Feb 1, 2023 | Surface Water Supply Index (SWSI)

Basin or Region	Reservoir Storage[1] (KAF)[2]	Apr-July Forecast (KAF)[2]	Forecast + Storage (KAF)[2]	SWSI[3]	Percentile[4] (%)	Similar Years
Bear	396.4	141.0	537.4	-1.33	**34**	[2010, 2016]
Woodruff Narrows	13.5	147.0	160.5	1.39	**67**	[2016, 2019]
Little Bear	9.6	57.0	66.6	1.56	**69**	[1996, 2006]
Ogden	50.3	150.0	200.3	1.33	**66**	[1995, 2009]
Weber	204.8	435.0	639.8	1.33	**66**	[2005, 2019]
Provo	721.8	136.0	857.8	-2.78	**17**	[2003, 2017]
Western Uintas	163.9	77.0	240.9	0.95	**61**	[2001, 2015]
Eastern Uintas	25.0	154.0	179.0	1.7	**70**	[1985, 1997]
Blacks Fork	9.5	102.0	111.5	1.73	**71**	[1985, 1993]
Smiths Fork	6.1	33.0	39.1	2.13	**76**	[1996, 2016]
Price	14.4	70.0	84.4	2.08	**75**	[1997, 1999]
Joes Valley	30.1	74.0	104.1	1.52	**68**	[1996, 1999]
Ferron Creek	8.0	48.0	56.0	1.7	**70**	[1982, 2005]
Moab	1.7	7.5	9.2	3.27	**89**	[1995, 2016]
Upper Sevier	37.4	102.0	139.4	1.14	**64**	[1981, 1999]
San Pitch	0.6	21.0	21.6	-0.19	**48**	[2007, 2010]
Lower Sevier	32.6	110.0	142.6	-1.33	**34**	[2014, 2020]
Beaver River	5.9	45.0	50.9	2.27	**77**	[1982, 1986]
Virgin River	30.8	109.3	140.1	2.34	**78**	[2010, 2019]

[1] End of Month Reservoir Storage; [2] KAF, Thousand Acre-Feet; [3] SWSI, Surface Water Supply Index; [4] Threshold for coloring: >75% Green, <25% Red

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. See Appendix A for details on forecast points and reservoirs used in SWSI calculations.

The Utah Snow Survey has also chosen to display the SWSI value as well as a PERCENT CHANCE OF NON-EXCEEDANCE. While this is a cumbersome name, it has a simple application. It can be best thought of as a scale of 1 to 99 with 1 being the drought of record (driest possible conditions) and 99 being the flood of record (wettest possible conditions) and a value of 50 representing average conditions. This rating scale is a percentile rating as well, for example a 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 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.