Utah Climate and Water Report

August 2011

Landscape and soil profile at Gooseberry Ranger Station Upper SNOTEL site installed July 2011
Photos by Karen Vaughan, 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.

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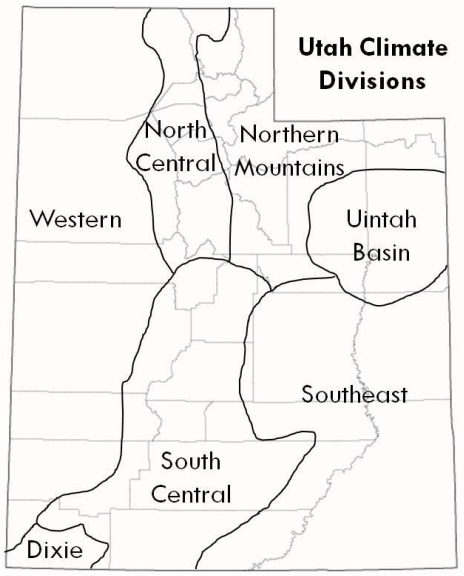
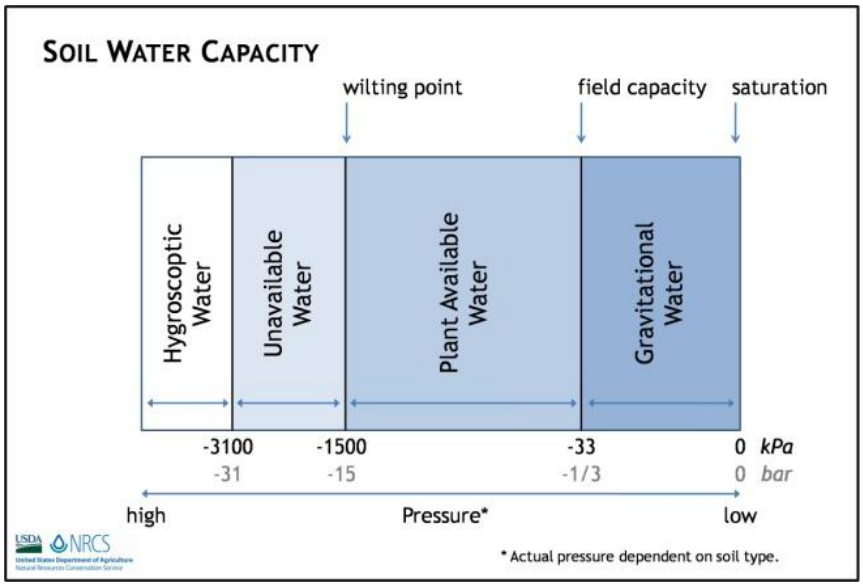
Climate and Water Information

Soil Climate Analysis Network

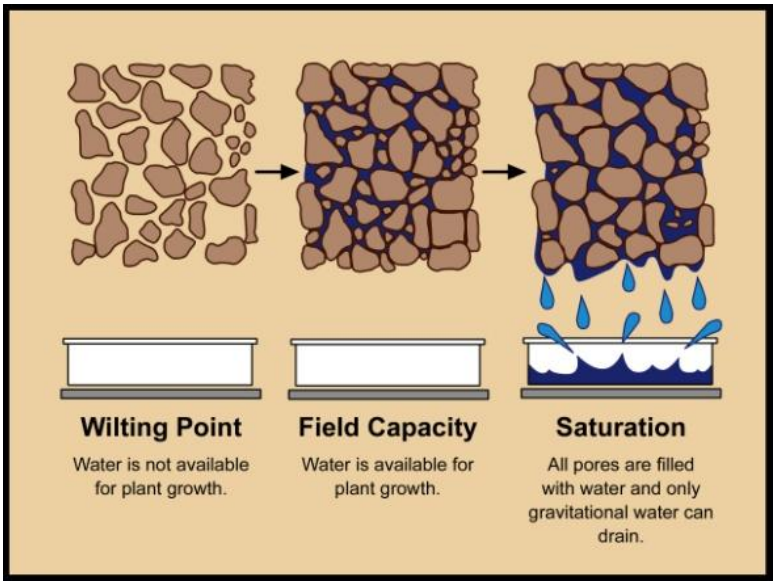
Soil Climate Analysis Network (SCAN) stations are primarily located on low- to mid-elevation, agriculturally important landscapes that maintain representative soils. Elevations range from 3,000 to 7,000 ft. The SCAN network provides real-time soil moisture and temperature data coupled with additional 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).





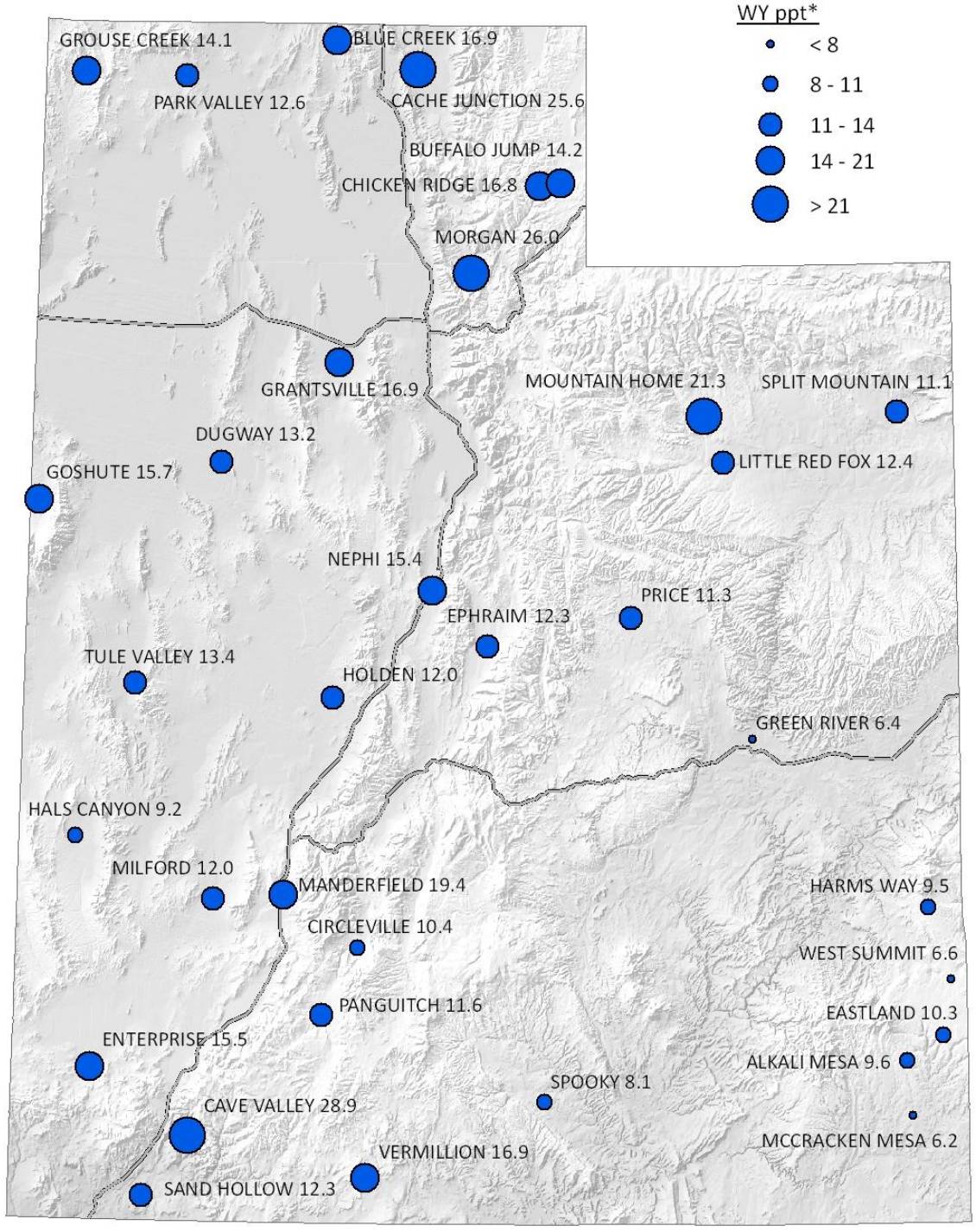
Explanation of soil water capacity definitions. Field capacity (FC) and wilting point (WP) are calculated in the laboratory for each soil horizon. The amount of water held between field capacity and wilting point is plant available.



Visual explanation of soil water capacity definitions.

Utah SCAN Water Year Precipitation *

updated August 1, 2011



*since October 1, 2010. Data based on the first reading of the day.

**since May 1, 2011

Provisional Data Subject to Revision

Prepared by the USDA/NRCS Utah DCO
Salt Lake City, Utah
http://www.wcc.nrcs.usda.gov/scan/Utah/utah.html
Science contact: Karen Vaughan
(karen.vaughan@ut.usda.gov)

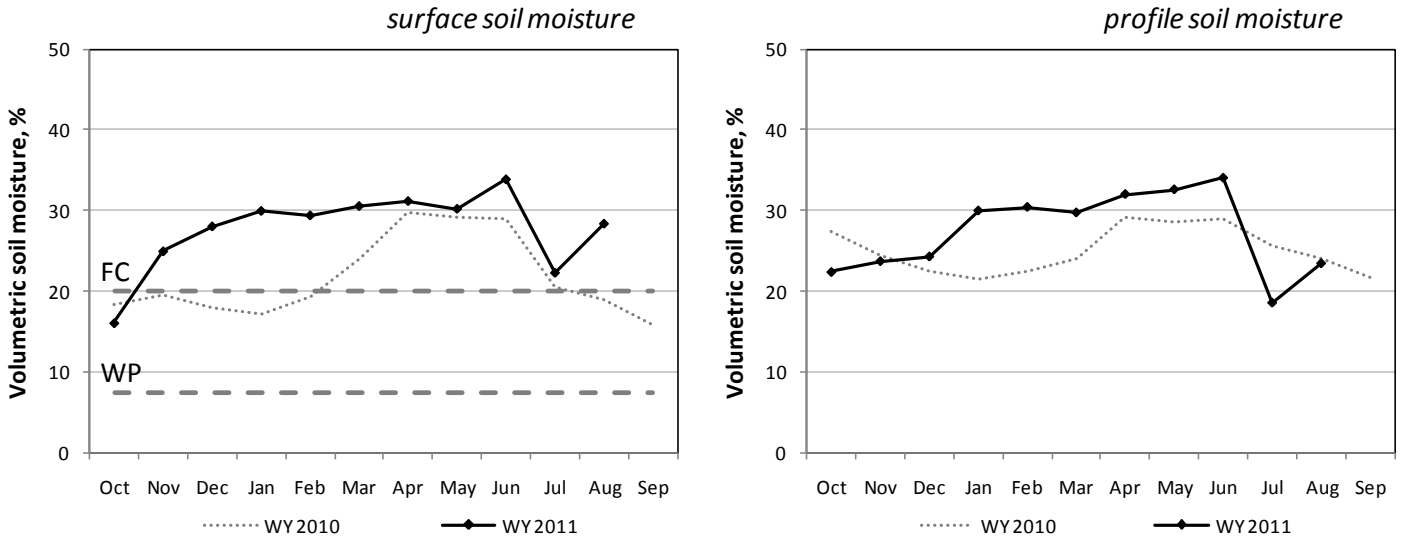
North Central

Soil Climate Analysis Network (SCAN)

Site name	County	Precip to Date*	Monthly Precip	Avg Air Temp	Soil Moisture					Soil Temperature				
					2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
		in.	*in.*	*°F*	*volume %*					*°F*				
NORTH CENTRAL														
Blue Creek	*Box Elder*	16.9	1.1	65	34	15	23	26	24	70	73	74	72	66
Cache Junction	*Cache*	25.6	3.1	67	40	42	45	27	30	65	66	64	62	57
Grantsville	*Tooele*	16.9	0.7	71	8	2	24	29	29	72	76	78	73	69

*since October 1, 2010. Monthly Precip is the amount of precipitation accumulated in the past month and Avg Air Temp is the average air temperature measured at the SCAN station. 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.

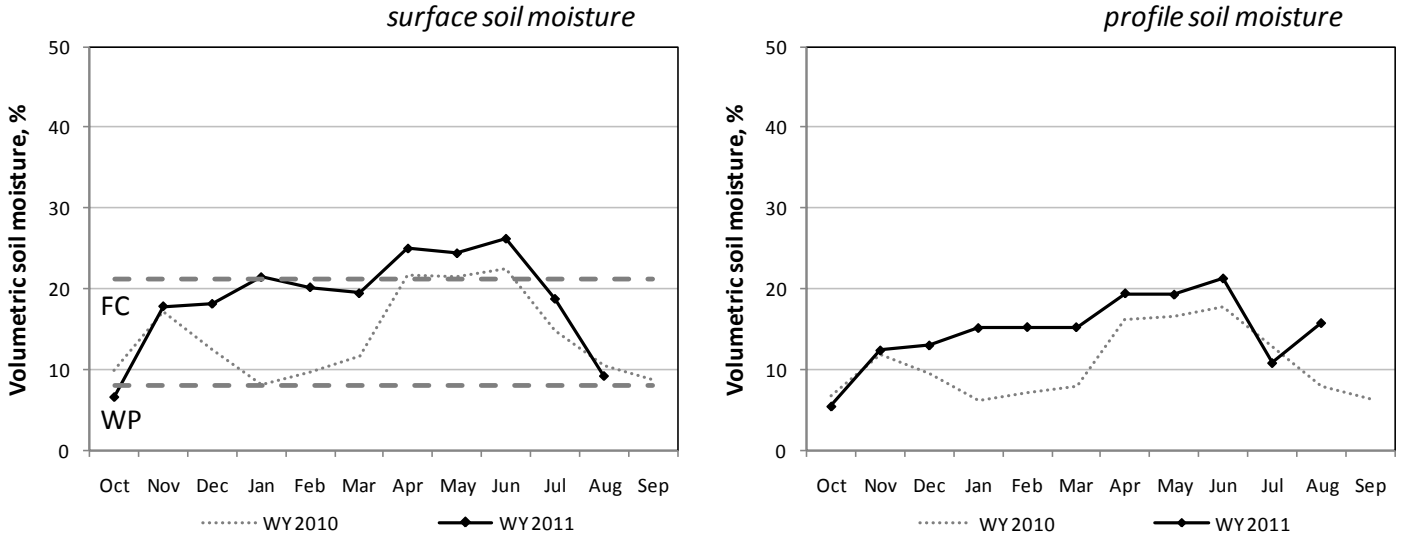
Northern Mountains

Soil Climate Analysis Network (SCAN)

Site name	County	Precip to Date*	Monthly Precip	Avg Air Temp	Soil Moisture					Soil Temperature				
					2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
		in.	*in.*	*°F*	*volume %*					*°F*				
NORTHERN MOUNTAINS														
Chicken Ridge	*Morgan*	16.8	1.4	60	6	14	6	16	10	58	58	60	67	56
Buffalo Jump	*Rich*	14.2	0.7	62	0	6	11	12	-	66	69	32	69	-
Morgan	*Morgan*	26.0	1.0	67	17	14	13	9	8	72	72	73	71	69

*since October 1, 2010. Monthly Precip is the amount of precipitation accumulated in the past month and Avg Air Temp is the average air temperature measured at the SCAN station. Soil moisture and temperature values reflect conditions measured on the first of the month.

Northern Mountains



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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.

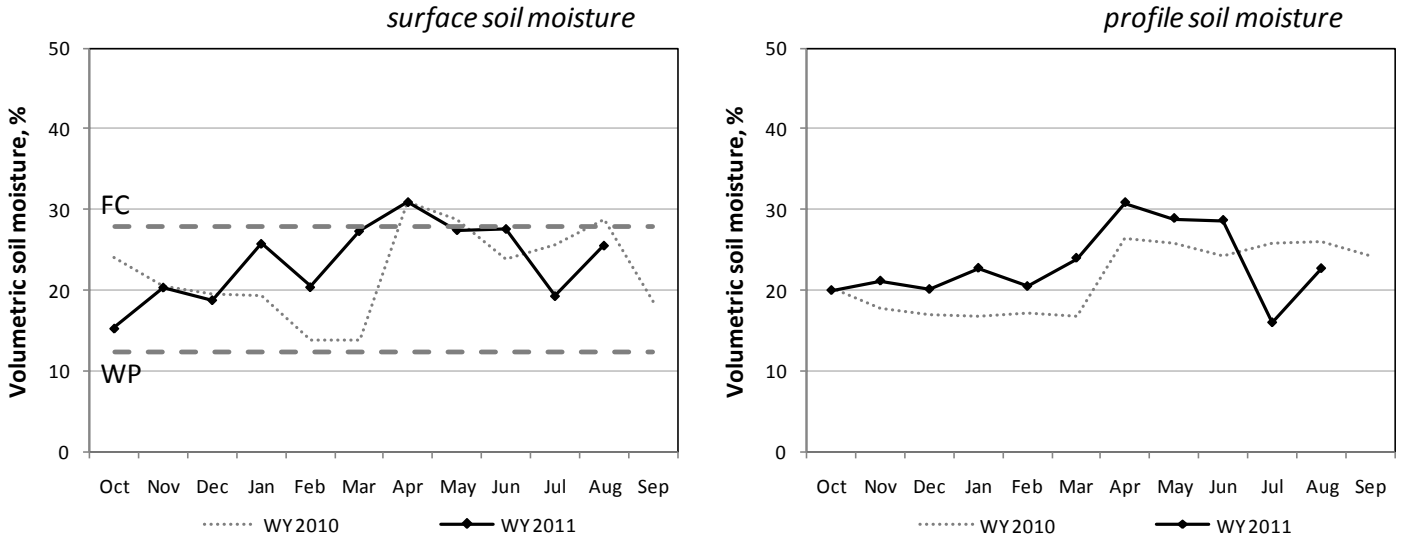
Uintah Basin

Soil Climate Analysis Network (SCAN)

Site name	County	Precip to Date*	Monthly Precip	Avg Air Temp	Soil Moisture					Soil Temperature				
					2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
		in.	*in.*	*°F*	*volume %*					*°F*				
UINTAH BASIN														
Mountain Home	*Duchesne*	21.3	6.4	66	29	36	38	23	16	63	64	63	61	58
Little Red Fox	*Duchesne*	12.4	2.6	70	15	32	42	40	50	68	74	74	70	65
Split Mountain	*Uintah*	11.1	2.0	74	8	23	16	20	14	76	80	80	76	70

*since October 1, 2010. Monthly Precip is the amount of precipitation accumulated in the past month and Avg Air Temp is the average air temperature measured at the SCAN station. Soil moisture and temperature values reflect conditions measured on the first of the month.

Uintah Basin



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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.

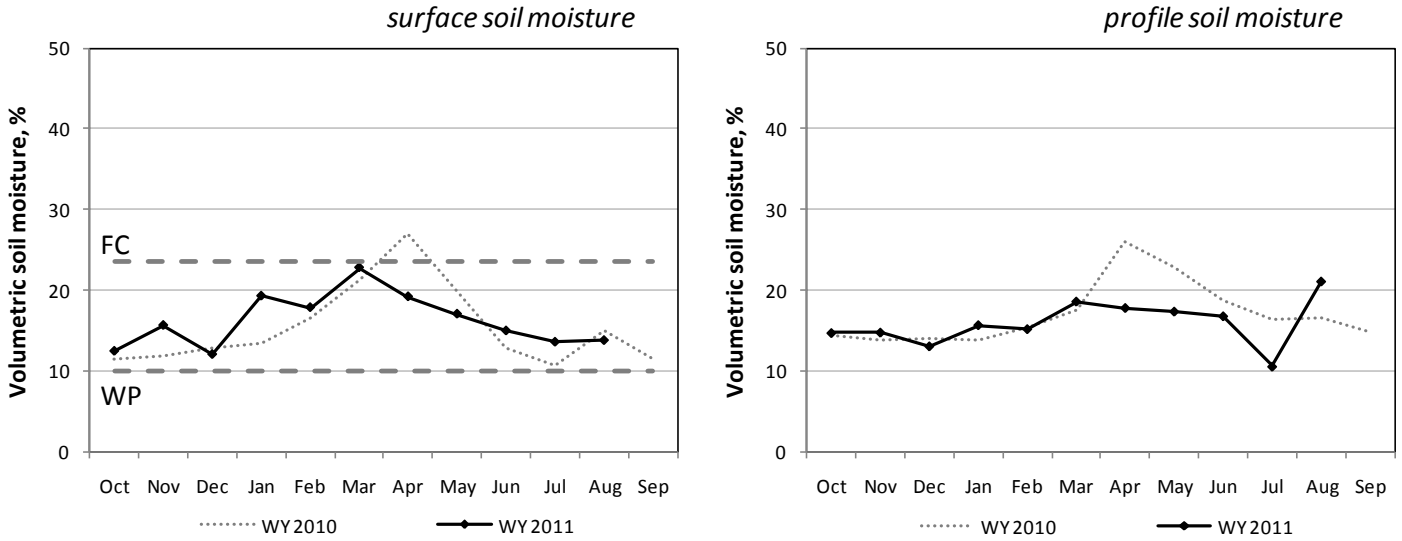
Southeast

Soil Climate Analysis Network (SCAN)

Site name	County	Precip to Date*	Monthly Precip	Avg Air Temp	Soil Moisture					Soil Temperature				
					2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
		in.	*in.*	*°F*	*volume %*					*°F*				
SOUTHEAST														
Price	*Carbon*	11.3	1.5	69	4	16	18	19	20	73	77	80	77	73
Green River	*Emery*	6.4	1.0	76	5	7	10	6	11	80	84	88	85	79
Harm's Way	*San Juan*	9.5	1.0	69	6	0	15	15	7	77	74	75	71	65
West Summit	*San Juan*	6.6	1.7	67	21	25	14	16	19	70	71	74	69	66
Eastland	*San Juan*	10.3	2.2	67	11	12	8	24	24	69	71	72	68	64
Alkali Mesa	*San Juan*	9.6	1.7	71	12	15	17	20	14	74	75	76	73	70
McCracken Mesa	*San Juan*	6.2	1.1	73	10	15	15	18	14	80	85	85	77	74

*since October 1, 2010. Monthly Precip is the amount of precipitation accumulated in the past month and Avg Air Temp is the average air temperature measured at the SCAN station. Soil moisture and temperature values reflect conditions measured on the first of the month.

Southeast



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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.

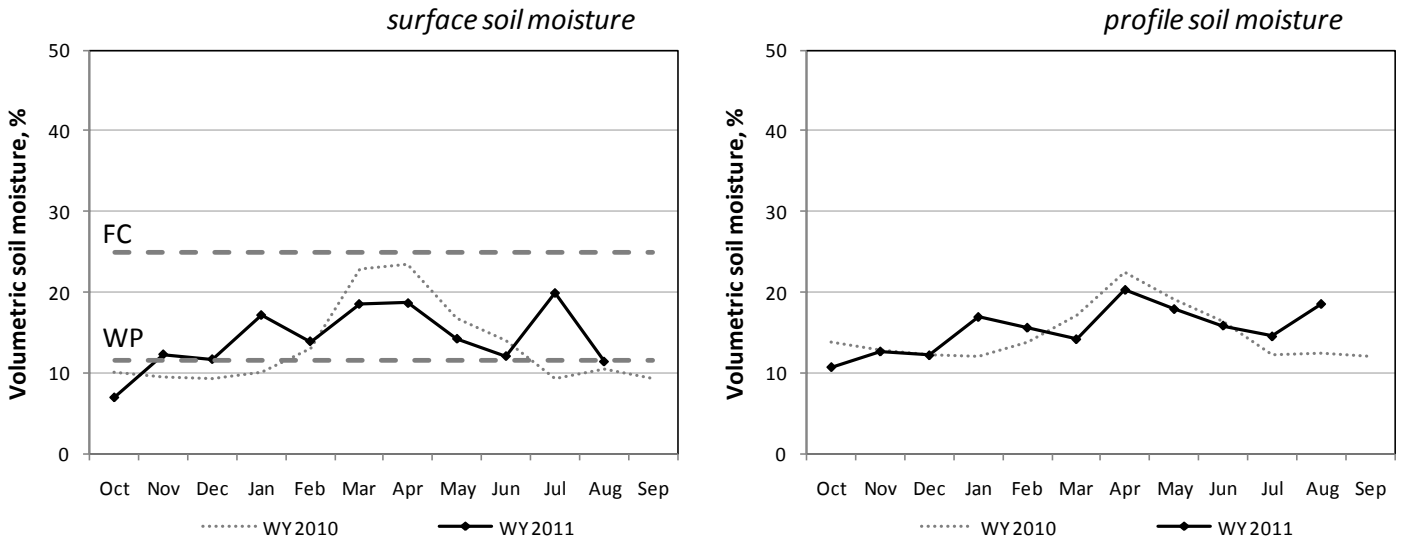
South Central

Soil Climate Analysis Network (SCAN)

Site name	County	Precip to Date*	Monthly Precip	Avg Air Temp	Soil Moisture					Soil Temperature				
					2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
		in.	*in.*	*°F*	*volume %*					*°F*				
SOUTH CENTRAL														
Nephi	*Juab*	15.4	0.9	71	13	18	15	9	6	71	72	72	69	65
Ephraim	*Sanpete*	12.3	1.2	67	13	11	16	16	34	64	67	68	63	60
Holden	*Millard*	12.0	0.6	74	4	5	6	14	16	76	78	77	73	69
Milford	*Beaver*	12.0	1.1	71	7	17	18	31	17	77	78	75	71	67
Manderfield	*Beaver*	19.4	1.6	67	4	13	13	12	5	67	70	69	66	62
Circleville	*Piute*	10.4	2.0	68	31	13	16	9	8	72	70	71	67	63
Panguitch	*Garfield*	11.6	2.7	65	12	19	14	21	32	66	67	66	62	56
Cave Valley	*Washington*	28.9	0.8	68	0	6	3	0	1	70	71	76	72	67
Vermillion	*Kane*	16.9	1.2	68	1	5	3	4	8	63	65	70	66	62
Spooky	*Kane*	8.1	1.1	73	2	6	3	14	3	77	76	78	76	73

*since October 1, 2010. Monthly Precip is the amount of precipitation accumulated in the past month and Avg Air Temp is the average air temperature measured at the SCAN station. Soil moisture and temperature values reflect conditions measured on the first of the month.

South Central



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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.

Western and Dixie

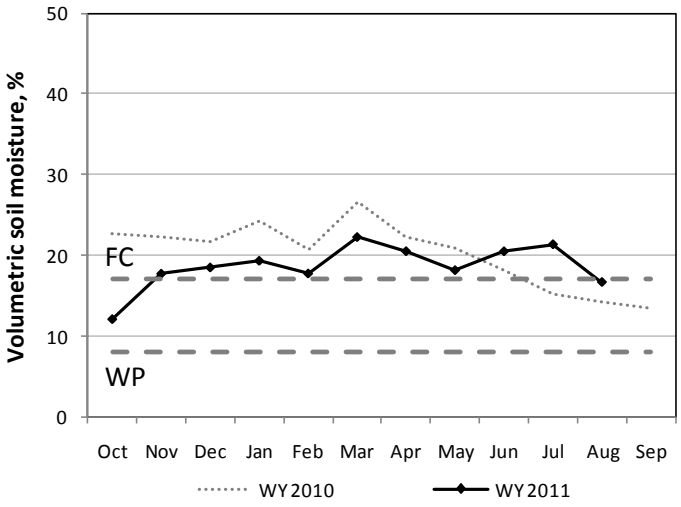
Soil Climate Analysis Network (SCAN)

Site name	County	Precip to Date*	Monthly Precip	Avg Air Temp	Soil Moisture					Soil Temperature				
					2"	4"	8"	20"	40"	2"	4"	8"	20"	40"
		in.	*in.*	*°F*	*volume %*					*°F*				
WESTERN														
Grouse Creek	*Box Elder*	14.1	0.3	64	0	5	14	18	18	66	72	71	69	66
Park Valley	*Box Elder*	12.6	0.9	65	6	10	12	25	27	69	71	75	74	68
Goshute	*Tooele*	15.7	0.7	69	11	20	24	33	55	67	71	75	70	66
Dugway	*Tooele*	13.2	0.9	73	17	23	36	nd	13	75	79	78	73	71
Tule Valley	*Millard*	13.4	1.4	76	23	16	32	21	11	77	84	87	84	81
Hal's Canyon	*Millard*	9.2	2.3	71	6	15	19	10	10	68	73	76	73	70
Enterprise	*Washington*	15.5	0.6	72	5	24	25	15	17	74	78	77	73	68
DIXIE														
Sand Hollow	*Washington*	12.3	0.1	83	0	0	1	1	0	86	94	92	85	80

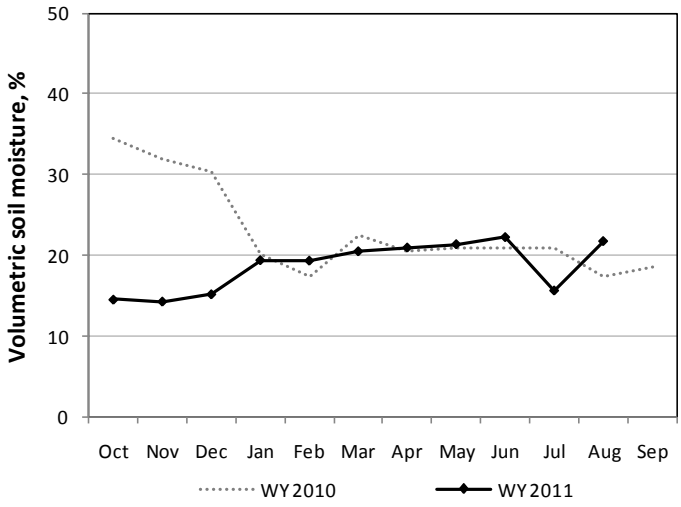
*since October 1, 2010, (nd) no data. Monthly Precip is the amount of precipitation accumulated in the past month and Avg Air Temp is the average air temperature measured at the SCAN station. Soil moisture and temperature values reflect conditions measured on the first of the month.

Western & Dixie

surface soil moisture



profile soil moisture



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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.

2010 Minimum Soil Temperatures at Utah SCAN sites

Minimum soil temperatures and number of days less than or equal to 32°F.

Site Name	2-inch		4-inch		8-inch		20-inch		40-inch	
	min. temp	#	min. temp	#	min. temp	#	min. temp	#	min. temp	#
	°F	days	°F	days	°F	days	°F	days	°F	days
Alkali Mesa	23	34	22	45	29	5	34	0	36	0
Blue Creek	20	64	24	26	26	22	33	0	38	0
Buffalo Jump	19	125	24	121	26	113	31	68	R	
Cache Junction	22	83	24	54	27	50	34	0	38	0
Chicken Ridge	23	133	26	102	26	92	33	0	35	0
Circleville	19	82	21	96	21	127	29	29	37	0
Dugway	15	56	21	39	26	28	35	0	37	0
Eastland	28	38	31	23	32	0	34	0	36	0
Enterprise	23	52	29	32	30	27	34	0	40	0
Ephraim	18	105	26	56	30	6	35	0	38	0
Grantsville	22	65	27	42	32	7	38	0	46	0
Green River	15	99	16	94	21	89	27	44	35	0
Holden	26	27	27	29	29	21	33	0	41	0
Lightning Ridge	32	12	34	0	33	0	33	0	35	0
Little Red Fox	28	43	29	44	30	41	33	0	36	0
McCracken Mesa	26	55	31	8	33	0	36	0	40	0
Milford	22	43	27	26	29	11	36	0	42	0
Morgan	24	80	26	82	27	56	32	1	34	0
Mountain Home	25	27	28	19	30	11	34	0	38	0
Nephi	24	34	27	22	30	6	36	0	39	0
Panguitch	25	53	28	35	29	29	33	0	38	0
Price	15	79	21	71	25	50	32	0	37	0
Sand Hollow	33	0	36	0	40	0	43	0	46	0
Split Mountain	18	53	20	52	23	51	28	41	34	0
West Summit	20	53	22	55	28	6	33	0	36	0

min. temp, minimum temperature recorded; #, number of days less than or equal to 32°F; R, bedrock; site installation not complete in time to calculate 2010 frost depth at Harm's Way, Goshute, Hal's Canyon, Tule Valley, Vermillion, Cave Valley, Grouse Creek, Spooky, Manderfield, and Park Valley.

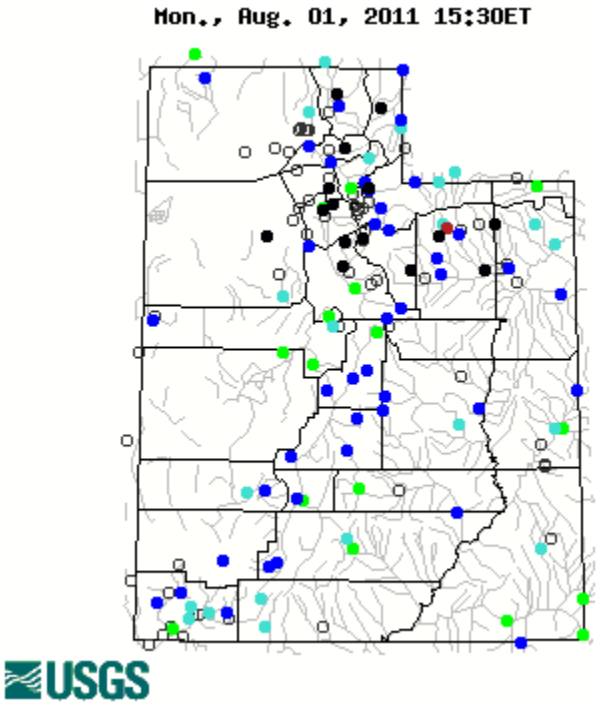
Utah Hydrologic Summary

August 1, 2011

Current Conditions

Streamflow remains high across the entire state with many stations in the upper 10% or above/near record highs. Soil moisture values across the state are extremely high – at or above recorded levels. Precipitation across the state was near to much above normal for July (94% - Weber to 225%- Duchesne) bringing the Oct-July period to 152% statewide. Reservoir storage for the entire state is at 98% of capacity – astronomically high for this time of year. With about 6 weeks of irrigation season left and the current generally high streamflows we should go into water year 2012 at unusually high reservoir levels. In fact, most reservoirs may be able to fill simply utilizing fall and winter streamflow. Enjoy this abundance of water while it lasts as we all know that a reversal of fortune might occur at any time.

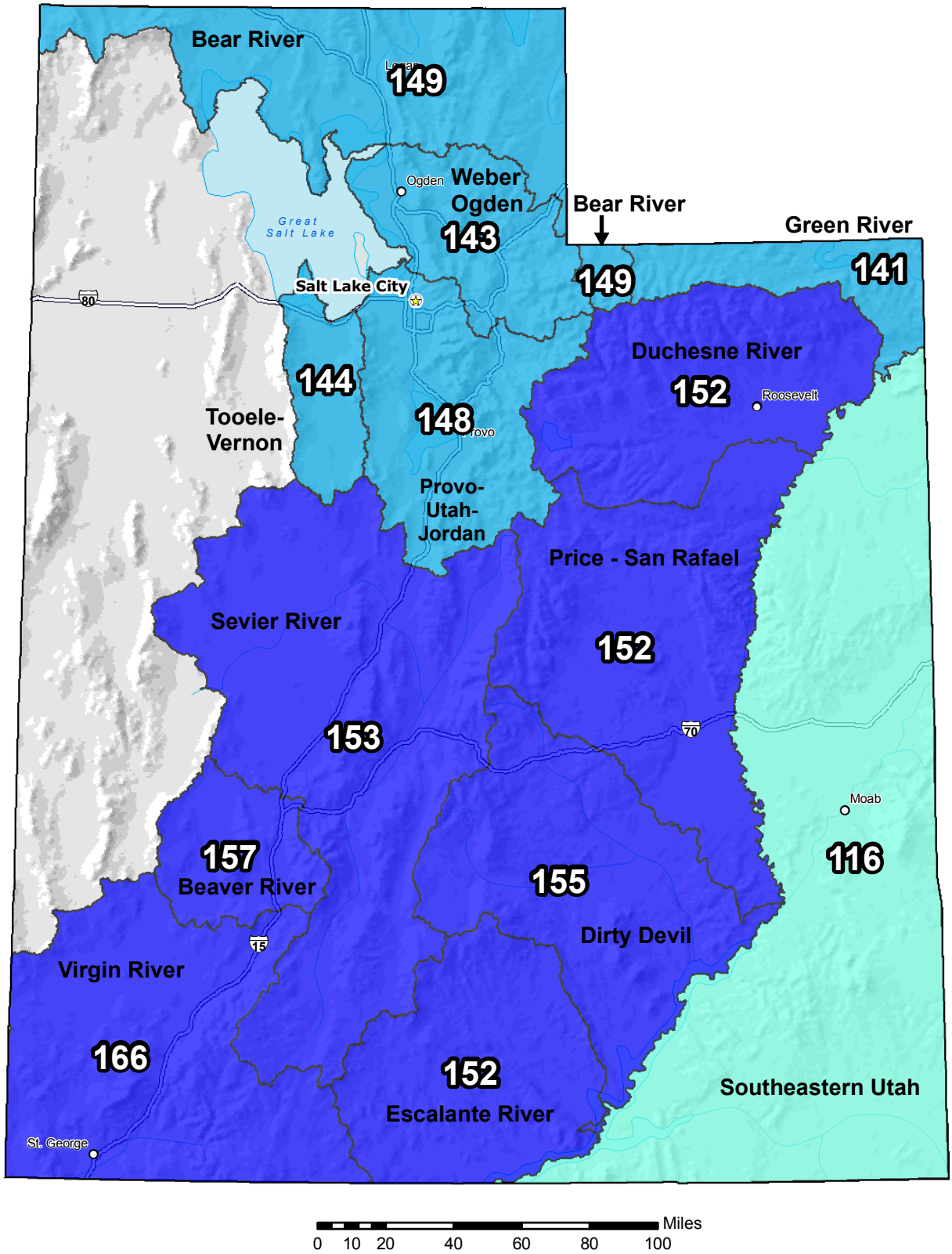
Current Utah Streamflow - Courtesy US Geological Survey



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

Aug 01, 2011



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

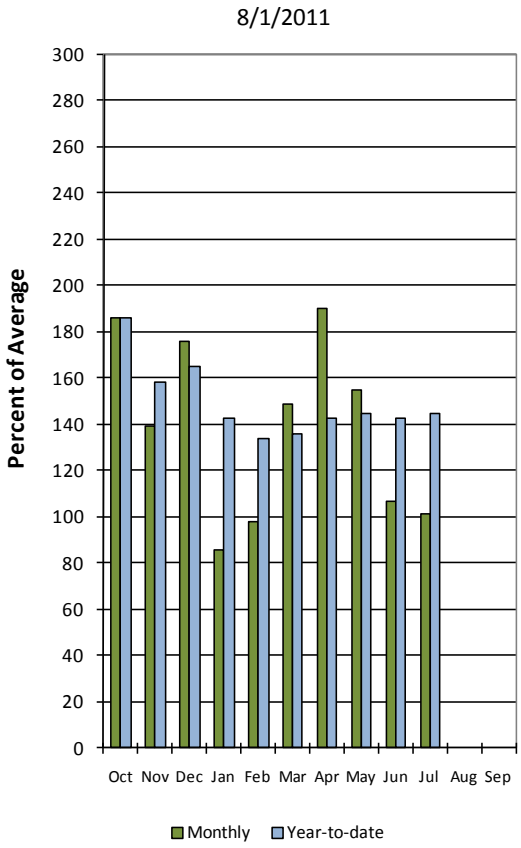
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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

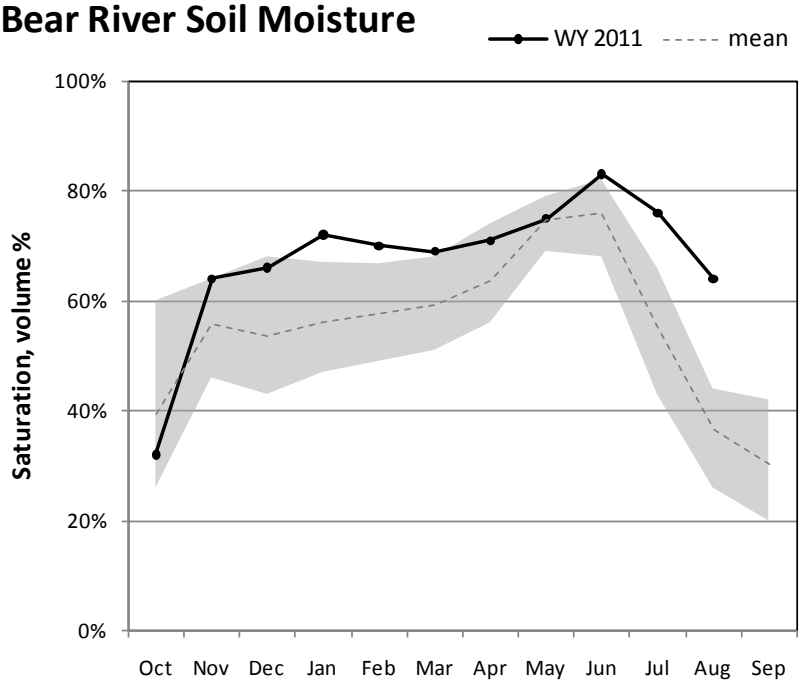
Bear River Basin
August 1, 2011

Precipitation in July was average at 103% which brings the water year accumulation to 142%. Reservoir storage is at 89% of capacity, which is 48% higher than this time last year. Soil moisture is at 64% compared to 43% last year.

Bear River Precipitation

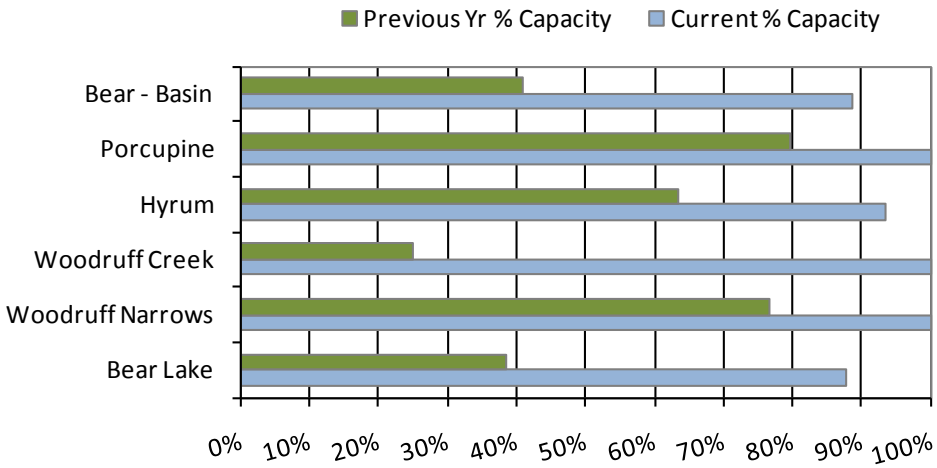


Bear River Soil Moisture



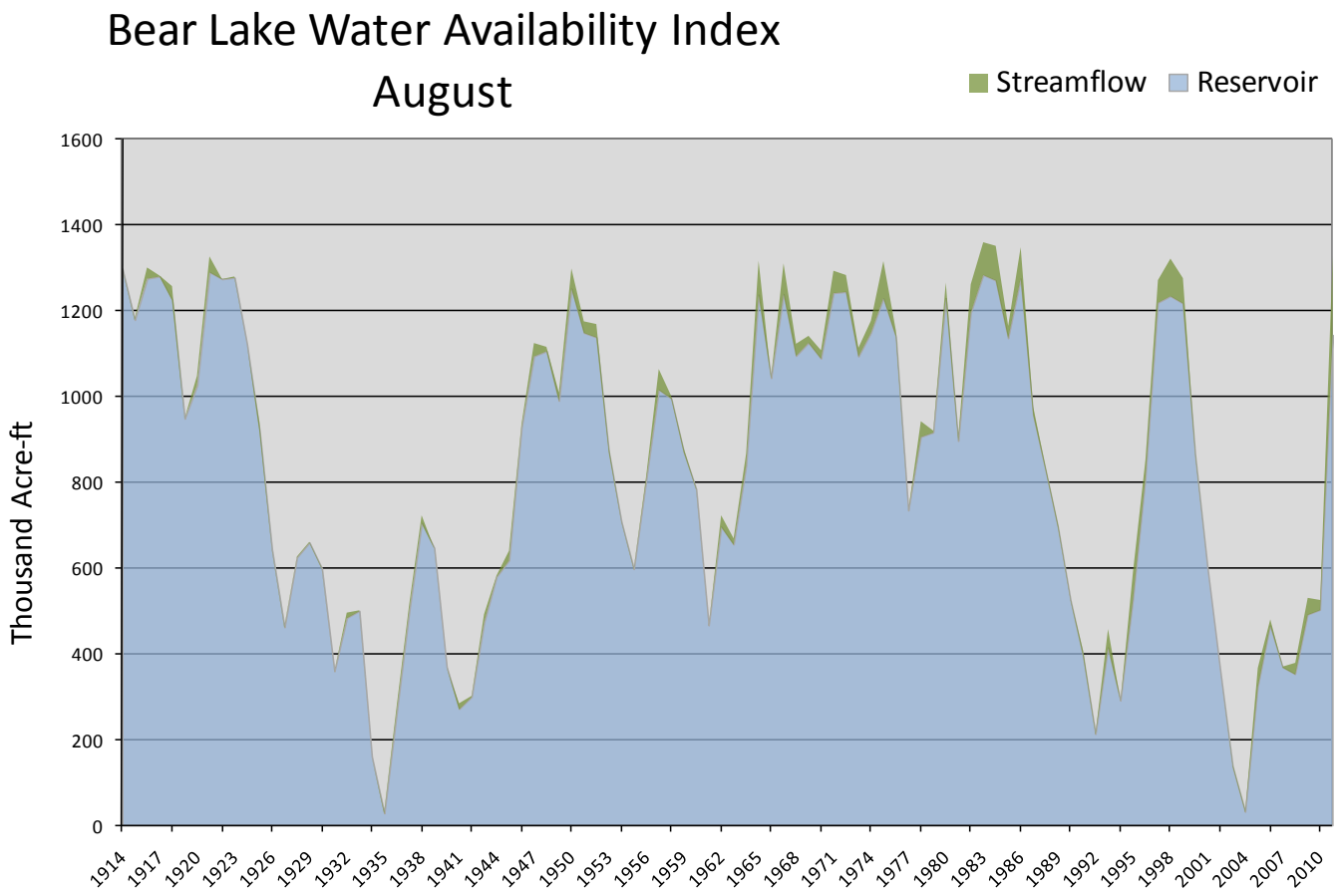
Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

August Bear River Reservoir Storage



August 1, 2011	**Water Availability Index**					
Basin or Region	July EOM* Bear Lake	July accumulated inflow to Bear Lake (*observed*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Bear River	**1144**	**183**	**1327**	**3.75**	**95**	**65,98,21,86**

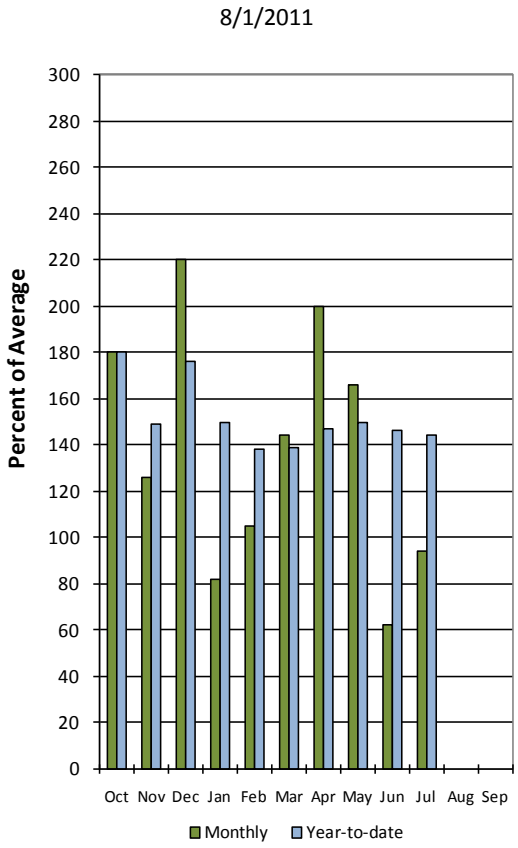
**EOM, end of month; [#] WAI, water availability index; ^KAF, thousand acre-feet.*



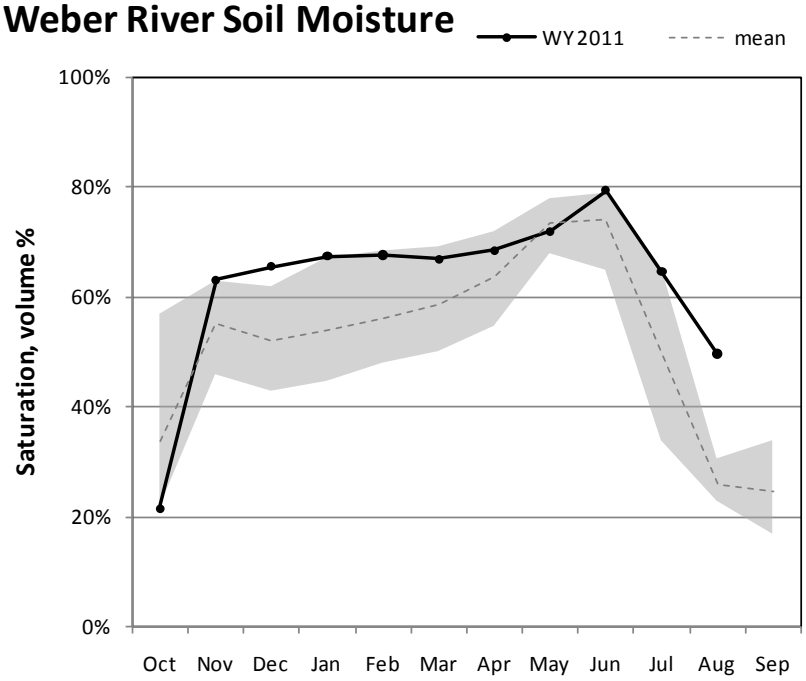
Weber and Ogden River Basin
August 1, 2011

Precipitation in July was near average at 95% which brings the water year accumulation to 142%. Reservoir storage is at 95% of capacity, which is 10% higher than this time last year. Soil moisture is at 50% compared to 28% last year.

Weber River Precipitation

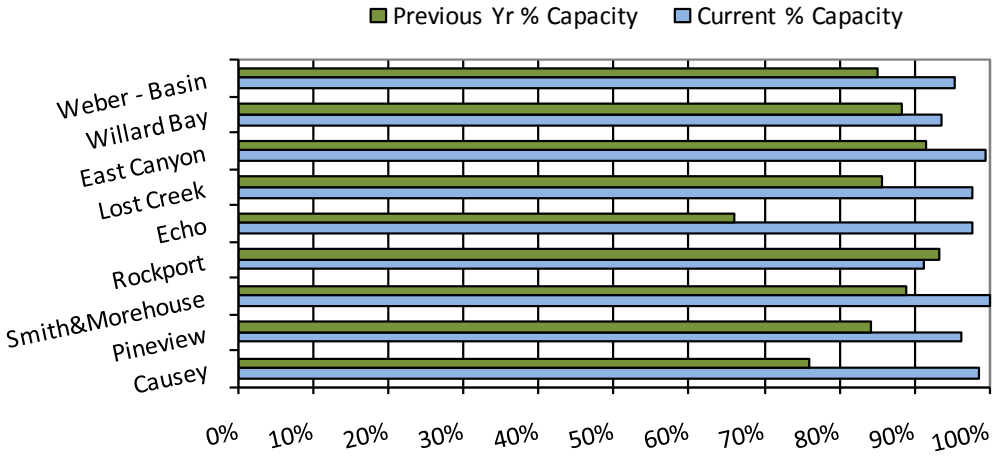


Weber River Soil Moisture



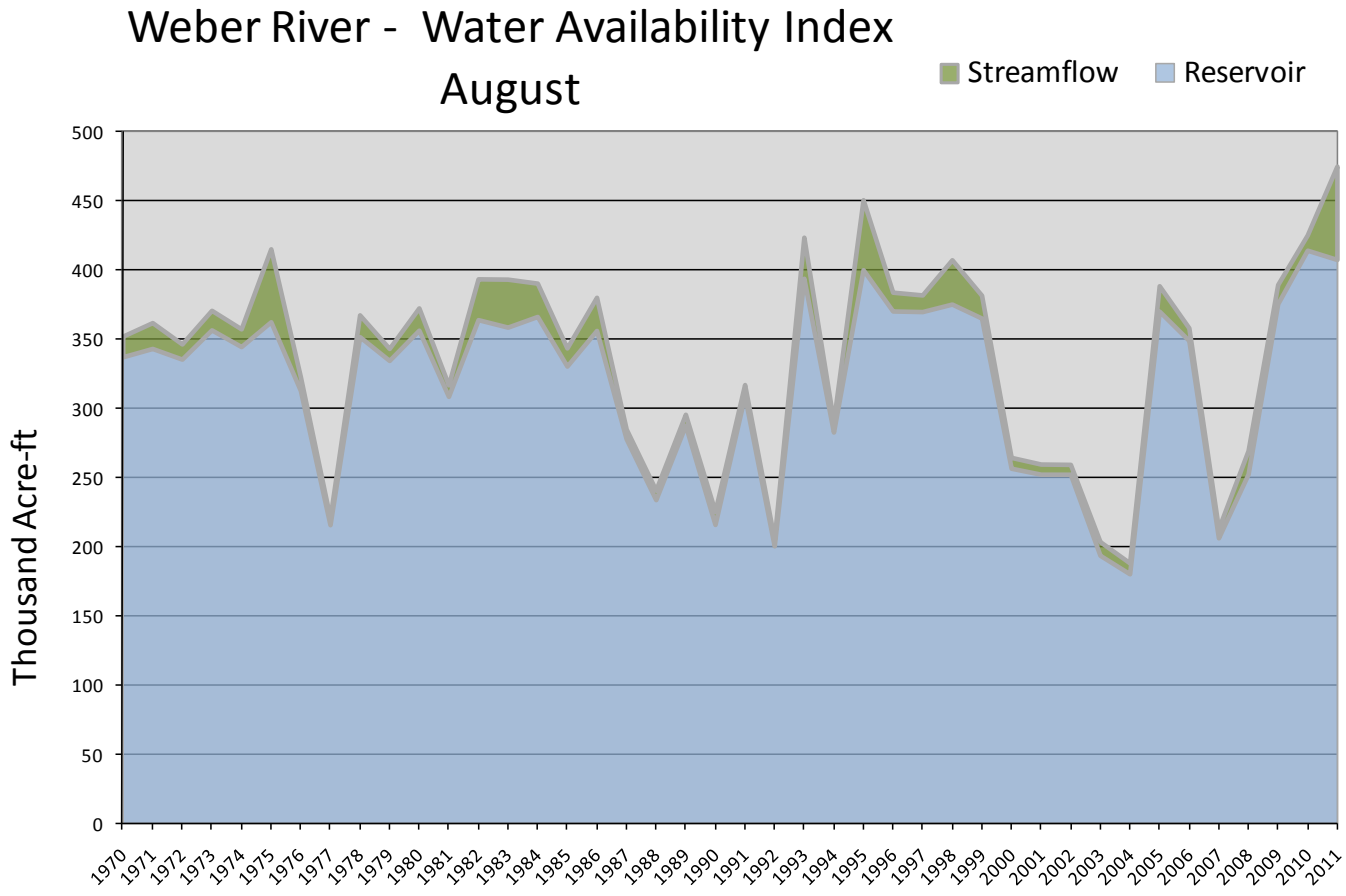
Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

August Weber Basin Reservoir Storage



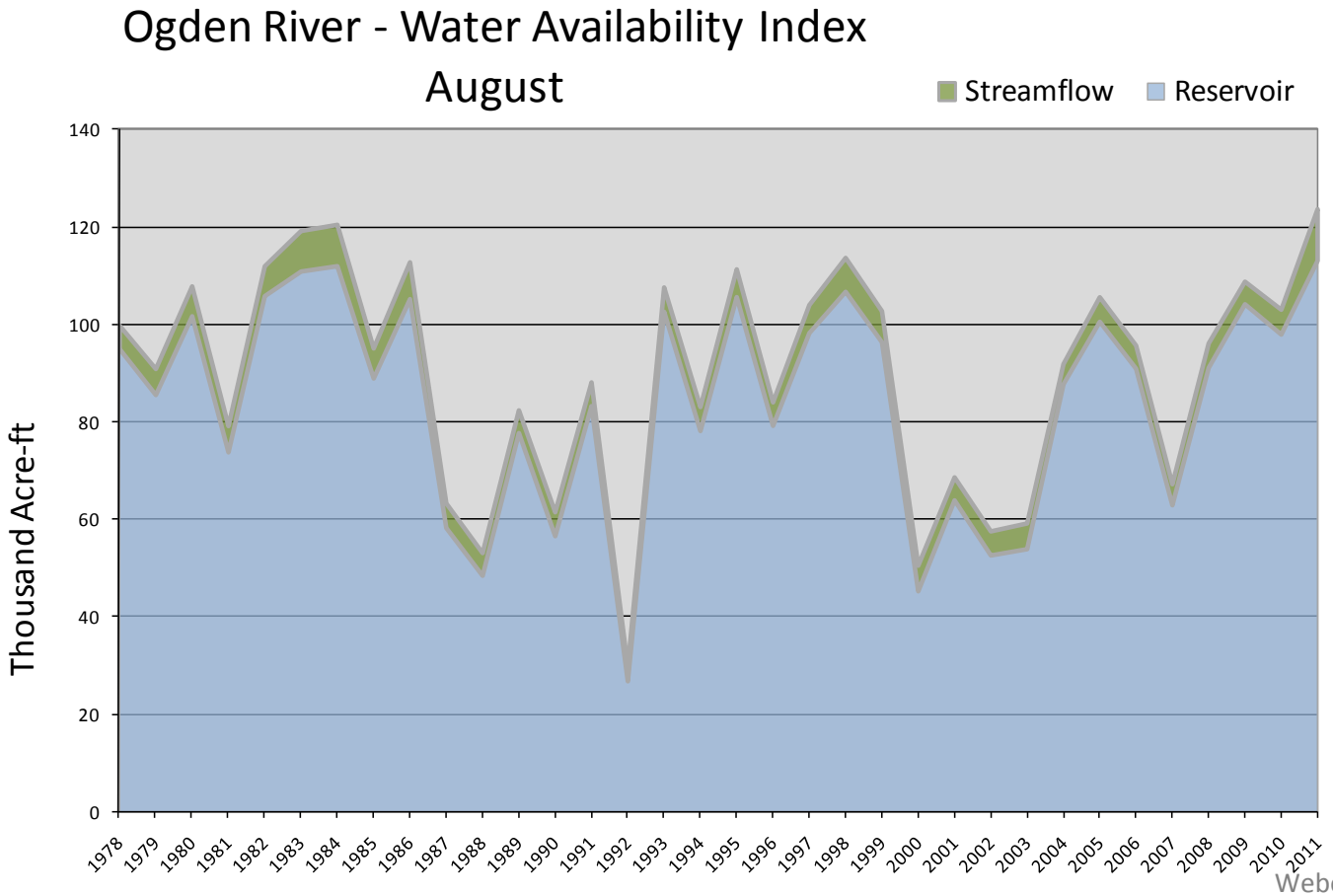
August 1, 2011	**Water Availability Index**					
Basin or Region	July EOM* Reservoirs	July accumulated flow at Weber near Oakley (*observed*)	Reservoirs + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Weber River	**408**	**68**	**476**	**3.97**	**98**	**95,10,93,75**

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



August 1, 2011	**Water Availability Index**					
Basin or Region	July EOM* Pine View & Causey	July accumulated flow at South Fork Ogden (*observed*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Ogden River	**113**	**10.6**	**124**	**3.93**	**97**	**84,83,98,86**

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

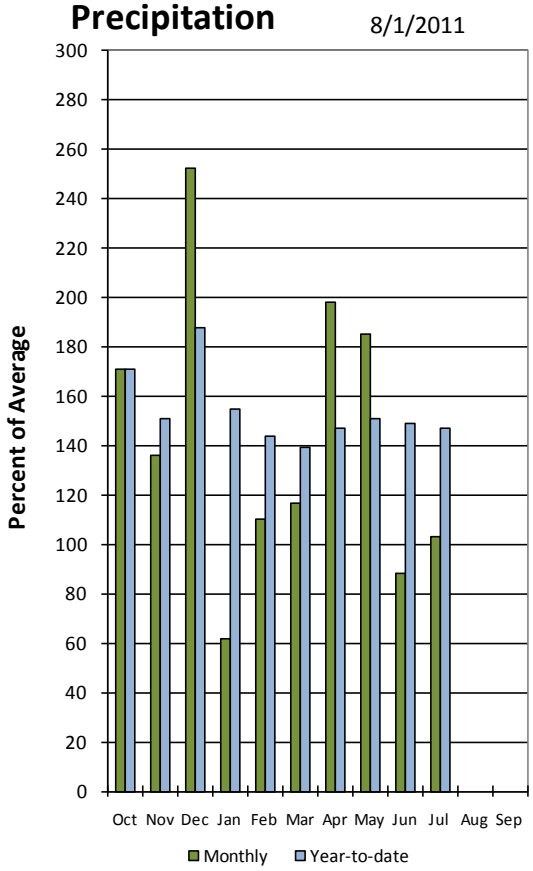


Utah Lake, Jordan River, & Tooele Valley Basins

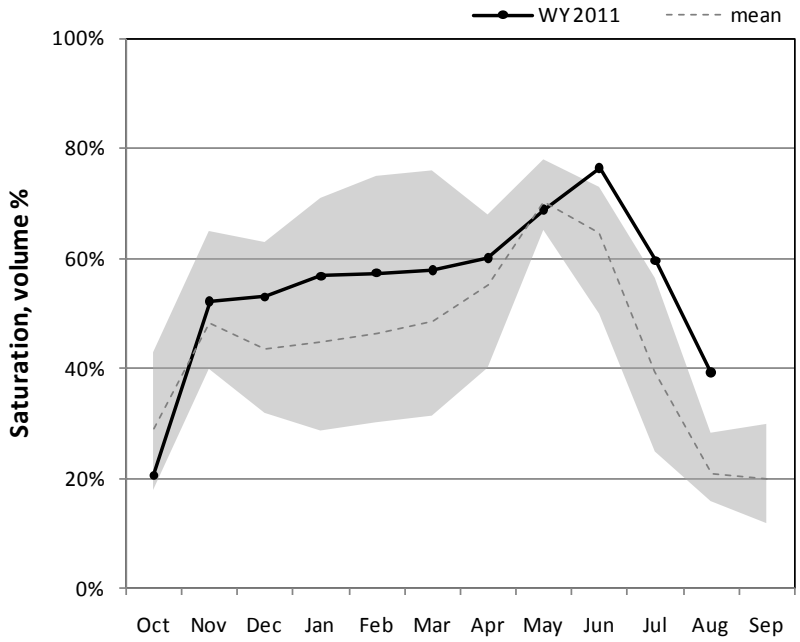
August 1, 2011

Precipitation in July was near average at 103%, bringing water year accumulation to 147%. Reservoir storage is at 106% of capacity, which is 15% more than this time last year. Soil moisture is at 39% compared to 28% last year at this time.

Jordan / Provo River Precipitation

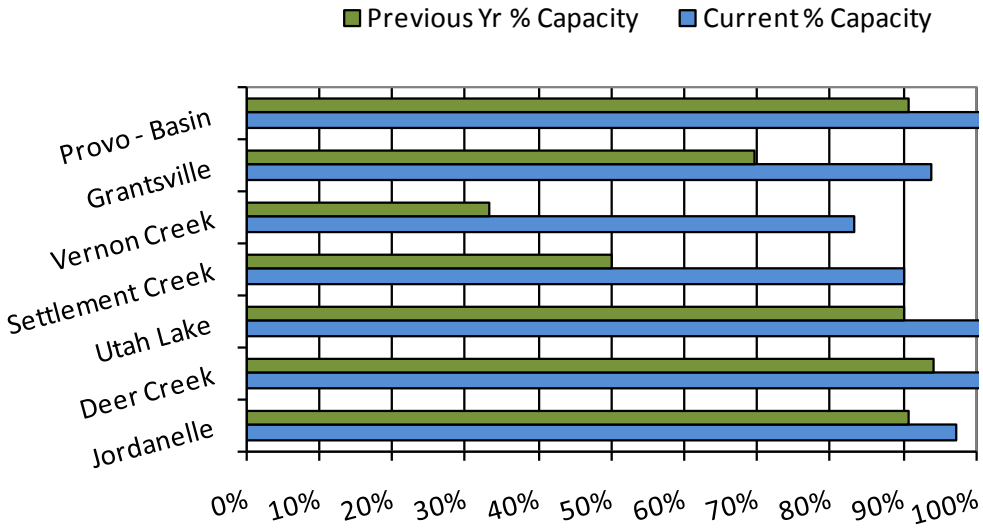


Jordan / Provo River Soil Moisture



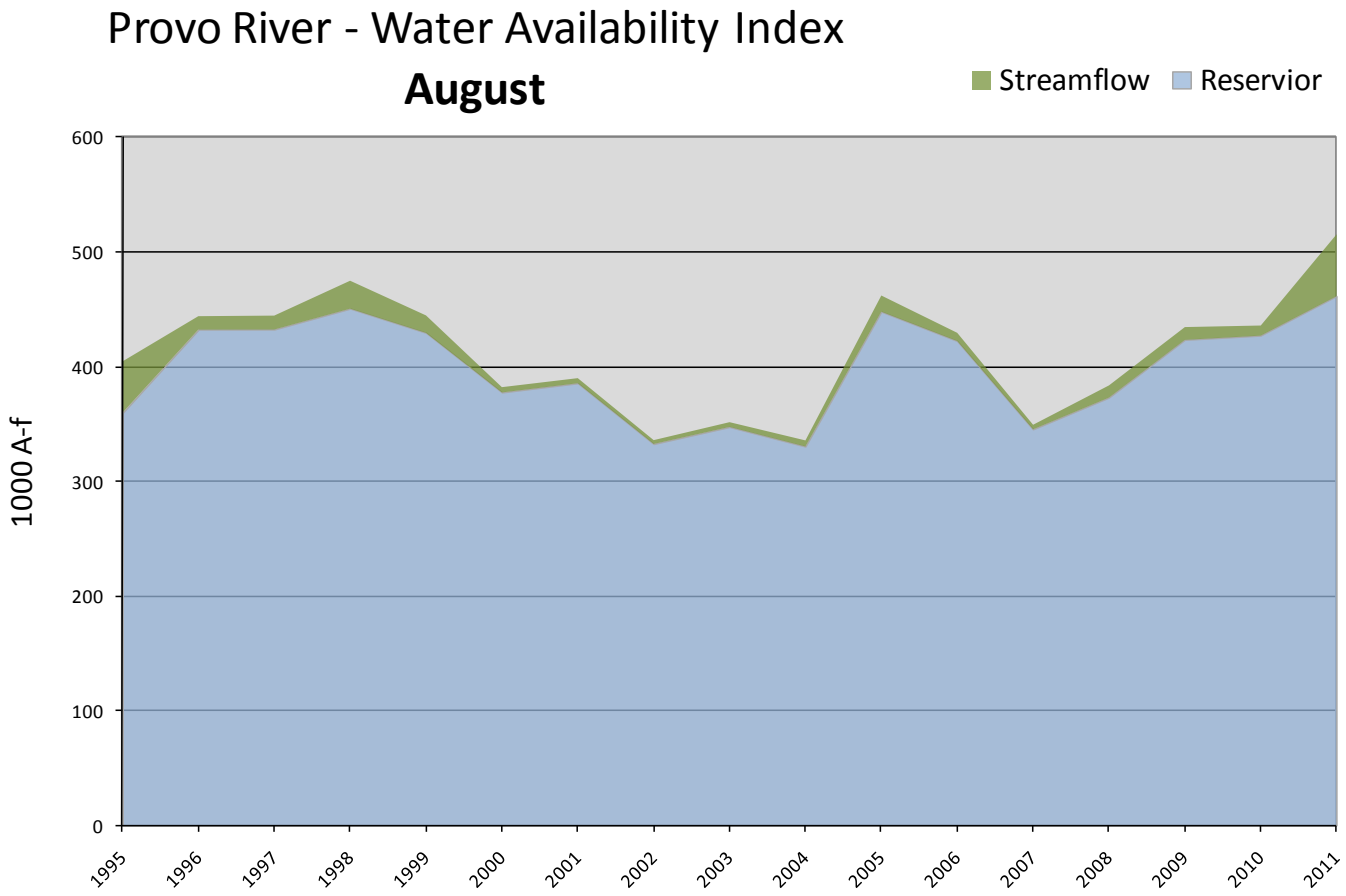
Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

August Provo River Reservoir Storage



August 1, 2011		**Water Availability Index**				
Basin or Region	July EOM* Deer Creek, Jordanelle	July accumulated flow Provo River at Woodland (*observed*)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Provo	**462**	**54**	**516**	**3.70**	**94%**	**98,05,99,97**

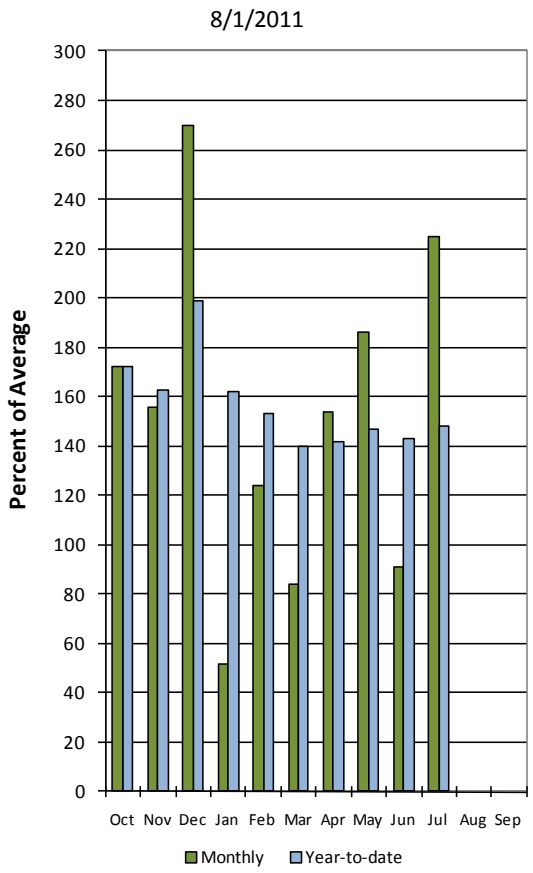
**EOM, end of month; # WAI, water availability index; ^KAF, thousand acre-feet.*



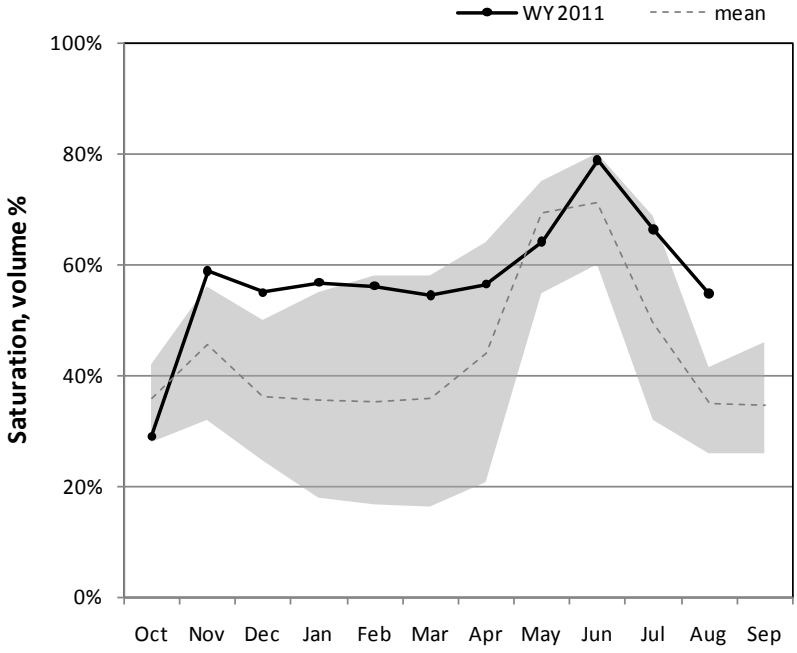
Uintah Basin and Dagget SCDs
August 1, 2011

Precipitation in July was much above average at 225%, bringing the water year accumulation to 148%. Reservoir storage is at 99% of capacity, 10% higher as this time last year. Soil moisture is at 55% compared to 39% last year.

Uintah Precipitation

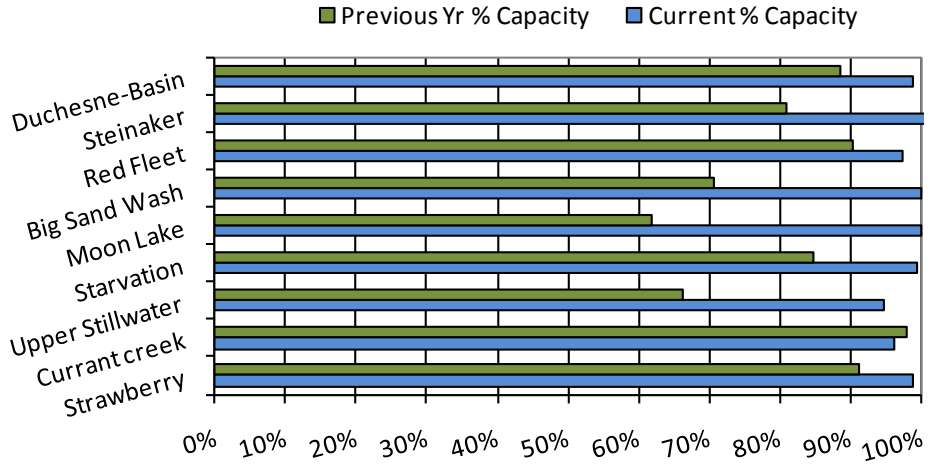


Uintah Basin Soil Moisture



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.

August Uintah Basin Reservoir Storage

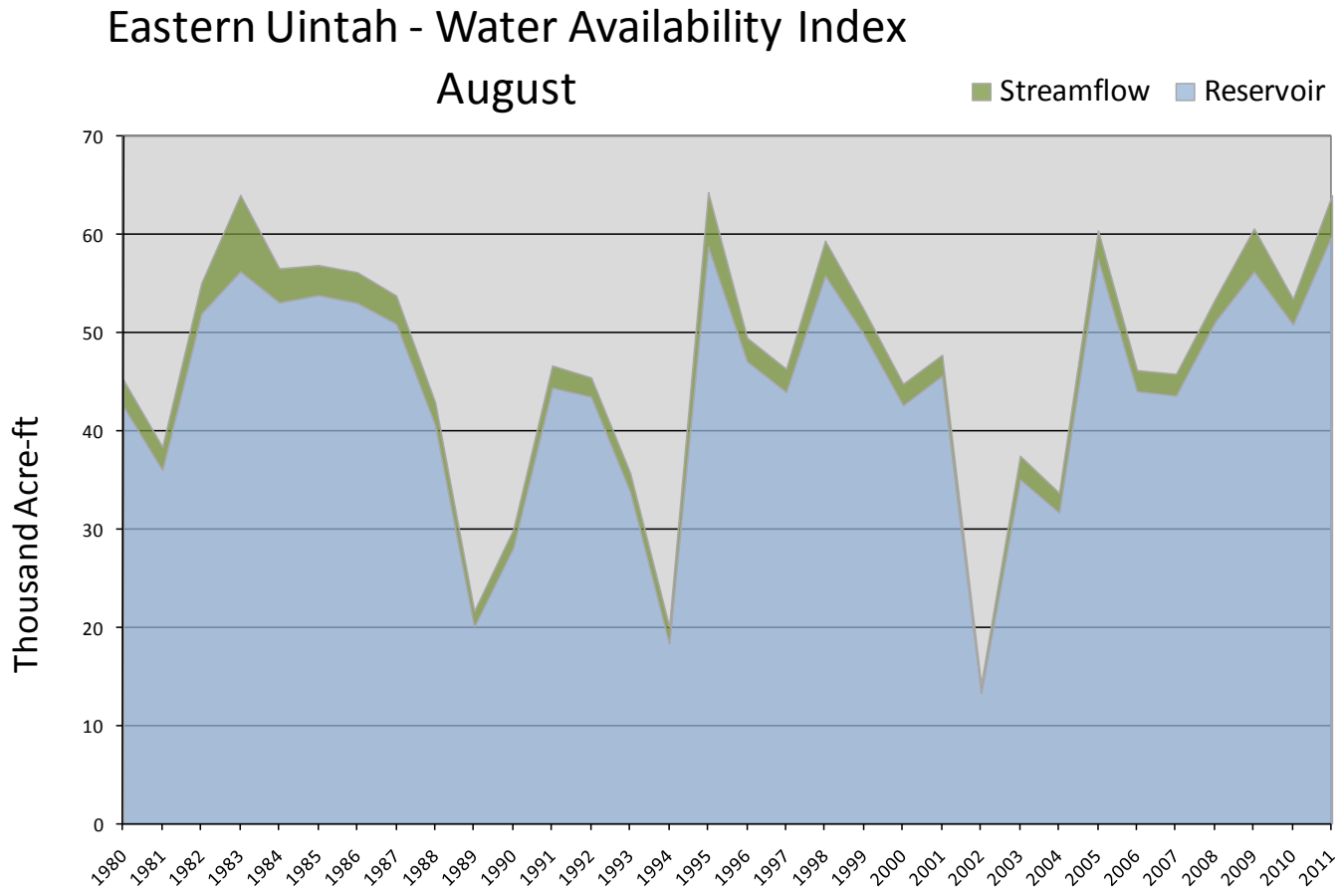


August 1, 2011

Water Availability Index

Basin or Region	July EOM* Red Fleet and Steinaker	July accumulated flow Big Brush Creek (*observed*)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Eastern Uintah	**60.0**	**4.0**	**64.0**	**3.41**	**91**	**05, 09, 83, 95**

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

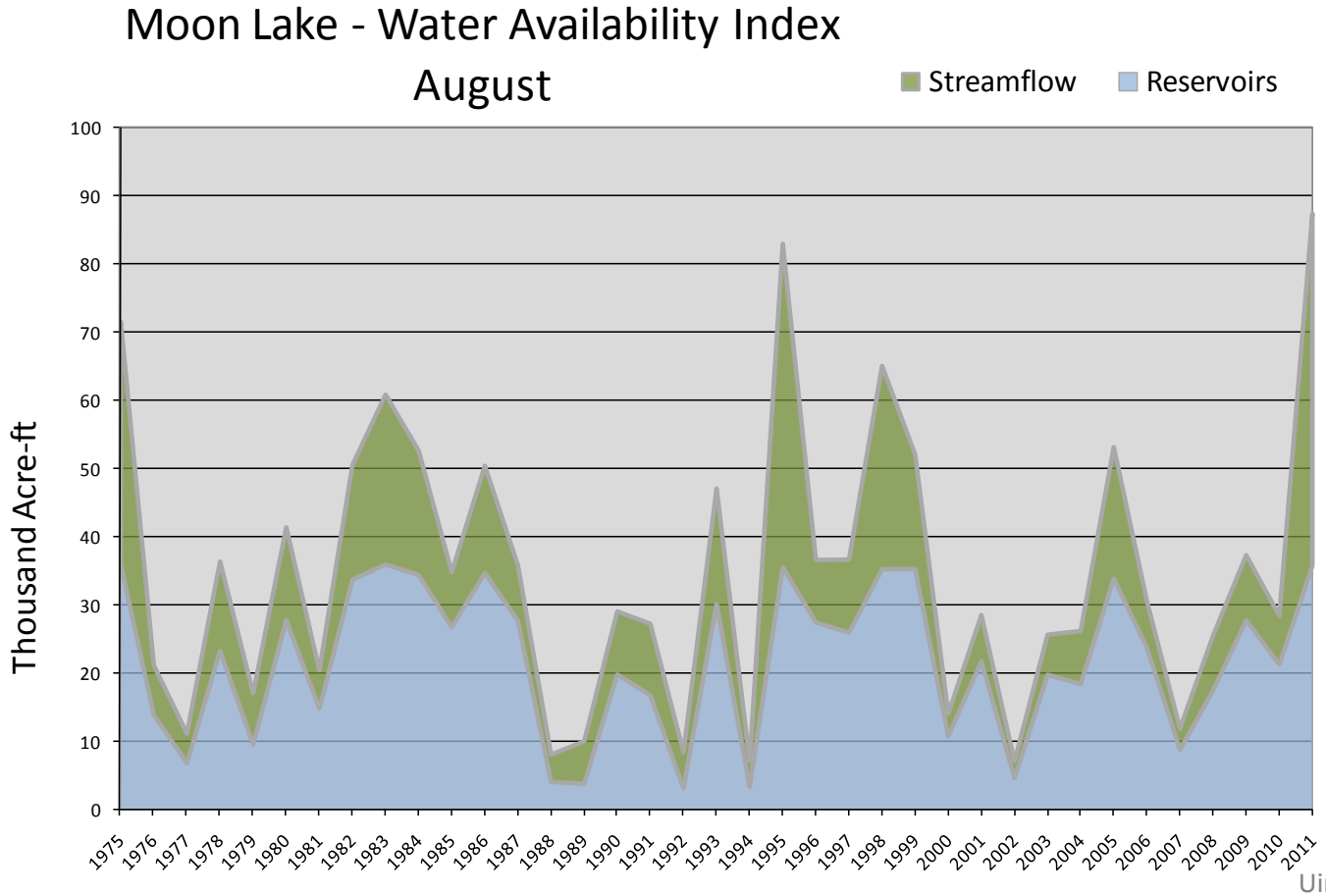


August 1, 2011

Water Availability Index

Basin or Region	July EOM* Moon Lake	July accumulated flow Lake Fork Creek above Moon Lake (*observed*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Moon Lake	**35.8**	**51.7**	**87.5**	**3.95**	**97**	**83, 98, 75, 95**

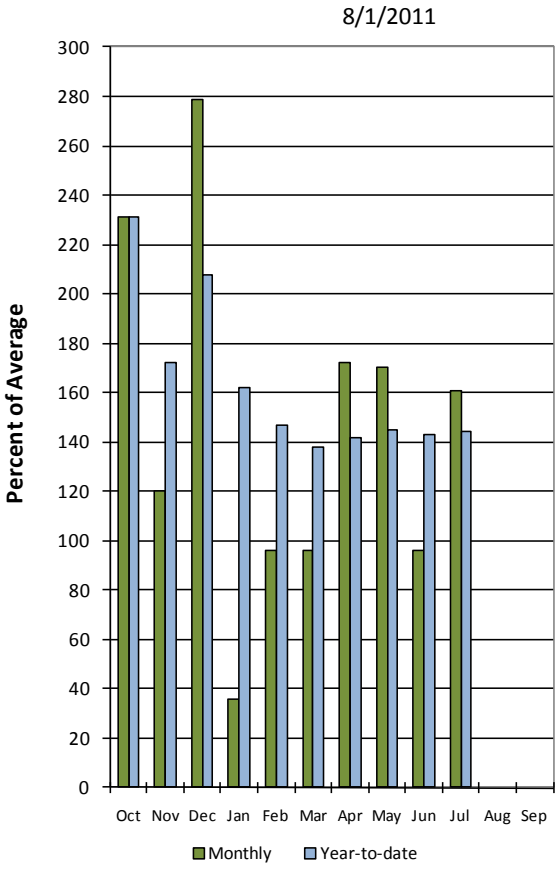
**EOM, end of month; [#] WAI, water availability index; ^KAF, thousand acre-feet.*



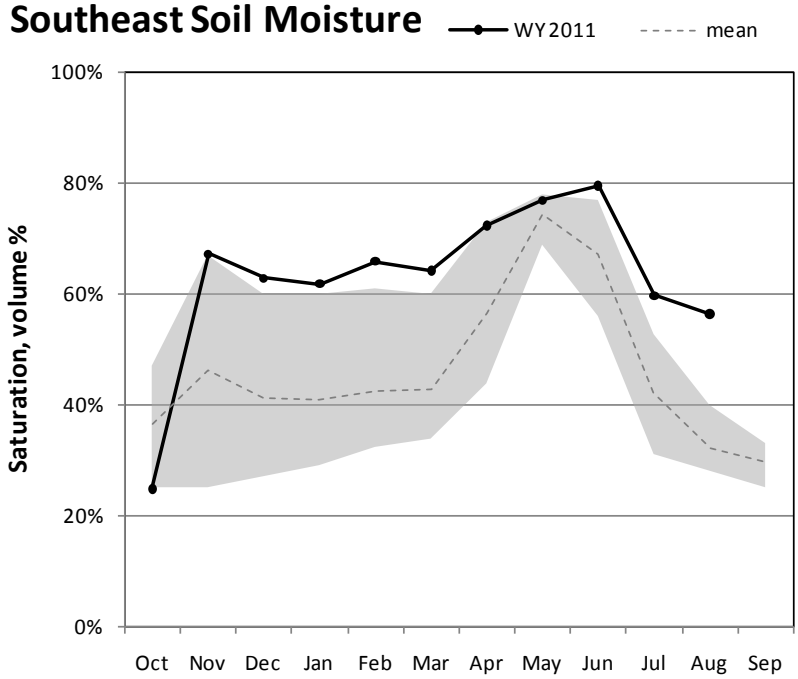
Southeast – Carbon, Emery, Wayne, Grand, and San Juan Counties
August 1, 2011

Precipitation in July was above average at 161%, bringing the water year accumulation to 144%. Reservoir storage is at 99% of capacity, which is 31% higher at this time last year. Soil moisture is at 56% compared to 40% last year.

Southeast Utah Precipitation

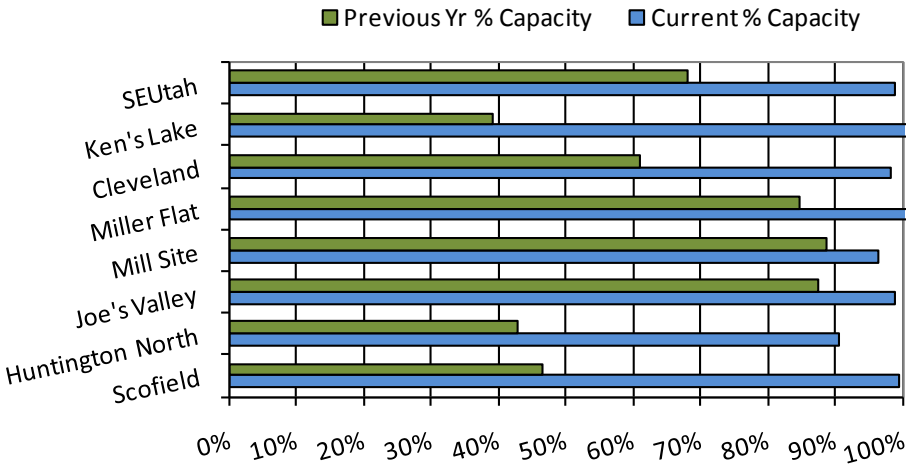


Southeast Soil Moisture



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.

August Southeast Utah Reservoir Storage

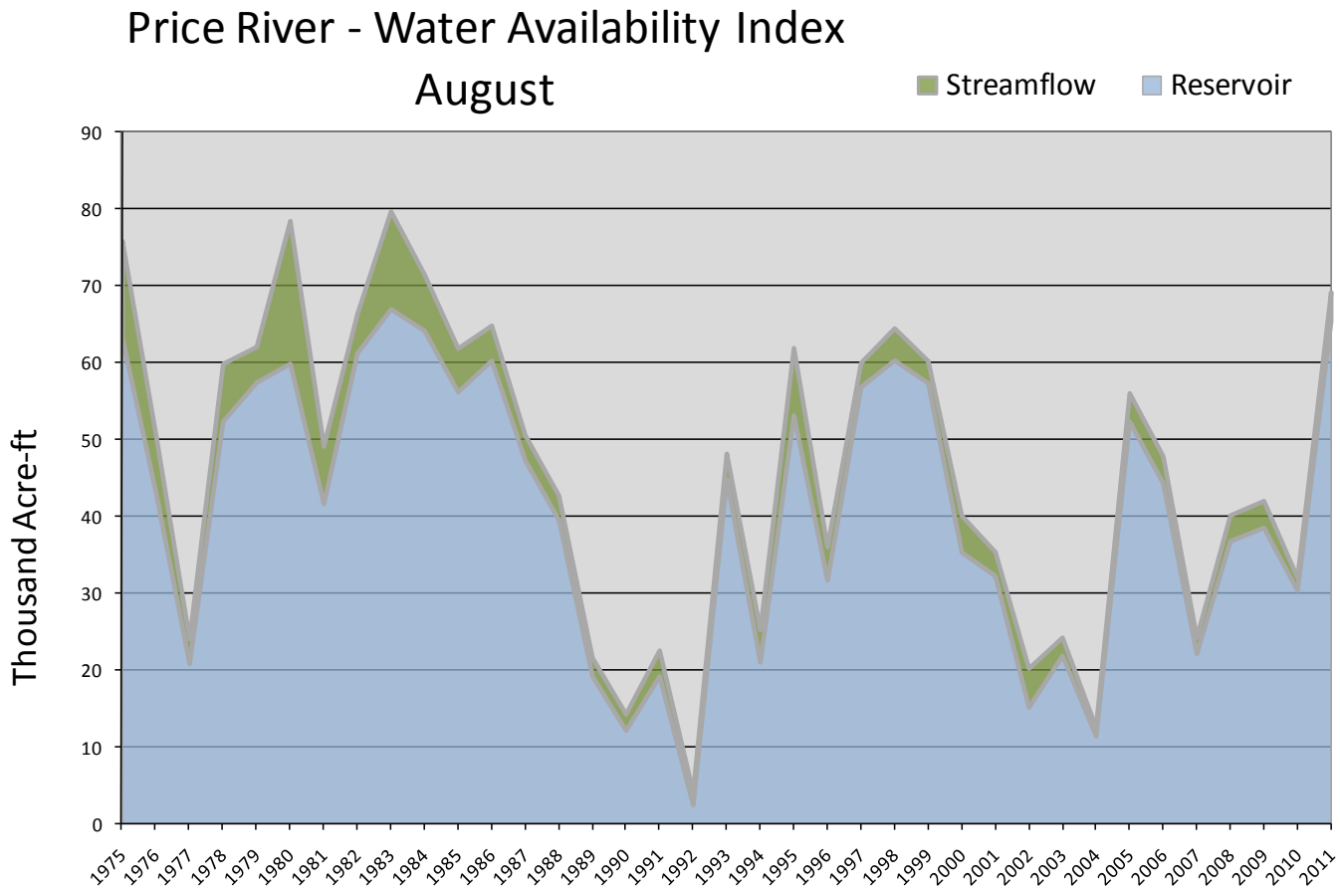


August 1, 2011

Water Availability Index

Basin or Region	July EOM* Scofield	July accumulated inflow to Scofield (*calculated*)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Price River	**65.5**	**3.8**	**69.3**	**3.07**	**87**	**86, 82, 84, 75**

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

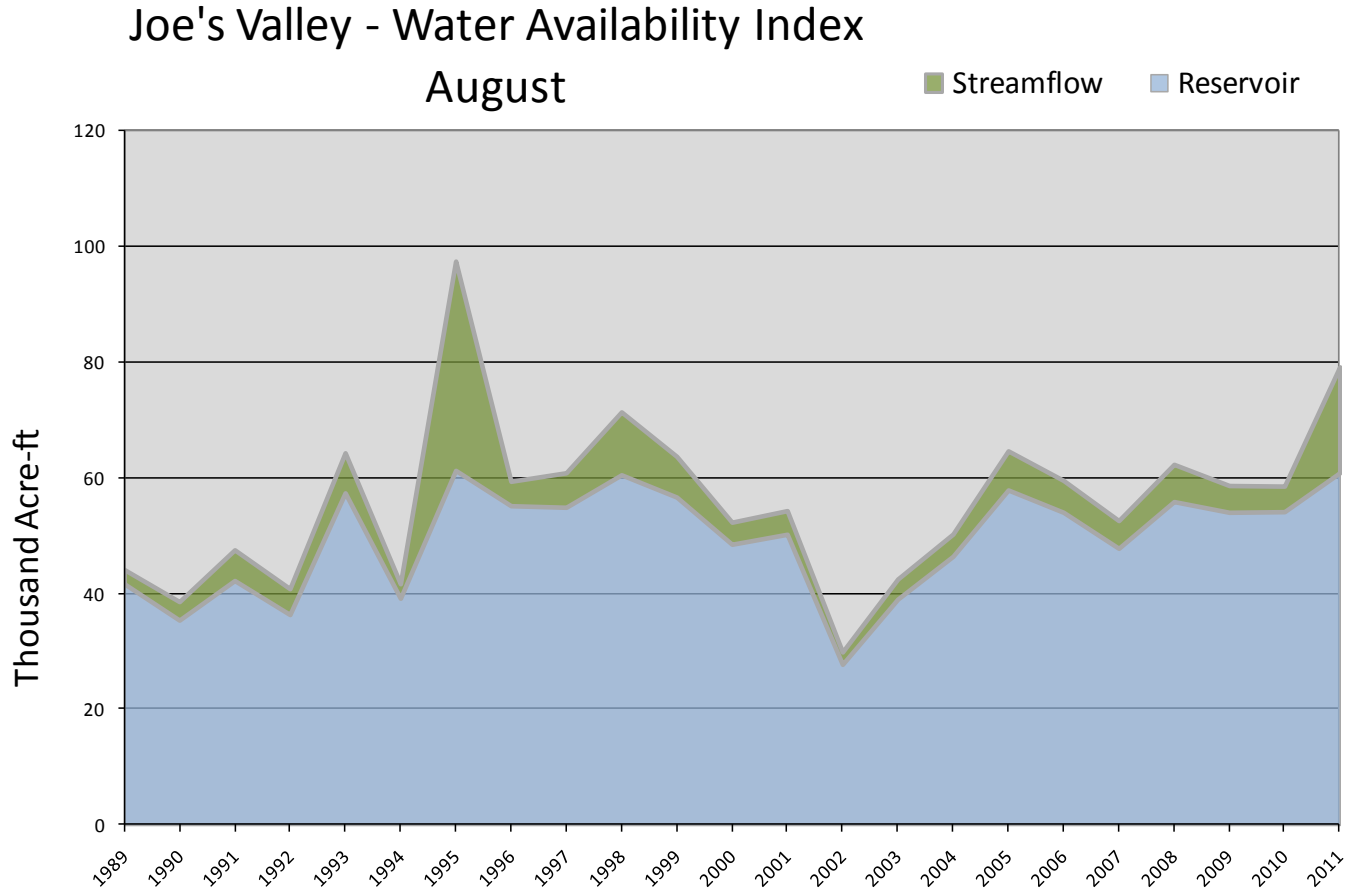


August 1, 2011

Water Availability Index

Basin or Region	July EOM* Joe's Valley	July accumulated inflow to Joe's Valley (*calculated*)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Joe's Valley	**60.9**	**18.3**	**79.2**	**3.47**	**92**	**93, 05, 98, 95**

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

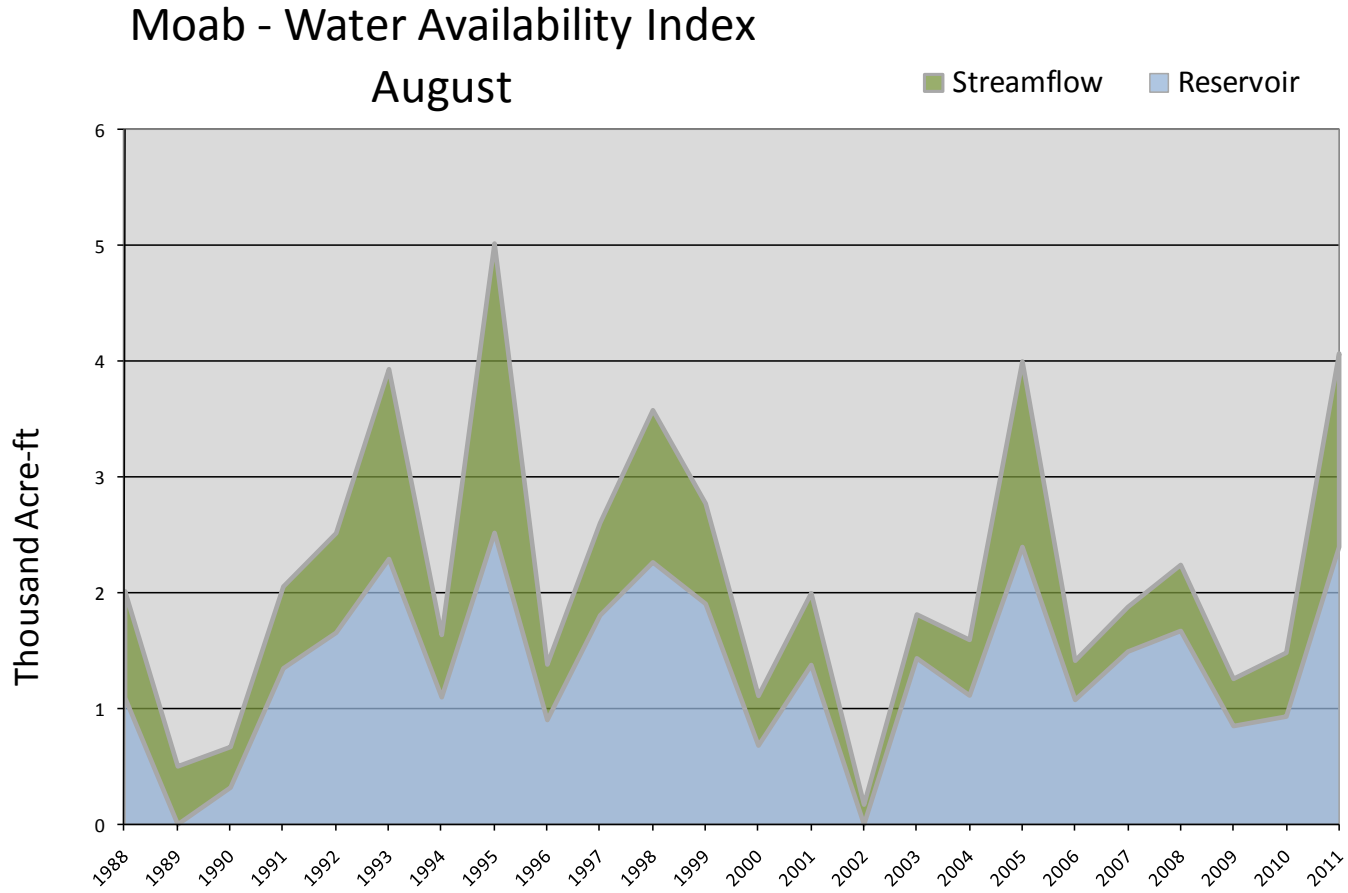


August 1, 2011

Water Availability Index

Basin or Region	July EOM* Ken's Lake Reservoir	July accumulated flow Mill Creek at Sheley (*observed*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Moab	**2.4**	**1.7**	**4.1**	**3.50**	**92**	**98, 93, 05, 95**

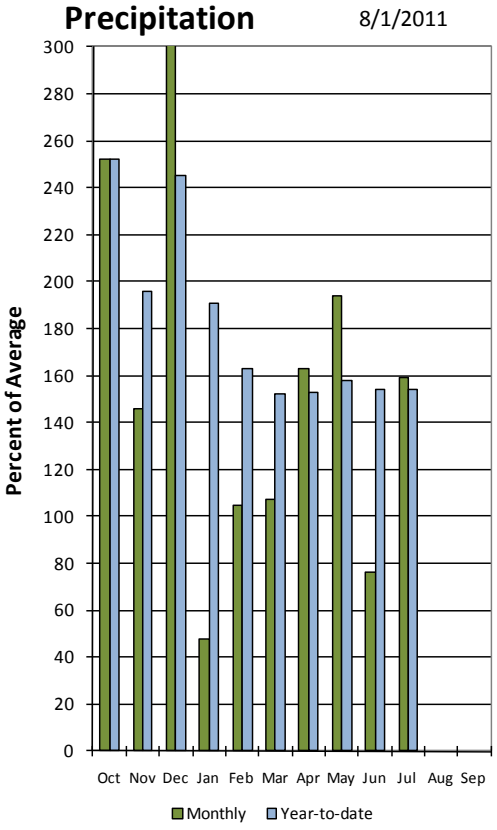
**EOM, end of month; [#] WAI, water availability index; ^KAF, thousand acre-feet.*



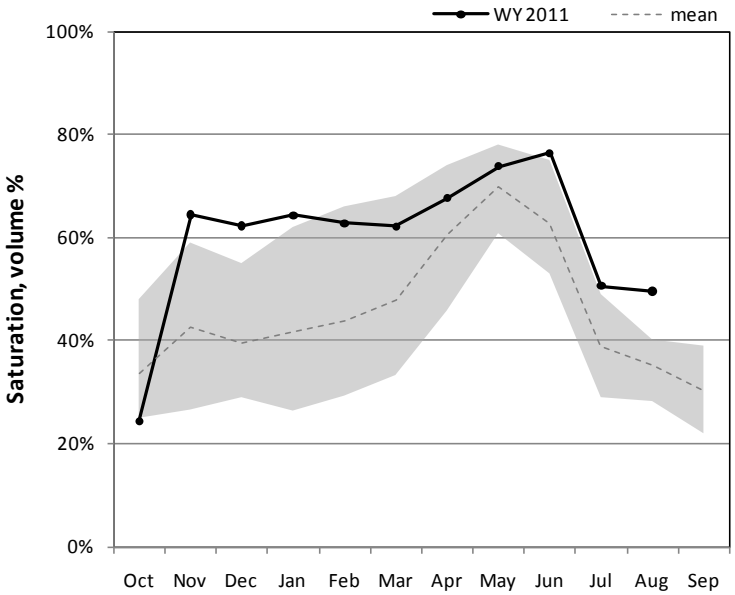
Sevier and Beaver River Basins
August 1, 2011

Precipitation in July was much above average at 159%, which brings the seasonal accumulation (Oct-Jul) to 154% of average. Reservoir storage is high at 93% of capacity compared to 41% last year. Soil moisture is very high for this time of year : current 50%, last month – 51% and last year -40% of saturation. Water supply conditions are very high as indicated by the Water Availability Index: Upper Sevier – 93%, Lower Sevier – 96% and Beaver 98%.

Sevier /Beaver River Precipitation

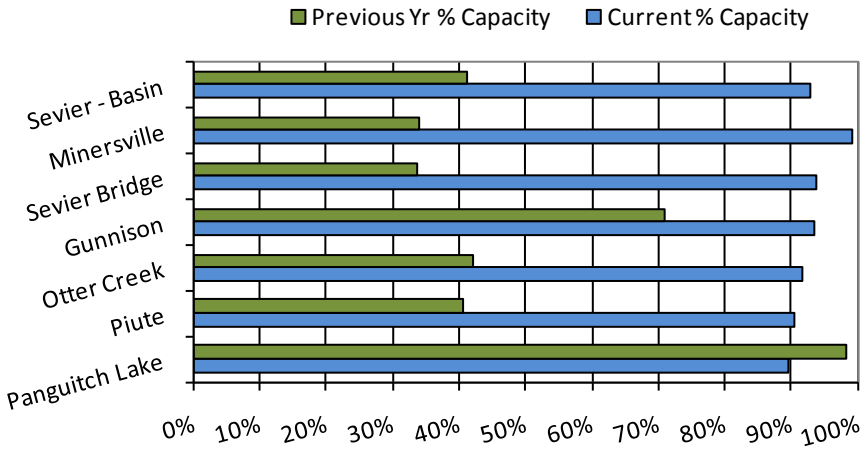


Sevier / Beaver River Soil Moisture



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.

August Sevier River Reservoir Storage

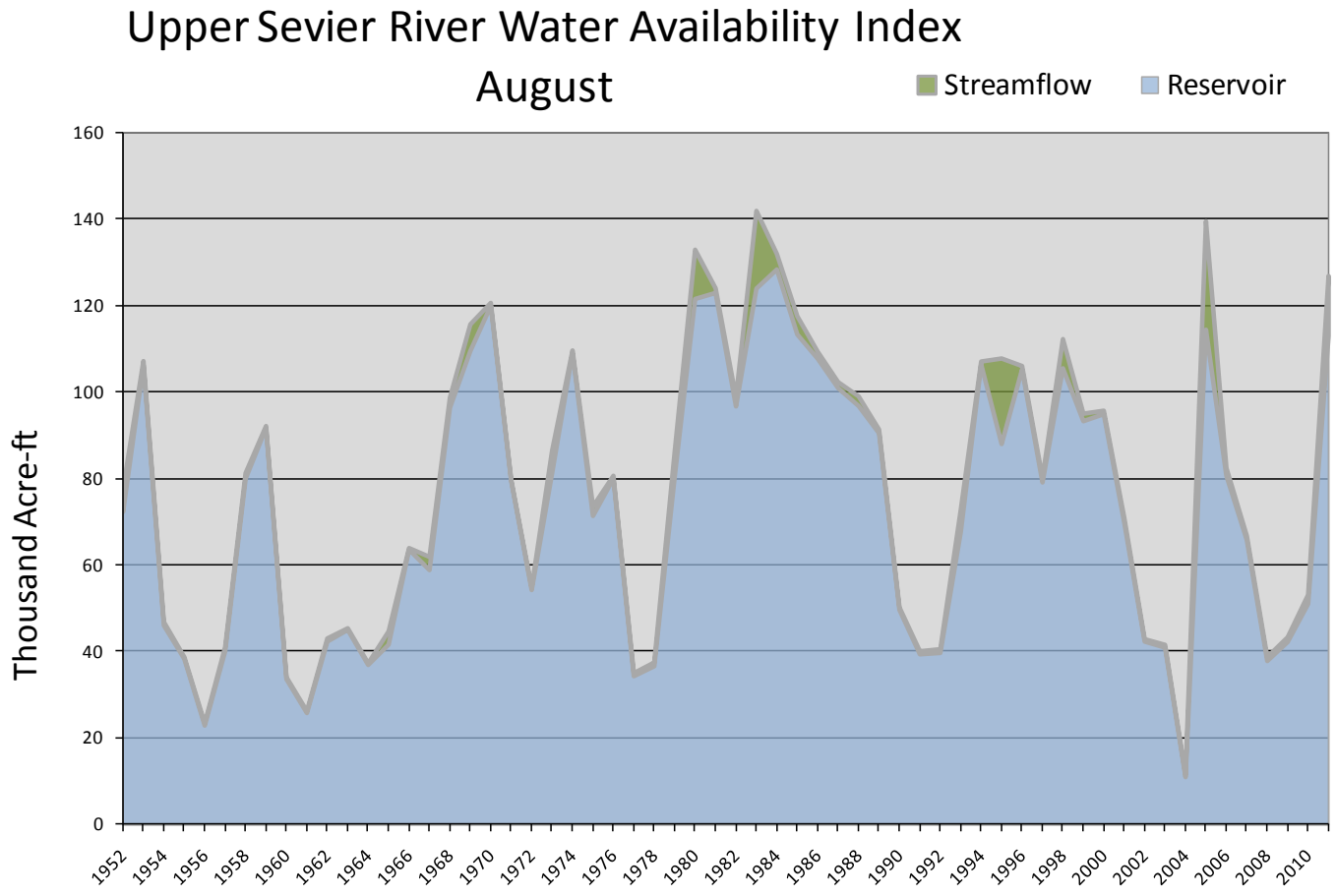


August 1, 2011

Water Availability Index

Basin or Region	July EOM* Otter Creek and Piute	July accumulated flow at Kingston (*observed*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Upper Sevier River	**113.0**	**13.9**	**126.9**	**3.61**	**93**	**70,81,05,83**

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

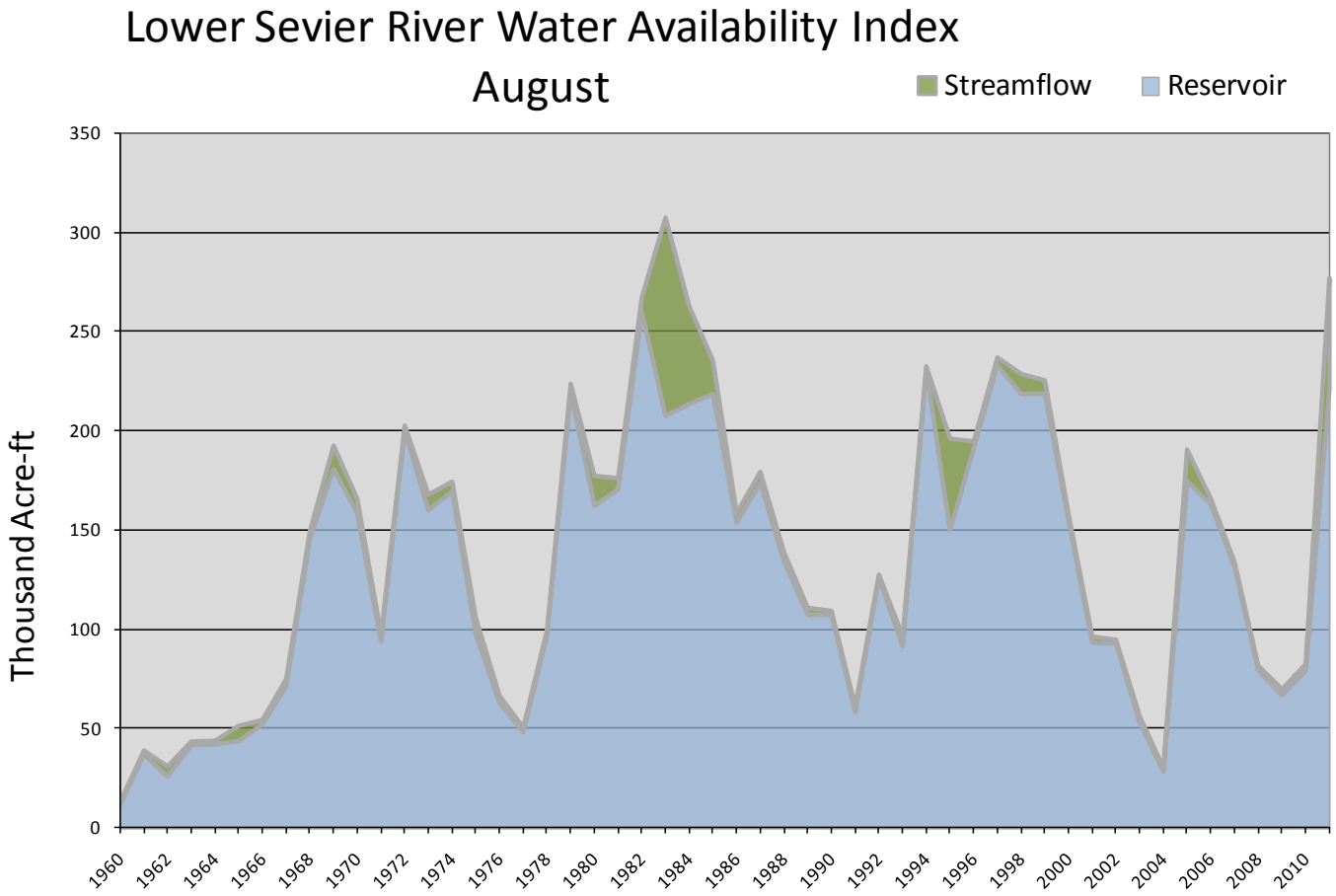


August 1, 2011

Water Availability Index

Basin or Region	July EOM* Sevier Bridge	July accumulated flow Sevier at Gunnsion (*observed*)	Reservoir + Streamflow	WAI#	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Lower Sevier River	**221.3**	**56.3**	**277.6**	**3.85**	**96**	**84,82,83**

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

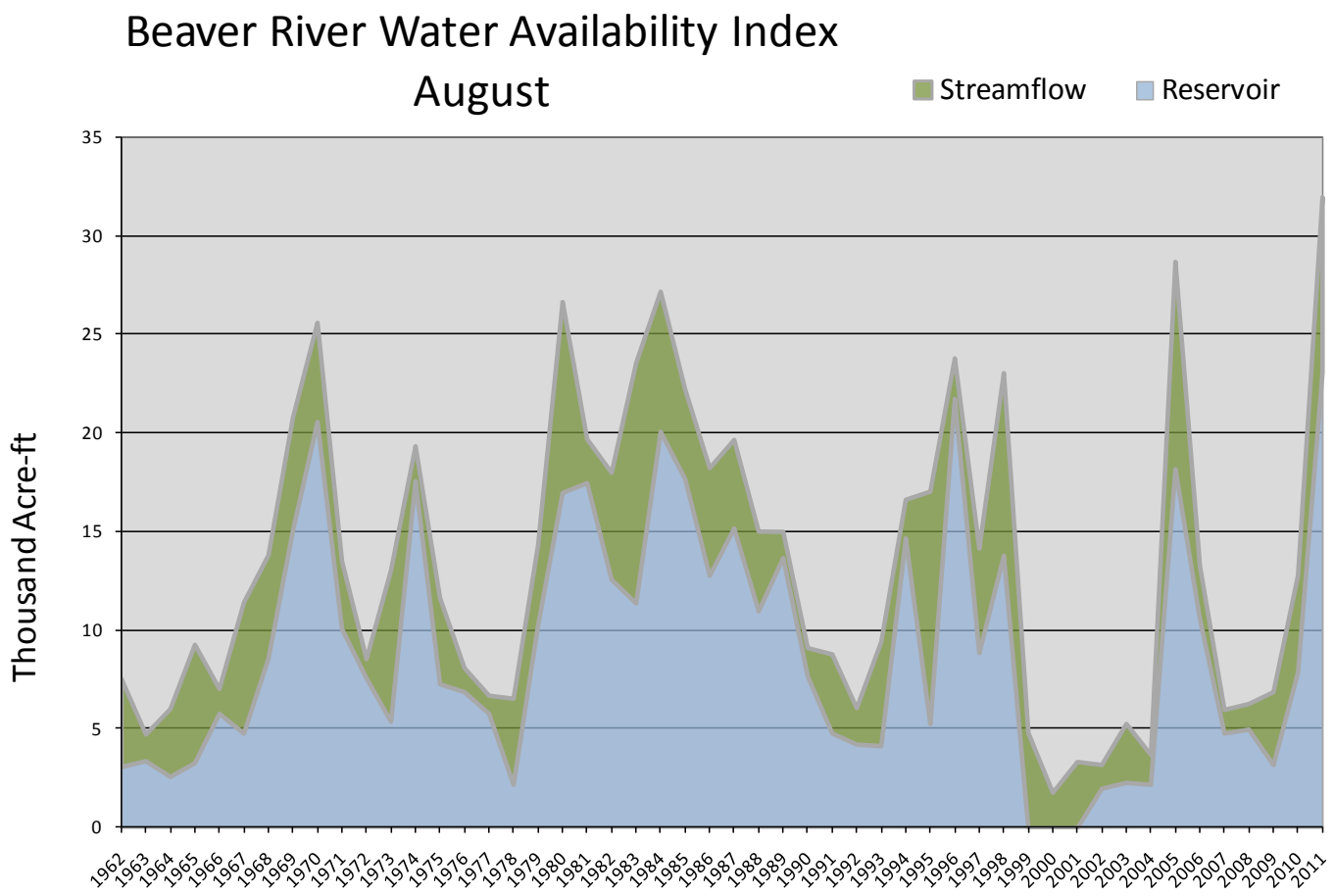


August 1, 2011

Water Availability Index

Basin or Region	July EOM* Minersville Reservoir	July accumulated flow Beaver River at Beaver (*observed*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Beaver	**23.1**	**8.9**	**32.0**	**4.00**	**98**	**84,05**

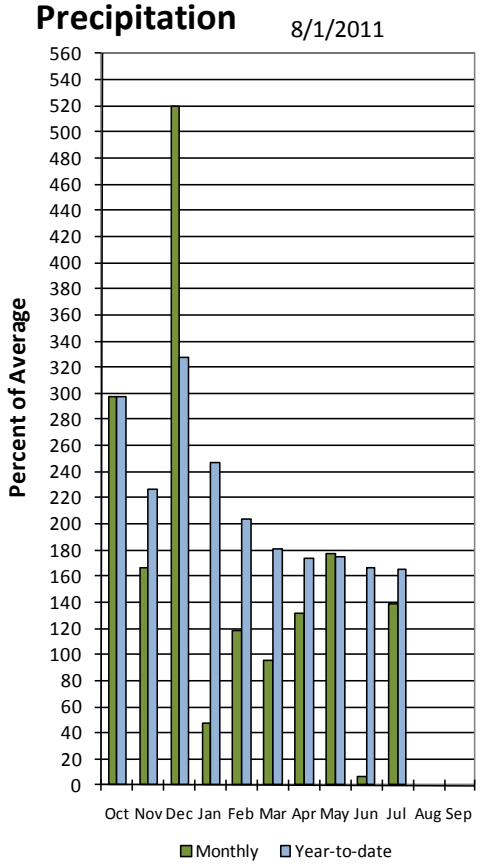
**EOM, end of month; [#] WAI, water availability index; ^KAF, thousand acre-feet.*



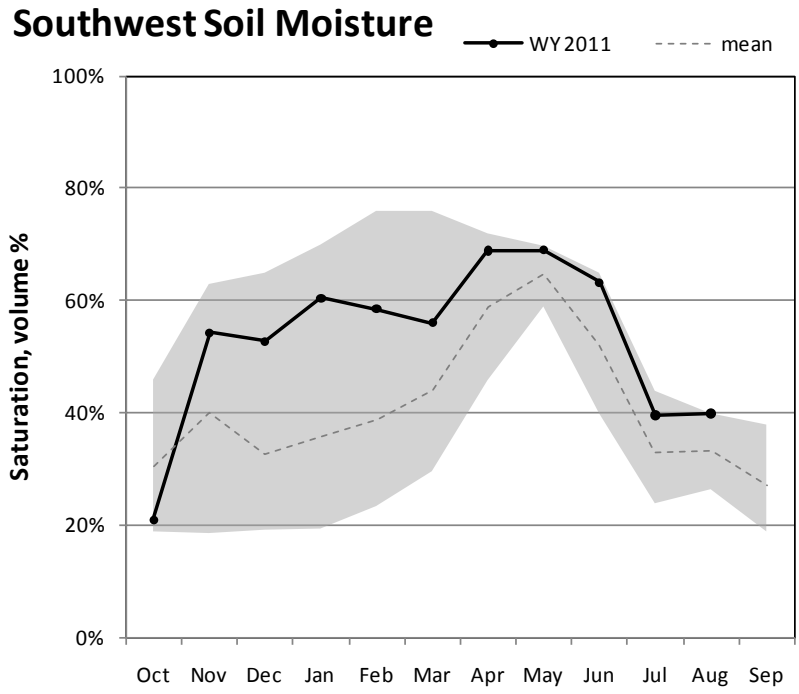
Southwest – E. Garfield, Kane, Washington, & Iron Counties
August 1, 2011

Precipitation in July was much above average at 139%, bringing water year accumulation to 165%. Reservoir storage is at 83% of capacity, 17% higher than last year at this time. Soil moisture is at 40% compared to 33% at this time last year.

Southwest Utah Precipitation

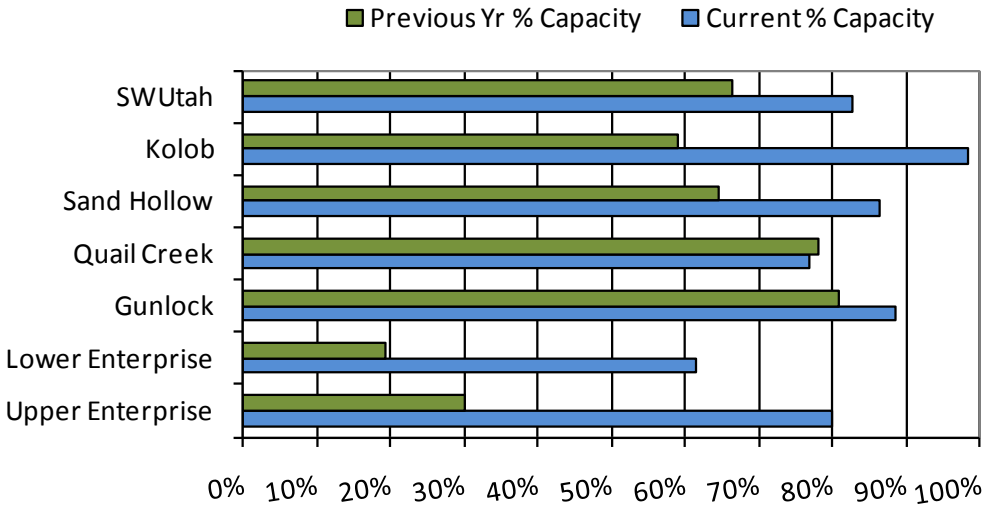


Southwest Soil Moisture



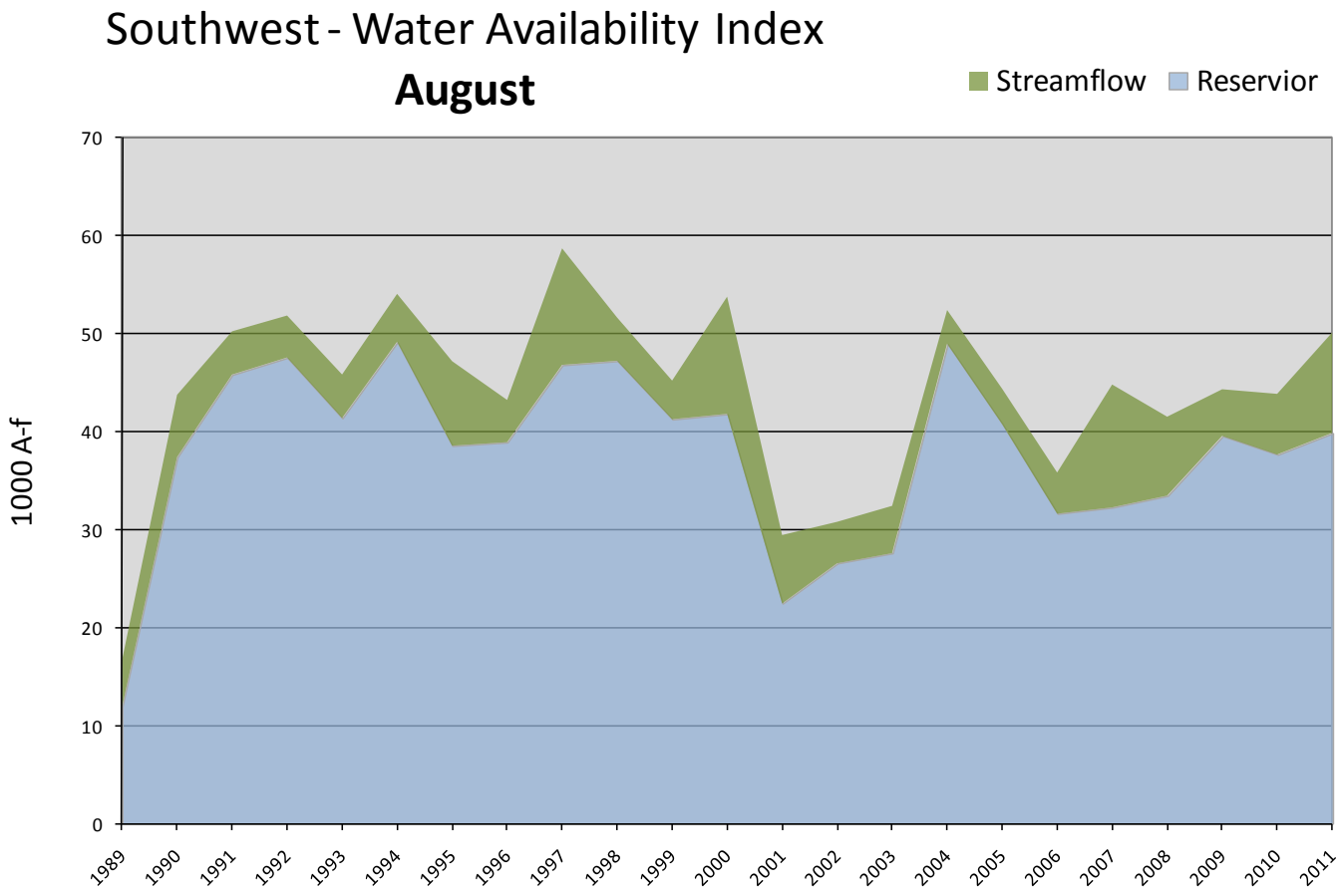
Percent saturation is calculated using the weighted average of volumetric soil moisture content at 2, 8, and 20-inch depths. Saturation is estimated as 40% volumetric water content. The gray area represents the range in saturation values since 2005.

August Southwest Utah Reservoir Storage



August 1, 2011		**Water Availability Index**				
Basin or Region	July EOM* Reservoir	July accumulated flow Virgin and Santa Clara Rivers (*observed*)	Reservoir + Streamflow	WAI[#]	Percentile	Years with similar WAI
	*KAF^*	*KAF*	*KAF*		*%*	
Southwest	**40**	**10**	**50**	**1.39**	**67%**	**98,91,95,93**

**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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