NRCS
Natural Resources Conservation Service

Utah Water Supply Outlook Report

February 1, 2008

Bountiful Peak, Jan, 2008. Photo by Tim Bardsley, NRCS, USDA.

Water Supply Outlook Reports
and Federal - State - Private Cooperative Snow Surveys

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snowcourses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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STATE OF UTAH GENERAL OUTLOOK
Feb 1, 2008

SUMMARY

January snowstorms came early, often and packed a pretty good punch this year with a statewide average monthly accumulation of 165% of normal. February 1 snowpacks now range from a low of 94% on the Bear River Basin to 144% of average over southwest Utah. The Weber, Provo and Uintah Basin snowpacks are 110% to 115% and the Sevier is at 134% of average. In times of plenty, such as our recent good fortune in January snow accumulation, it is wise to remember that the faucet that is Utah Climate, can turn off just as quickly as it turned on. That said, and with the accumulation of the first 4 days of February, southeastern and southwestern Utah are already above their normal April 1 snowpack values. Additional accumulation in February and March in these regions will give much needed drought relief and hopefully refill some much needed reservoir storage. There are some areas of southern and southeastern Utah that warrant closer inspection as individual sites are well above 200% of average and may have greater potential for high springtime snowmelt flows. In the Monticello area, Camp Jackson SNOTEL is reporting 213% of average snowpack and on the upper Sevier/Virgin, mid and lower elevation sites such as Long Valley Junction, Agua Canyon and Harris Flat are at 240%, 214% and 251% of average. Even some of the higher sites in this area are above 150% of average conditions. In southwestern Utah, the Gutz Peak SNOTEL site currently has over 12 inches of snow water equivalent, only slightly below its February 2005 value when substantial flows were experienced. Adequate preparations in these areas should be taken in case snowpacks continue to increase in February and March. Soil moisture values are: Bear - 53%, Weber - 51%, Provo - 40%, Uintah Basin - 33%, southeast Utah - 42%, Sevier - 39%, southwest Utah - 37%, and statewide - 42% of saturation. These values are similar to those of January 1, 2006 and drier than those of last year. Reservoir storage (56% of capacity) took a hit last summer and has declined 12% compared to last year. General water supply conditions range from near to above average. Streamflow forecasts range from 62% for the Bear River at Stewart Dam to 188% of average on South Creek near Monticello. Surface Water Supply Indices range from 12% on the Bear River to 84% over the western Uintahs.

SNOWPACK

February first snowpacks as measured by the NRCS SNOTEL are as follows: Bear - 94%, Weber - 110%, Provo - 115%, Uintahs - 112%, southeast Utah - 118%, Sevier - 134%, southwest Utah - 144% and the statewide figure is 115% of average. To reach average snowpack conditions by April 1, we need 75% of average snowpack accumulation. The probability of getting this amount of snow is 70%.

PRECIPITATION

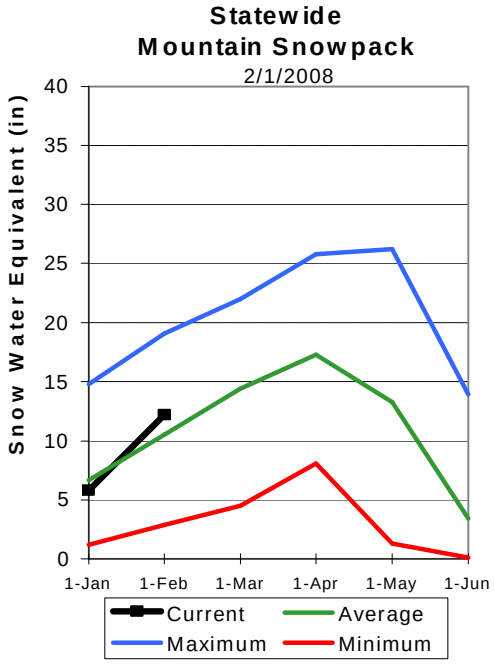
Mountain precipitation during January was much above normal in across the entire state ranging from 139% on the Bear River to 211% of average across southwest Utah. This brings the seasonal accumulation (Oct-Jan) to 112% of average statewide and ranges from 97% on the Bear to 124% over southwestern Utah.

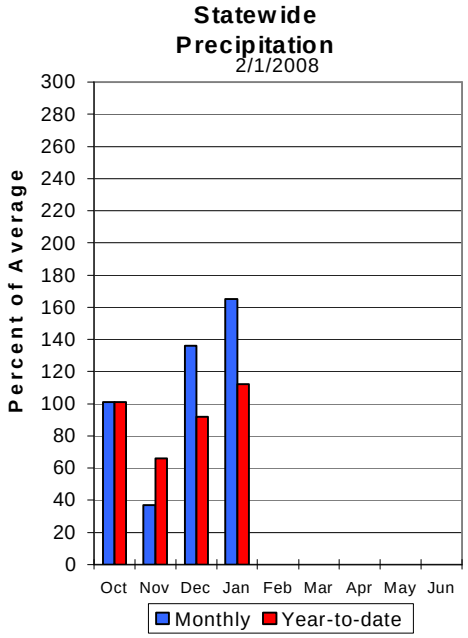
RESERVOIRS

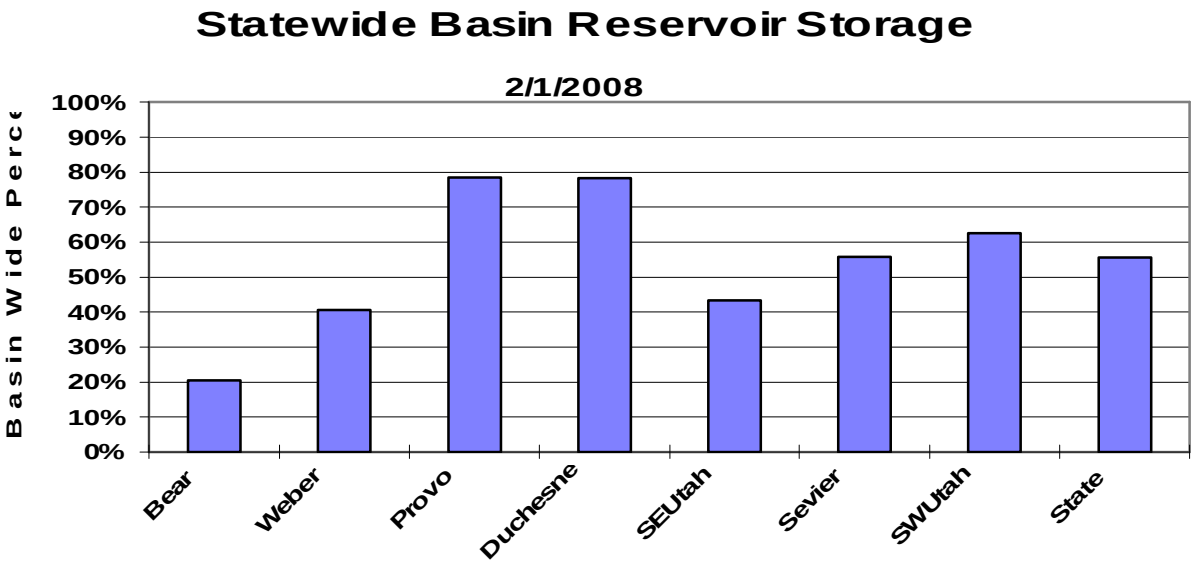
Storage in 41 of Utah's key irrigation reservoirs is at 56% of capacity down 12% from February 1 of last year. Reservoirs across the State declined substantially this past year due to a very long, hot and dry summer period. There are some such as Willard Bay, Scofield, Deer Creek and the Enterprise reservoirs that have fill restrictions that will limit overall water supplies in those areas.

STREAMFLOW

Snowmelt streamflows are expected to have a wide range from below average to near average across the state of Utah this year. Forecast streamflows range from 62% on the Bear River at Stewart Dam to 188% of average on South Creek near Monticello. Most flows are forecast to be in the 90% to 130% range.

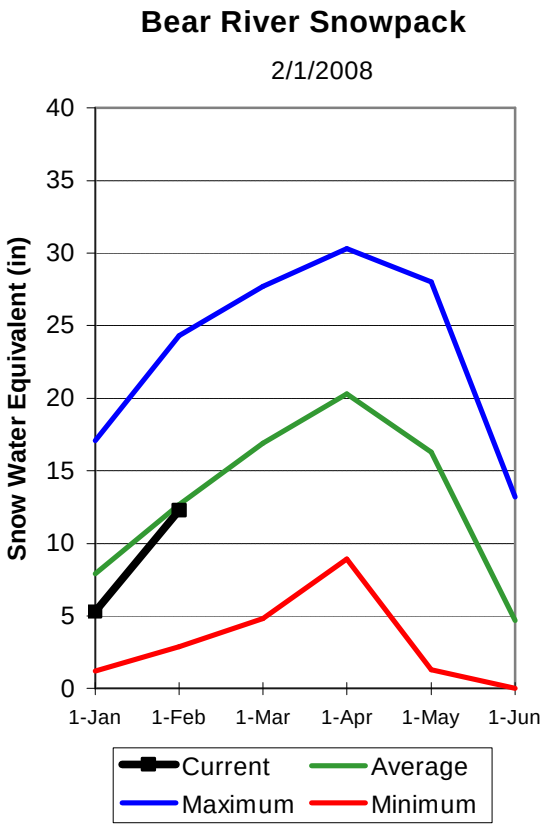


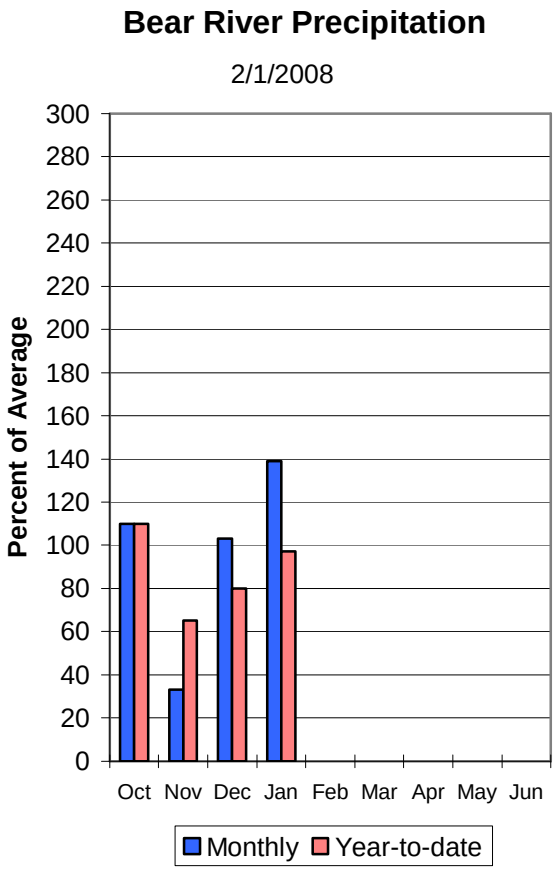


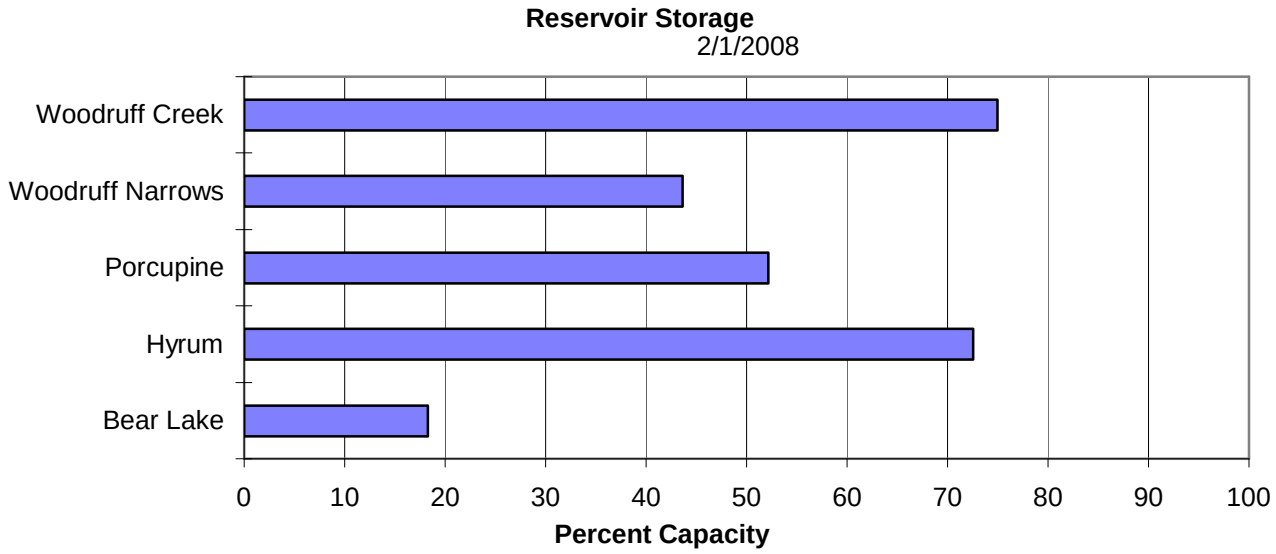


Bear River Basin
February 1, 2008

Snowpacks on the Bear River Basin are near average at 94% of normal, about 152% of last year. This is a 25% increase since January 1st. Specific sites range from 79% of normal at Kelley R.S. to 121% at Hayden Fork. January precipitation was much above average at 139%, which brings the seasonal accumulation (Oct-Jan) to 97% of average. Soil moisture levels in runoff producing areas are at 53% of saturation in the upper 2 feet of soil compared to 66% last year. Forecast streamflows are below average to average (62%-106%) volumes for this spring. Reservoir storage is low at 20% of capacity, 15% lower than last year. The Surface Water Supply Index is at 12% for the Bear River, or 88% of years have had more total water available. Water supply conditions are much below normal due to low reservoir storage at Bear Lake.







BEAR RIVER BASIN
Streamflow Forecasts - February 1, 2008

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30 -Yr Avg. (1000AF)
Bear River nr UT-WY State Line	APR-JUL	86	106	120	106	134	154	113
Bear River ab Reservoir nr Woodruff	APR-JUL	82	114	136	100	158	190	136
Big Creek nr Randolph	APR-JUL	2.90	4.00	4.80	98	5.60	6.70	4.90
Smiths Fork nr Border	APR-JUL	60	78	90	87	102	120	103
Bear River at Stewart Dam	APR-JUL	76	114	145	62	179	235	234
Little Bear River at Paradise	APR-JUL	22	32	40	87	49	64	46
Logan R Abv State Dam Nr Logan	APR-JUL	72	94	110	87	128	157	126
Blacksmith Fk Abv Up&L Dam Nr Hyrum	APR-JUL	28	39	48	100	58	74	48

BEAR RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1302.0	237.9	413.0	---
HYRUM	15.3	11.1	10.5	10.4
PORCUPINE	11.3	6.1	7.0	4.4
WOODRUFF NARROWS	57.3	25.0	47.0	25.2
WOODRUFF CREEK	4.0	3.0	2.1	---

BEAR RIVER BASIN
Watershed Snowpack Analysis - February 1, 2008

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
BEAR RIVER, UPPER (abv Ha	5	131	94
BEAR R IVER, LOWER (blw Ha	9	80	77
LOGAN RIVER	4	107	84
RAFT RIVER	1	48	94
BEAR RIVER BASIN	14	92	83

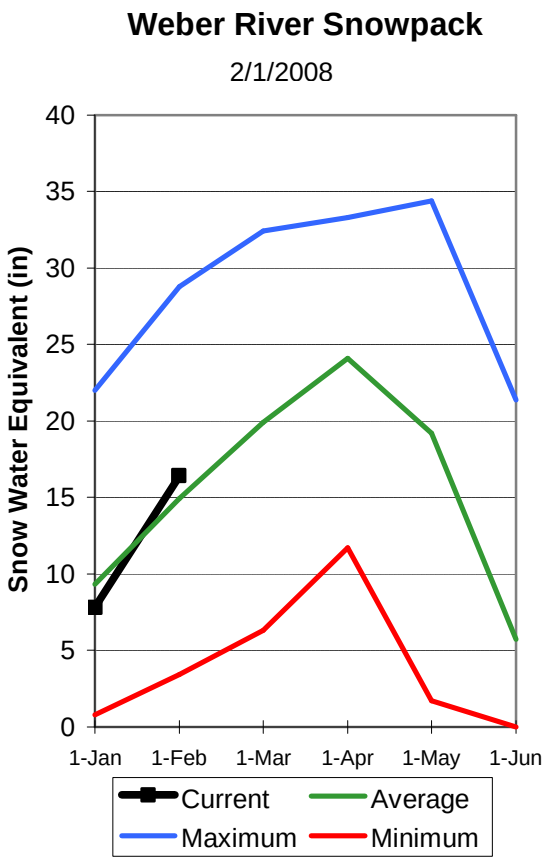
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

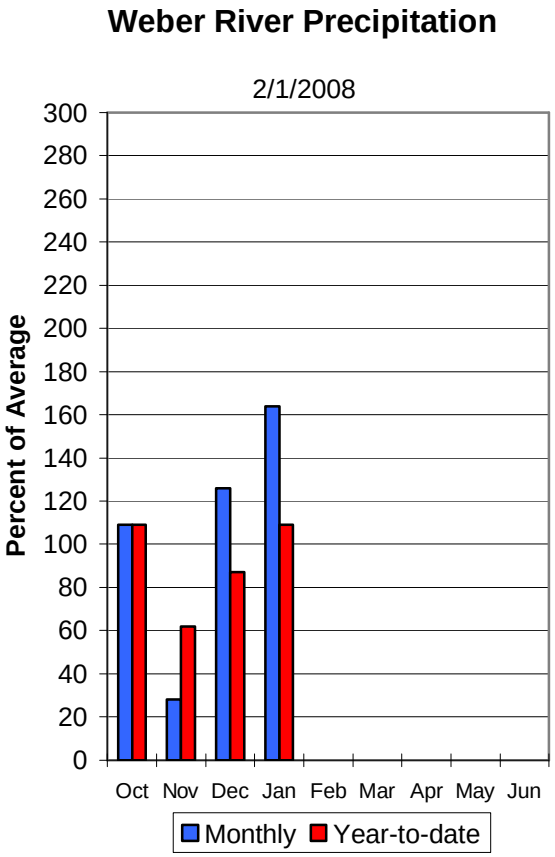
The average is computed for the 1971-2000 base period.

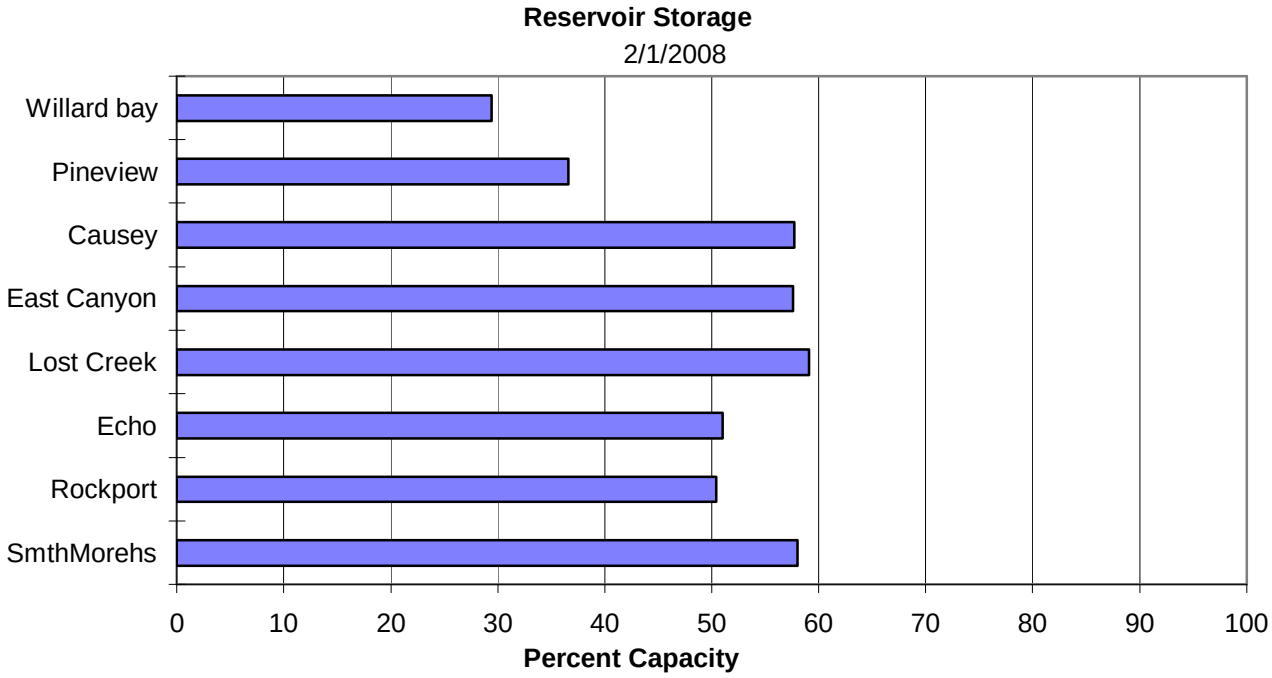
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Weber and Ogden River Basins
February 1, 2008

Snowpacks on the Weber and Ogden Watersheds are above average at 110%, about 184% of last year. Individual sites range from 86% to 141% of average. January precipitation was much above average at 164% bringing the seasonal accumulation (Oct-Jan) to 109% of average. Soil moisture levels in runoff producing areas are at 51% of saturation in the upper 2 feet of soil compared to 60% last year. Streamflow forecasts (April-July) range from 102% to 116% of average. Reservoir storage is at 41% of capacity, 11% lower than last year. The Surface Water Supply Index is at 43% for the Weber River and at 48% for the Ogden River. Overall water supply conditions are near average.







WEBER & OGDEN WATERSHEDS in Utah
Streamflow Forecas ts - February 1, 2008

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= W etter =====>>						
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000 AF)	30 -Yr Avg. (1000AF)
Smith & Morehouse Res inflow	APR -JUL	26	31	35	103	39	44	34
Weber River nr Oakley	APR -JUL	96	115	128	104	141	160	123
Weber River nr Coalville	APR -JUL	96	122	140	102	158	184	137
Chalk Creek at Coalville	APR -JUL	27	38	46	102	54	65	45
Echo Reservoir inflow	APR -JUL	125	160	183	102	205	240	179
Lost Creek Reservoir inflow	APR -JUL	9.6	14.3	18.0	102	22	29	17.6
East Canyon Reservoir inflow	APR-JUL	25	31	36	116	41	49	31
Weber River at Gateway	APR -JUL	255	325	370	104	415	485	355
SF Ogden River nr Huntsville	APR -JUL	40	55	65	102	75	90	64
Pineview Reservoir inflow	APR -JUL	90	120	140	105	160	190	133
Wheeler Creek nr Huntsville	APR -JUL	3.70	5.30	6.40	102	7.50	9.10	6.30

WEBER & OGDEN WATERSHEDS in Utah
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	L ast Year	Avg
CAUSEY	7.1	4.1	3.5	2.8
EAST CANYON	49.5	28.5	38.4	35.4
ECHO	73.9	37.7	45.9	50.2
LOST CREEK	22.5	13.3	16.5	14.0
PINEVIEW	110.1	40.3	55.1	51.7
ROCKPORT	60.9	30.7	41.5	34.3
WILLARD BAY	215.0	63.2	79.5	151.6

WEBER & OGDEN WATERSHEDS in Utah
Watershed Snowpack Analysis - February 1, 2008

Watershed	Number of Data Sites	This Year as % of Last Yr	Average

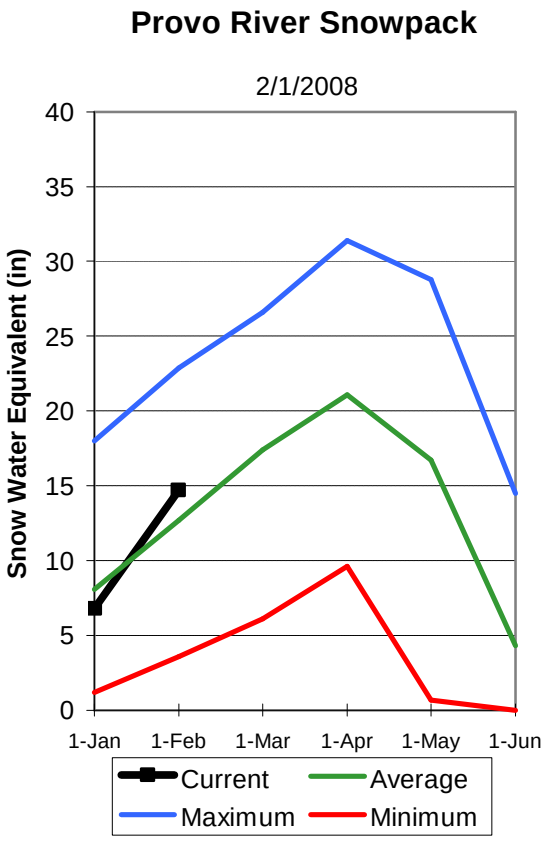
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

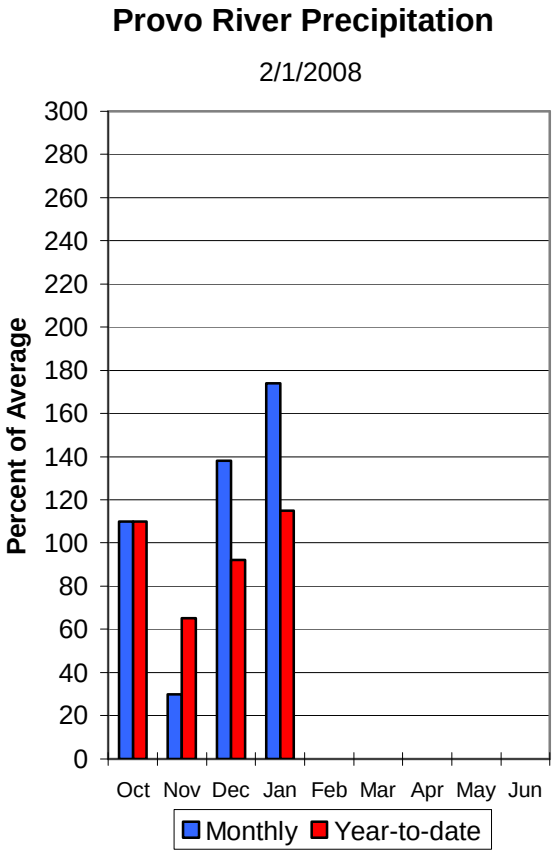
The average is computed for the 1971 -2000 base period.

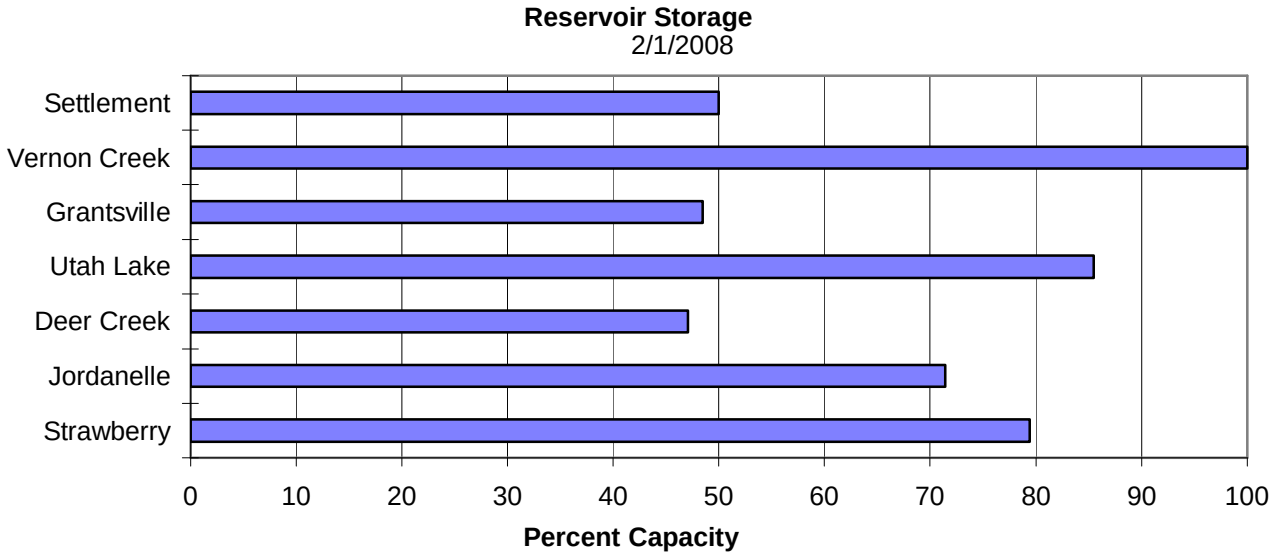
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Utah Lake, Jordan River & Tooele Valley Basins
February 1, 2008

Snowpack over these regions is above average at 115%, which is 205% of last year. Individual sites range from 83% to 158% of average. January precipitation was much above average at 174%, bringing the seasonal accumulation (Oct-Jan) to 115% of average. Soil moisture levels in runoff producing areas are at 40% of saturation in the upper 2 feet of soil compared to 48% last year. Reservoir storage is at 78% of capacity, 12% lower than last year. Streamflow forecasts range from 110% to 116% of average. The Surface Water Supply Index is at 49%, indicating general water supply conditions are near normal.







UTAH LAKE, JORDA N RIVER & TOOELE VALLEY
Streamflow Forecasts - February 1, 2008

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30 -Yr Avg. (1000AF)
Spanish Fork River nr Castilla	APR -JUL	25	61	85	110	109	145	77
Provo River nr Woodland	APR -JUL	69	94	113	110	134	168	103
Provo River nr Hailstone	APR -JUL	73	100	12 0	110	142	178	109
Deer Creek Resv Inflow	APR -JUL	77	114	140	111	166	205	126
American Fk Abv Upper Powerplant	APR -JUL	27	33	37	116	41	47	32
Utah Lake inflow	APR -JUL	195	300	370	114	440	545	325
West Canyon Ck Nr Cedar Fort	APR -JUL	1.28	2.10	2.70	113	3.40	4.60	2.40
Little Cottonwood Ck nr SLC	APR -JUL	32	40	45	113	51	60	40
Big Cottonwood Ck nr SLC	APR -JUL	32	38	42	111	46	52	38
Mill Creek nr SLC	A PR-JUL	5.00	6.80	8.00	114	9.20	11.00	7.00
Parley's Creek nr SLC	APR -JUL	9.6	15.2	19.0	114	23	28	16.7
Dell Fork nr SLC	APR -JUL	3.80	6.20	7.80	115	9 .40	11.80	6.80
Emigration Creek nr SLC	APR -JUL	1.72	3.80	5.20	116	6.60	8.70	4.50
City Creek nr SLC	APR -JUL	5.60	8.10	9.80	113	11.50	14.00	8.70
Vernon Creek nr Vernon	APR -JUL	0.94	1.34	1.70	115	2.20	3.10	1.48
Settlement Creek Abv Resv Nr Tooele,	APR -JUL	1.06	1.79	2.40	114	3.10	4.30	2.10
South Willow Creek nr Grantsville	APR -JUL	2.10	3.10	3.70	115	4.30	5.30	3.23

UTAH LAKE, JORDAN RIVER & TOOELE VALLEY
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DEER CREEK	149.7	70.5	141.0	104.8
GRANTSVILLE	3.3	1.6	2.4	1.8
SETTLEMENT CREEK	1.0	0.5	0.8	0.6
STRAWBERRY-ENLARGED	1105.9	878.5	928.0	642.2
UTAH LAKE	870.9	744.4	893.0	790.9
VERNON CREEK	0.6	0.6	0.6	---

UTAH LAKE, JORDAN RIVER & TOOELE VALLEY
Watershed Snowpack Analysis - February 1, 2008

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
PROVO RIVER & UTAH LAKE	7	230	112
PROVO RIVER	4	233	111
JORDAN RIVER & GREAT SALT	6	202	122
TOOELE VALLEY WATERSHEDS	3	158	106
UTAH LAKE, JORDAN RIVER &	16	205	115

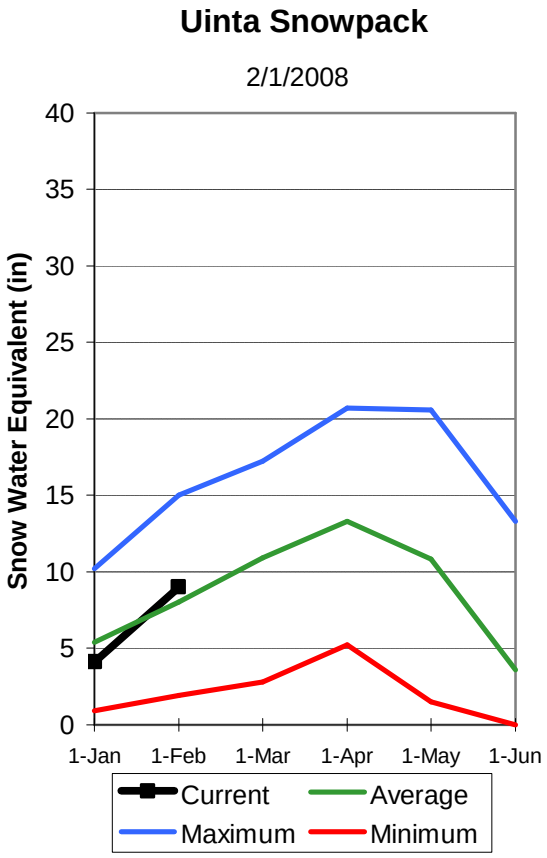
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

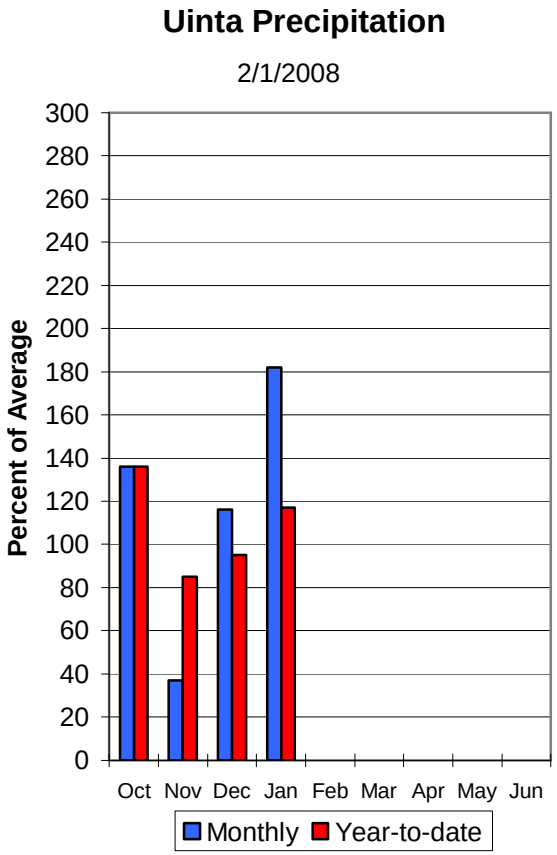
The average is computed for the 1971 -2000 base period.

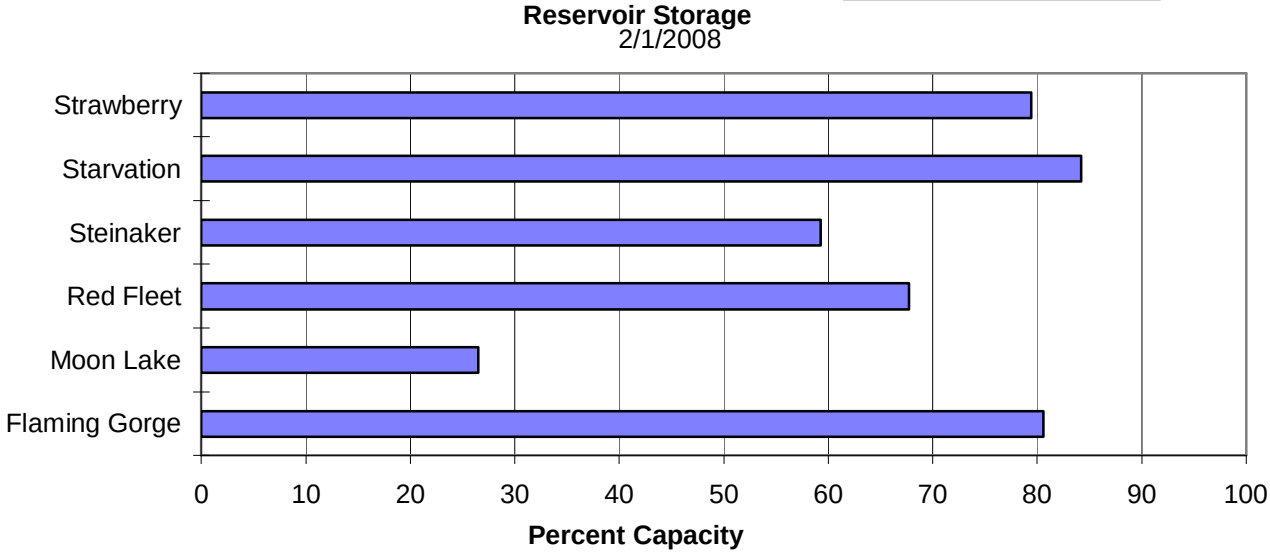
(1) - The values listed under the 10% and 90% Chance of Excee ding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Uintah Basin and Dagget SCD's
February 1, 2008

Snowpack across the Uintas is above average at 112%, which is 147% of last year. This is an improvement of 35% since the first of January. Individual sites on the North Slope range from 73% to 99% and on the South Slope range from 92% to 134% of average. Precipitation during January was much above average at 182% bringing the seasonal accumulation (Oct-Jan) to 117%. Soil moisture values in runoff producing areas are at 33% of saturation in the upper 2 feet of soil compared to 39% last year. Reservoir storage is at 78% of capacity, 6% less than last year. Streamflow forecasts (April-July) range from 79% to 113% of average. The Surface Water Supply Index for the western area is 84% and for the eastern area it is 63% indicating much above normal conditions on the west side and above normal for the eastern area. General water supply conditions range from above to much above average.







UINTAH BASIN & DAGGET SCD'S
Streamflow Forecasts - February 1, 2008

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Excee ding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30 -Yr Avg. (1000AF)
Blacks Fork nr Robertson	APR -JUL	53	69	80	84	92	112	95
EF of Smiths Fork nr Robertson	APR -JUL	13.8	19.0	23	79	27	35	29
Flaming Gorge Reservoir Inflow (2)	APR -JUL	470	675	840	71	1020	1320	1190
Big Brush Ck abv Red Fleet Resv	APR -JUL	15.2	19.7	23	110	27	32	21
Ashley Creek nr Vernal	APR -JUL	36	47	56	108	65	80	52
WF Duchesne River nr Hanna (2)	APR -JUL	17.8	23	27	113	31	38	24
Duchesne R nr Tabiona (2)	APR-JUL	74	95	110	105	127	153	105
Upper Stillwater Reservoir Inflow	APR -JUL	68	81	90	110	100	115	82
Rock Ck nr Mountain Home (2)	APR -JUL	72	86	97	109	108	126	89
Duchesne R abv Knight Diversion (2)	APR -JUL	140	174	200	106	225	270	188
Strawberry R nr Soldier Springs (2)	APR -JUL	34	50	62	105	76	98	59
Currant Creek Reservoir Inflow (2)	APR -JUL	15.5	22	28	112	34	44	25
Strawberry R nr Duchesne (2)	APR -JUL	69	100	125	103	152	197	121
Lake Fork River Moon Lake Inflow	APR -JUL	55	67	75	110	84	98	68
Yellowstone River nr Altonah	A PR-JUL	49	61	70	113	79	94	62
Duchesne R at Myton (2)	APR -JUL	139	220	290	112	365	495	260
Whiterocks nr Whiterocks	APR -JUL	39	52	61	109	71	87	56
Duchesne R nr Randlett (2)	APR -JUL	164	265	345	107	435	595	324

UINTAH BASIN & D AGGET SCD'S
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
FLAMING GORGE	3749.0	3021.0	3110.0	2966.0
MOON LAKE	49.5	9.5	29.2	27.9
RED FLEET	25.7	17.4	18.4	18.0
STEINAKER	33.4	19.8	23.1	21.6
STARVATION	165.3	132.9	141.8	132.3
STRAWBERRY-ENLARGED	1105.9	878.5	928.0	642.2

UINTAH BASIN & DAGGET SCD'S
Watershed Snowpack Analysis - February 1, 2008

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
UPPER GREEN RIVER in UTAH	6	112	98
ASHLEY CREEK	2	151	118
BLACK'S FORK RIVER	2	115	95
SHE EP CREEK	1	78	82
DUCHESNE RIVER	11	163	117
LAKE FORK -YELLOWSTONE CRE	4	158	118
STRAWBERRY RIVER	4	195	116
UINTAH -WHITEROCKS RIVERS	2	122	118
UINTAH BASIN & DAGGET SCD	17	147	112

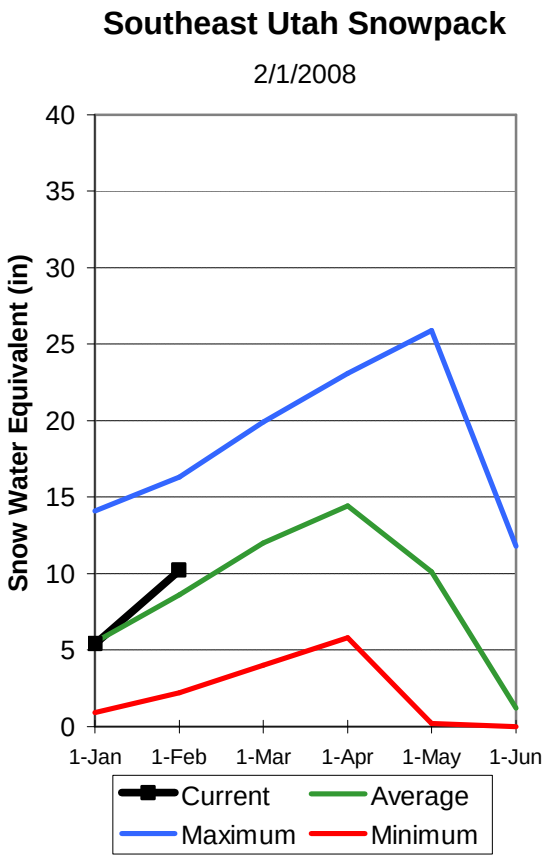
* 90%, 70%, 50%, 30%, and 1 0% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

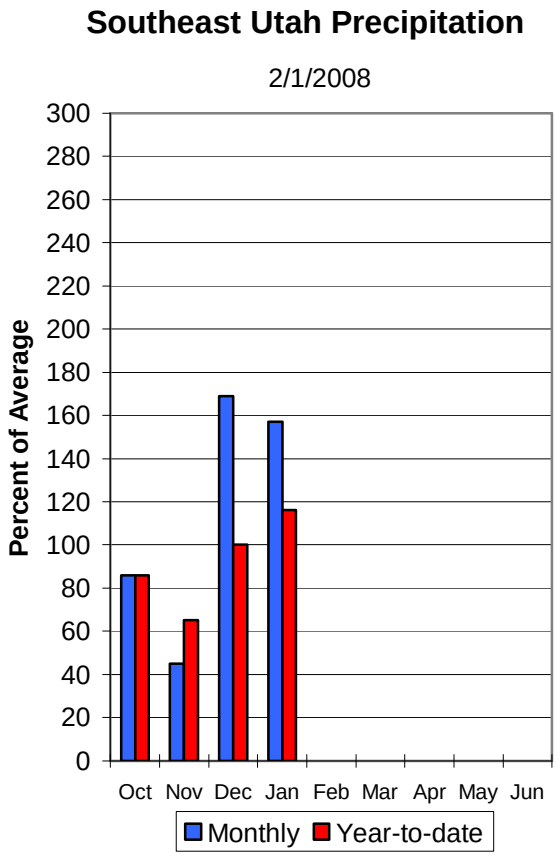
The average is computed for the 1971 -2000 base period.

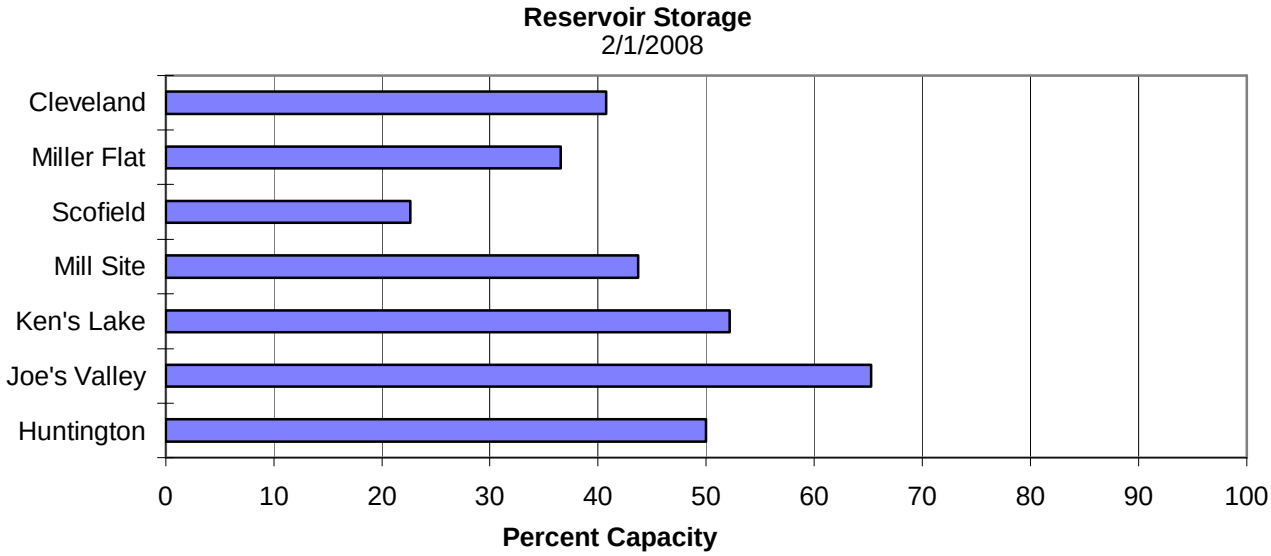
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% ex ceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Carbon, Emery, Wayne, Grand and San Juan Co.
February 1, 2008

Snowpacks in this region are above normal at 118% of average, about 213% of last year. Individual sites range from 71% to 190% of average. Precipitation during January was much above average at 157%, bringing the seasonal accumulation (Oct-Jan) to 116% of normal. Soil moisture estimates in runoff producing areas are at 42% of saturation in the upper 2 feet of soil compared to 49% last year and up 1% from last month. Forecast streamflows range from 95% to 188% of average. Reservoir storage is at 43% of capacity, down 21% from last year at this time. Surface Water Supply Indices for the area are: Price 45%, San Rafael area 76% and Moab 66%. General runoff and water supply conditions are above average, with somewhat lower conditions in the Price drainage caused in part to low reservoir storage due to construction.







CARBON, EMERY, WAYNE, GRAND, & SAN JUAN Co.
Streamflow Forecasts - February 1, 2008

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30 -Yr Avg. (1000AF)
Gooseberry Creek nr Scofield	APR -JUL	8.4	11.0	13.0	109	15.2	18.6	11.9
Price River nr Scofield Reservoir	APR -JUL	33	43	51	113	60	74	45
White River blw Tabbyune Creek	APR -JUL	11.5	15.2	18.0	104	21	26	17.3
Green River at Green River, UT (2)	APR -JUL	1620	2440	3000	95	3560	4380	3170
Huntington Ck Inflow to Electric Lk	APR -JUL	10.3	13.6	16.0	102	18.6	23	15.7
Huntington Ck nr Huntington (2)	APR -JUL	32	42	50	102	59	74	49
Joe's Valley Reservoir Inflow	APR -JUL	37	49	58	100	68	84	58
Ferron Ck (Upper Station) nr Ferron	APR -JUL	29	37	43	110	49	59	39
Colorado River nr Cisco (2)	APR -JUL	4050	5230	6030	130	6830	8010	4650
Mill Creek at Sheley Tunnel nr Moab	APR -JUL	3.40	4.60	5.70	114	6.89	9.00	5.00
Muddy Creek nr Emery	APR -JUL	14.4	19.3	23	116	27	34	19.9
South Ck ab Lloyd's Res nr Monticell	MAR -JUL	1.43	2.10	2.60	188	3.20	4.30	1.38
San Juan River near Bluff (2)	APR -JUL	1450	1820	2070	168	2320	2690	1230

CARBON, EMERY, WAYNE, GRAND, & SAN JUAN Co.
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNTINGTON NORTH	4.2	2.1	0.6	2.8
JOE'S VALLEY	61.6	40.2	45.1	41.2
KEN'S LAKE	2.3	1.2	2.0	1.1
MILL SITE	16.7	7.3	13.1	78.8
SCOFIELD	65.8	14.9	36.4	33.8

CARBON, EMERY, WAYNE, GRAND, & SAN JUAN Co.
Watershed Snowpack Analysis - February 1, 2008

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
PRICE RIVER	3	231	108
SAN RAFAEL RIVER	3	186	109
MUDDY CREEK	1	256	125
FREMONT RIVER	3	135	97
LASAL MOUNTAINS	1	176	115
BLUE MOUNTAINS	1	552	190
WILLOW CREEK	1	256	167
CARBON, EMERY, WAYNE, GRA	13	212	118

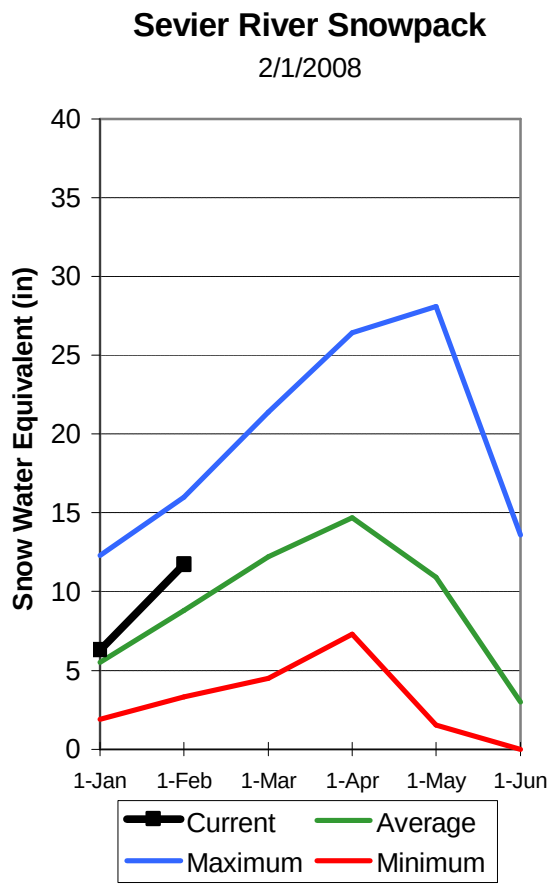
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

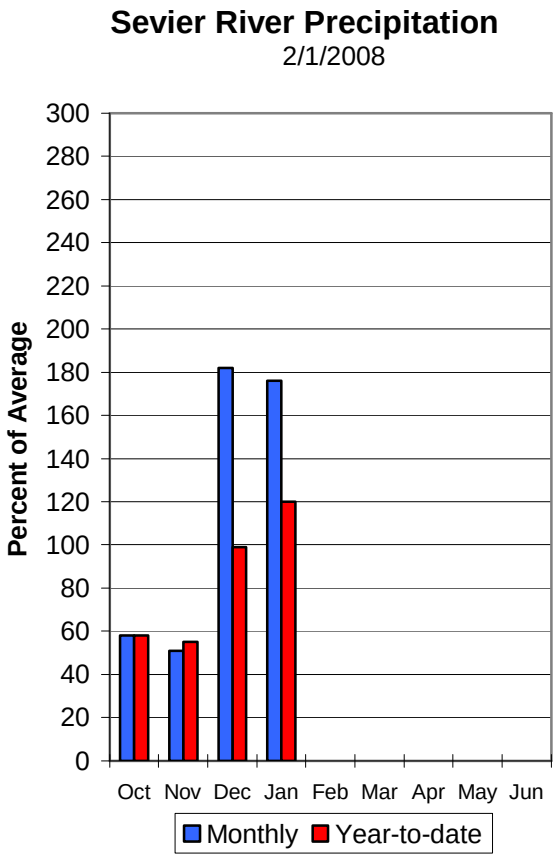
The average is computed for the 1971 -2000 base period.

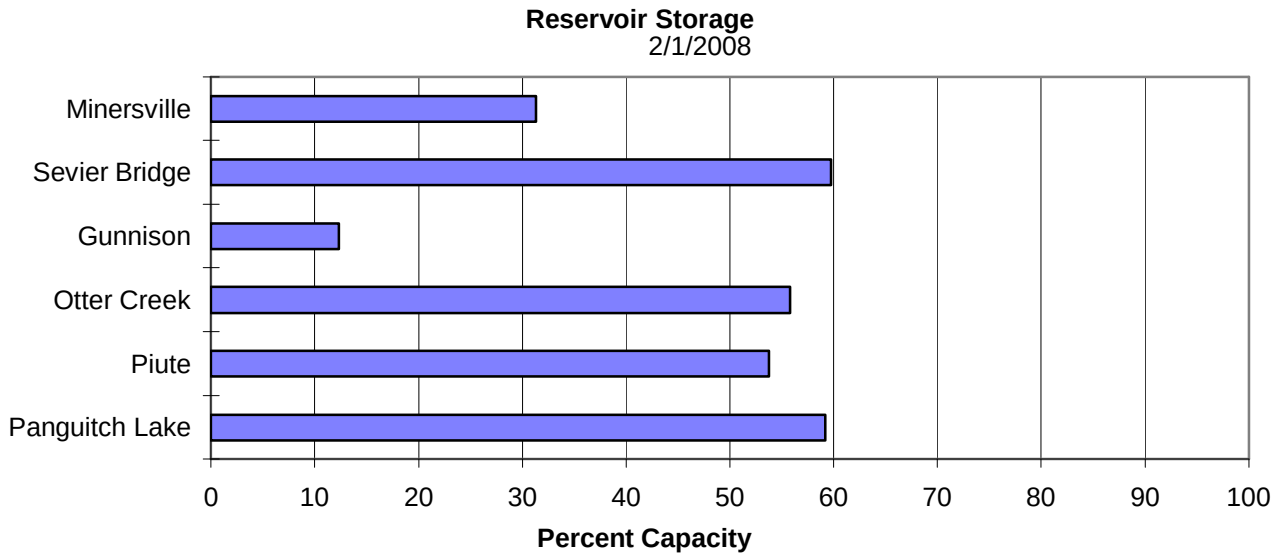
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedanc e levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Sevier and Beaver River Basins
Feb 1, 2008

Snowpacks on the Sevier River Basin are much above normal at 134% of average, about 198% of last year. Individual sites range from 87% to 234% of average. Precipitation during January was much above average at 176% of normal, bringing the seasonal accumulation (Oct-Jan) to 120% of average. Soil moisture estimates in runoff producing areas are at 39% of saturation in the upper 2 feet of soil compared to 44% last year. Streamflow forecasts range from 105% to 133% of average. Reservoir storage is at 56% of capacity, 15% less than last year. Surface Water Supply Indices are: Upper Sevier 70%, Lower Sevier 70% and Beaver 51%. Water supply conditions are near to above average on the Sevier and the Beaver River is near average.







SEVIER & BEAVER RIVER BASINS
Streamflow Forecasts - February 1, 2008

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30 -Yr Avg. (1000AF)
Sevier River at Hatch	APR -JUL	46	59	69	126	80	97	55
Sevier River nr Kingston	APR -JUL	78	99	114	128	130	156	89
EF Sevier R nr Kingston	APR -JUL	15.5	30	40	105	50	64	38
Sevier R blw Piute Dam	APR -JUL	91	129	155	123	181	220	126
Clear Creek Abv Diversions Nr Sevier	APR -JUL	14.2	21	26	118	31	38	22
Salina Creek at Salina	APR -JUL	7.9	11.9	21	107	30	43	19.7
Manti Ck Blw Dugway Ck Nr Manti	APR -JUL	13.2	17.6	21	115	25	3 1	18.3
Sevier R nr Gunnison	APR -JUL	174	260	330	118	405	535	280
Chicken Creek nr Levan	APR -JUL	2.50	4.20	5.80	129	7.70	11.20	4.50
Oak Creek nr Oak City	APR -JUL	1.30	1.81	2.20	133	2.60	3.30	1.66
Beaver River nr Beaver	APR -JUL	20	26	30	111	35	43	27
Minersville Reservoir inflow	APR -JUL	8.2	14.1	19.0	115	25	34	16.6

SEVIER & BEAVER RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
GUNNISON	20.3	2.5	11.3	13.1
MINERSVILLE (RkyFd)	23.3	7.3	11.4	14.4
OTTER CREEK	52.5	29.3	35.5	36.5
PIUTE	71.8	38.6	55.3	49.5
SEVIER BRIDGE	236.0	141.0	167.7	159.6
PANGUITCH LAKE	22.3	13.2	17.2	131.4

SEVIER & BEAVER RIVER BASINS
Watershed Snowpack Analysis - February 1, 2008

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
UPPER SEVIER RIVER (south	8	211	153
EAST FORK SEVIER RIVER	3	176	133
SOUTH FORK SEVIER RIVER	5	236	164
LOWER SEVIER RIVER (inclu	6	172	120
BEAVER RIVER	2	203	115
SEVIER & BEAVER RIVER BAS	16	194	134

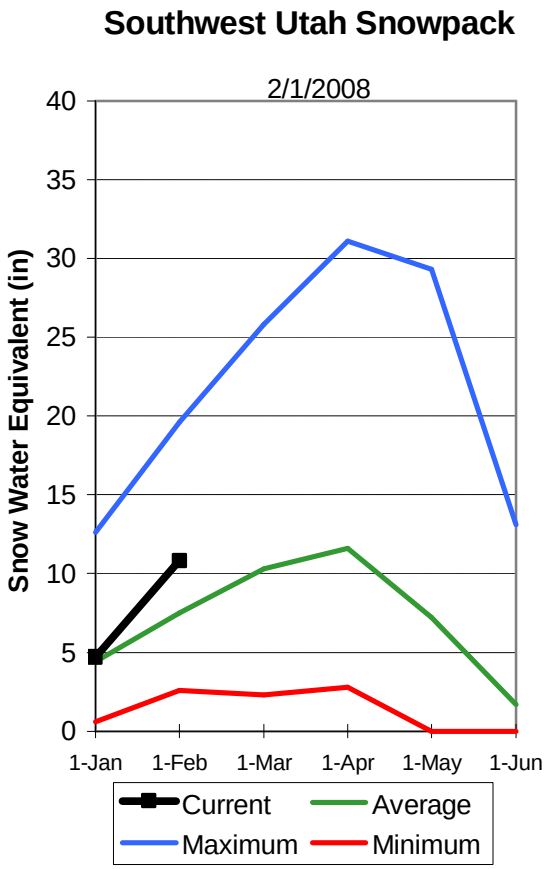
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

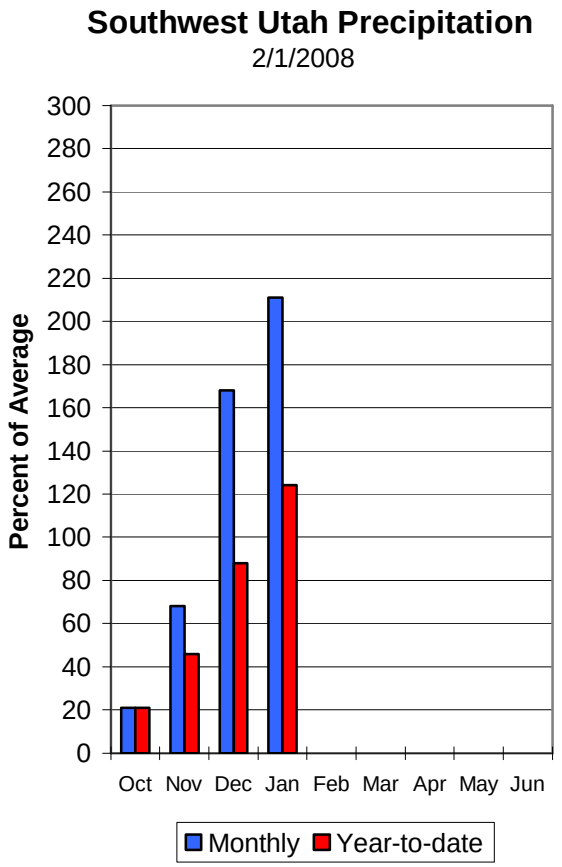
The average is computed for the 1971 -2000 base period.

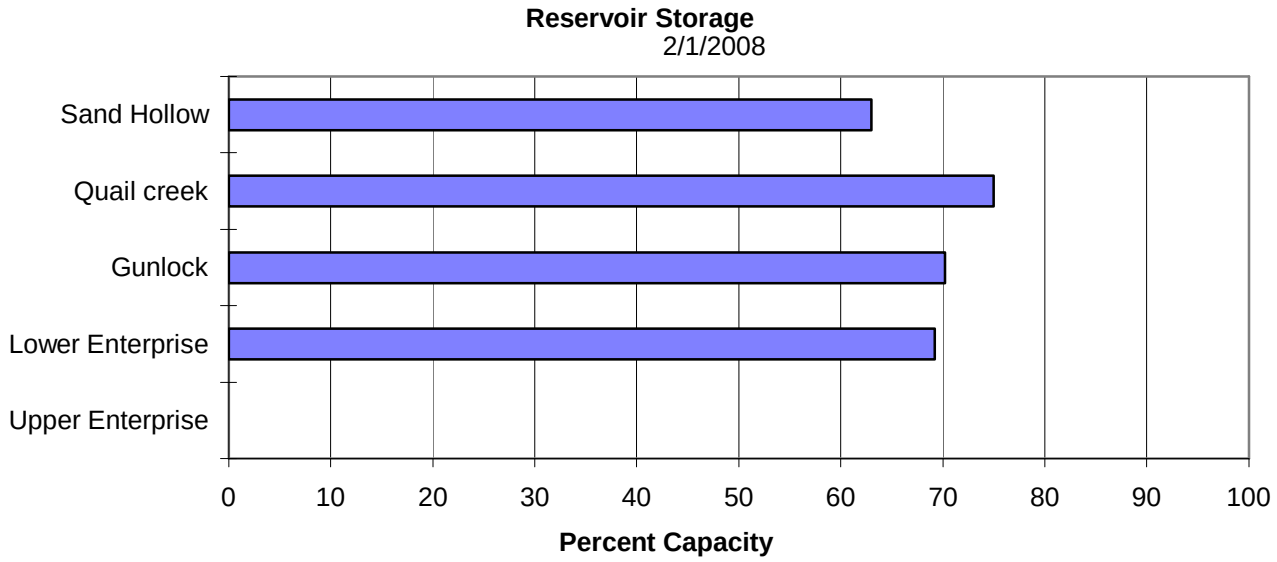
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

E. Garfield, Kane, Washington, & Iron Co.
February 1, 2008

Snowpacks in this region are much above normal at 144% of average, which is 221% of last year. Individual sites range from 71% to 234% of average. Precipitation in the month of January was much above average at 211%, bringing the seasonal accumulation (Oct-Jan) to 124% of average. Current snowpack conditions are only slightly below the April 1 average. Soil moisture estimates in runoff producing areas are at 37% of saturation in the upper 2 feet of soil compared to 31% last year. Forecast streamflows range from 127% to 135% of average. Reservoir storage is at 62% of capacity, 15% less than last year. The Surface Water Supply Index is at 80%, indicating above normal water supply conditions.







E. GARFIELD, KANE, WASHINGTON, & IRON Co.
Streamflow Forecasts - February 1, 2008

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 -Yr Avg. (100 0AF)
Lake Powell Inflow (2)	APR -JUL	6110	8130	9500	120	10900	12900	7930
Virgin River at Virgin	APR -JUL	56	73	85	133	98	119	64
Virgin River nr Hurricane	APR -JUL	56	77	93	135	111	140	69
Santa Clara River nr Pine Valley	APR -JUL	3.90	5.60	7.00	127	8.50	11.10	5.50
Coal Creek nr Cedar City	APR -JUL	15.5	21	25	130	29	37	19.3

E. GARFIELD, KANE, WASHINGTON, & IRON Co.
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
GUNLOCK	10.4	7.3	6.6	5.7
LAKE POWELL	24322.0	10889.0	11734.0	---
QUAIL CREEK	40.0	30.0	27.8	26.5
UPPER ENTERPRISE	10.0	0.0	3.8	---
LOWER ENTERPRISE	2.6	1.8	2.4	38.0

E. GARFIELD, KANE, WASHINGTON, & IRON Co.
Watershed Snowpack Analysis - February 1, 2008

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
VIRGIN RIVER	5	261	164
PAROWAN	2	205	148
ENTERPRISE TO NEW HARMONY	2	269	133
COAL CREEK	2	202	143
ESCALANTE RIVER	2	112	80
E. GARFIELD, KANE, WASHIN	9	222	144
**********	85	160	113

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971 -2000 base period.

(1) - The values listed under the 10% and 90% Cha nce of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

UTAH SURFACE WATER SUPPLY INDEX Snow Surveys NRCS USDA Basin or Region SWSI/% Percentile Years with Similar SWSI 1-Feb-08			
Bear River	-3.15	12%	93,92,91,94
Ogden River	-0.19	48%	67,99,89,93
Weber River	-0.60	43%	81,76,70,68
Provo	-0.57	43%	88, 79,00,81
West Uintah Basin	2.83	84%	05,01,97,99
East Uintah Basin	0.56	57%	97,87,93,01
Price River	-0.41	45%	88,65,76,01
San Rafael	2.14	76%	79,97,85,06
Moab	1.29	66%	05,92,98,95
Upper Sevier River	1.65	70%	87,68,82,88
Lower Sevier River	1.67	70%	79,93,87,82
Beaver River	0.09	51%	71,96,78,74
Virgin River	2.50	80%	92,88,98,95

Snow Surveys
245 N Jimmy Doolittle Rd
Salt Lake City, UT
(801) 524-5213

SWSI Scale: -4 to 4
Percentile: 0 - 100%

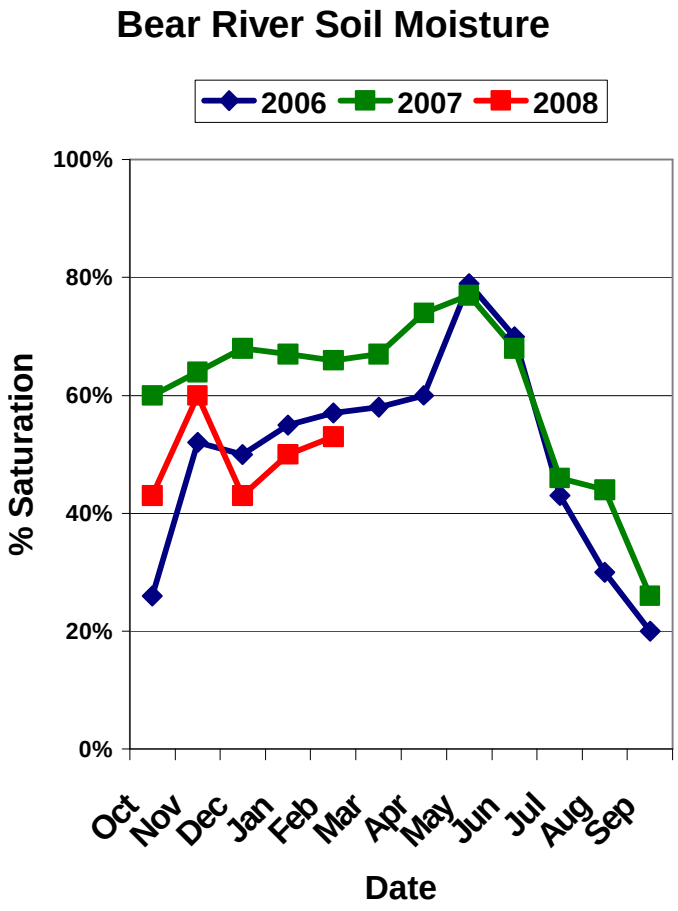
What is a Surface Water Supply Index?

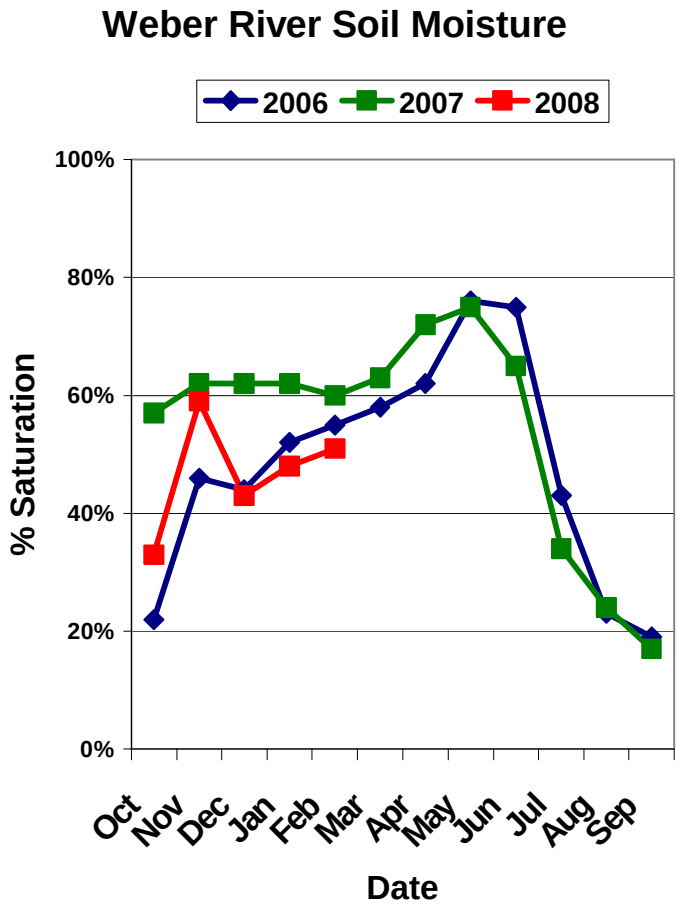
The Surface Water Supply Index (SWSI) is a predictive indicator of total surface water availability within a watershed for the spring and summer water use seasons. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow which are based on current snowpack and other hydrologic variables. SWSI 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. SWSI's are calculated in this fashion to be consistent with other hydroclimatic indicators such as the Palmer Drought Index and the Precipitation index.

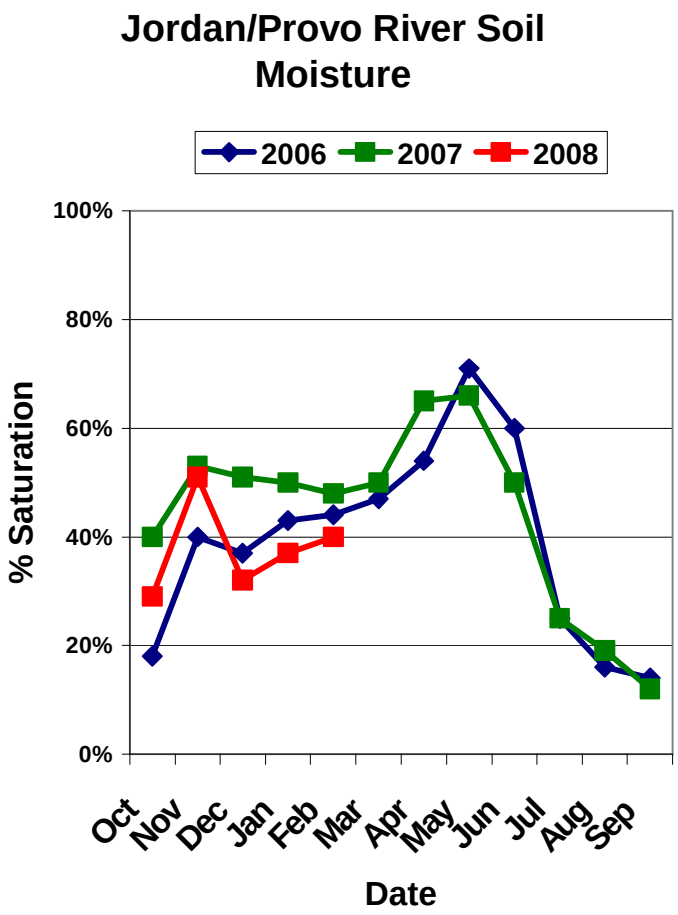
Utah Snow Surveys has also chosen to display the SWSI as a PERCENT CHANCE OF NON-EXCEEDANCE. While this is a very cumbersome name, it has the simplest application. It can be best thought of as a simple scale of 1 to 99 with 1 being the drought of record (driest possible conditions) and 99 being the flood 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 SWSI 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 SWSI 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 far more intuitive for most people and is totally 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.

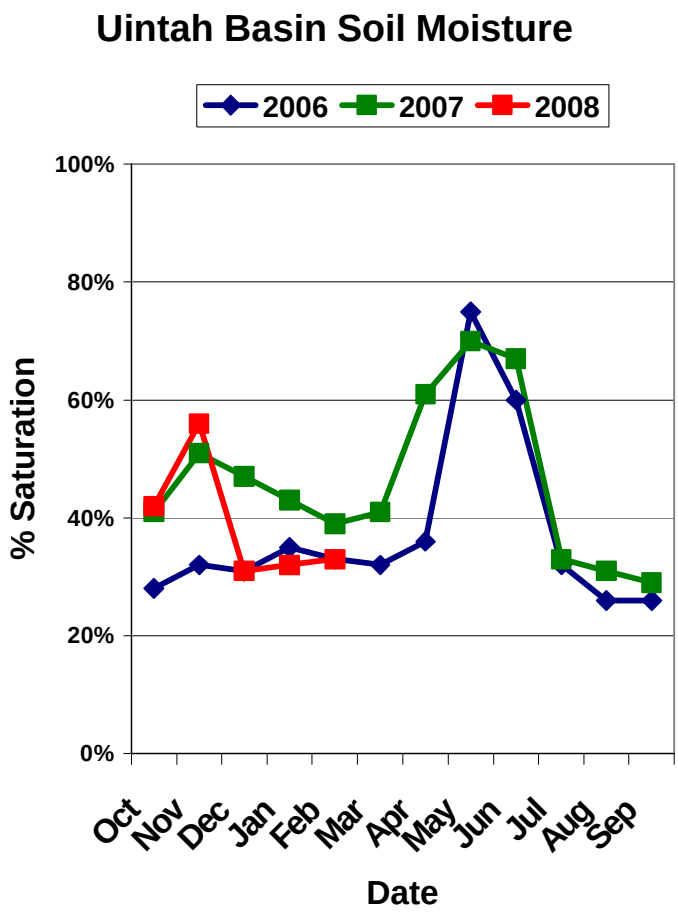
For more information on the SWSI go to: www.ut.nrcs.usda.gov/snow/ on the water supply page. The entire period of historical record for reservoir storage and streamflow is available.

Watershed Soil Moisture Charts for Utah Water Supply

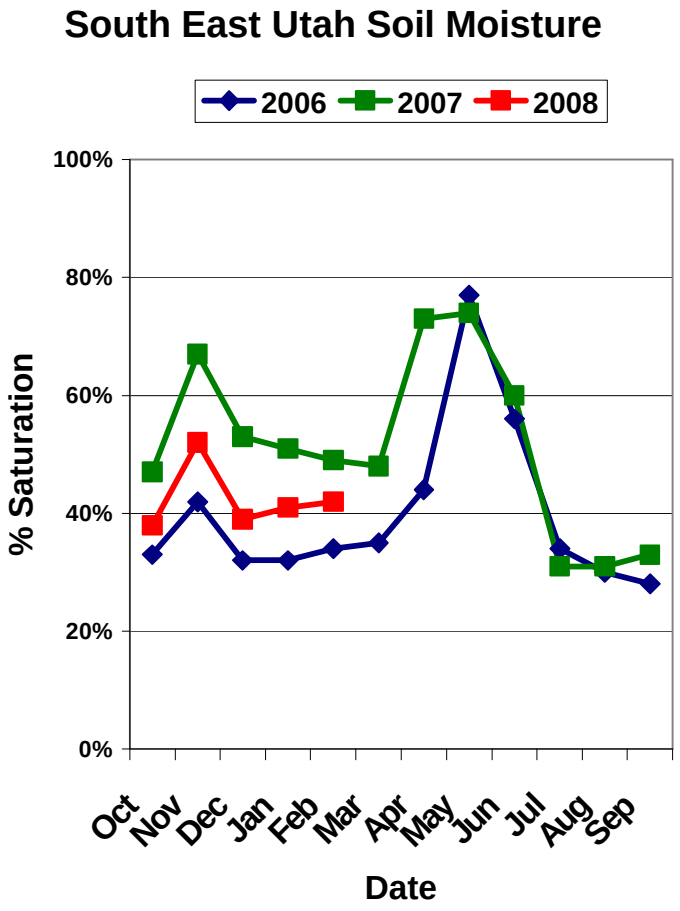


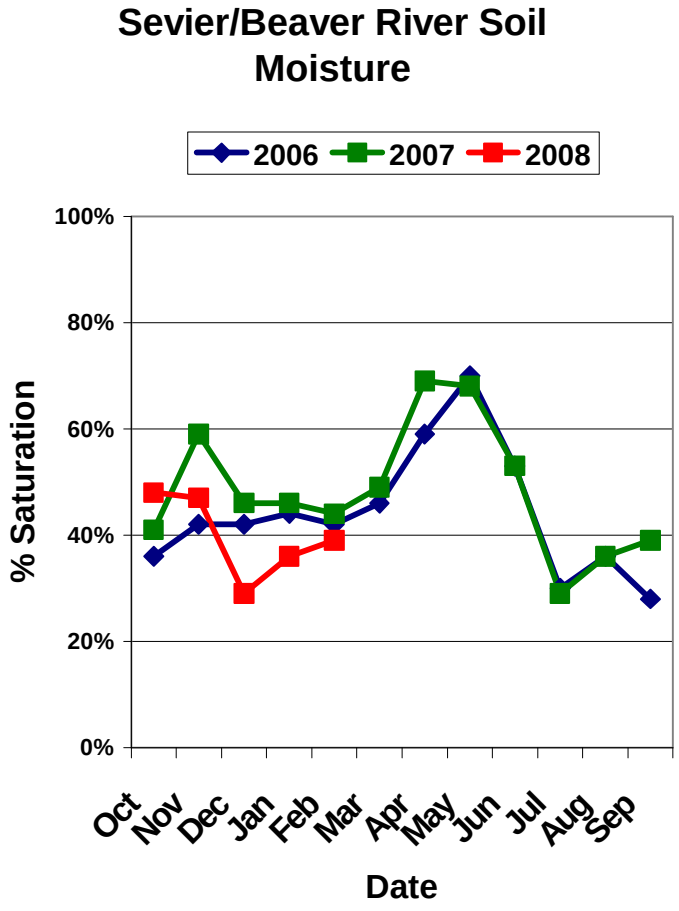


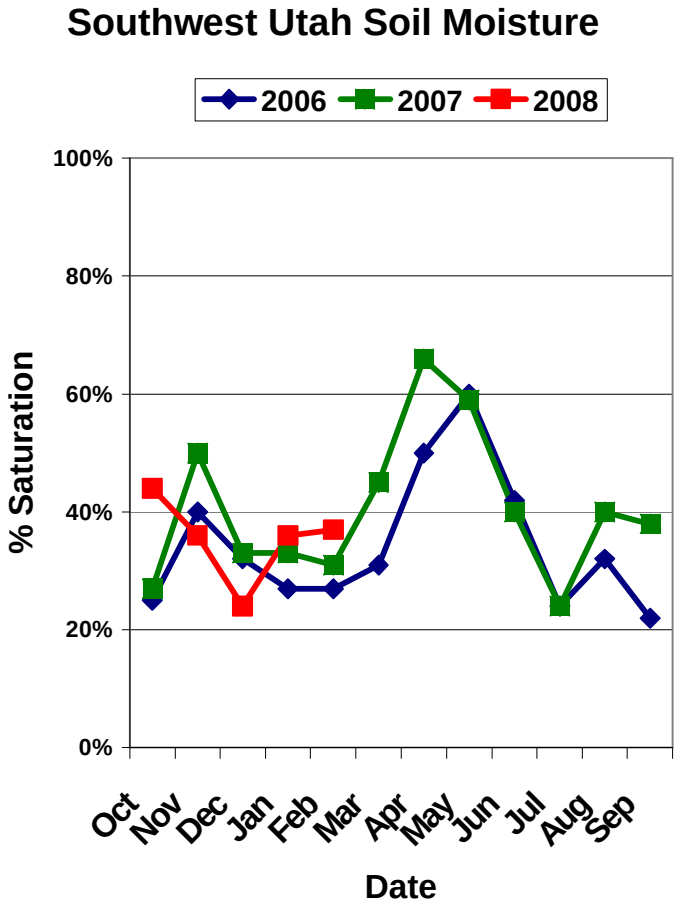


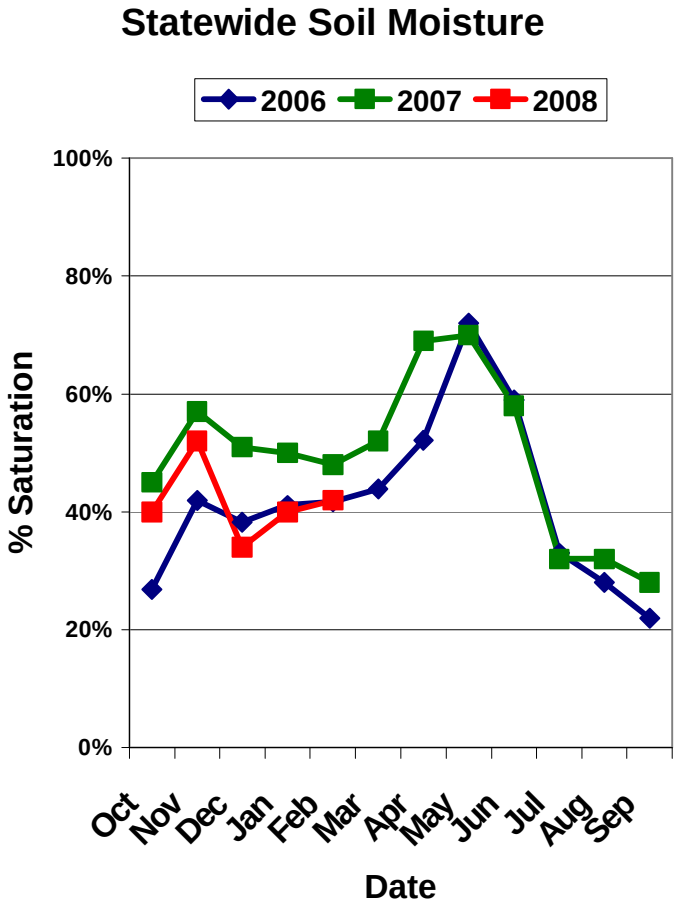


Watershed Soil Moisture Charts for Utah Water Supply









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S N O W C O U R S E D A T A

FEBRUARY 2008

SNOW COURSE	ELEV.	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
AGUA CANYON SNOTEL	8900	2/01	45	10.6	3.8	5.4
ALTA CENTRAL	8800	1/31	100	26.5	12.2	24.7
BEAVER DAMS SNOTEL	8000	2/01	35	8.2	3.9	7.0
BEAVER DIVIDE SNOTEL	8280	2/01	48	10.2	3.9	7.8
BEN LOMOND PK SNOTEL	8000	2/01	93	27.8	10.2	25.0
BEN LOMOND TR SNOTEL	6000	2/01	76	19.2	5.4	14.4
BEVAN'S CABIN	6450				-	-
BIG FLAT SNOTEL	10290	2/01	56	12.6	7.4	11.4
BIRCH CROSSING	8100				-	4.6
BLACK FLAT-U.M. CK S	9400	2/01	39	7.8	3.5	5.9
BLACK'S FORK GS-EF	9340				-	5.8
BLACK'S FORK JUNCTN	8930				-	5.9
BOX CREEK SNOTEL	9800	2/01	43	10.4	6.2	8.0
BRIAN HEAD	10000				-	11.8
BRIGHTON SNOTEL	8750	2/01	71	19.7	9.5	15.9
BRIGHTON CABIN	8700	2/01	91	23.7	10.7	17.5
BROWN DUCK SNOTEL	10600	2/01	64	12.3	8.5	11.1
BRYCE CANYON	8000				-	3.6
BUCK FLAT SNOTEL	9800	2/01	51	12.5	6.1	11.3
BUCK PASTURE	9700				-	-
BUCKBOARD FLAT	9000				5.8	-
BUG LAKE SNOTEL	7950	2/01	51	10.6	7.5	13.2
BURT'S-MILLER RANCH	7900				-	3.8
CAMP JACKSON SNOTEL	8600	2/01	60	17.1	3.1	9.0
CASCADE MOUNTAIN SNO	7770	2/01	52	14.2	6.0	-
CASTLE VALLEY SNOTEL	9580	2/01	52	12.2	4.6	7.7
CHALK CK #1 SNOTEL	9100	2/01	66	16.9	12.0	15.3
CHALK CK #2 SNOTEL	8200	2/01	42	8.5	8.6	9.9
CHALK CREEK #3	7500				-	5.6
CHEPETA SNOTEL	10300	2/01	46	9.9	9.3	8.3
CLAYTON SPRINGS SNTL	10000	2/01	35	7.1	5.5	-
CLEAR CK RIDG #1 SNT	9200	2/01	55	13.0	5.3	12.3
CLEAR CK RIDG #2 SNT	8000	2/01	47	10.6	5.4	9.4
CORRAL	8200				-	-
CURRANT CREEK SNOTEL	8000	2/01	42	9.1	4.1	6.8
DANIELS-STRAWBERRY S	8000	2/01	60	13.6	6.0	11.1
DILL'S CAMP SNOTEL	9200	2/01	46	10.5	4.1	8.4
DONKEY RESERVOIR SNO	9800	2/01	21	3.6	5.5	5.1
DRY BREAD POND SNTL	8350	2/01	65	15.0	8.1	14.5
DRY FORK SNOTEL	7160	2/01	39	9.7	7.6	10.1
EAST WILLOW CREEK SN	8250	2/01	40	8.3	3.2	4.9
FARMINGTON U. SNOTEL	8000	2/01	93	22.9	12.8	20.3
FARMINGTON L. SNOTEL	6780	2/01	70	17.4	7.9	-
FARNSWORTH LK SNOTEL	9600	2/01	57	14.0	10.2	11.4
FISH LAKE	8700				-	5.1
FIVE POINTS LAKE SNO	10920	2/01	56	12.8	8.2	9.8
G.B.R.C. HEADQUARTER	8700				-	-
G.B.R.C. MEADOWS	10000				-	14.5
GARDEN CITY SUMMIT	7600				-	11.1
GARDNER PEAK SNOTEL	8350	2/01	38	10.2	4.2	-
GEORGE CREEK	8840				-	-
GOOSEBERRY R.S.	8400				-	7.5
GOOSEBERRY R.S. SNTL	7900	2/01	32	7.8	4.5	5.8
GUTZ PEAK SNOTEL	6820	2/01	36	10.9	2.7	-
HARDSCRABBLE SNOTEL	7250	2/01	63	15.0	7.7	10.9
HARRIS FLAT SNOTEL	7700	2/01	40	11.0	1.8	4.7
HAYDEN FORK SNOTEL	9100	2/01	51	11.9	6.3	9.8
HENRY'S FORK	10000				-	-
HEWINTA SNOTEL	9500	2/01	32	6.6	5.4	6.7
HICKERSON PARK SNTL	9100	2/01	19	3.6	4.6	4.4
HIDDEN SPRINGS	5500	1/29	27	6.5	2.3	5.5
HOBBLE CREEK SUMMIT	7420				-	9.6
HOLE-IN-ROCK SNOTEL	9150	2/01	18	3.0	4.9	4.1
HORSE RIDGE SNOTEL	8260	2/01	68	14.4	8.6	15.1
HUNTINGTON-HORSESHOE	9800				-	15.1
INDIAN CANYON SNOTEL	9100	2/01	37	8.7	5.7	6.9
JOHNSON VALLEY	8850				-	4.6
JONES CORRAL G.S.	9720				-	-
JONES CORRAL SNOTEL	9750	2/01	30	6.0	-	-
KILFOIL CREEK	7300				-	9.4

SNOW COURSE	ELEV.	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
KILLYON CANYON	6300	1/29	32	7.8	2.6	11.5
KIMBERLY MINE SNOTEL	9300	2/01	49	13.3	7.2	9.4
KING'S CABIN SNOTEL	8730	2/01	36	7.2	4.4	6.8
KLONDIKE NARROWS	7400				-	12.7
KOLOB SNOTEL	9250	2/01	68	19.4	7.6	12.1
LAKEFORK #1 SNOTEL	10100	2/01	42	9.0	5.6	7.9
LAKEFORK BASIN SNTL	10900	2/01	65	13.5	7.9	11.7
LAKEFORK MOUNTAIN #3	8400				-	4.6
LAMBS CANYON	7400	1/31	56	12.8	7.6	11.2
LASAL MOUNTAIN LOWER	8800				-	5.9
LASAL MOUNTAIN SNTL	9850	2/01	36	9.0	5.1	7.8
LIGHTNING RIDGE SNTL	8220	2/01	60	14.1	7.4	-
LILY LAKE SNOTEL	9050	2/01	41	9.1	7.5	8.2
LITTLE BEAR LOWER	6000				-	7.1
LITTLE BEAR SNOTEL	6550	2/01	36	10.4	4.8	9.1
LITTLE GRASSY SNOTEL	6100	2/01	21	6.3	1.5	4.9
LONG FLAT SNOTEL	8000	2/01	35	7.7	3.7	5.6
LONG VALLEY JCT. SNT	7500	2/01	39	9.4	3.2	4.4
LOOKOUT PEAK SNOTEL	8200	2/01	76	18.0	10.3	15.4
LOST CREEK RESERVOIR	6130				-	3.8
LOUIS MEADOW SNOTEL	6700	2/01	62	16.2	8.7	-
MAMMOTH-COTTONWD SNT	8800	2/01	56	14.5	5.6	12.9
MERCHANT VALLEY SNTL	8750	2/01	46	9.9	3.7	8.2
MIDDLE CANYON	7000				-	9.1
MIDWAY VALLEY SNOTEL	9800	2/01	74	19.8	11.0	13.9
MILL CREEK	6950	1/31	61	13.9	7.5	12.5
MILL-D NORTH SNOTEL	8960	2/01	75	16.8	8.2	15.8
MILL-D SOUTH FORK	7400	2/01	78	17.6	6.6	13.0
MINING FORK SNOTEL	8000	2/01	43	11.6	8.0	9.3
MONTE CRISTO SNOTEL	8960	2/01	70	17.6	11.4	18.2
MOSBY MTN. SNOTEL	9500	2/01	41	8.2	5.5	7.0
MT.BALDY R.S.	9500				-	14.9
MUD CREEK #2	8600				-	8.6
OAK CREEK	7760				-	-
PANGUITCH LAKE R.S.	8200				-	-
PARLEY'S CANYON SNTL	7500	2/01	58	12.8	6.8	11.6
PARRISH CREEK SNOTEL	7740	2/01	75	17.1	10.4	-
PAYSON R.S. SNOTEL	8050	2/01	53	13.6	5.8	11.6
PICKLE KEG SNOTEL	9600	2/01	49	12.3	6.3	10.0
PINE CREEK SNOTEL	8800	2/01	56	15.1	11.2	12.9
RED PINE RIDGE SNTL	9200	2/01	53	11.8	6.0	10.5
REDDEN MINE LOWER	8500				-	10.8
REES'S FLAT	7300				-	8.7
ROCK CREEK SNOTEL	7900	2/01	40	7.2	3.8	5.6
ROCKY BN-SETTLEMT SN	8900	2/01	50	13.3	9.7	15.1
SEELEY CREEK SNOTEL	10000	2/01	37	9.2	5.9	8.8
SMITH MOREHOUSE SNTL	7600	2/01	47	10.5	6.8	9.2
SNOWBIRD SNOTEL	9700	2/01	104	31.8	10.9	20.1
SPIRIT LAKE	10300				-	7.4
SQUAW SPRINGS	9300				-	4.6
STEEL CREEK PARK SNO	10100	2/01	44	8.8	7.9	9.4
STILLWATER CAMP	8550				-	6.5
STRAWBERRY DIVIDE SN	8400	2/01	55	11.0	5.9	11.9
SUSC RANCH	8200				-	5.2
TALL POLES	8800				-	8.4
TEMPLE FORK SNOTEL	7410	2/01	52	11.4	5.8	-
THAYNES CANYON SNTL	9200	2/01	73	19.5	10.3	13.8
THISTLE FLAT	8500				-	-
TIMBERLINE	9100				-	-
TIMBERLINE SNOTEL	8680	2/01	45	10.8	-	-
TIMPANOGOS DIVIDE SN	8140	2/01	71	18.4	6.8	15.0
TONY GROVE LK SNOTEL	8400	2/01	90	21.7	14.5	23.4
TONY GROVE R.S.	6250				-	9.0
TRIAL LAKE	9960				-	14.7
TRIAL LAKE SNOTEL	9960	2/01	84	13.1	7.1	15.7
TROUT CREEK SNOTEL	9400	2/01	37	7.7	5.5	5.8
UPPER JOES VALLEY	8900				-	6.8
USU DOC DANIEL SNTL	8270	2/01	75	18.1	-	-
VERNON CREEK SNOTEL	7500	2/01	38	8.5	3.5	7.1
VIPONT	7670				-	-
WEBSTER FLAT SNOTEL	9200	2/01	51	14.2	5.8	9.8
WHITE RIVER #1 SNTL	8550	2/01	43	8.8	4.8	8.3
WHITE RIVER #3	7400				-	5.8
WIDTSOE #3 SNOTEL	9500	2/01	30	6.2	4.0	7.1
WRIGLEY CREEK	9000				-	6.7
YANKEE RESERVOIR	8700				-	5.6

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Utah Water Supply Outlook Report

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