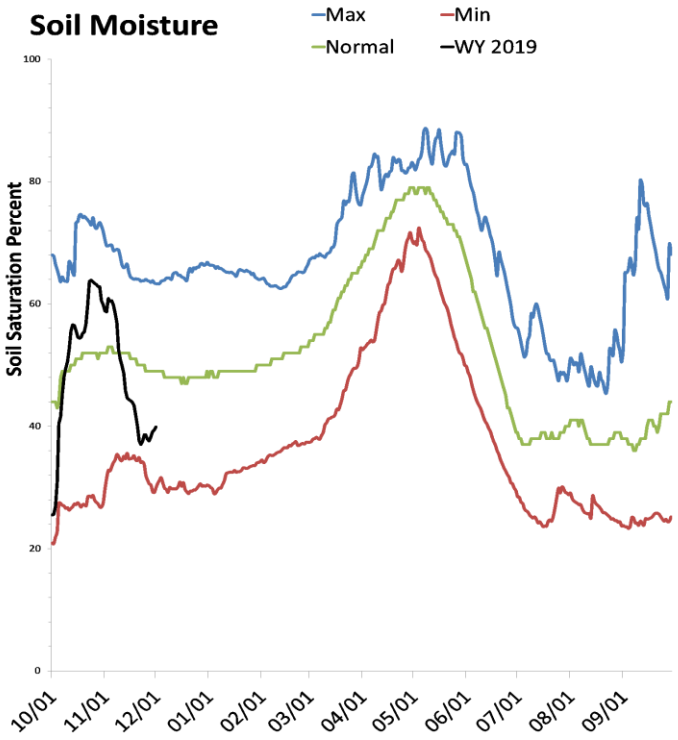


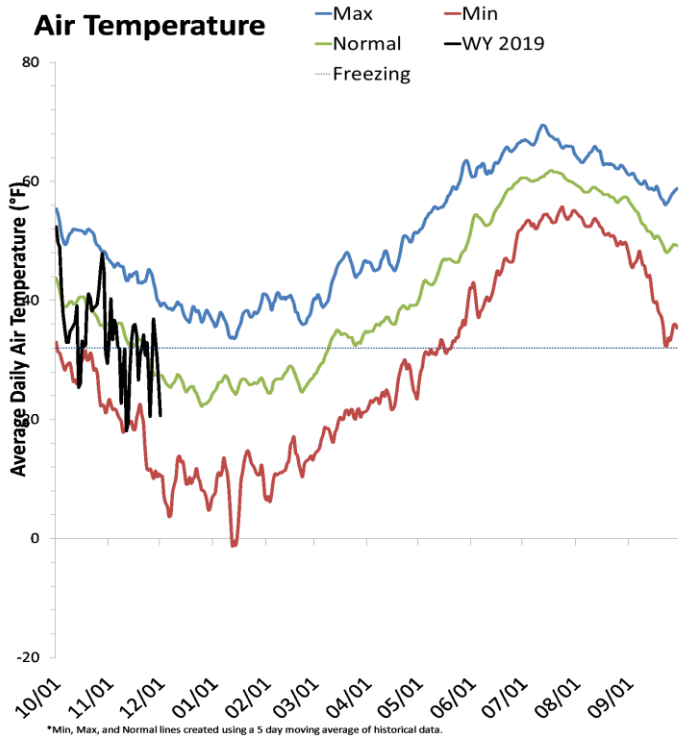
Upper Sevier Basin

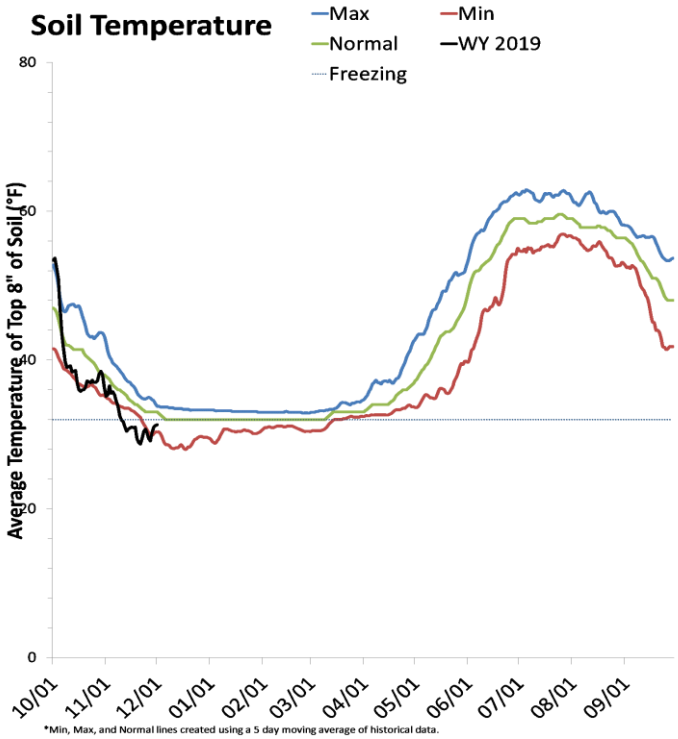
December 1, 2018

Precipitation in November was below average at 83%, which brings the seasonal accumulation (Oct-Nov) to 136% of average. Soil moisture is at 39% compared to 47% last year. Reservoir storage is at 18% of capacity, compared to 41% last year. The water availability index for the Upper Sevier is 5%.







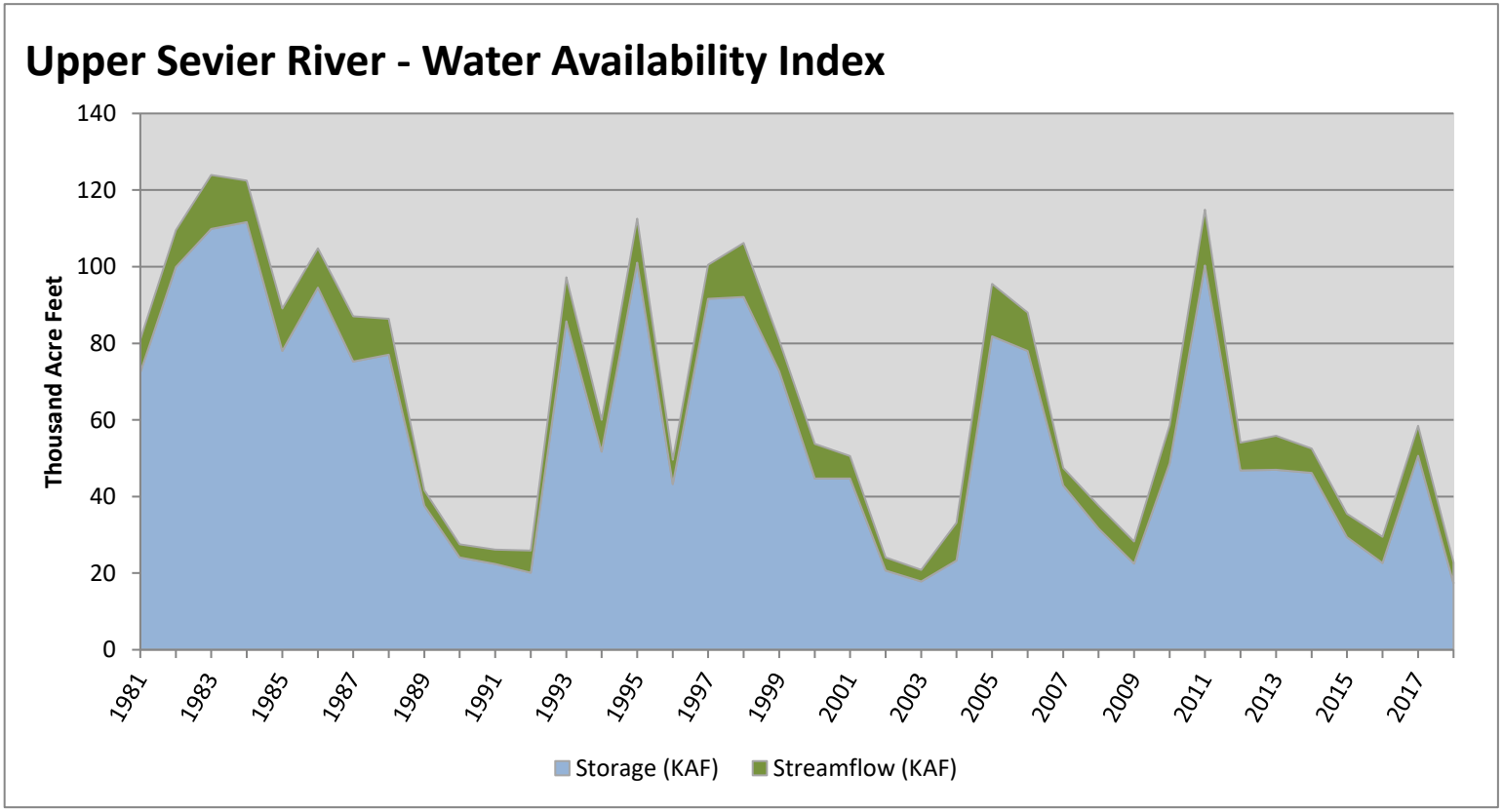


December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Upper Sevier River	**17.37**	**5.46**	**22.83**	**5**	**-3.74**	**03, 02, 92, 91**

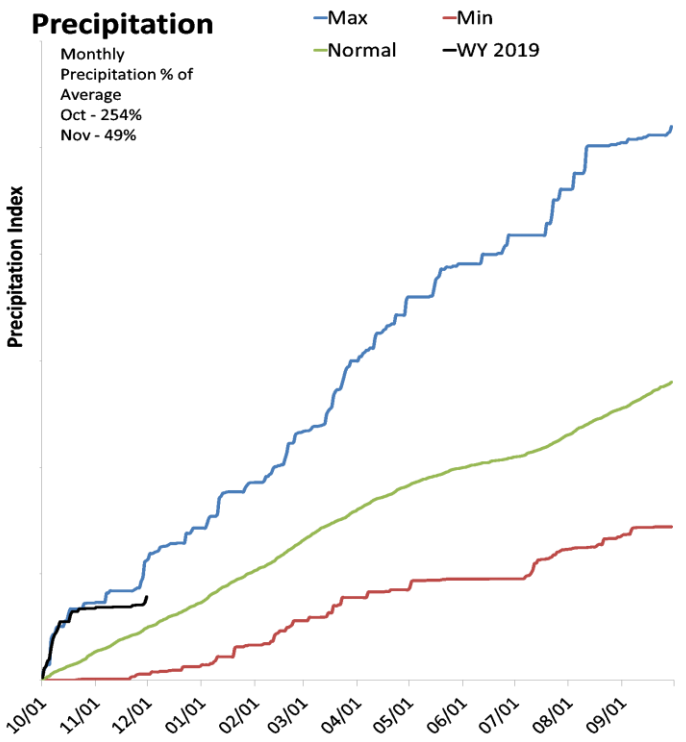
*EOM, end of month; #WAI, Water Availability Index; ^KAF, thousand acre-feet.

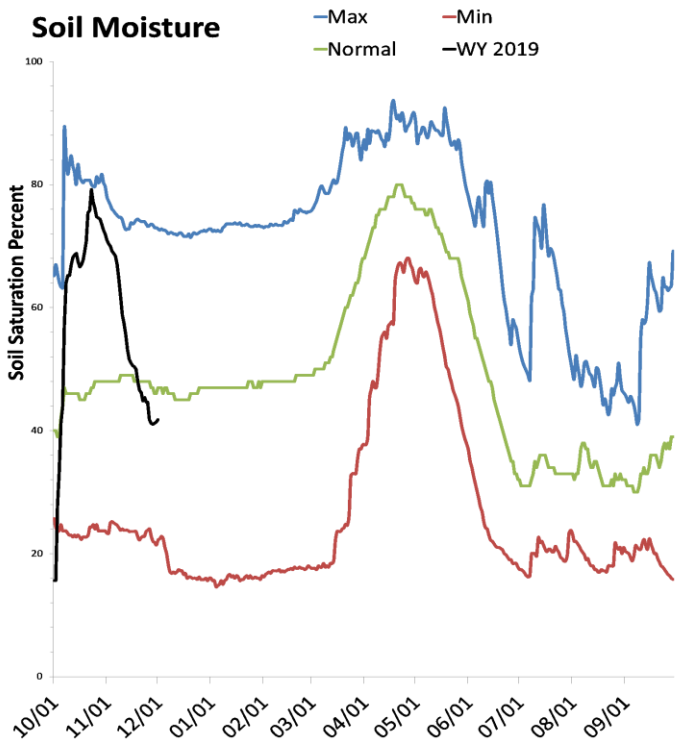


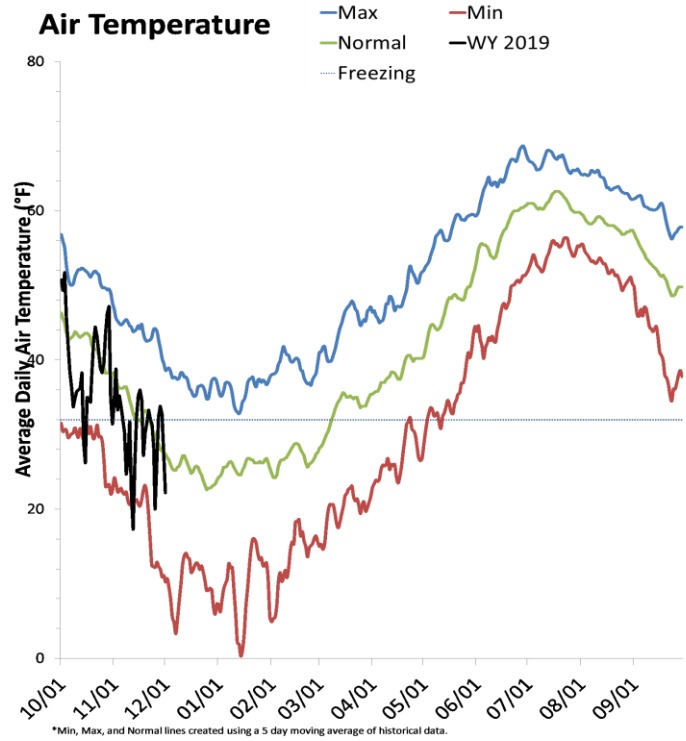
Southeastern Utah

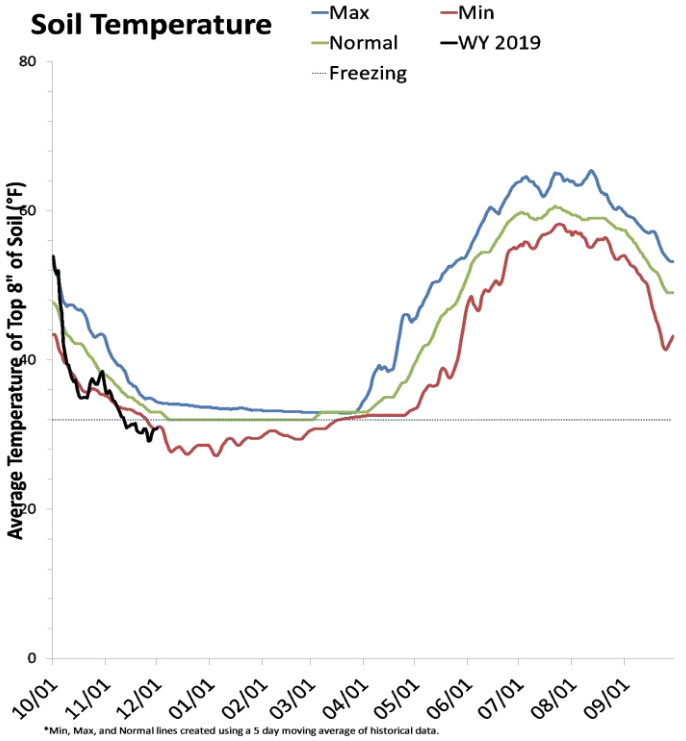
December 1, 2018

Precipitation in November was much below average at 49%, which brings the seasonal accumulation (Oct-Nov) to 160% of average. Soil moisture is at 42% compared to 23% last year. Reservoir storage is at 12% of capacity, compared to 51% last year. The water availability index for Moab is 13%.









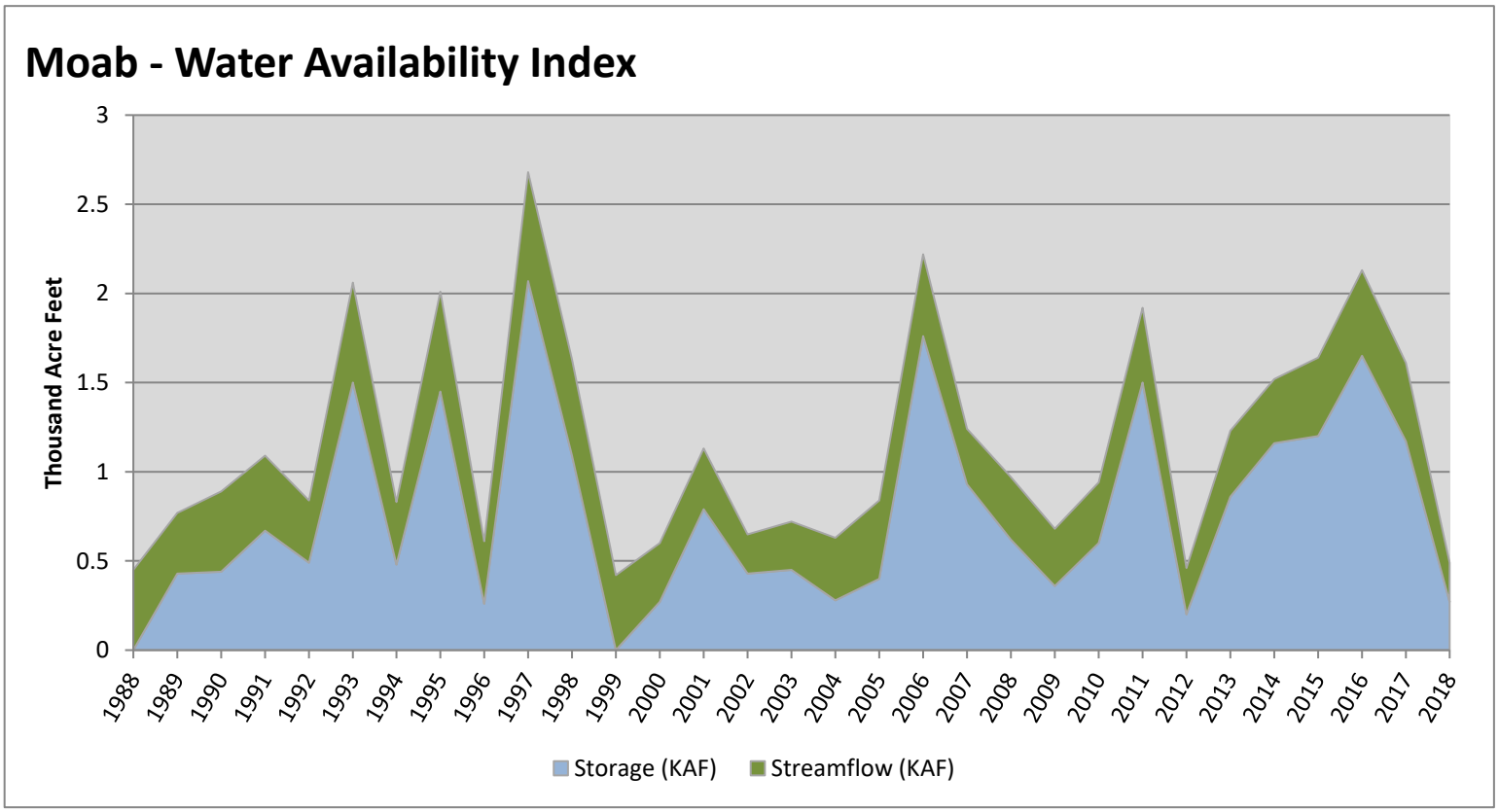
SNOTEL Data

December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Moab	**0.27**	**0.22**	**0.49**	**13**	**-3.13**	**88, 12, 00, 96**

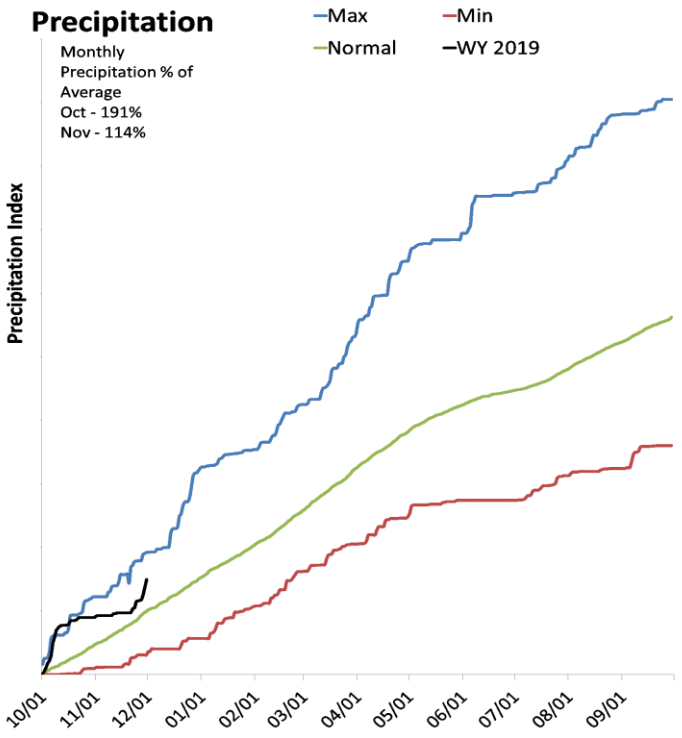
*EOM, end of month; #WAI, Water Availability Index; ^KAF, thousand acre-feet.

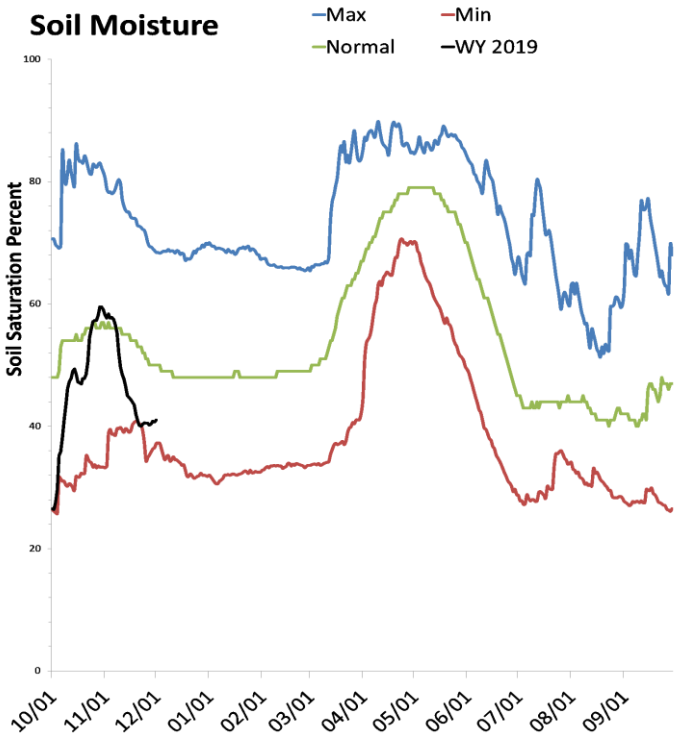


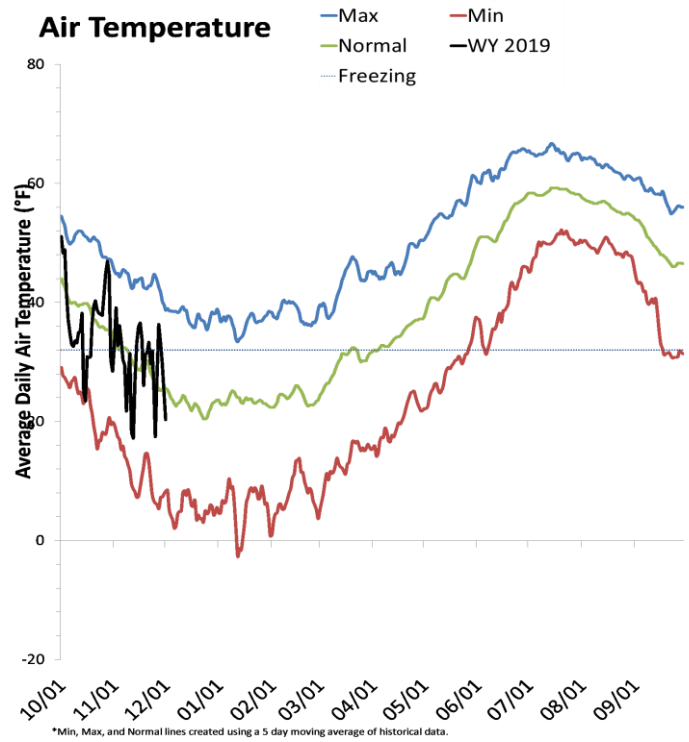
Dirty Devil Basin

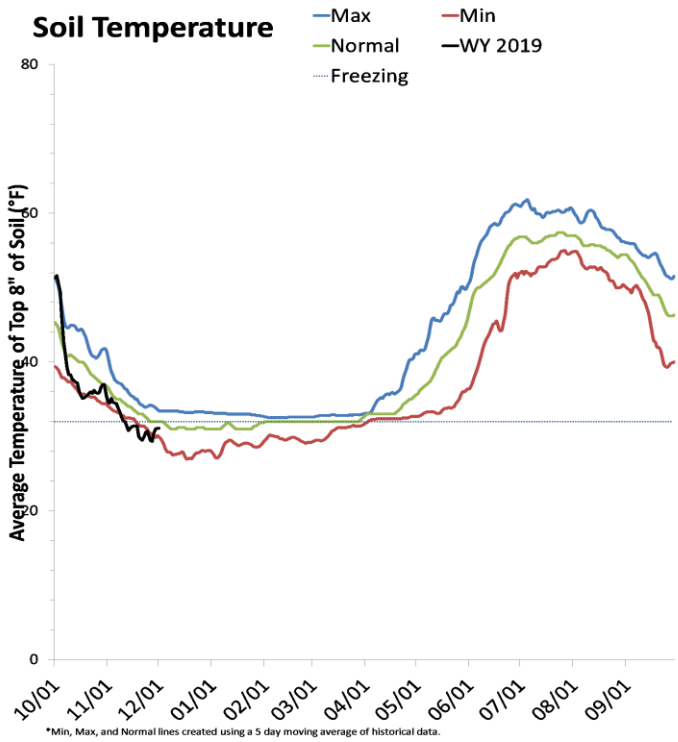
December 1, 2018

Precipitation in November was above average at 114%, which brings the seasonal accumulation (Oct-Nov) to 150% of average. Soil moisture is at 41% compared to 43% last year.





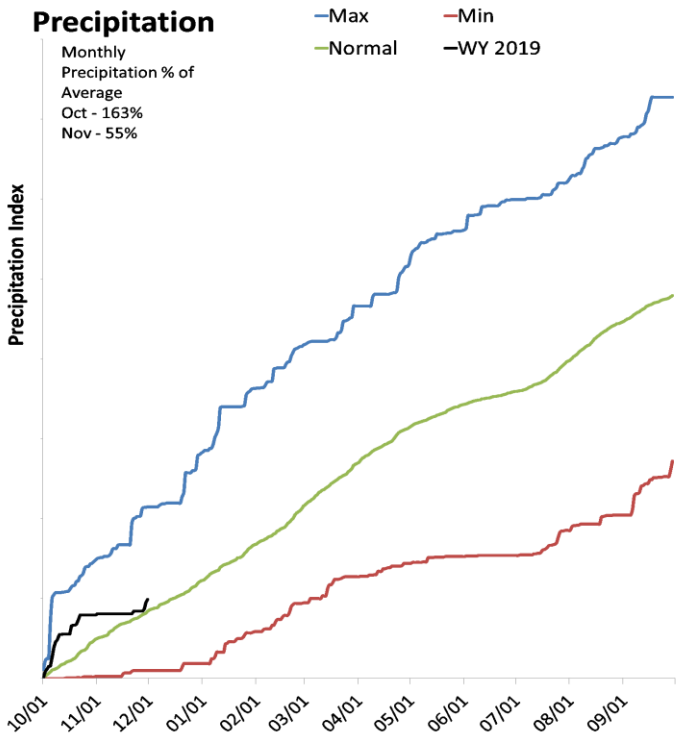


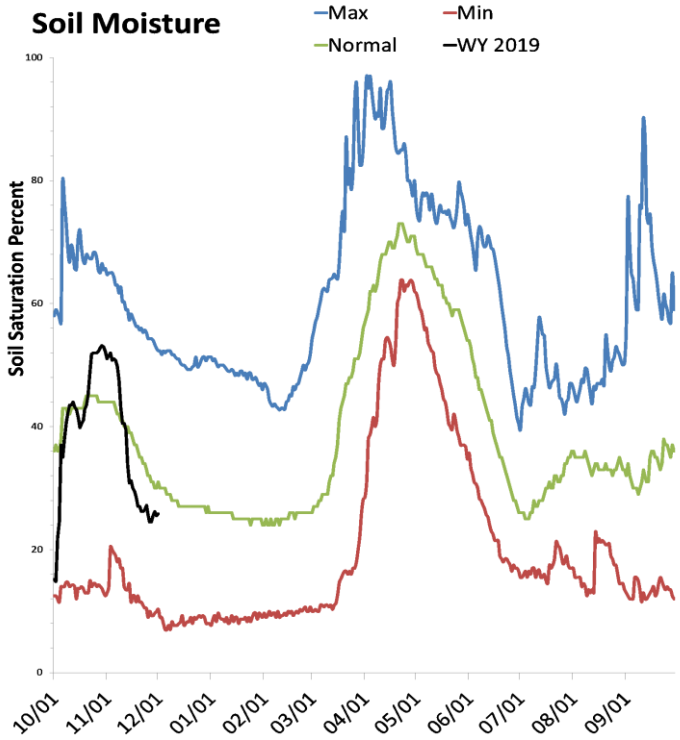


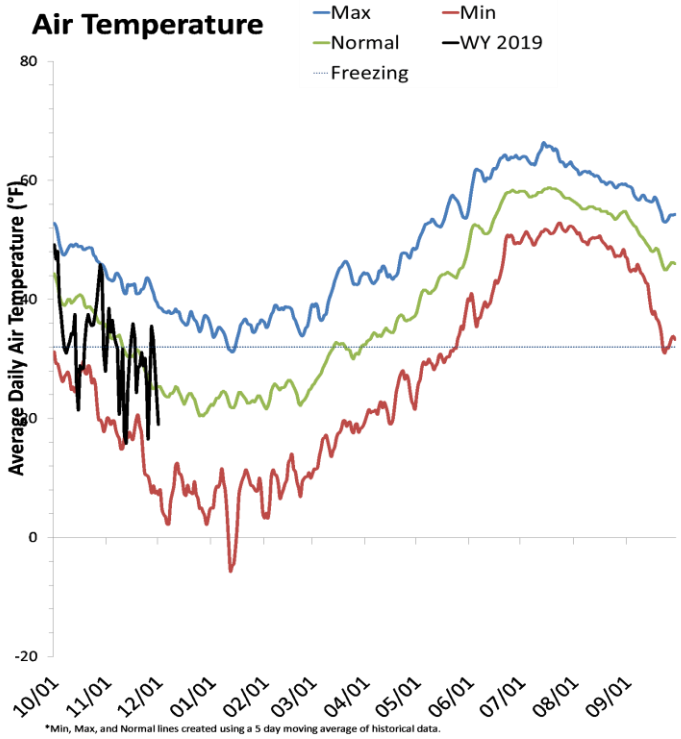
Escalante River Basin

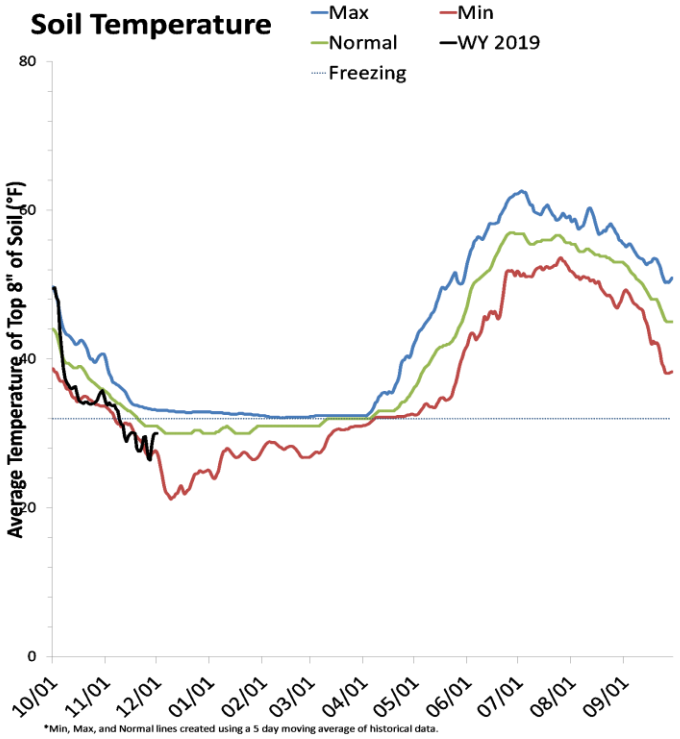
December 1, 2018

Precipitation in November was much below average at 55%, which brings the seasonal accumulation (Oct-Nov) to 117% of average. Soil moisture is at 26% compared to 21% last year.







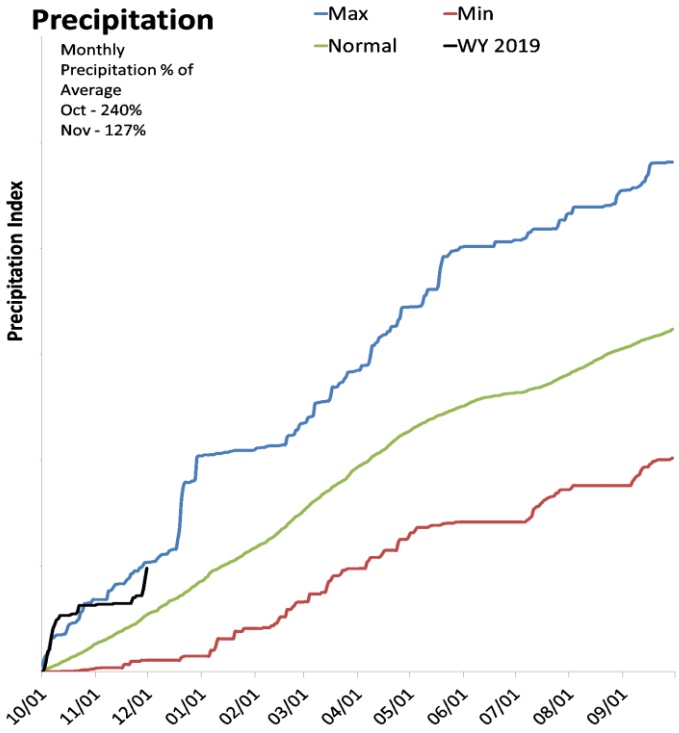


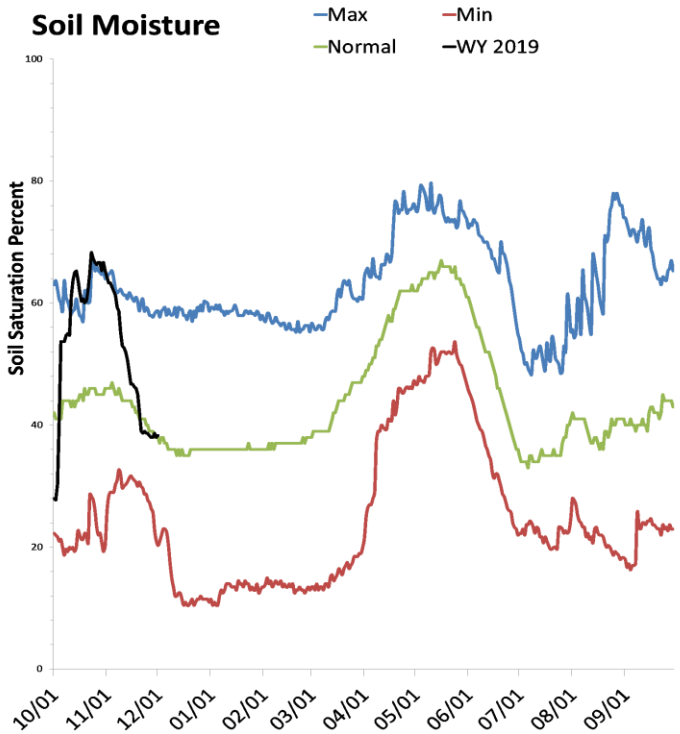
SNOTEL Data

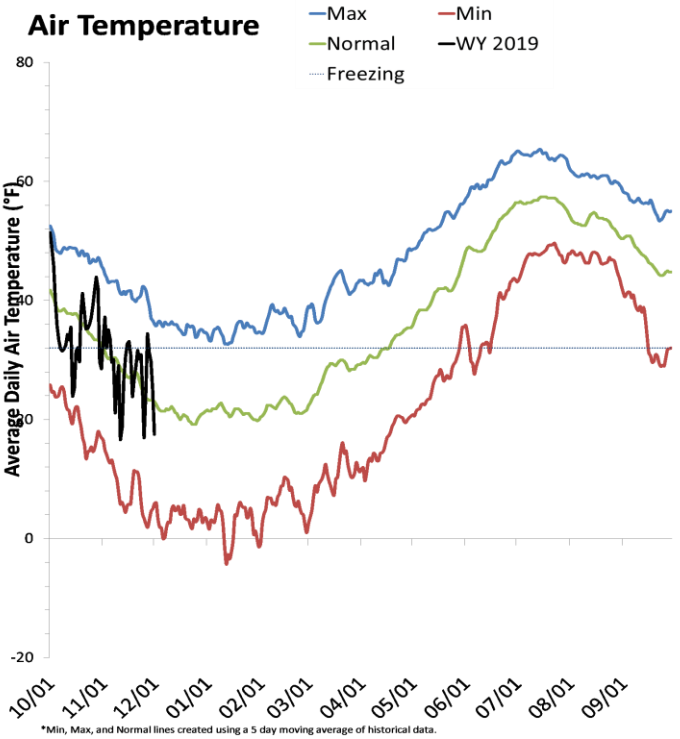
Beaver River Basin

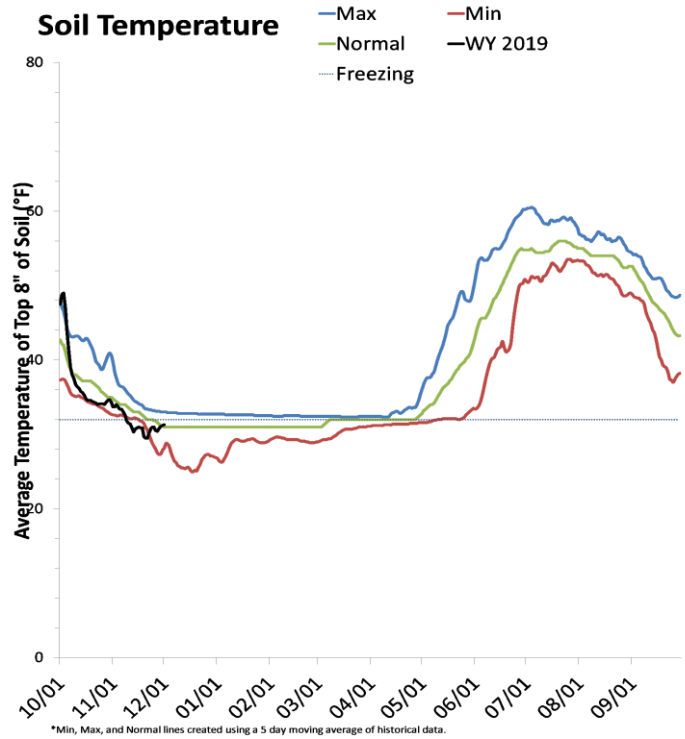
December 1, 2018

Precipitation in November was above average at 127%, which brings the seasonal accumulation (Oct-Nov) to 182% of average. Soil moisture is at 39% compared to 45% last year. Reservoir storage is at 17% of capacity, compared to 28% last year. The water availability index for the Beaver River is 13%.









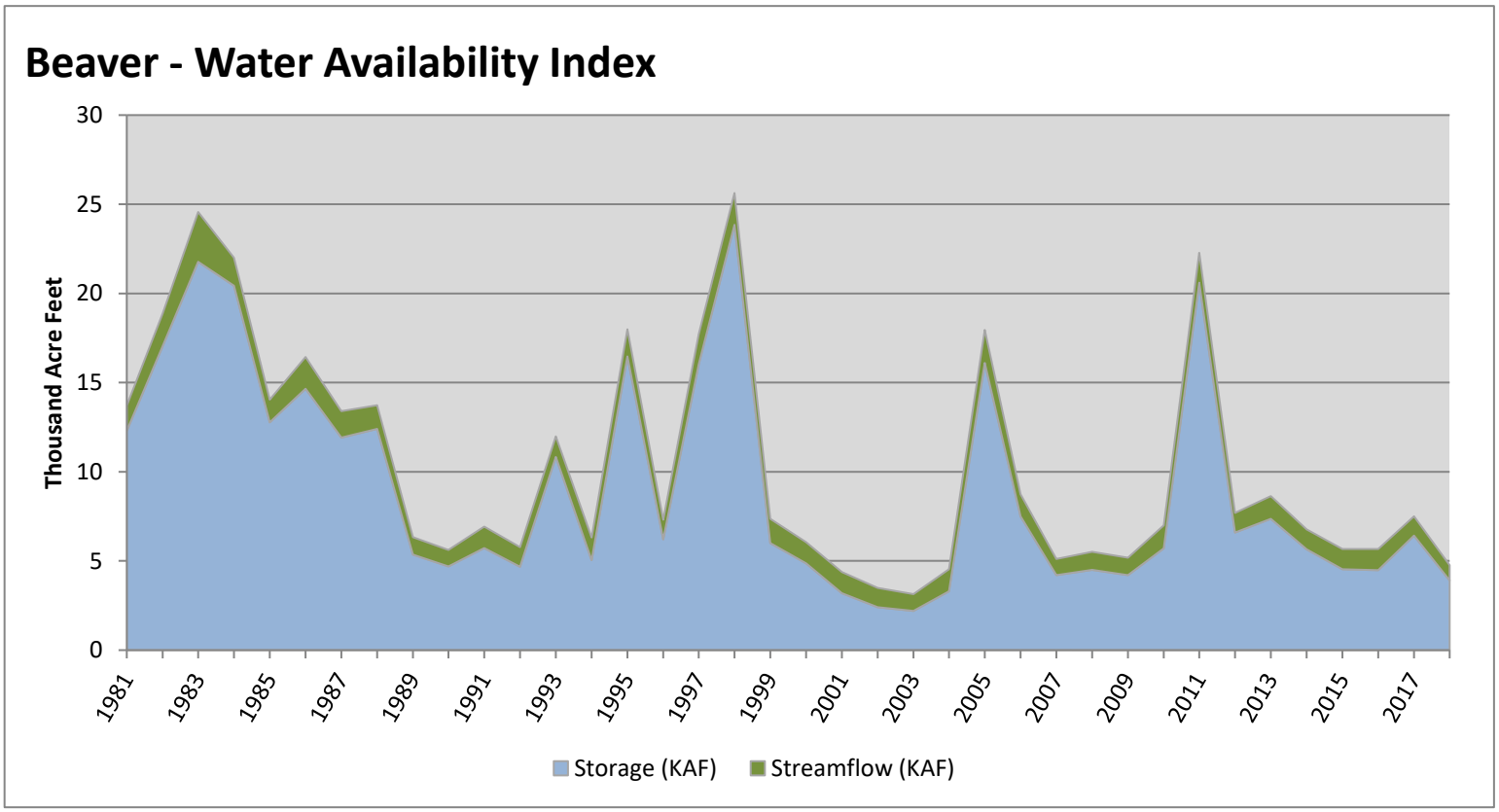
SNOTEL Data

December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Beaver	**3.91**	**0.86**	**4.77**	**13**	**-3.1**	**01, 04, 07, 09**

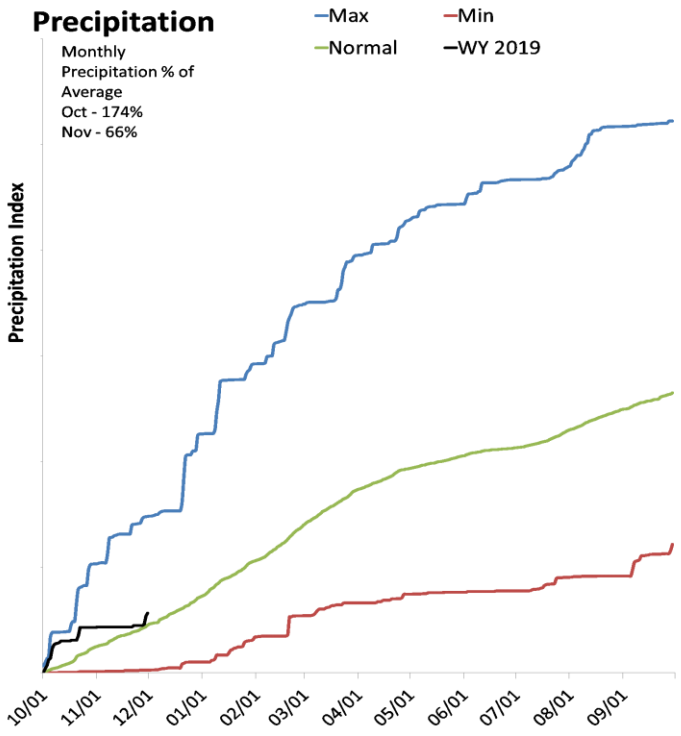
*EOM, end of month; #WAI, Water Availability Index; ^KAF, thousand acre-feet.

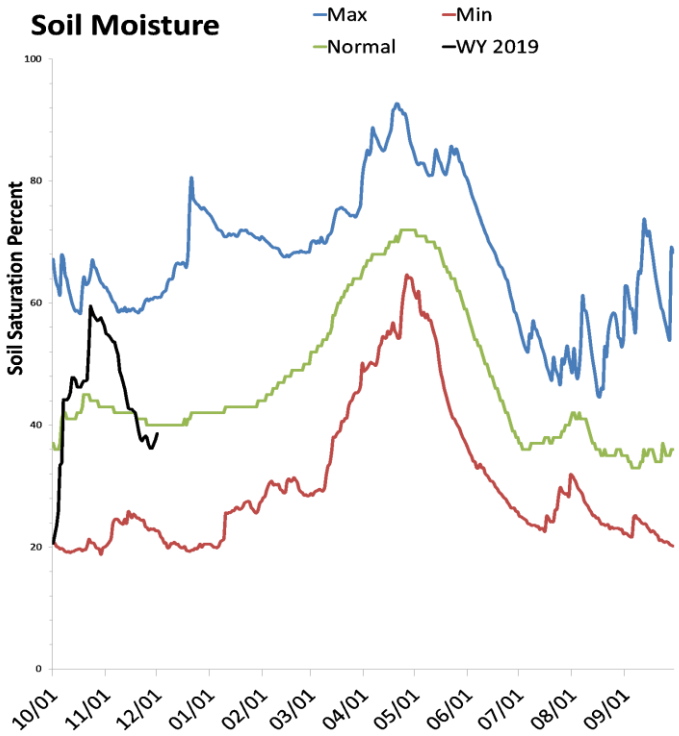


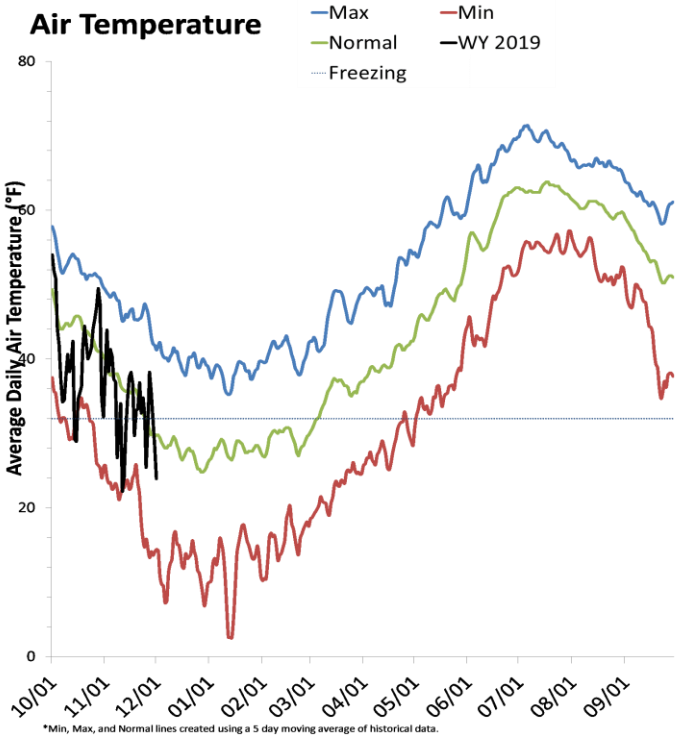
Southwestern Utah

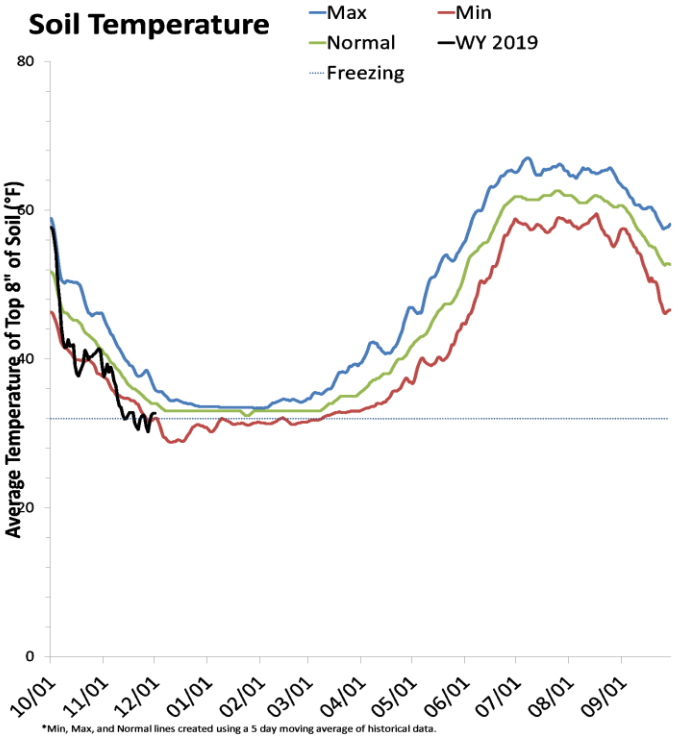
December 1, 2018

Precipitation in November was much below average at 66%, which brings the seasonal accumulation (Oct-Nov) to 125% of average. Soil moisture is at 38% compared to 28% last year. Reservoir storage is at 43% of capacity, compared to 59% last year. The water availability index for the Virgin River is 41%.









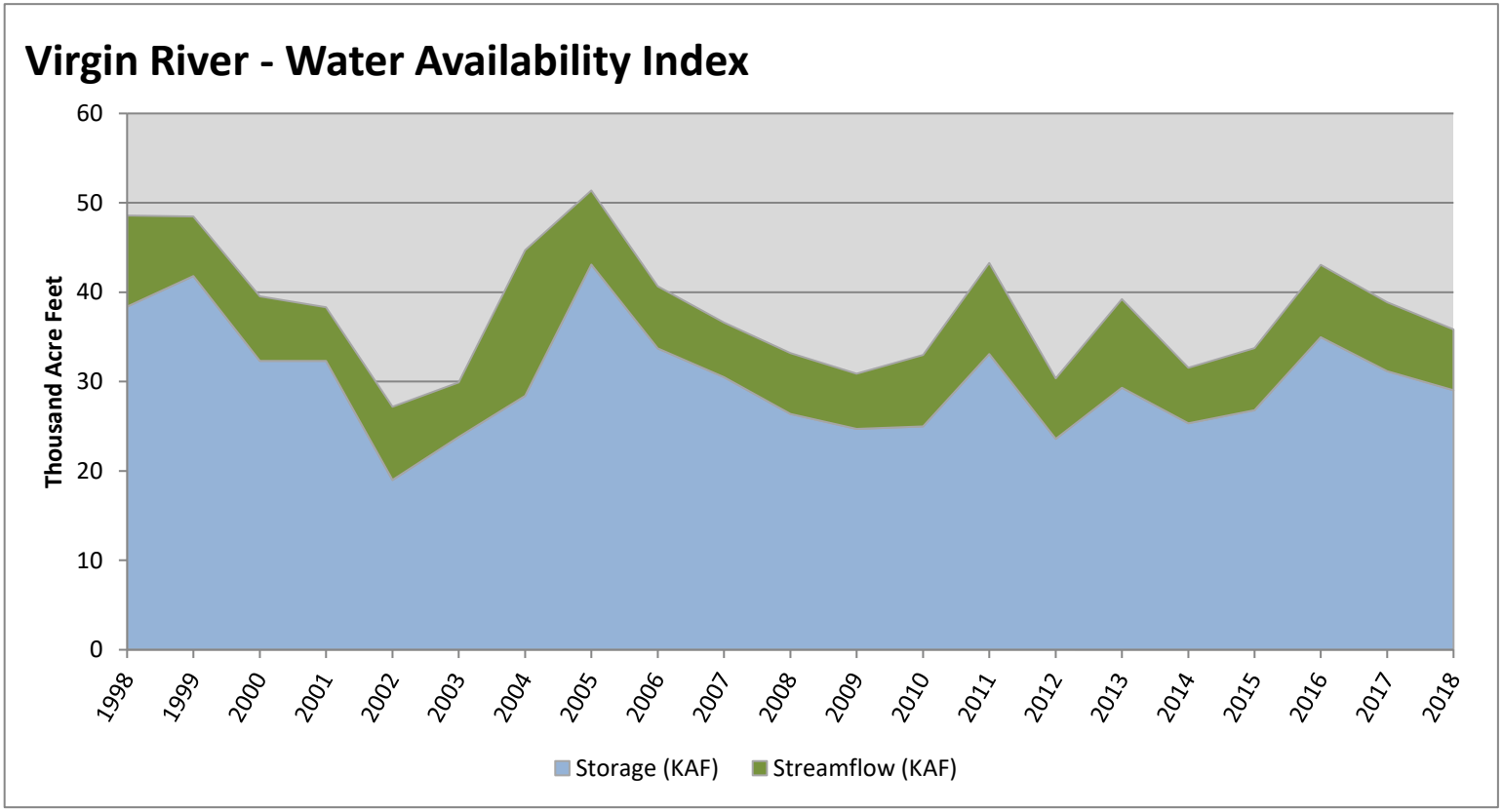
SNOTEL Data

December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	KAF^	KAF^	KAF^	%		
Virgin River	**29.05**	**6.78**	**35.83**	**41**	**-0.76**	**08, 15, 07, 01**

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



December 1, 2018

Water Availability Index

Basin or Region	Nov EOM* Storage	November Flow	Storage + Flow	Percentile	WAI#	Years with similiar WAI
	*KAF^*	*KAF^*	*KAF^*	*%*		
Bear River	**797**	**2.6**	**799**	**69**	**1.6**	**81, 96, 87, 85**
Woodruff Narrows	**19.2**	**2.6**	**21.8**	**36**	**-1.2**	**13, 81, 07, 87**
Little Bear	**9.0**	**2.4**	**11.4**	**52**	**0.2**	**08, 93, 00, 12**
Ogden	**49.5**	**2.2**	**51.7**	**33**	**-1.4**	**96, 12, 15, 99**
Weber	**81.1**	**4.8**	**85.9**	**17**	**-2.7**	**01, 12, 03, 00**
Provo River	**296.9**	**2.7**	**299.7**	**33**	**-1.4**	**02, 04, 16, 14**
Western Uinta	**133.0**	**2.1**	**135.1**	**31**	**-1.6**	**12, 04, 02, 00**
Eastern Uinta	**10.9**	**1.9**	**12.8**	**3**	**-4.0**	**89, 02, 13, 90**
Blacks Fork	**2.9**	**1.4**	**4.3**	**11**	**-3.2**	**88, 01, 90, 89**
Price	**23.2**	**0.3**	**23.5**	**46**	**-0.3**	**10, 01, 00, 09**
Smiths Creek	**3.2**	**0.2**	**3.4**	**17**	**-2.7**	**90, 00, 01, 96**
Joes Valley	**29.9**	**0.9**	**30.7**	**10**	**-3.3**	**90, 92, 16, 13**
Moab	**0.3**	**0.2**	**0.5**	**13**	**-3.1**	**88, 12, 00, 96**
Upper Sevier River	**17.4**	**5.5**	**22.8**	**5**	**-3.7**	**03, 02, 92, 91**
San Pitch	**0.0**	**0.2**	**0.2**	**3**	**-4.0**	**92, 03, 12, 15**
Lower Sevier	**25.6**	**8.4**	**34.0**	**8**	**-3.5**	**16, 03, 17, 10**
Beaver	**3.9**	**0.9**	**4.8**	**13**	**-3.1**	**01, 04, 07, 09**
Virgin River	**29.1**	**6.8**	**35.8**	**41**	**-0.8**	**08, 15, 07, 01**

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

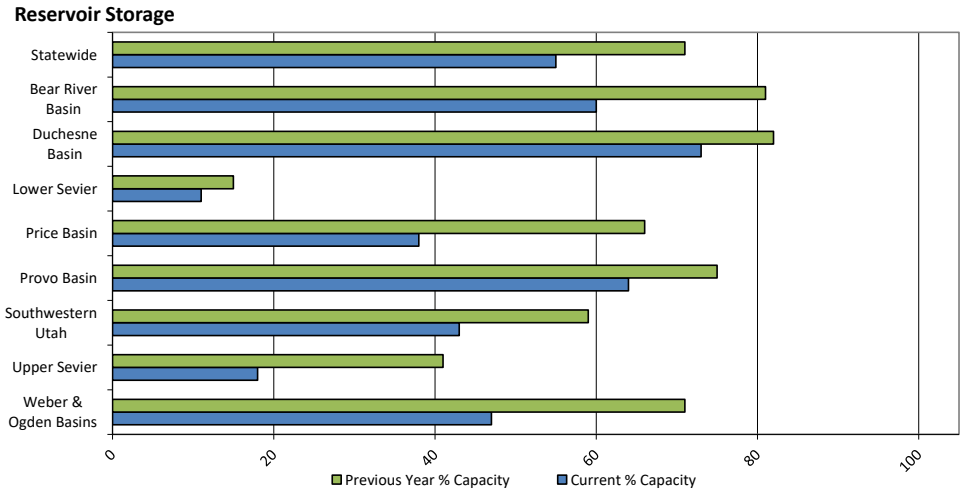
What is a Water Availability Index?

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

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

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

Reservoir Storage Summary for the end of November 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Big Sand Wash Reservoir	5.9	17.3		25.7	23%	67%			
Causey Reservoir	3.7	4.0	3.0	7.1	52%	57%	42%	124%	135%
Cleveland Lake	1.3	2.5		5.4	24%	46%			
Currant Creek Reservoir	15.0	14.7	14.8	15.5	97%	95%	95%	101%	99%
Deer Creek Reservoir	99.6	132.1	98.6	149.7	67%	88%	66%	101%	134%
East Canyon Reservoir	26.1	37.5	33.3	49.5	53%	76%	67%	78%	113%
Echo Reservoir	15.4	41.2	39.0	73.9	21%	56%	53%	40%	106%
Grantsville Reservoir	1.1	1.1	1.1	3.3	34%	33%	34%	101%	97%
Gunlock	3.8	5.4	5.8	10.4	37%	52%	56%	66%	94%
Gunnison Reservoir	0.0	0.0	7.5	20.3	0%	0%	37%	0%	0%
Huntington North Reservoir	2.4	3.1	1.9	4.2	57%	74%	45%	127%	164%
Hyrum Reservoir	9.0	10.0	9.0	15.3	59%	65%	59%	100%	111%
Joes Valley Reservoir	29.9	46.0	39.5	61.6	48%	75%	64%	76%	116%
Jordanelle Reservoir	197.3	258.0	246.3	314.0	63%	82%	78%	80%	105%
Ken's Lake	0.3	1.2	0.8	2.3	12%	51%	34%	34%	148%
Kolob Reservoir	0.1	3.6		5.6	1%	64%			
Lost Creek Reservoir	14.0	17.8	12.5	22.5	62%	79%	56%	112%	143%
Lower Enterprise	0.0	0.8	0.5	2.6	1%	31%	19%	6%	163%
Miller Flat Reservoir	0.8	3.5		5.2	16%	67%			
Millsite	1.2	1.2	8.7	16.7	7%	7%	52%	13%	13%
Minersville Reservoir	3.9	6.4	10.1	23.3	17%	28%	43%	39%	64%
Moon Lake Reservoir	9.5	22.0	20.4	35.8	27%	62%	57%	47%	108%
Otter Creek Reservoir	12.8	28.8	28.7	52.5	24%	55%	55%	45%	100%
Panguitch Lake	9.7	9.5	10.2	22.3	43%	43%	46%	95%	93%
Pineview Reservoir	45.8	64.0	52.9	110.1	42%	58%	48%	87%	121%
Piute Reservoir	4.5	21.9	33.1	71.8	6%	30%	46%	14%	66%
Porcupine Reservoir	6.1	10.9	5.8	11.3	54%	96%	51%	105%	188%
Quail Creek	25.2	25.7	23.4	40.0	63%	64%	59%	108%	110%
Red Fleet Reservoir	10.9	18.6	17.2	25.7	42%	72%	67%	63%	108%
Rockport Reservoir	23.1	50.7	36.3	60.9	38%	83%	60%	64%	140%
Sand Hollow Reservoir	37.0	44.3		50.0	74%	89%			
Scofield Reservoir	23.1	47.3	27.2	65.8	35%	72%	41%	85%	174%
Settlement Canyon Reservoir	0.3	0.4	0.6	1.0	31%	35%	56%	55%	63%
Sevier Bridge Reservoir	25.6	34.8	127.1	236.0	11%	15%	54%	20%	27%
Smith And Morehouse Reservoir	2.4	4.8	3.7	8.1	30%	59%	46%	65%	129%
Starvation Reservoir	114.7	139.9	130.6	164.1	70%	85%	80%	88%	107%
Stateline Reservoir	3.2	5.6	5.6	12.0	27%	47%	47%	58%	100%
Steinaker Reservoir	-3.7	11.8	18.0	33.4	-11%	35%	54%	-21%	66%
Strawberry Reservoir	842.1	920.8	656.9	1105.9	76%	83%	59%	128%	140%
Upper Enterprise	0.2	1.6	2.1	10.0	2%	16%	21%	11%	76%
Upper Stillwater Reservoir	8.8	17.2	11.4	32.5	27%	53%	35%	77%	151%
Utah Lake	418.6	520.3	684.5	870.9	48%	60%	79%	61%	76%
Willard Bay	128.0	166.4	129.2	215.0	60%	77%	60%	99%	129%
Woodruff Creek	0.7	1.2	1.1	4.0	18%	30%	27%	65%	112%
Woodruff Narrows Reservoir	19.2	45.8	24.2	57.3	33%	80%	42%	79%	189%
Meeks Cabin Reservoir	2.9	7.5	10.0	32.5	9%	23%	31%	29%	75%
Bear Lake	796.8	1058.6	586.4	1302.0	61%	81%	45%	136%	181%
Basin-wide Total	2957.2	3804.7	3160.9	5339.7	55%	71%	59%	94%	120%
# of reservoirs	41.0	41.0	41.0	41.0	41	41	41	41	41
# of reservoirs	42	42	42	42	42	42	42	42	42



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Utah Climate and Water Report

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