Utah Climate and Water Report

November, 2012

Hayden Peak, Moose Horn Lake October 2012

Photo by Kent Sutcliffe, USDA-NRCS

Utah Climate and Water Report

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

Report Content

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b) North Central
c) Northern Mountains
d) Uintah Basin
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g) Western and Dixie
h) 2010 Minimum Soil Temperatures at Utah SCAN sites

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b) SNOTEL Water Year to Date Precipitation
c) Bear River Basin
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d) Weber and Ogden River Basins
   - Water Availability Index
e) Utah Lake, Jordan River, and Tooele Valley Basins
   - Water Availability Index
f) Uintah Basin
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g) Southeast River Basins
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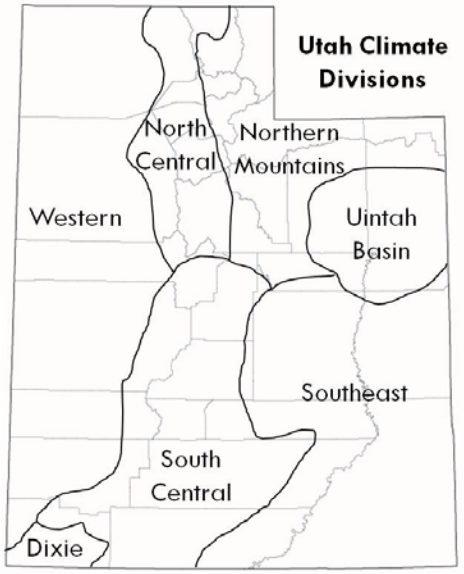
i) E. Garfield, Kane, Washington, and Iron Co.
   - Water Availability Index

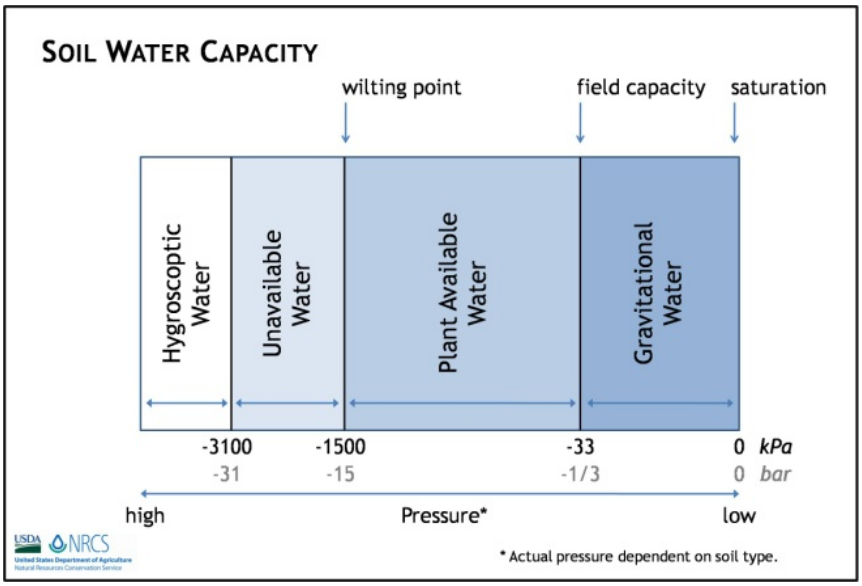
Climate and Water Information

Soil Climate Analysis Network

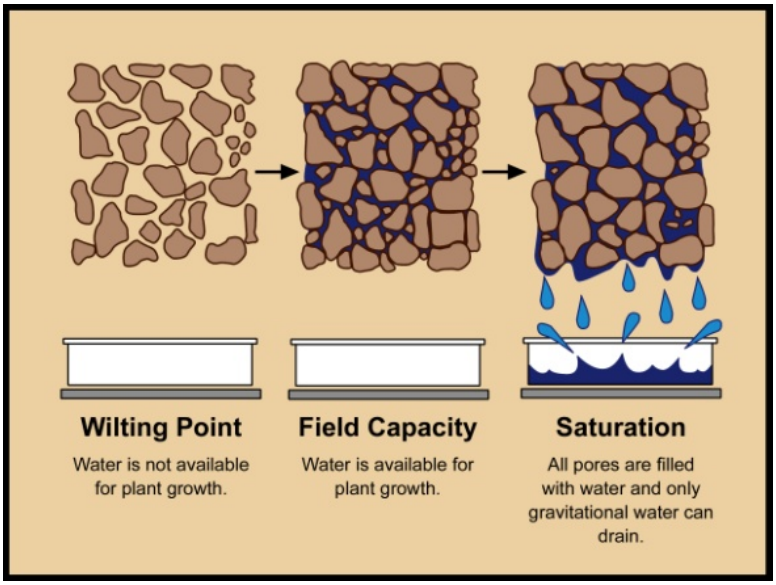
Soil Climate Analysis Network (SCAN) stations are primarily located on low- to mid-elevation, agriculturally important landscapes that maintain representative soils. Elevations range from 3,000 to 7,000 ft. The SCAN network provides real-time soil moisture and temperature data coupled with additional climate information for use in natural resource planning, drought assessment, water resource management, and resource inventory. Stations are situated on non-irrigated, native soils, are remotely located, and collect hourly atmospheric and soils data that are available to the public online.

In order to summarize SCAN data, the 35 sites in Utah are grouped by climate divisions (North Central, Northern Mountains, Uintah Basin, Southeast, South Central, Dixie, and Western).





Explanation of soil water capacity definitions. Field capacity (FC) and wilting point (WP) are calculated in the laboratory for each soil horizon. The amount of water held between field capacity and wilting point is plant available.



Visual explanation of soil water capacity definitions.

http://www.wcc.nrcs.usda.gov/scan/Utah/utah.html

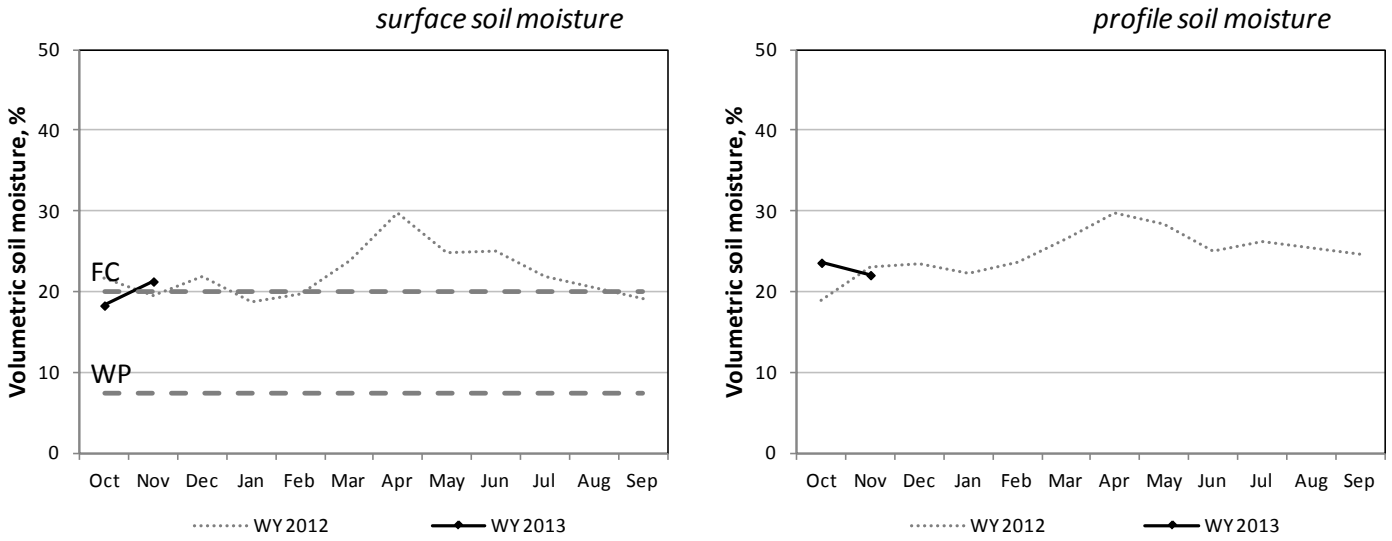
North Central

Soil Climate Analysis Network (SCAN)

Site name	Precip to Date*	Monthly Precip	Soil Moisture					Soil Temperature				
			2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
	in.	*in.*	*volume %*					*^{o} F*				
NORTH CENTRAL												
Blue Creek	0.6	0.6	12	11	18	21	17	46	49	50	52	56
Cache Junction	1.8	1.8	32	29	28	29	30	46	48	48	51	53
Grantsville	1.2	1.2	12	21	24	26	11	50	53	55	58	55

* Precipitation since October 1 (beginning of the water year). Monthly Precip is the amount of precipitation accumulated in the past month. SCAN sites utilize tipping bucket rain gauges which do not accurately measure precipitation in the form of snowfall. Soil moisture and temperature values reflect conditions measured on the first of the month.

North Central



Surface soil moisture is the weighted mean of the water content measured at depths of 2, 4, and 8 inches. **FC** is the mean field capacity, **WP** is the mean permanent wilting point for the soil surface (0 to 12 inches) at SCAN sites within the region, and **WY** is the water year lasting October through September. *Profile soil moisture* is the weighted mean of water content measured at depths of 2, 4, 8, 20, and 40 inches.

Additional data available at the SCAN website, including: hourly air temperature, relative humidity, wind speed, wind direction, barometric pressure, precipitation, solar radiation, soil temperature, and soil moisture.

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Northern Mountains

Soil Climate Analysis Network (SCAN)

Site name	Precip to Date*	Monthly Precip	Soil Moisture					Soil Temperature				
			2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
	in.	*in.*	*volume %*					*^{o}F*				
NORTHERN MOUNTAINS												
Chicken Ridge	2.6	2.6	15	20	24	10	11	41	42	42	42	45
Buffalo Jump	2.5	2.5	16	21	19	7	-	43	44	44	46	-
Morgan	3.0	3.0	23	25	26	6	8	46	50	47	48	50

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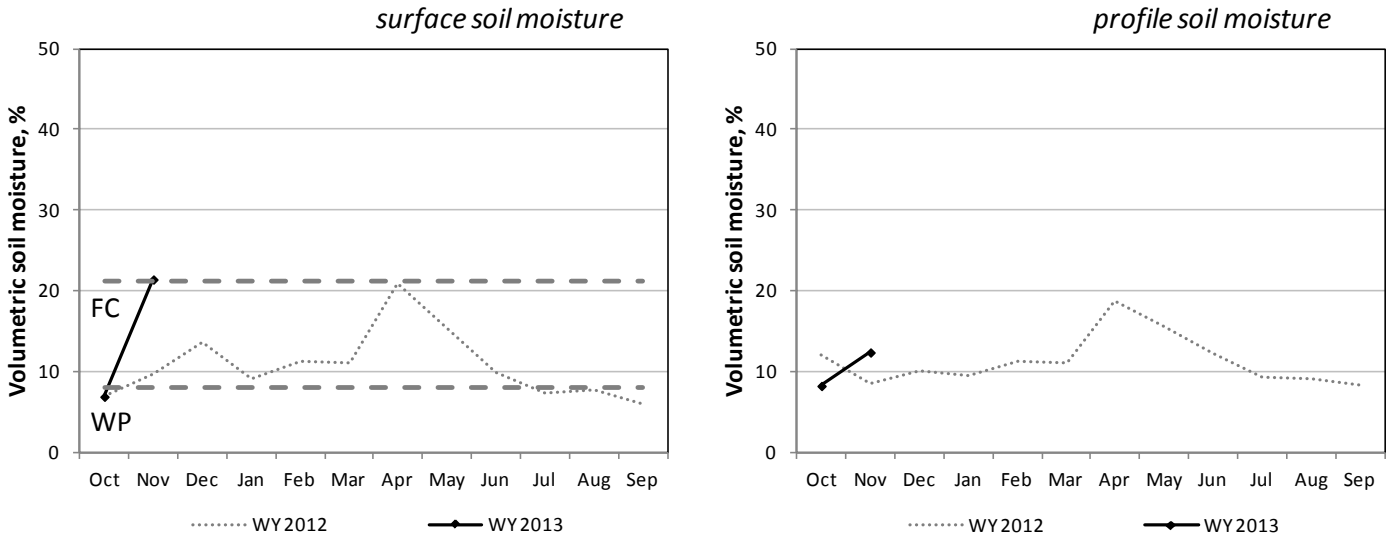
Northern Mountains



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Uintah Basin

Soil Climate Analysis Network (SCAN)

Site name	Precip to Date*	Monthly Precip	Soil Moisture					Soil Temperature				
			2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
	in.	*in.*	*volume %*					*^{o} F*				
UINTAH BASIN												
Mountain Home	0.5	0.5	11	18	21	18	10	44	45	46	47	49
Little Red Fox	0.3	0.3	2	12	17	21	23	41	49	50	51	53
Split Mountain	0.9	0.9	14	28	17	14	12	43	46	49	51	56

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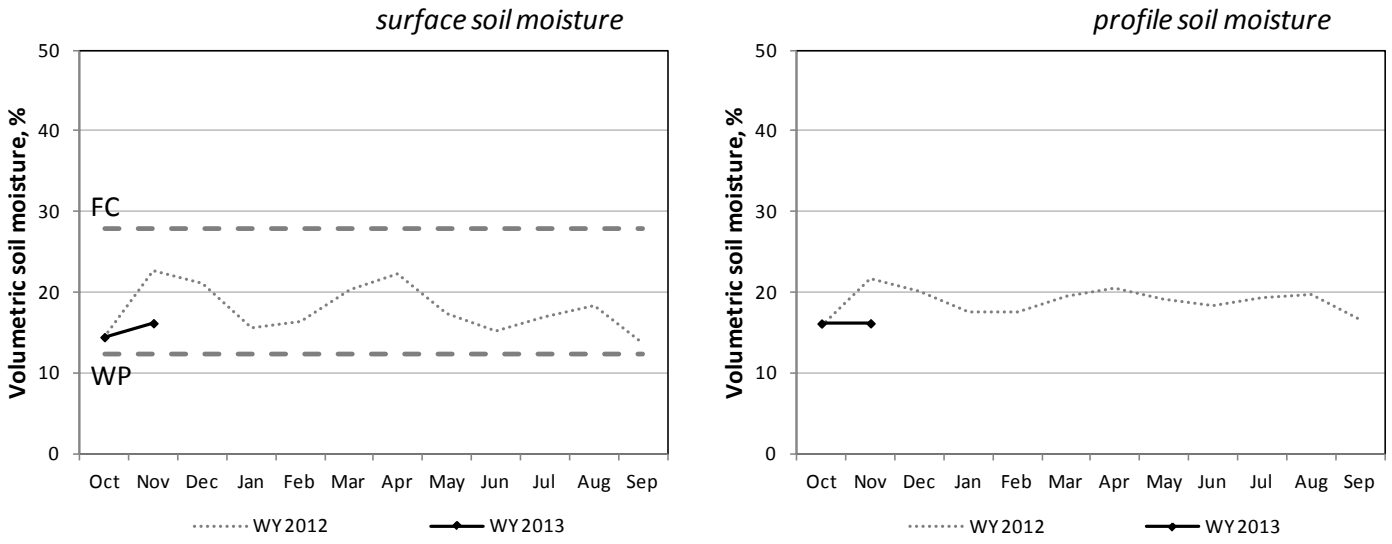
Uintah Basin



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Southeast

Soil Climate Analysis Network (SCAN)

Site name	Precip to Date*	Monthly Precip	Soil Moisture					Soil Temperature				
			2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
	in.	*in.*	*volume %*					*^{o} F*				
SOUTHEAST												
Price	0.6	0.6	0	9	12	15	18	45	50	52	54	57
Green River	0.3	0.3	7	9	8	4	8	45	48	51	54	59
Harm's Way	0.2	0.2	5	0	13	13	5	52	46	52	53	56
West Summit	0.3	0.3	10	15	12	14	17	40	44	49	48	52
Eastland	0.3	0.3	7	9	6	21	20	46	50	50	52	55
Alkali Mesa	0.3	0.3	6	8	14	18	12	48	47	53	55	58
McCracken Mesa	0.1	0.1	12	16	20	13	9	40	43	46	45	45

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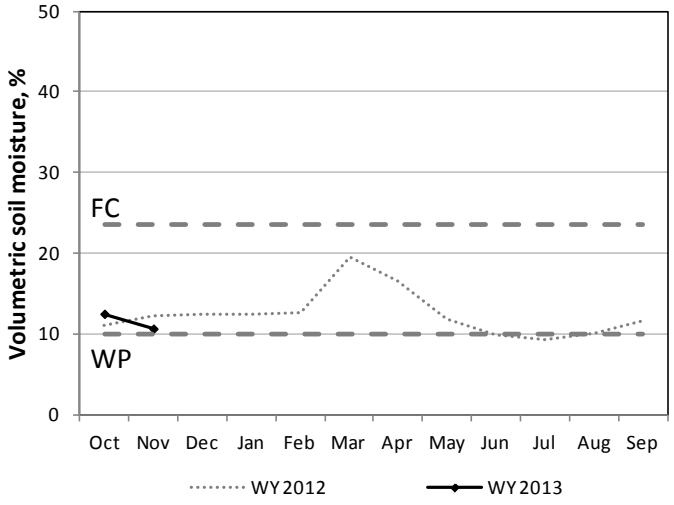
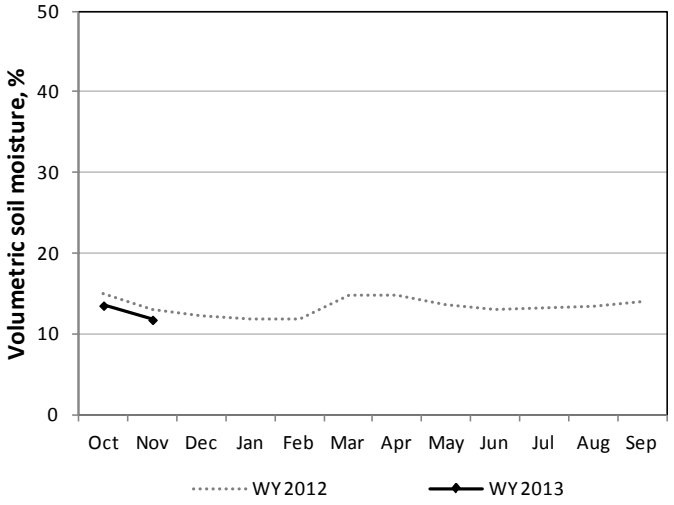
Southeast

surface soil moisture



profile soil moisture



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South Central

Soil Climate Analysis Network (SCAN)

Site name	Precip to Date*	Monthly Precip	Soil Moisture					Soil Temperature				
			2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
	in.	*in.*	*volume %*					*^{o} F*				
SOUTH CENTRAL												
Nephi	0.4	0.4	15	17	14	7	2	48	49	50	52	56
Ephraim	0.7	0.7	5	12	16	17	35	43	47	49	50	54
Holden	0.9	0.9	5	11	15	18	13	52	52	53	54	59
Milford	1.2	1.2	17	21	18	27	17	48	50	51	54	59
Manderfield	1.5	1.5	5	19	12	10	5	44	50	51	51	53
Circleville	0.2	0.2	6	5	5	9	9	50	50	52	53	54
Panguitch	0.7	0.7	5	15	12	19	29	37	39	40	46	51
Cave Valley	1.4	1.4	0	5	5	5	3	44	45	49	50	51
Vermillion	0.4	0.4	0	0	2	3	8	38	42	48	50	54
Spooky	0.5	0.5	2	2	2	10	2	54	52	55	57	60

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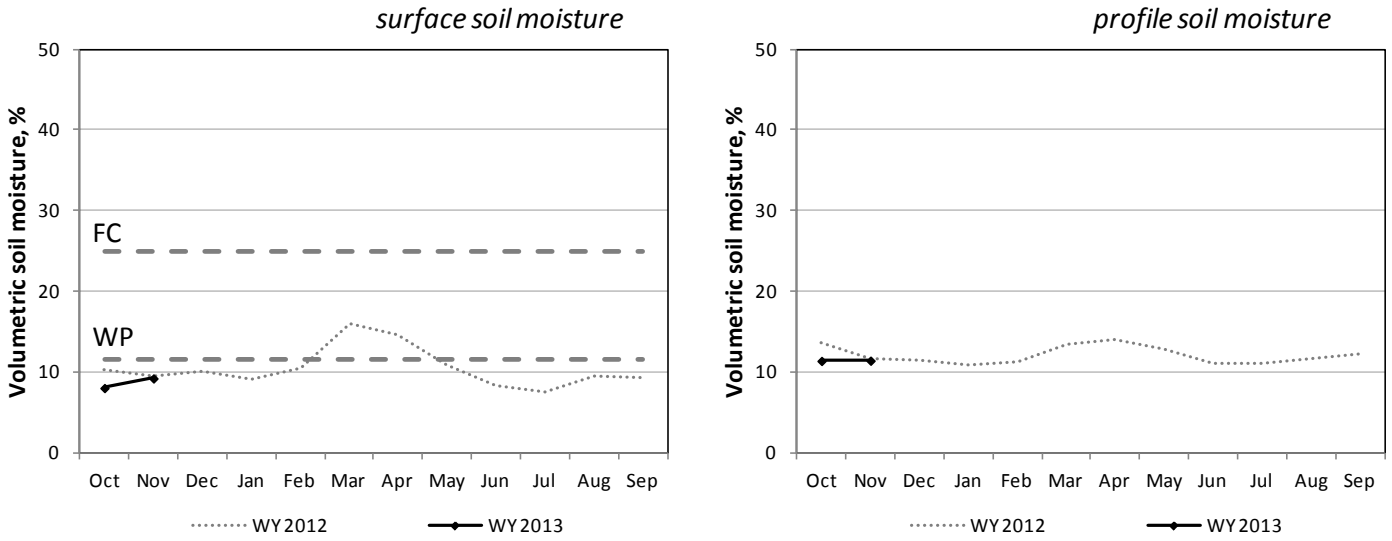
South Central



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Western and Dixie

Soil Climate Analysis Network (SCAN)

Site name	Precip to Date*	Monthly Precip	Soil Moisture					Soil Temperature				
			2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
	in.	*in.*	*volume %*					*^{o}F*				
WESTERN												
Grouse Creek	0.6	0.6	4	7	11	15	16	44	48	50	51	53
Park Valley	0.3	0.3	3	5	12	28	25	47	49	52	54	57
Goshute	0.5	0.5	17	28	13	12	31	43	47	51	50	55
Dugway	0.5	0.5	23	28	35	17	12	52	54	54	55	56
Tule Valley	0.5	0.5	16	17	25	16	10	52	57	59	59	54
Hal's Canyon	0.3	0.3	14	17	17	18	9	46	50	53	55	59
Enterprise	0.7	0.7	6	24	23	14	15	48	54	55	55	59
DIXIE												
Sand Hollow	0.7		4	5	10	9	7	45	40	45	47	48

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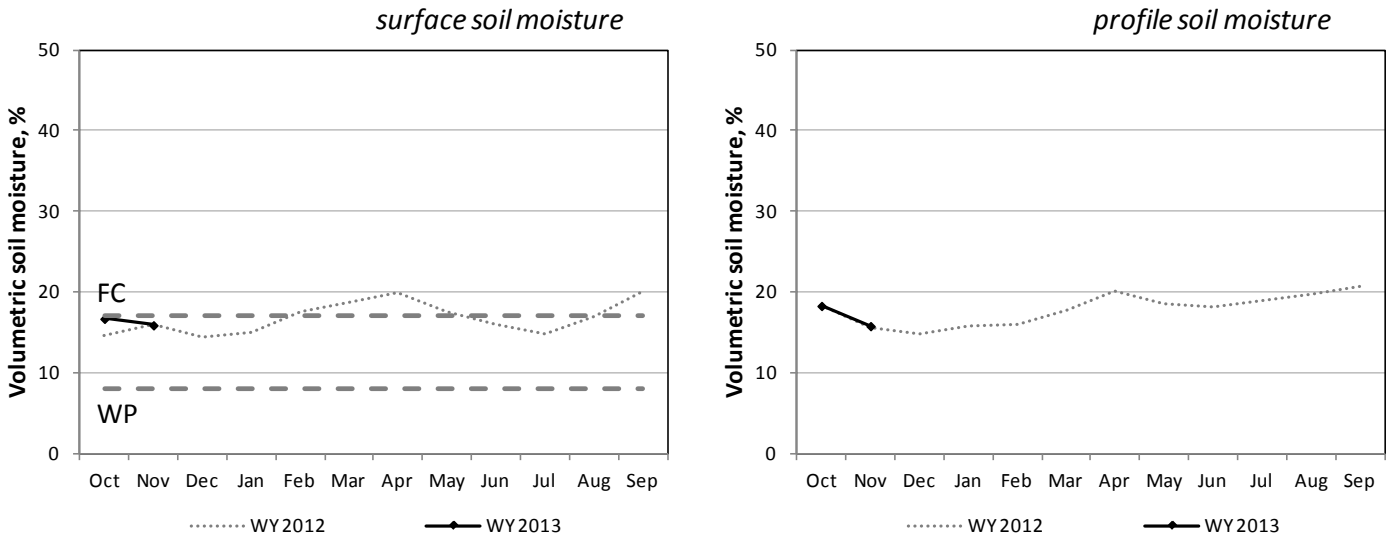
Western & Dixie



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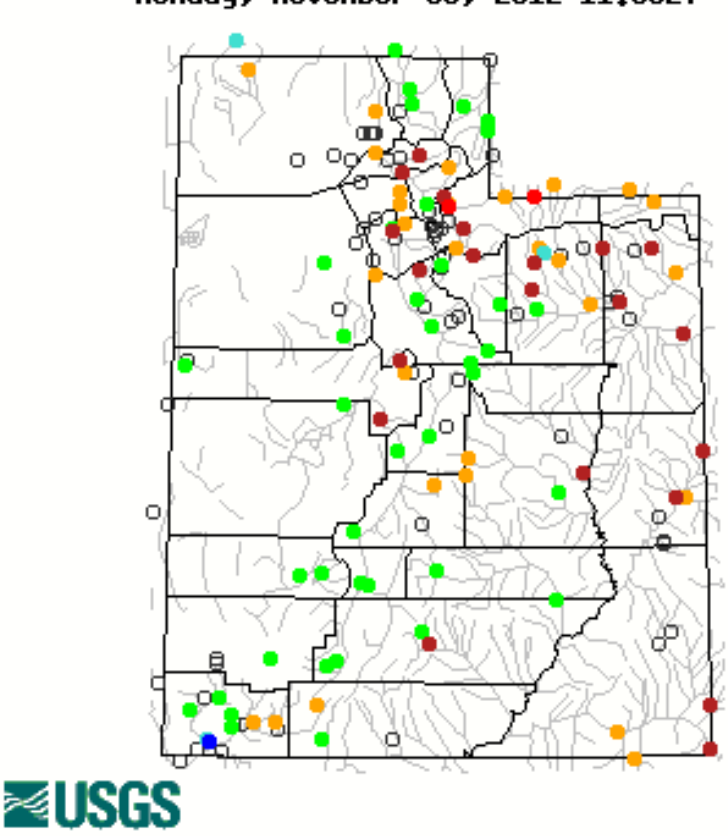
Utah Hydrologic Summary

November 1, 2012

Current Conditions

Soil moisture is below average in northern and southeastern Utah and near average in southwestern Utah. Precipitation for October was near normal for the Bear and Weber Basins (100%-110%) and below to much below (60-%-85%) for the rest of the state. Reservoir storage is low (58% of capacity compared to 85% last year) across the state. Current natural stream flow is average in southwestern Utah but below to well below average for most of the remainder of the state. Given overall poor stream flow and dry soil moisture conditions – the preliminary water supply outlook for water year 2013 is a bit below average conditions. Above average snowpacks would be welcome this year to offset the dryer conditions.

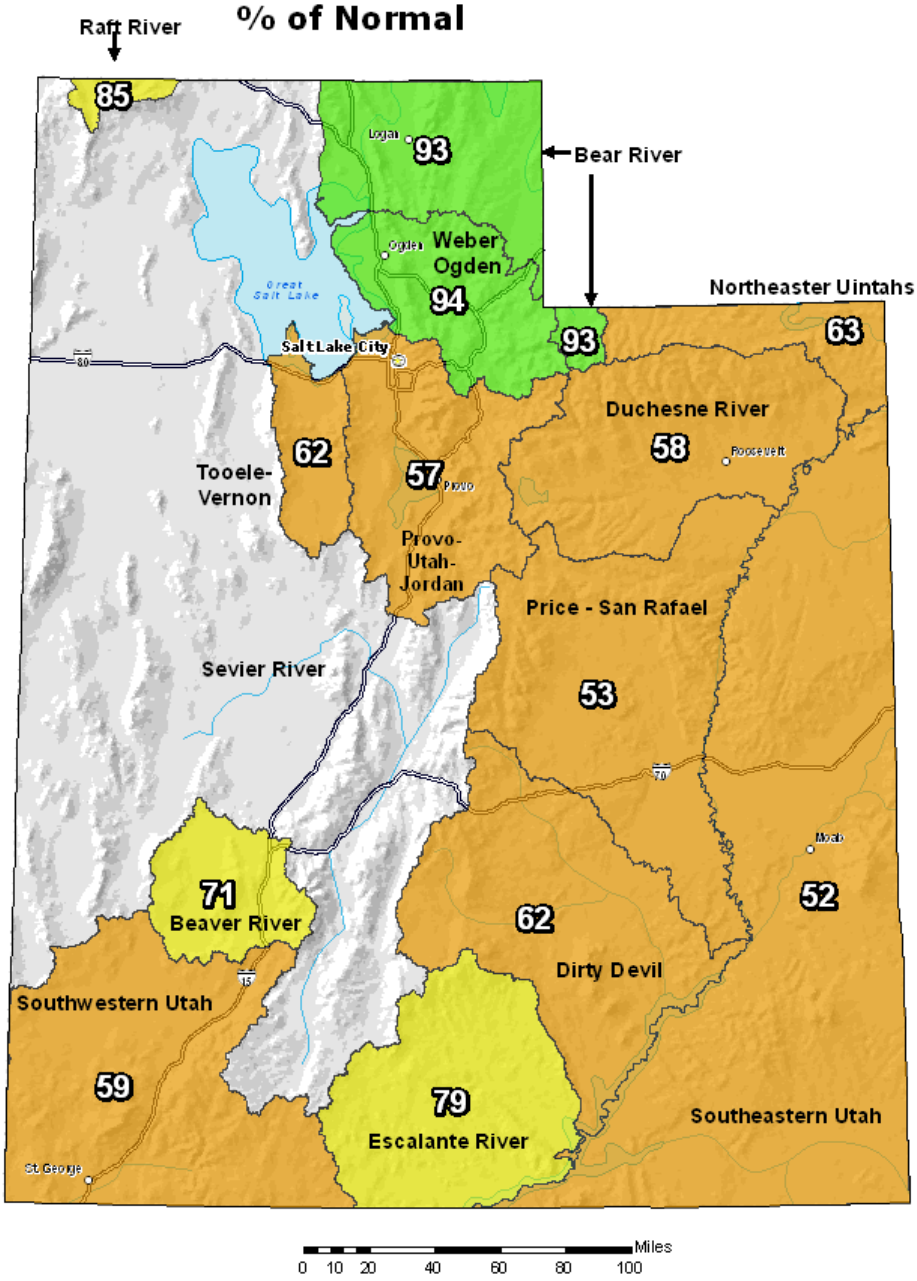
Current Utah Stream flow - Courtesy US Geological Survey



Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not ranked

Utah
SNOTEL Water Year (Oct 1) to Date Precipitation
% of Normal

Nov 05, 2012



Water Year (Oct 1) to Date Precipitation Basin-wide Percent of 1971-2000 Normal

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

* *Data unavailable at time of posting or measurement is not representative at this time of year*

Provisional Data Subject to Revision

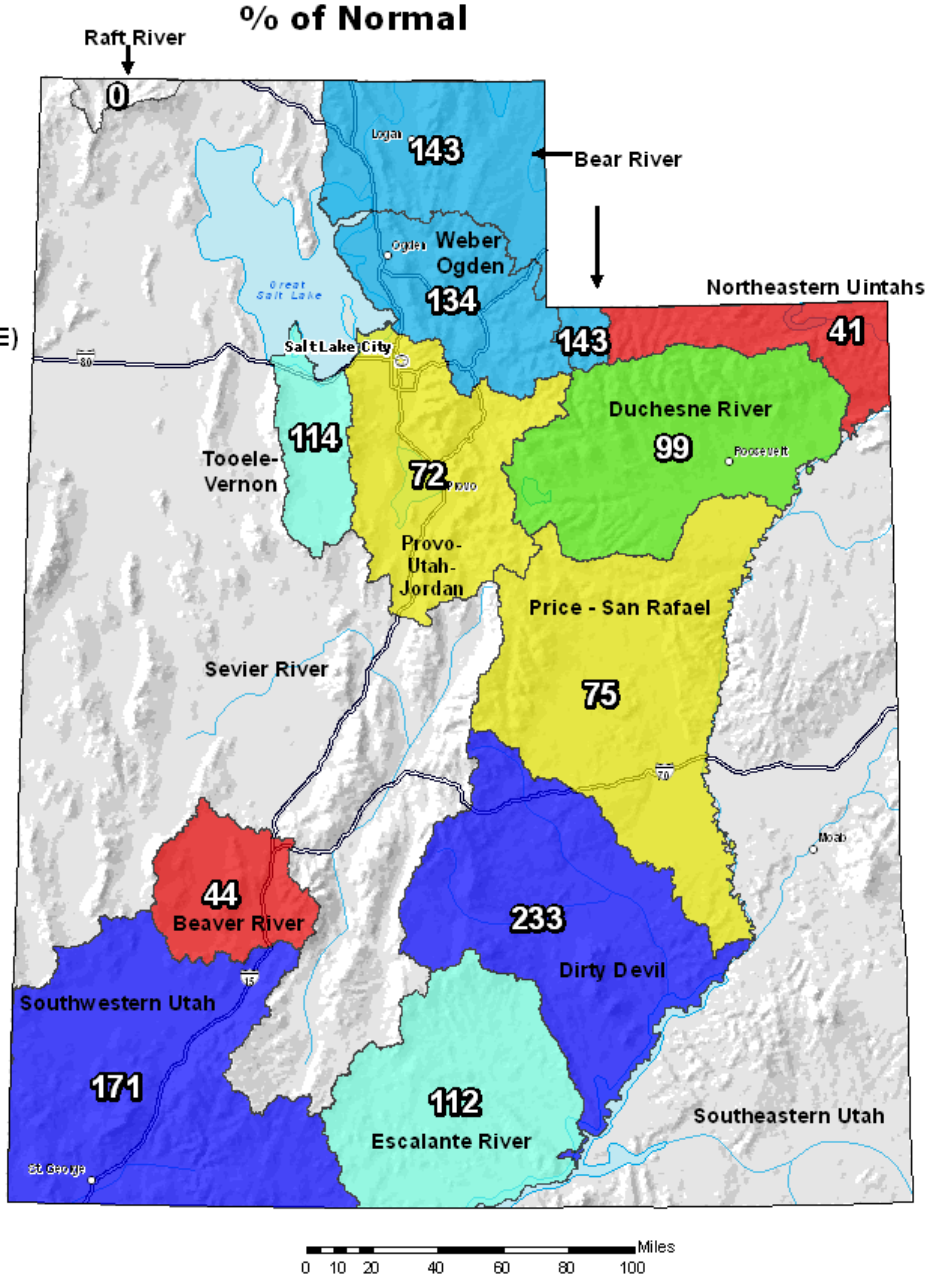
USDA NRCS

The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by the USDA/NRCS National Water and Climate Center
Portland, Oregon http://www.wcc.nrcs.usda.gov/gis/
Based on data from http://www.wcc.nrcs.usda.gov/reports/
Science contact: Jim.Marron@por.usda.gov 503 414 3047

Utah
SNOTEL Current Snow Water Equivalent (SWE)
% of Normal

Nov 05, 2012



Snow Water Equivalent (SWE) Basin-wide Percent of 1971-2000 Normal

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
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- >=150%

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Prepared by the USDA/NRCS National Water and Climate Center
Portland, Oregon http://www.wcc.nrcs.usda.gov/gis/
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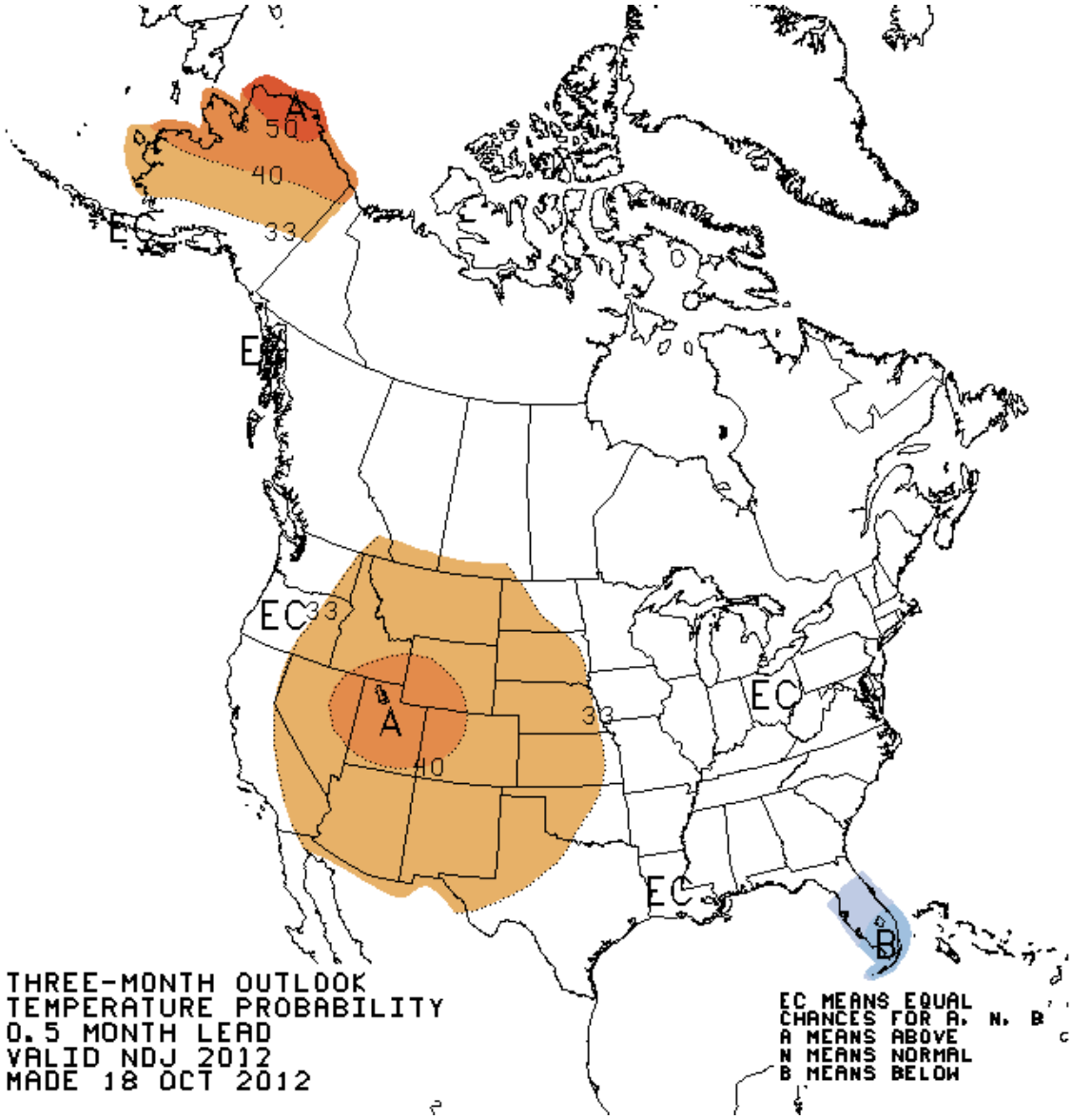
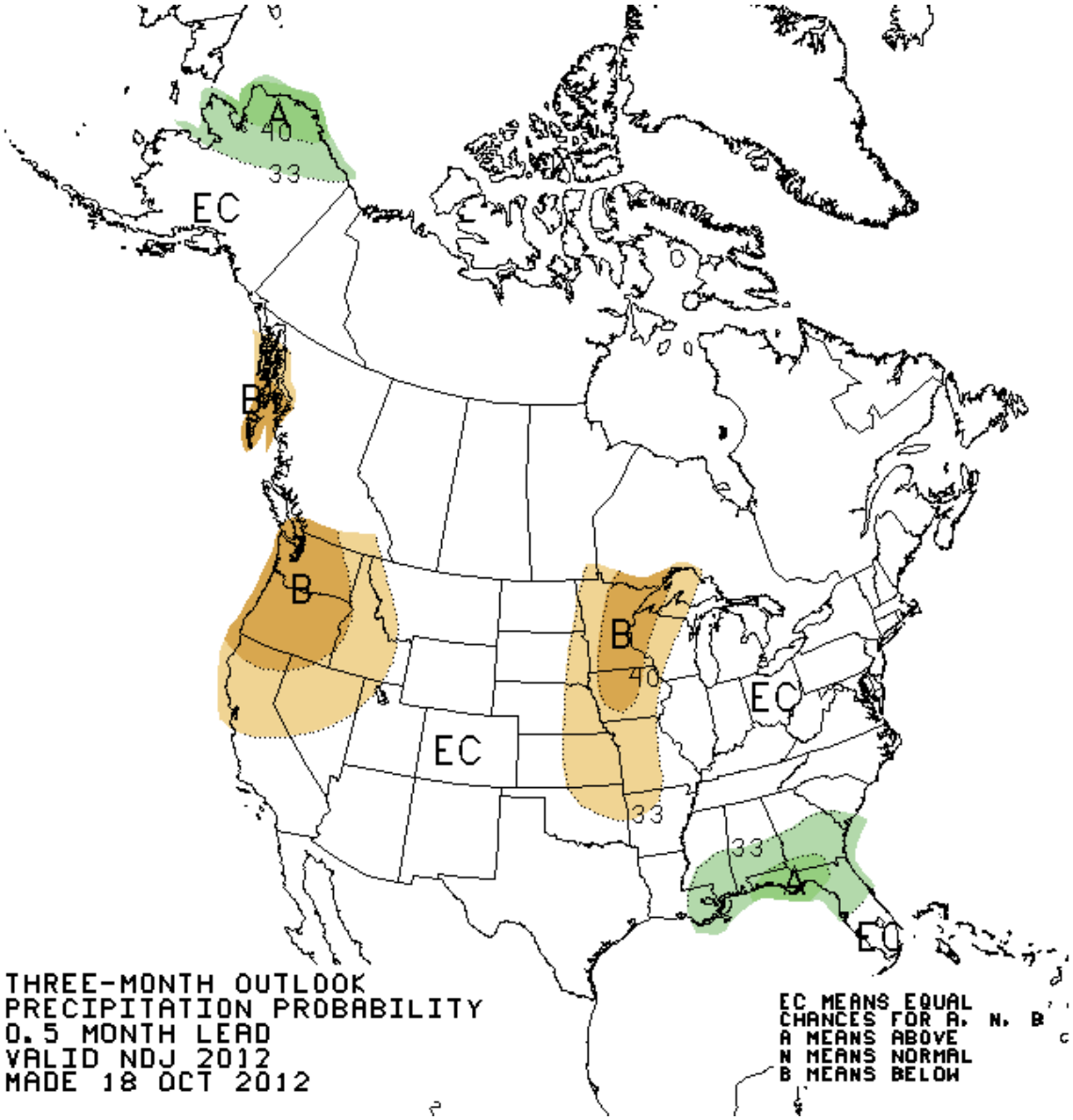
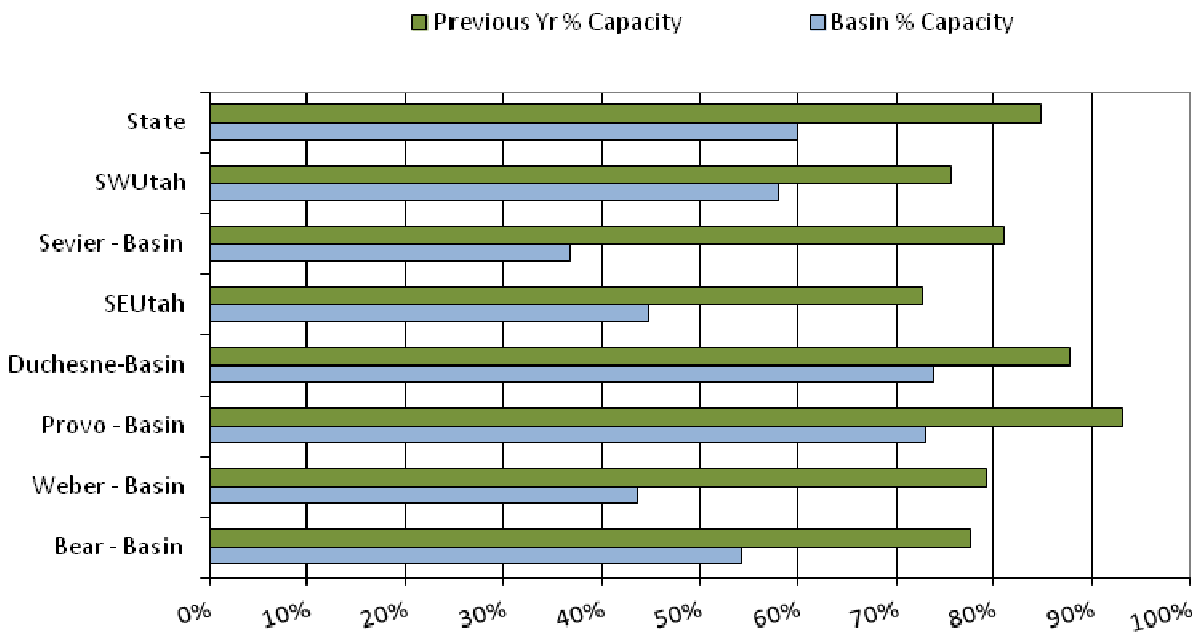


Three month temperature outlook (Nov-Jan) – courtesy of the Climate Prediction Center showing warmer than normal conditions.



Three month Precipitation outlook (Nov-Jan) – courtesy of the Climate Prediction Center showing equal chances conditions.

November Statewide Reservoir Storage



1-Oct

Watershed	Reservoir	Capacity - KAF	Current- KAF	Current % Capacity	Previous Yr KAF	Previous Yr % Capacity
Bear River	Bear Lake	1302.0	764.1	59%	1043	80%
	Woodruff Narrows	57.3	6.7	12%	50	87%
	Woodruff Creek	4.0	0.5	13%	2	50%
	Hyrum	15.3	3.9	25%	13.3	87%
	Porcupine	11.3	4	35%	9	80%
Weber	Causey	7.1	2.1	30%	6.6	93%
	Pineview	110.1	40.7	37%	95.4	87%
	Smith&Morehouse	8.1	2	25%	6.1	75%
	Rockport	60.9	19.9	33%	51.8	85%
	Echo	73.9	4.7	6%	54.2	73%
	Lost Creek	22.5	14.9	66%	19.8	88%
	East Canyon	49.5	24.8	50%	45.1	91%
	Willard Bay	215.0	150	70%	194	90%
Provo	Jordanelle	320.0	204.9	64%	278.6	87%
	Deer Creek	149.7	90.9	61%	137.8	92%
	Utah Lake	870.9	595	68%	886.6	102%
Tooele	Settlement Creek	1.0	0.2	20%	0.8	80%
	Vernon Creek	0.6	0.1	17%	0.5	83%
	Grantsville	3.3	0.3	9%	3	91%
Sevier	Panguitch Lake	22.3	5.1	23%	1.6	7%
	Piute	71.8	15.3	21%	61.1	85%
	Otter Creek	52.5	24.9	47%	43.7	83%
	Gunnison	20.3	0	0%	12.3	61%
	Sevier Bridge	236.0	100.1	42%	193.6	82%
Beaver	Minersville	23.3	4.5	19%	15.7	67%
Strawberry	Strawberry	1105.9	893.7	81%	1027.9	93%
	Currant creek	15.5	14.3	92%	15.3	99%
	Upper Stillwater	32.5	22.2	68%	10.9	34%
	Starvation	165.3	101.2	61%	133.9	81%
Lakefork	Moon Lake	35.8	3.6	10%	19.7	55%
	Big Sand Wash	25.7	2.5	10%	14.1	55%
Ashley	Red Fleet	25.7	11.5	45%	22.8	89%
	Steinaker	33.4	4.9	15%	24.3	73%
Price	Scofield	65.8	27	41%	57.9	88%
San Rafael	Huntington North	4.2	1.8	43%	3.7	88%
	Joe's Valley	61.6	32.3	52%	53.5	87%
	Mill Site	16.7	7	42%	12.8	77%
	Miller Flat	5.2	1.3	25%	4.1	79%
	Cleveland	5.4	2.8	52%	4	74%
San Juan	Ken's Lake	2.3	0.2	9%	1.6	70%

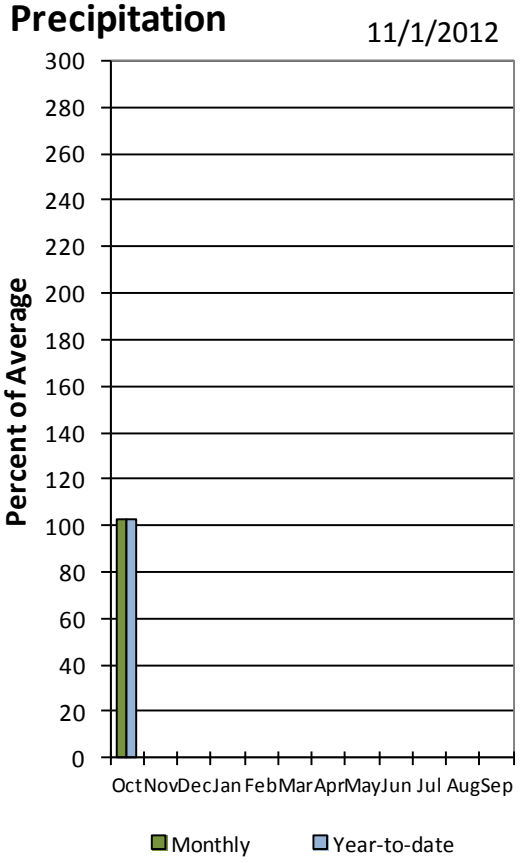
Enterprise	Upper Enterprise	10.0	2.2	22%	6	60%
	Lower Enterprise	2.6	0.5	19%	0.8	31%
Virgin	Gunlock	10.4	5.9	57%	7	67%
	Quail Creek	40.0	20.3	51%	25.4	64%
	Sand Hollow	50.0	40	80%	50.1	100%
	Kolob	5.6	5.3	95%	5.4	96%
Colorado	Flaming Gorge	3749.0	3030	81%	3544	95%
	Lake Powell	24322.0	13929	57%	17890	74%
	TOTAL	5428.3	3280.1	60%	4726.8	87%

Basin	Total Basin Capacity-KAF	Total Basin Storage - KAF	Basin % Capacity	Basin Deficit - KAF	Previous Yr % Capacity
Bear - Basin	1389.9	779.2	56%	610.7	80%
Weber - Basin	547.1	259.1	47%	288	86%
Provo - Basin	2451.4	1785.1	73%	666.3	95%
Duchesne-Basin	1439.8	1053.9	73%	385.9	88%
SEUtah	161.2	72.4	45%	88.8	85%
Sevier - Basin	426.2	149.9	35%	276.3	77%
SWUtah	118.6	74.2	63%	44.4	80%
State	5428.3	3280.1	60%	2148.2	87%

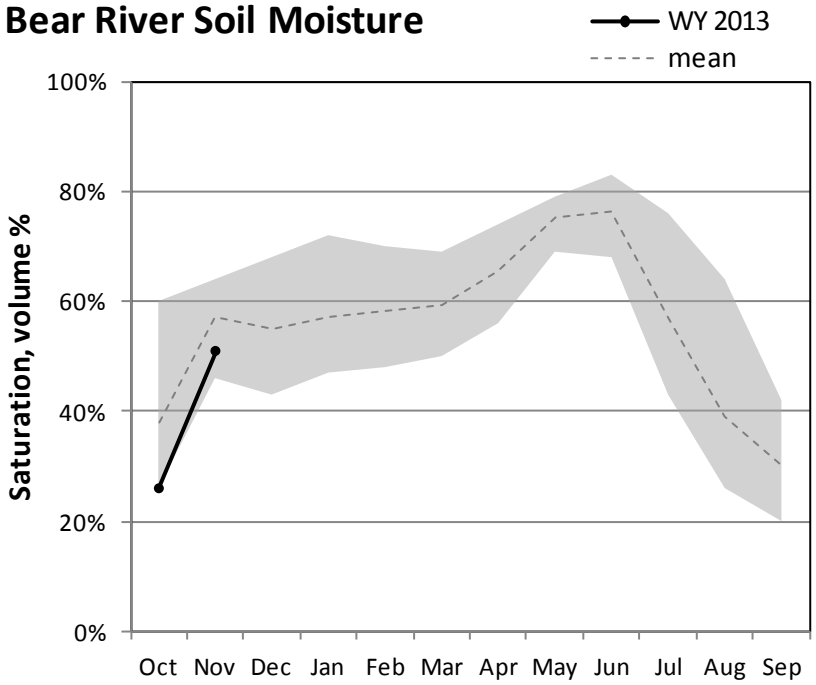
Bear River Basin
November 1, 2012

Precipitation in October was near average at 103%. Reservoir storage is much below average at 54% of capacity, which is 24% lower than this time last year. Soil moisture is at 51% compared to 59% last year.

Bear River Precipitation

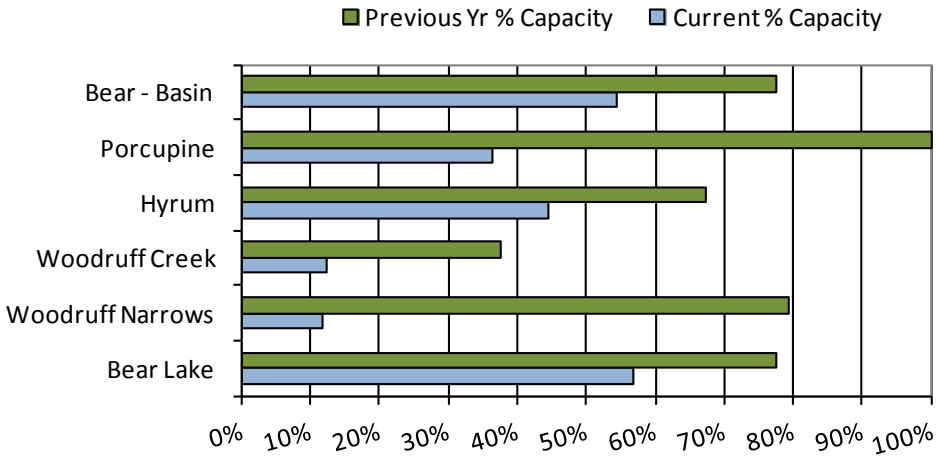


Bear River Soil Moisture



Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

November Bear River Reservoir Storage

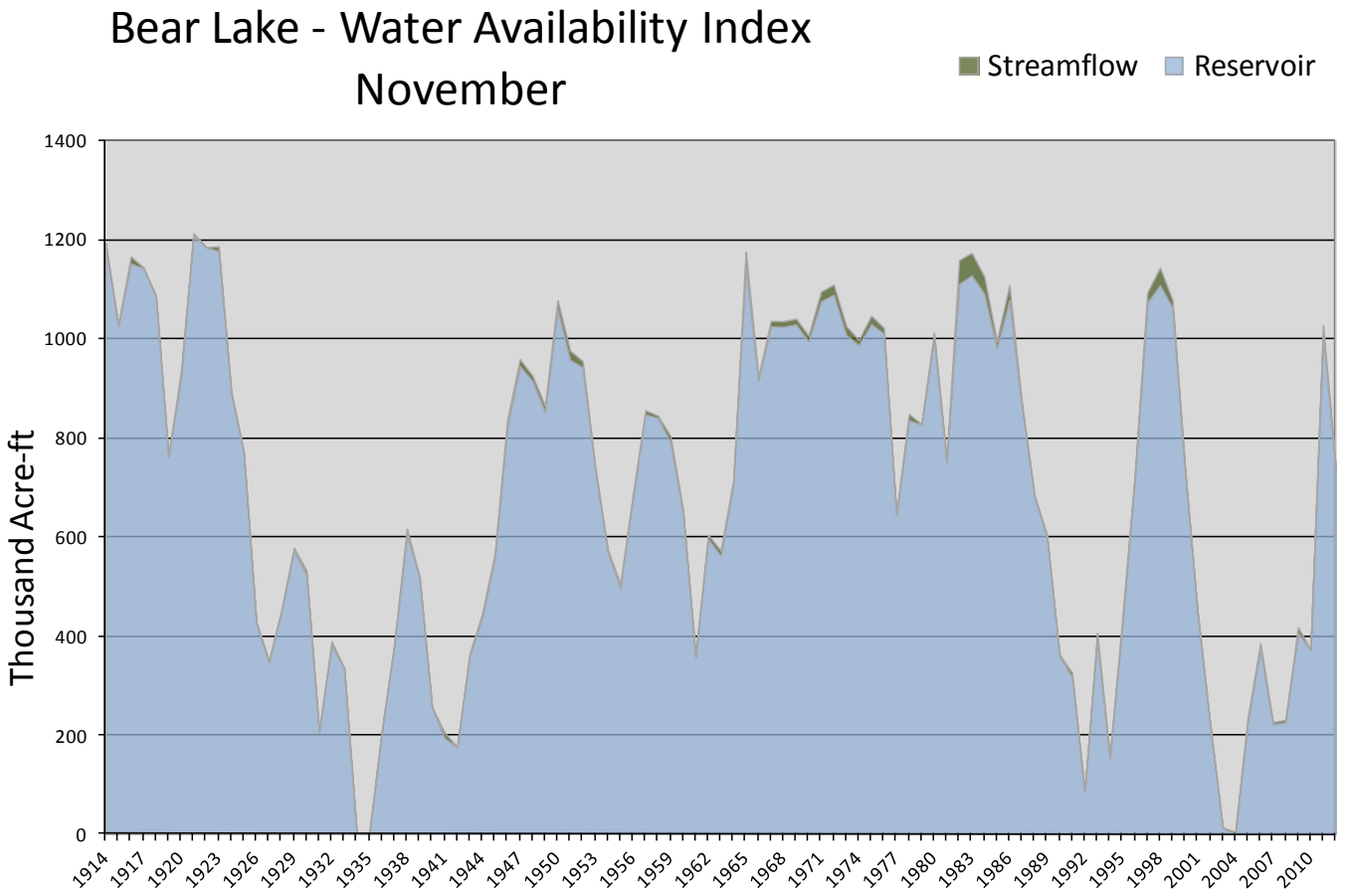


November 1, 2012

Water Availability Index

Basin or Region	October EOM* Bear Lake	October accumulated inflow to Bear Lake (*observed*)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Bear River	**738**	**4**	**743**	**0.00**	**50**	**96,00,53,81**

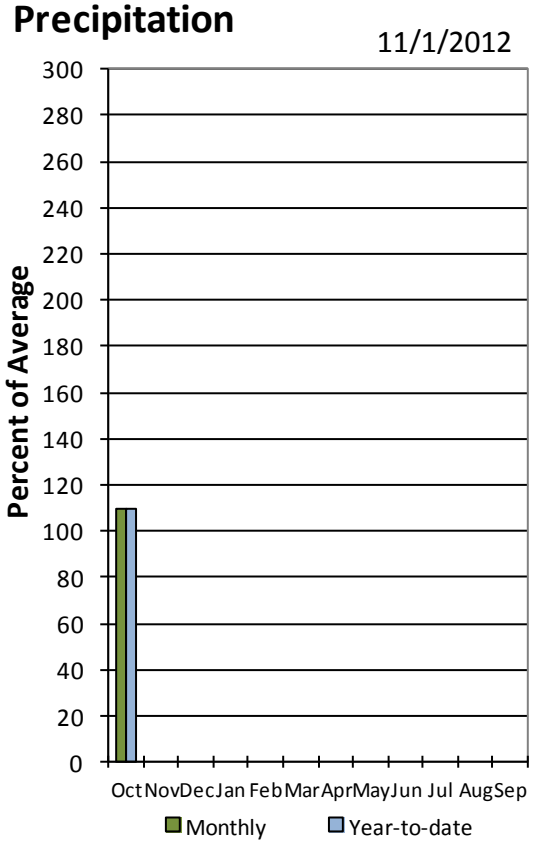
**EOM, end of month; #WAI, water availability index; ^KAF, thousand acre-feet.*



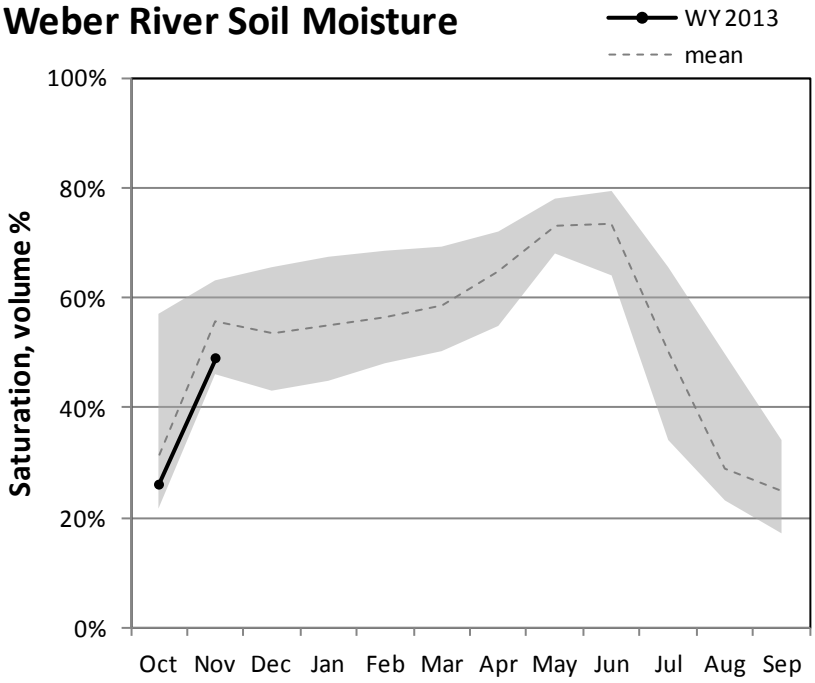
Weber and Ogden River Basin
November 1, 2012

Precipitation in October was above average at 110%. Reservoir storage is much below average at 44% of capacity, which is 35% lower than this time last year. Soil moisture is at 49% compared to 51% last year.

Weber River Precipitation

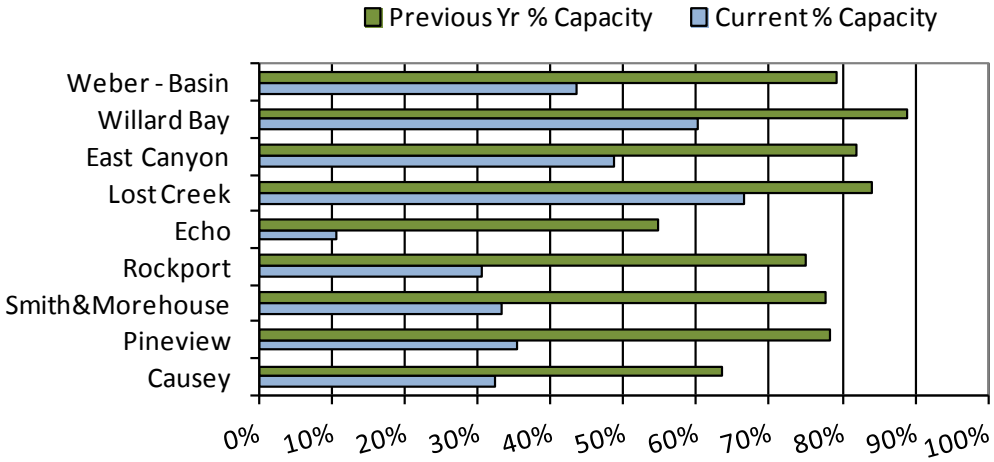


Weber River Soil Moisture



Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

November Weber Basin Reservoir Storage

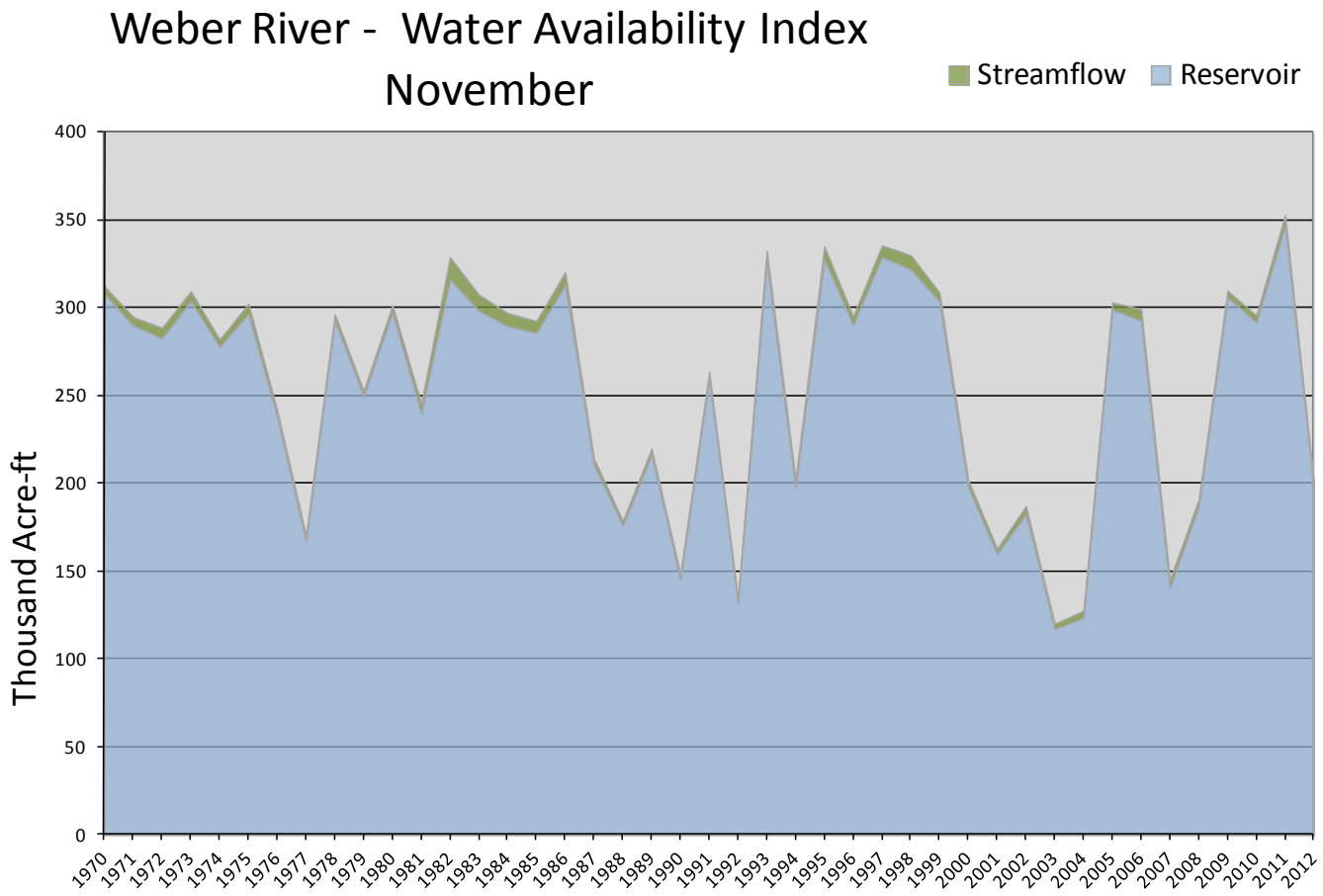


November 1, 2012

Water Availability Index

Basin or Region	October EOM* Reservoirs	October accumulated flow at Weber near Oakley (*observed*)	Reservoirs + Streamflow	WAI#	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Weber River	**198**	**2.8**	**200**	**2.62**	**25**	**02,08,00,94**

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

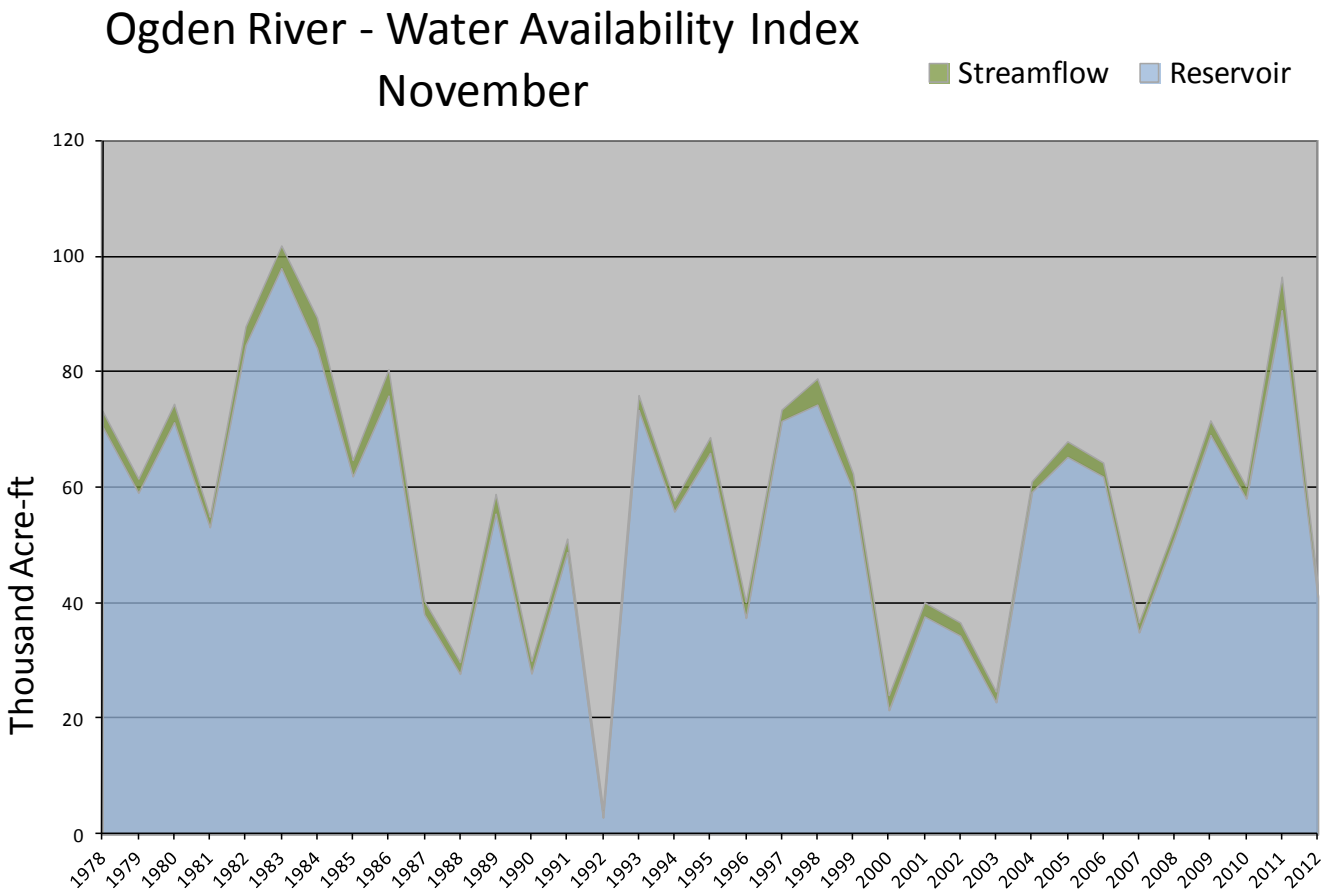


November 1, 2012

Water Availability Index

Basin or Region	October EOM* Pine View & Causey	October accumulated flow at South Fork Ogden (*observed*)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Ogden River	**41.2**	**2.1**	**96.6**	**-1.62**	**31**	**96,87,91,08**

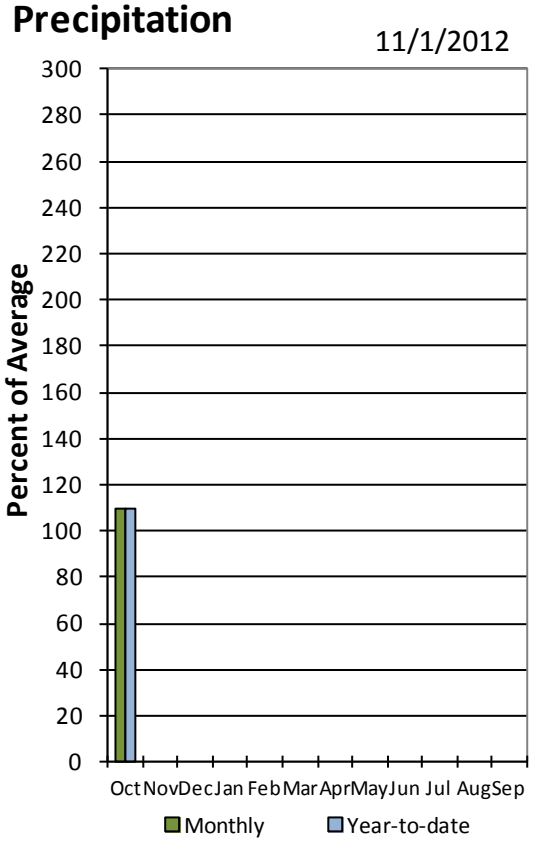
**EOM, end of month; #WAI, water availability index; ^KAF, thousand acre-feet.*



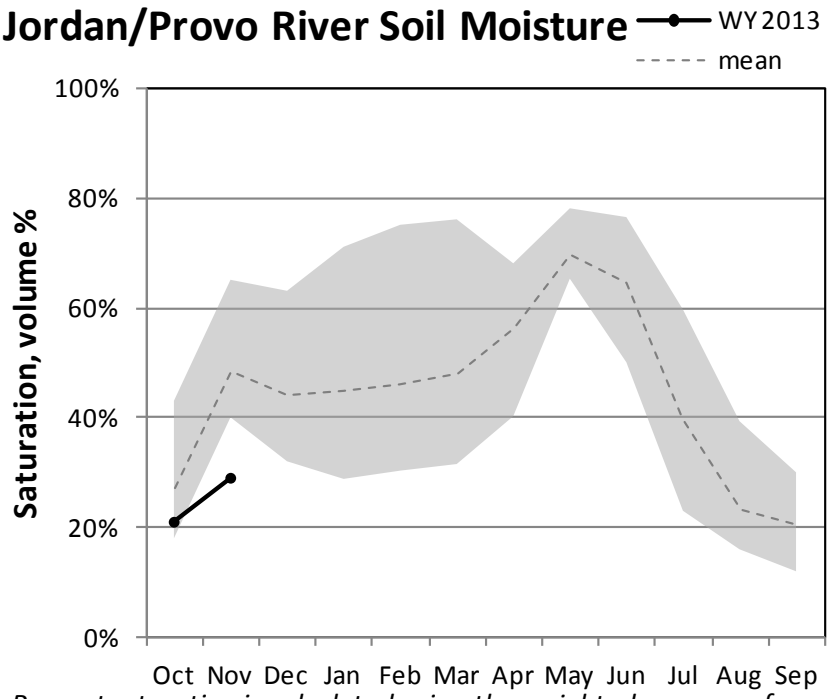
Utah Lake, Jordan River, & Tooele Valley Basins
November 1, 2012

Precipitation in October was much below average at 68%. Reservoir storage is at 73% of capacity, which is 20% less than this time last year. Soil moisture is at 29% compared to 44% last year at this time.

Weber River Precipitation

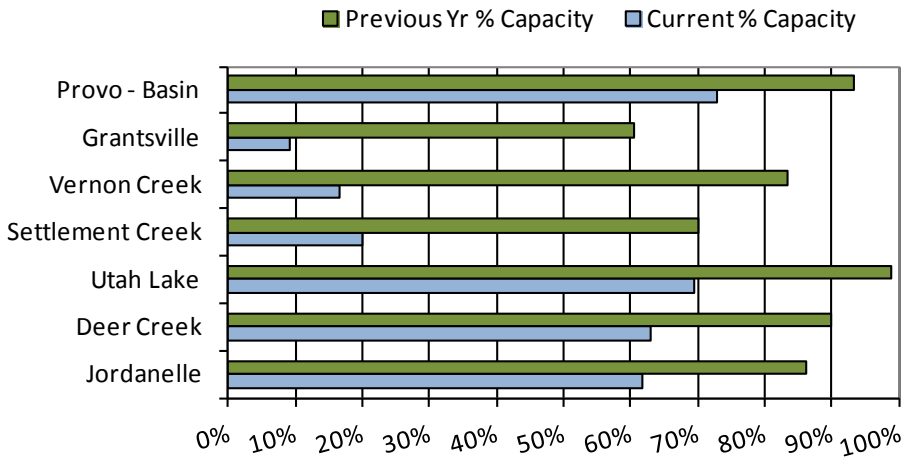


Jordan/Provo River Soil Moisture



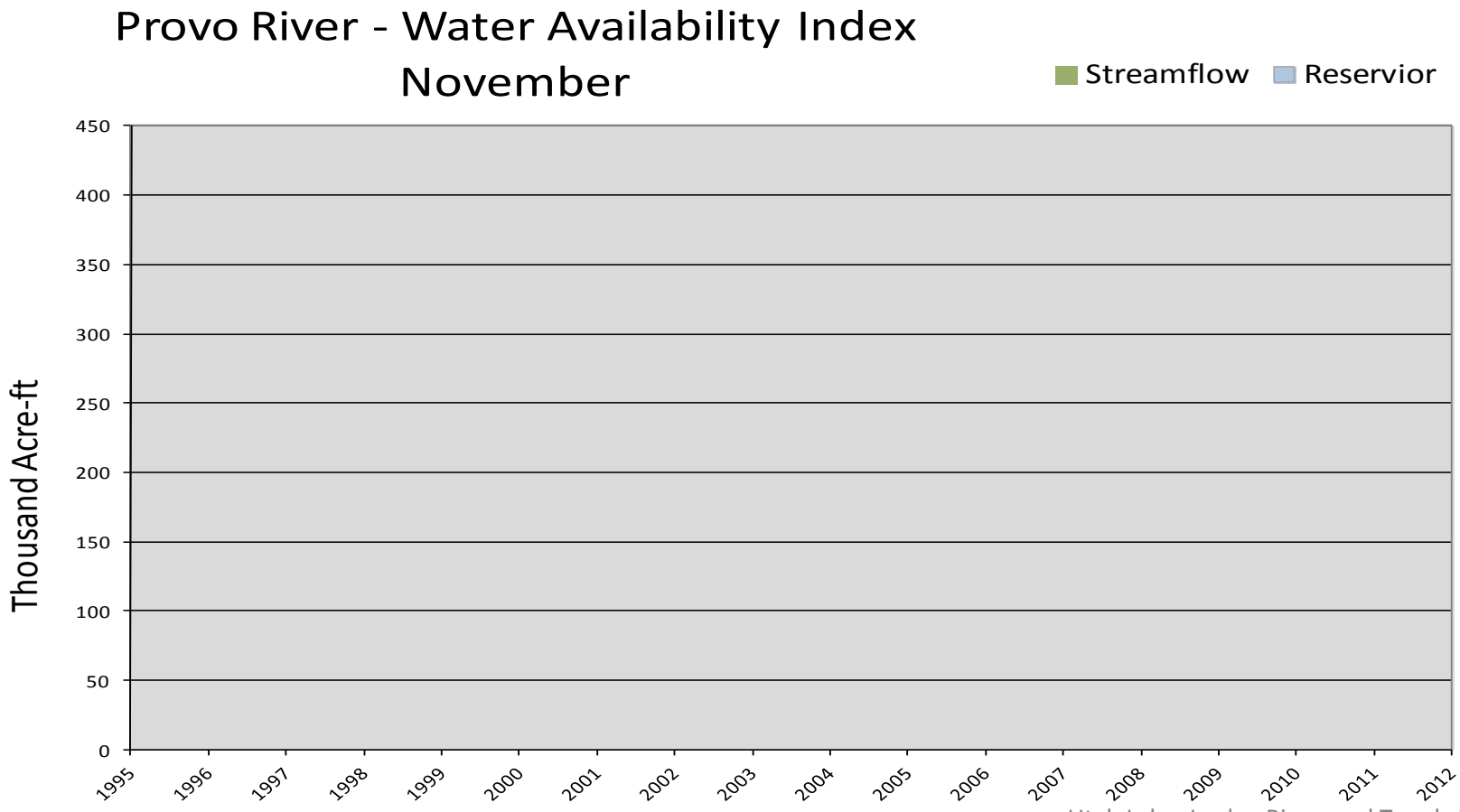
Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

November Provo River Reservoir Storage



November 1, 2012	**Water Availability Index**					
Basin or Region	October EOM* Deer Creek, Jordanelle	October accumulated flow Provo River at Woodland (*observed*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Provo	**292**	**2.7**	**294**	**-2.41**	**21%**	**95,02,04,03**

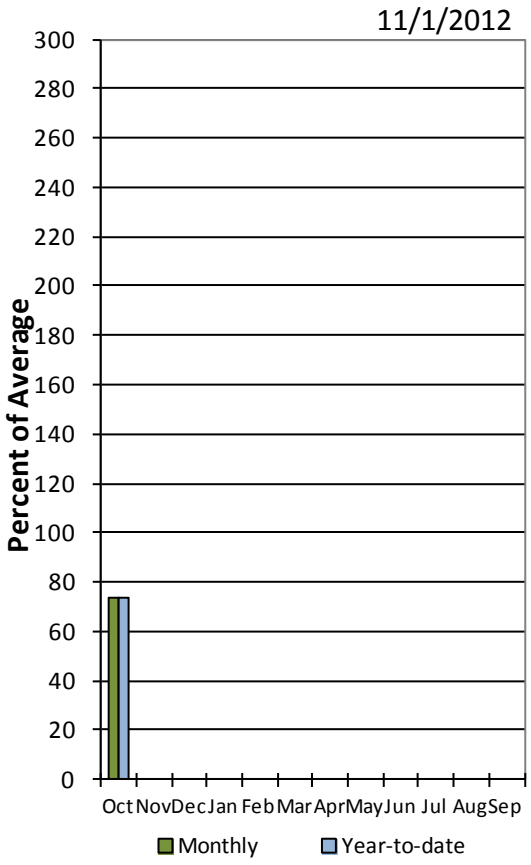
**EOM, end of month; [#] WAI, water availability index; ^KAF, thousand acre-feet.*



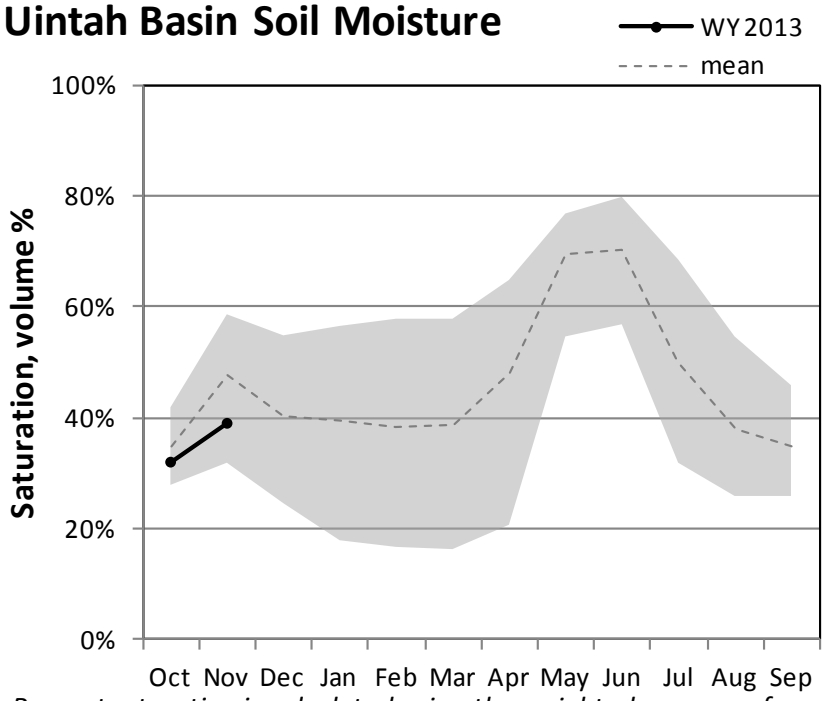
Uintah Basin and Dagget SCDs
November 1, 2012

Precipitation in October, first month of the 2013 water year, was below average at 74%. Reservoir storage is at 74% of capacity, 14% lower than this time last year. Soil moisture is at 39% compared to 48% last year.

Uintah Precipitation

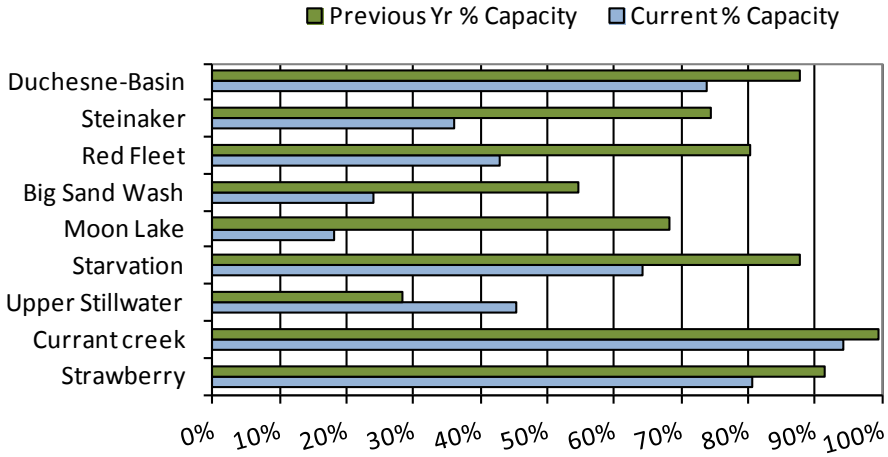


Uintah Basin Soil Moisture



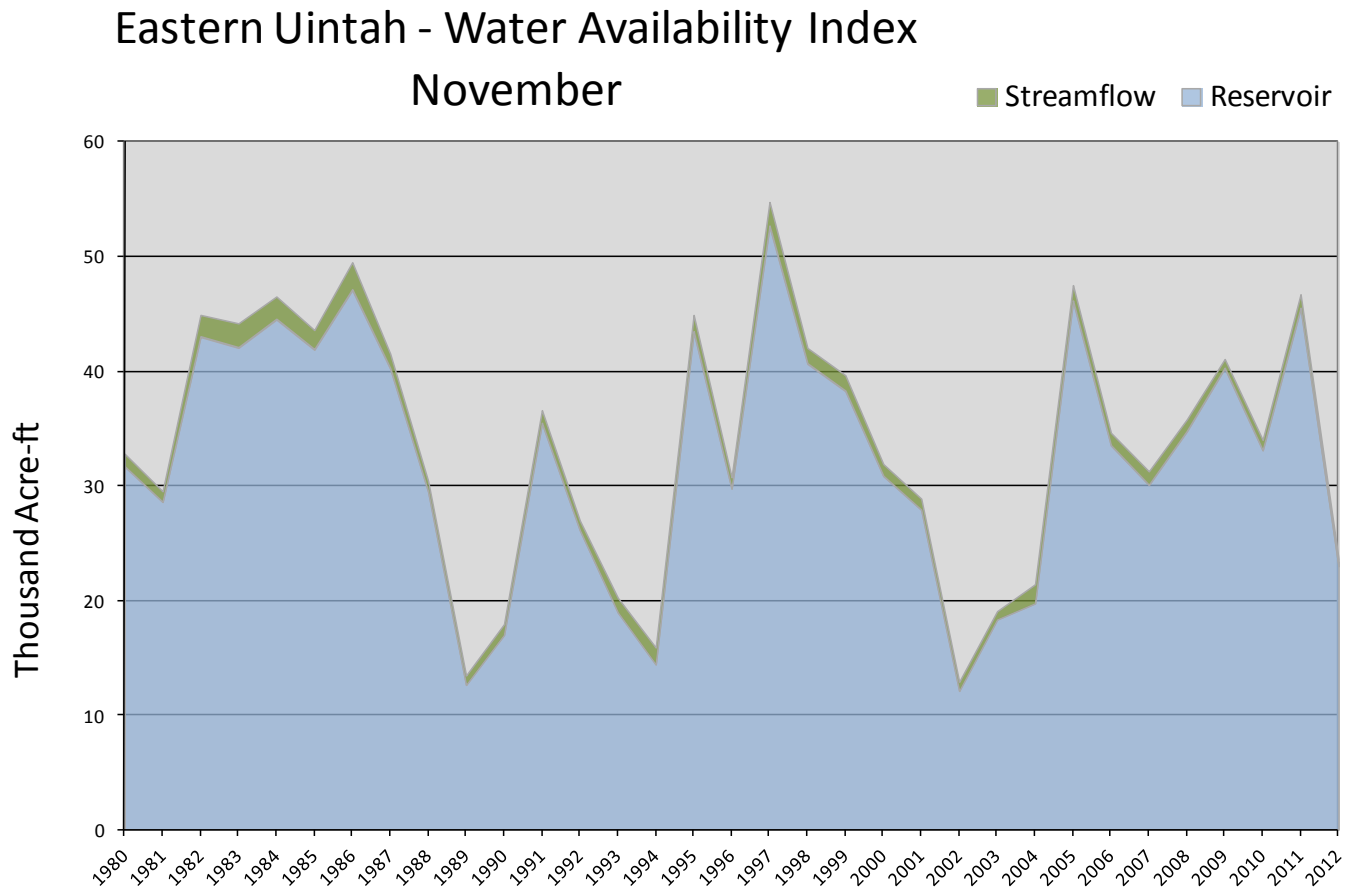
Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

November Uintah Basin Reservoir Storage



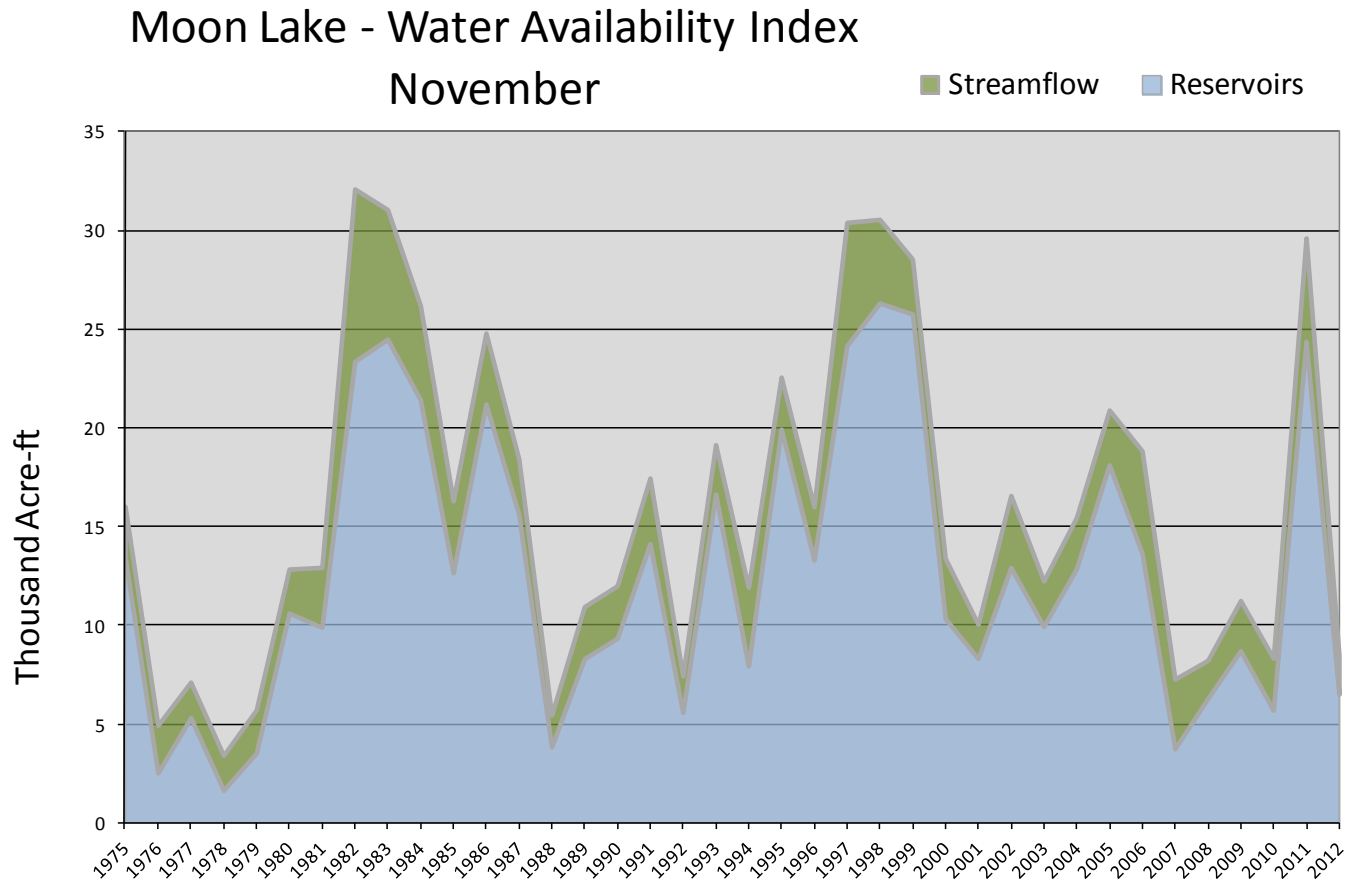
November 1, 2012	**Water Availability Index**					
Basin or Region	October EOM* Red Fleet and Steinaker	October accumulated flow Big Brush Creek (*observed*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Eastern Uintah	**23.0**	**0.6**	**23.6**	**-2.21**	**24**	**93, 04, 92, 01**

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



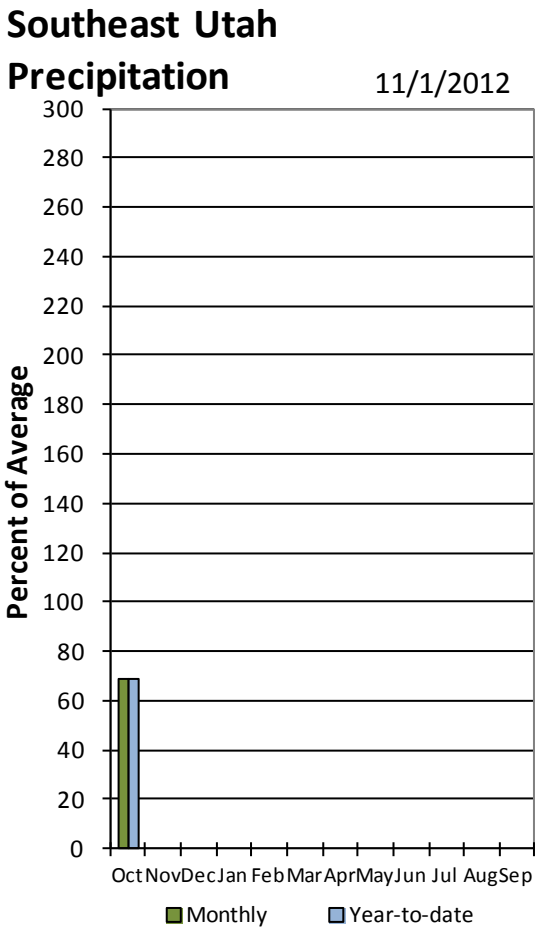
November 1, 2012	**Water Availability Index**					
Basin or Region	Octoter EOM* Moon Lake	October accumulated flow Lake Fork Creek above Moon Lake (*observed*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Moon Lake	**6.5**	**2.0**	**8.5**	**-2.03**	**26**	**08, 10, 01, 89**

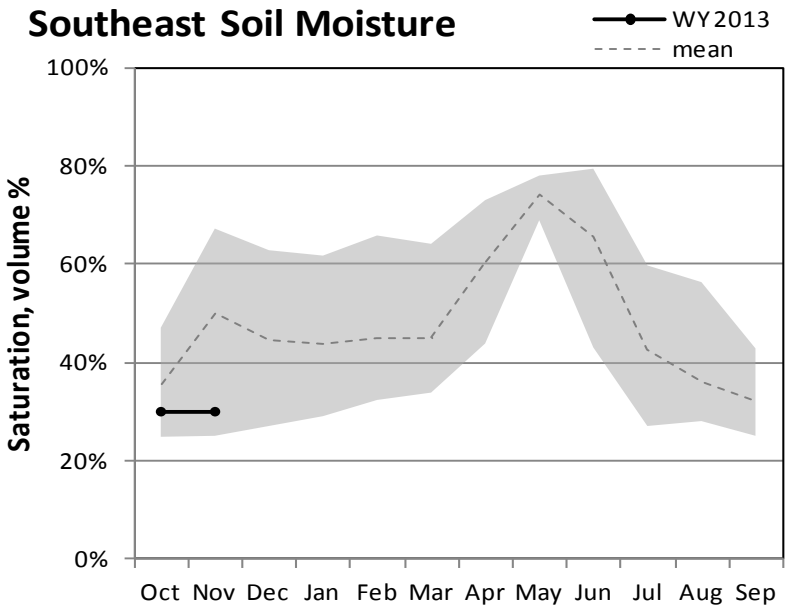
**EOM, end of month; [#] WAI, water availability index; ^KAF, thousand acre-feet.*



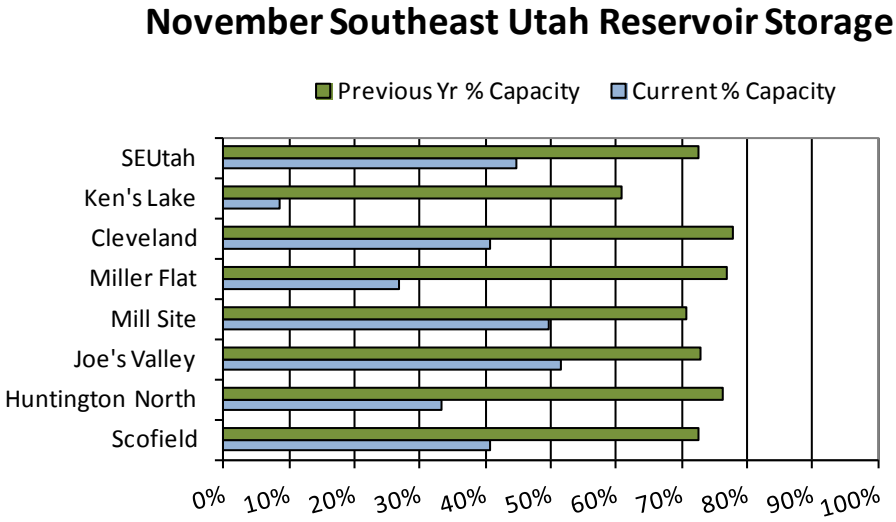
Southeast – Carbon, Emery, Wayne, Grand, and San Juan Counties
November 1, 2012

Precipitation in October, the first month of the 2013 water year was much below average at 69%. Reservoir storage is at 45% of capacity, which is 28% lower than at this time last year. Soil moisture is at 30% compared to 56% last year.



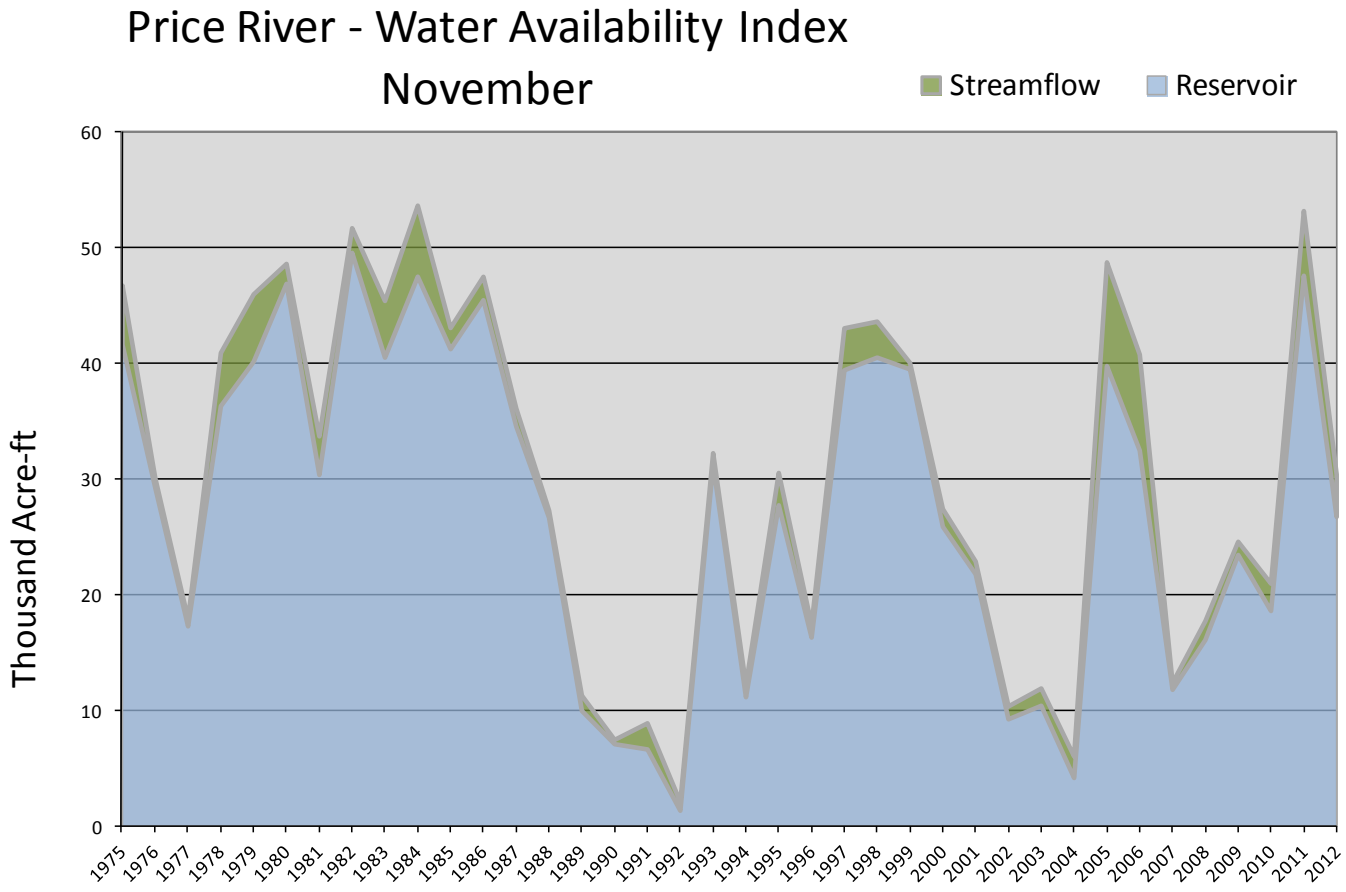


Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.



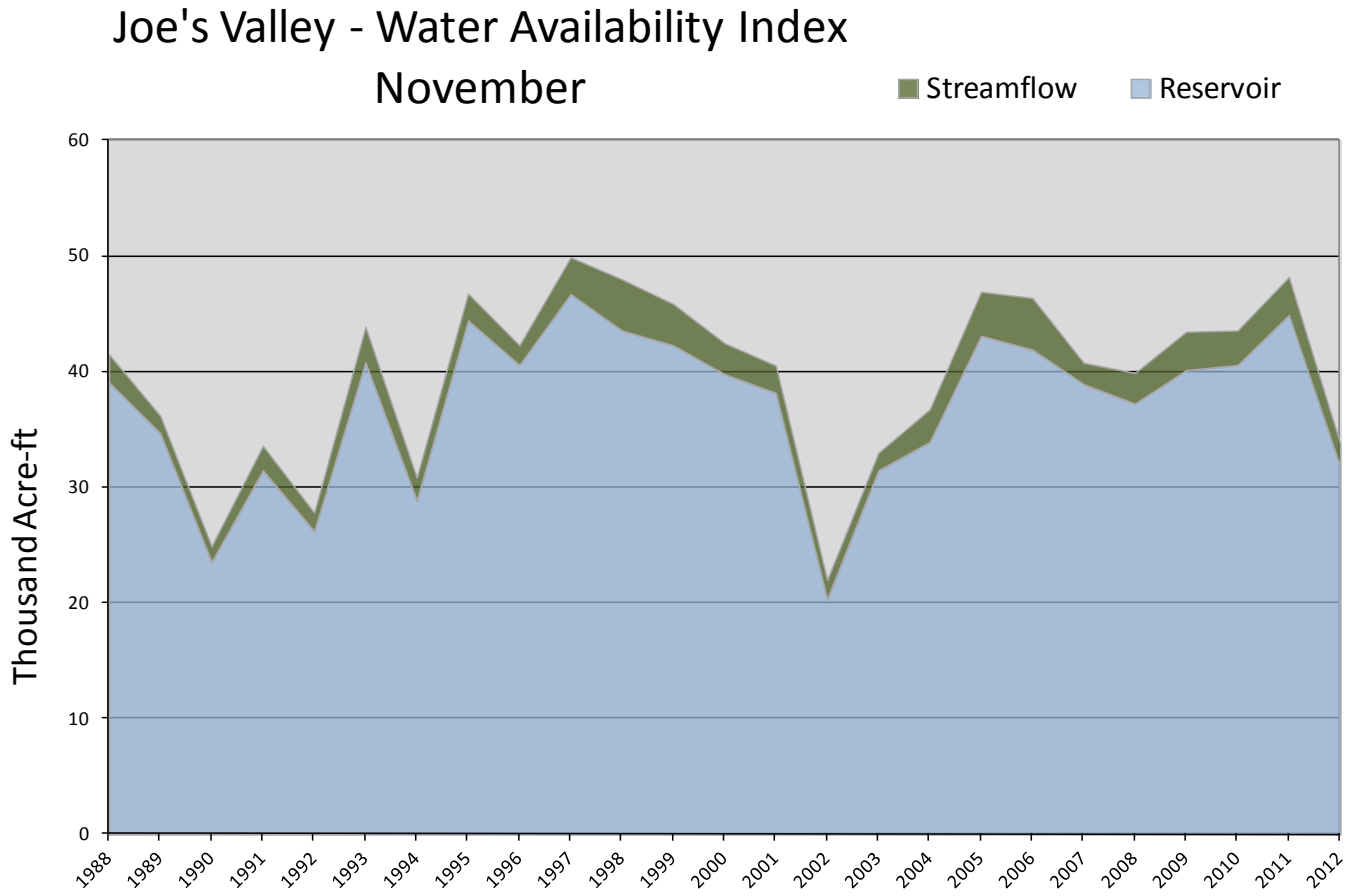
November 1, 2012	**Water Availability Index**					
Basin or Region	October EOM* Scofield	October accumulated inflow to Scofield (*calculated*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Price River	**26.8**	**3.7**	**30.5**	**-0.11**	**49**	**00, 76, 95, 93**

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



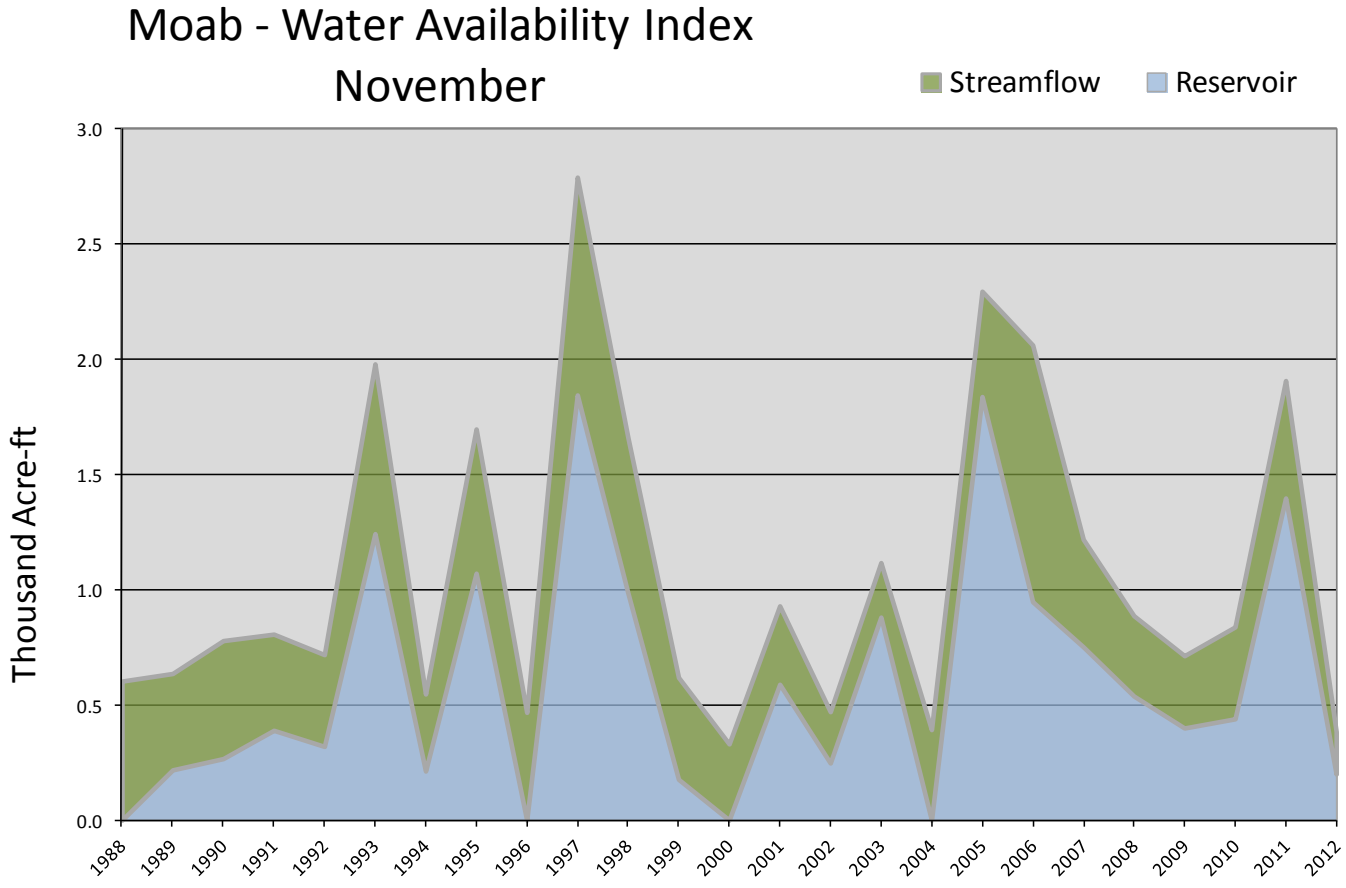
November 1, 2012	**Water Availability Index**					
Basin or Region	October EOM* Joe's Valley	October accumulated inflow to Joe's Valley (*calculated*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Joe's Valley	**31.8**	**2.0**	**33.8**	**-1.92**	**27**	**03, 91, 89, 04**

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



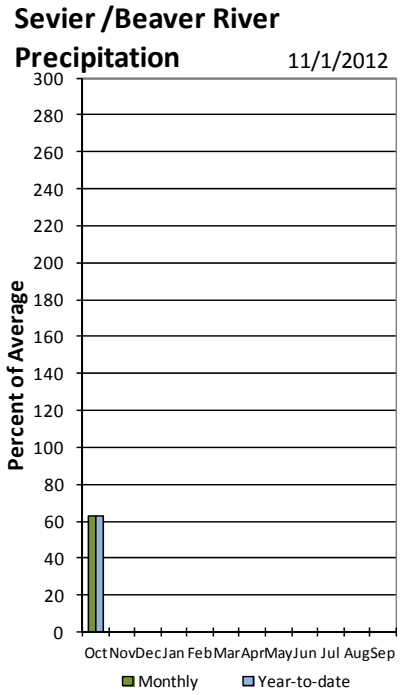
November 1, 2012	**Water Availability Index**					
Basin or Region	October EOM* Ken's Lake Reservoir	October accumulated flow Mill Creek at Sheley (*observed*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Moab	**0.2**	**0.2**	**0.4**	**-3.53**	**8**	**00, 04, 96**

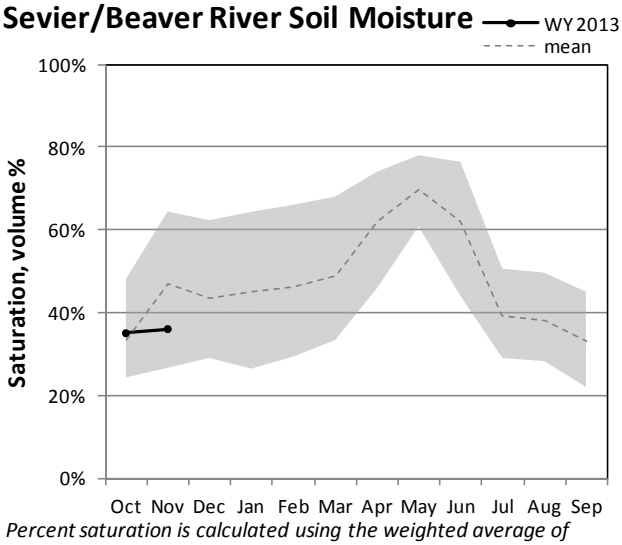
**EOM, end of month; [#] WAI, water availability index; ^KAF, thousand acre-feet.*



Sevier and Beaver River Basins
November 1, 2012

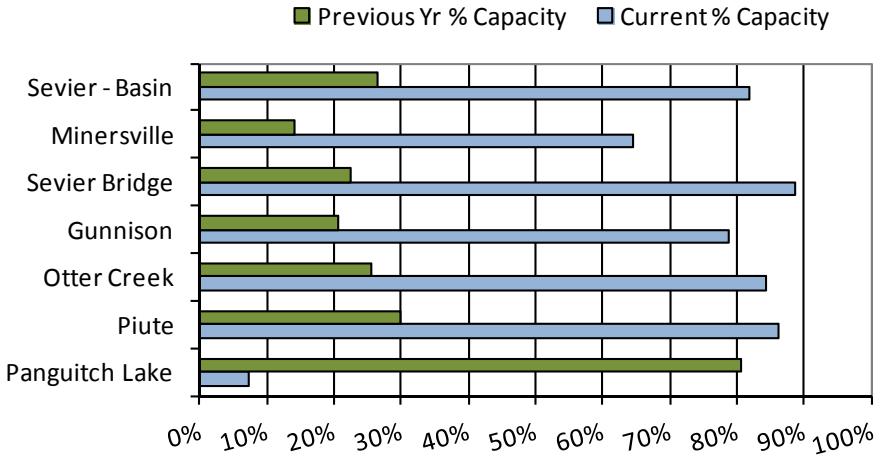
Precipitation in October was much below average at 63%. Reservoir storage is low at 37% of capacity, compared to 82% of capacity last year. Soil moisture is at 36% of saturation compared to 57% last year. The Water Availability Index for the upper Sevier is very low (19%) and for the lower Sevier/Beaver are near average – 54% and 44%.





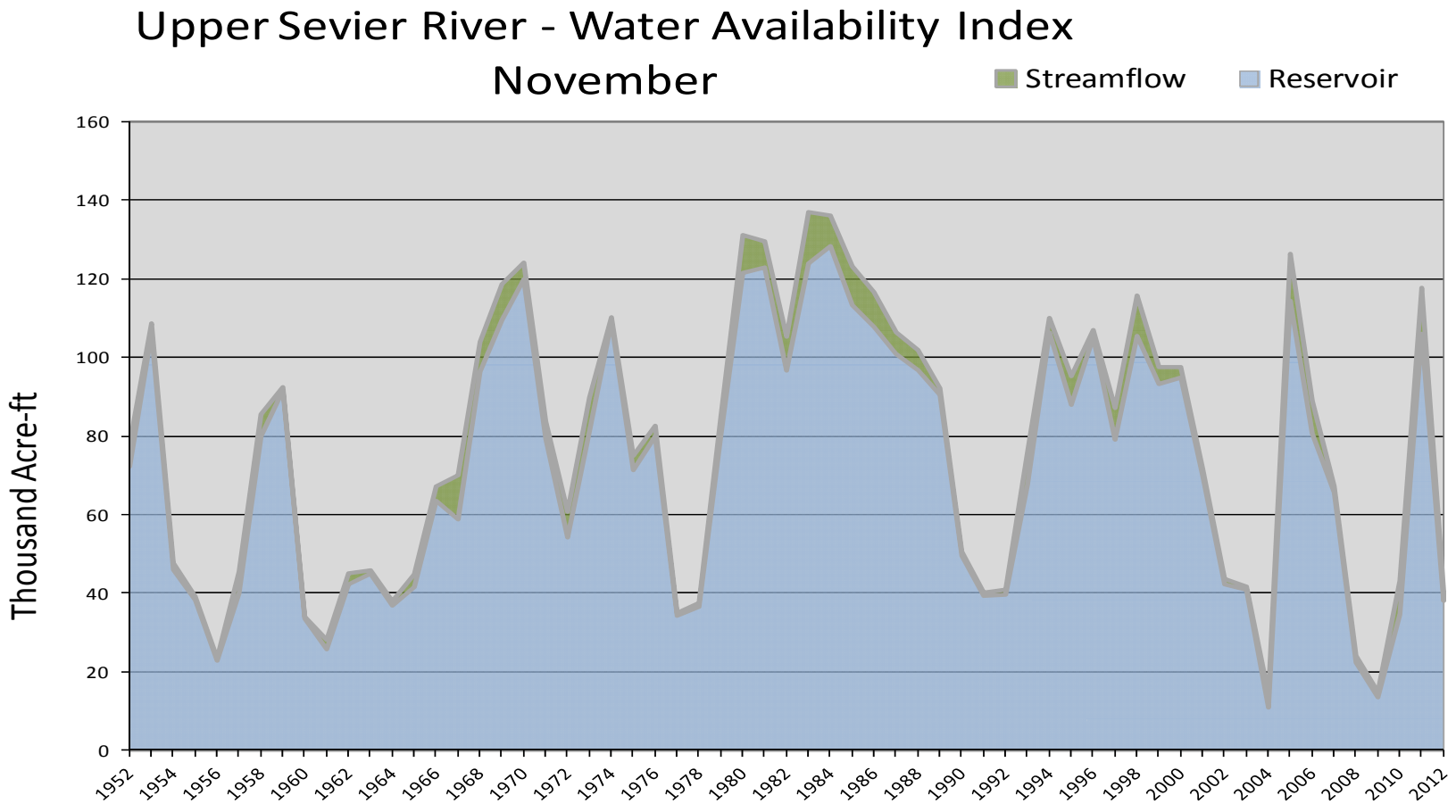
Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

November Sevier River Reservoir Storage



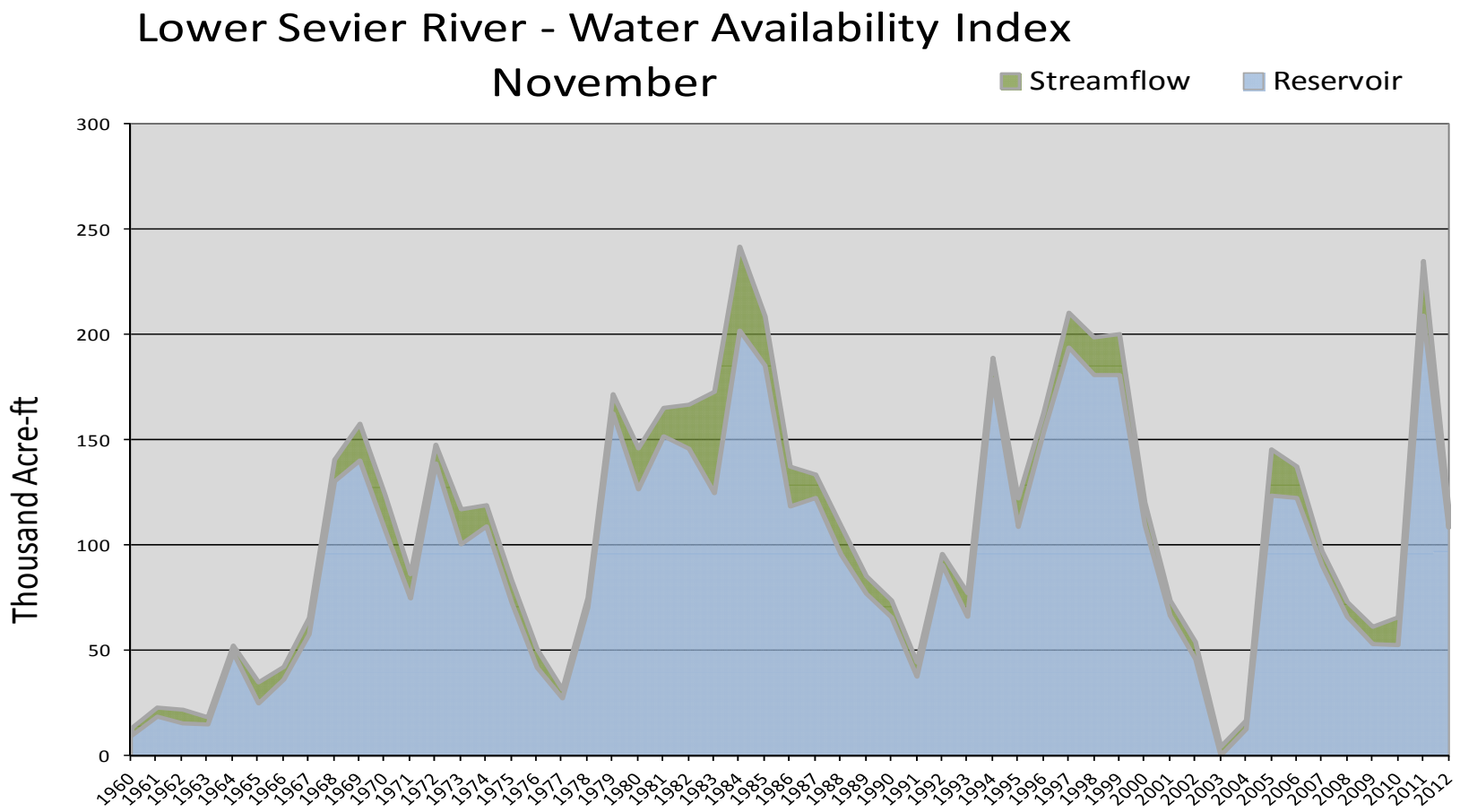
November 1, 2012	**Water Availability Index**					
Basin or Region	October EOM* Otter Creek and Piute	October accumulated flow at Kingston (*observed*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Upper Sevier River	**38.3**	**2.2**	**40.5**	**-2.55**	**19**	**55,91,92,03**

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



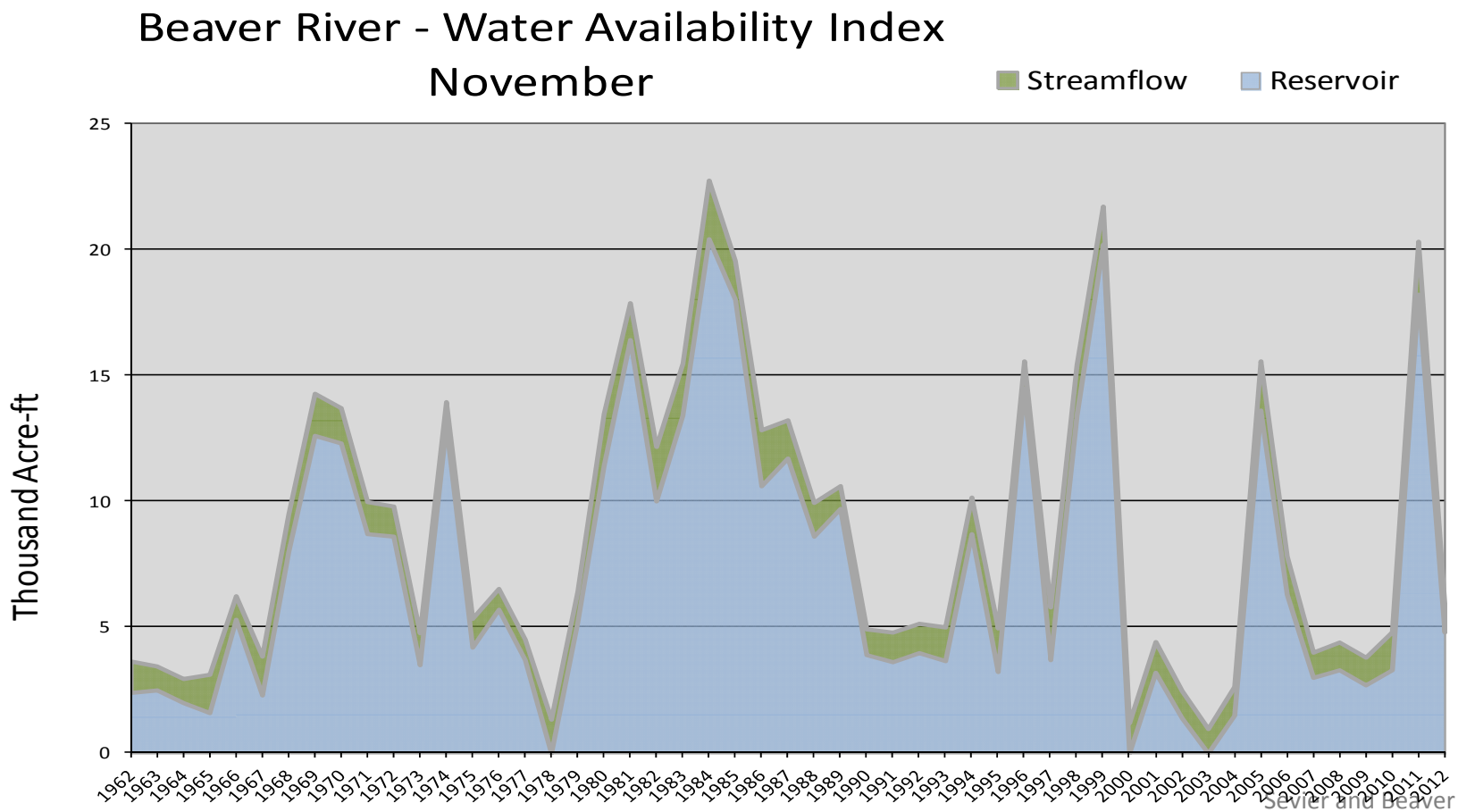
November 1, 2012	**Water Availability Index**					
Basin or Region	October EOM* Sevier Bridge	October accumulated flow Sevier at Gunnsion (*observed*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Lower Sevier River	**109**	**9.3**	**118**	**0.31**	**54**	**88,73,74,00**

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



November 1, 2012	**Water Availability Index**					
Basin or Region	October EOM* Minersville Reservoir	October accumulated flow Beaver River at Beaver (*observed*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Beaver	**4.8**	**1.1**	**5.3**	**-0.48**	**44**	**75,97,66,79**

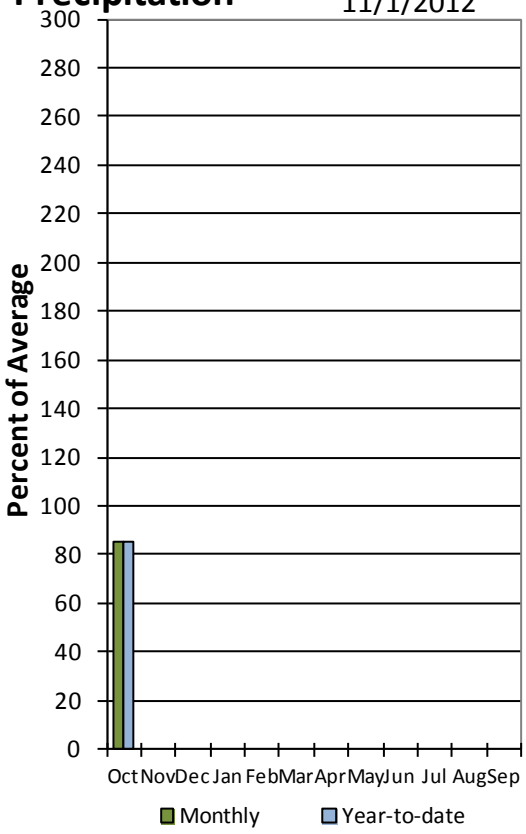
**EOM, end of month; [#] WAI, water availability index; ^KAF, thousand acre-feet.*



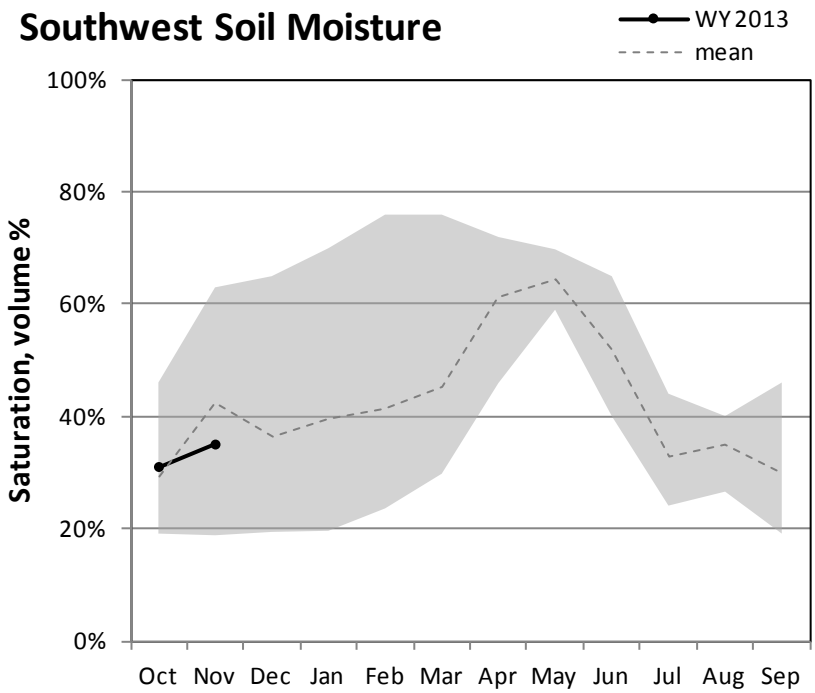
Southwest – E. Garfield, Kane, Washington, & Iron Counties
November 1, 2012

Precipitation in October was below average at 85%. Reservoir storage is low at 58% of capacity, 18% lower than last year at this time. Soil moisture is at 35% compared to 45% at this time last year.

Southwest Utah Precipitation

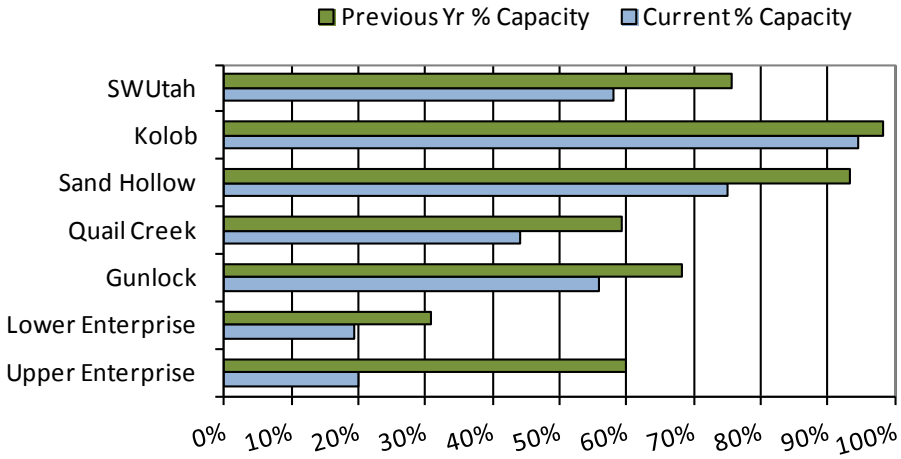


Southwest Soil Moisture



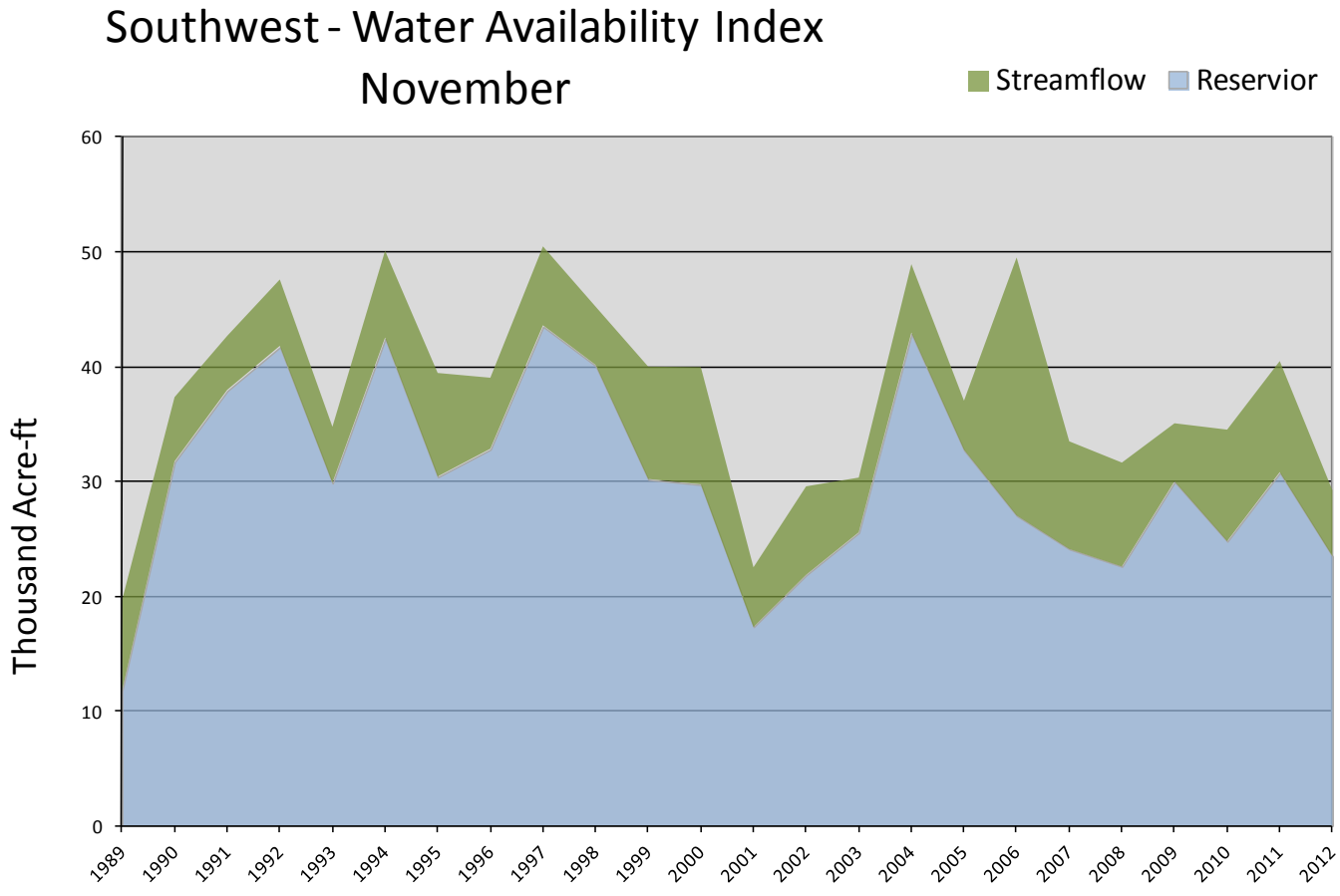
Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

Nov. Southwest Utah Reservoir Storage



November 1, 2012	**Water Availability Index**					
Basin or Region	October EOM* Reservoir	October accumulated flow Virgin and Santa Clara Rivers (*observed*)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Southwest	**24**	**6**	**29**	**-3.17**	**12**	**03,02,01,89**

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



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Utah Climate and Water Report

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