# COLORADO WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES

December 1, 2016

ROOM 818, 1313 SHERMAN ST., DENVER, CO 80203

303-866-3581; www.water.state.co.us

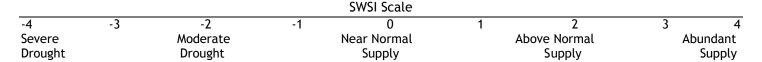
The Surface Water Supply Index (SWSI) is used as an indicator of water supply conditions in the seven major river basins of the state and in each of the 41 smaller watersheds, or HUCs. The Colorado Water Conservation Board (CWCB) completed a major revision to the Colorado Drought Plan in 2010. At that time, Colorado adopted a new SWSI analysis based on the components shown below, which vary depending on the time of year. The new SWSI is based on a ranking of total volume in a HUC or major river basin ranked against similar volumes in historical years. For instance, in January, the total volume in a HUC is based on the forecasted runoff at specific locations plus the volume in storage in specific reservoirs. That total volume is ranked against similar total volumes that occurred each January between 1970 and 2010.

Time Period	SWSI Components	
January 1 - June 1	Forecasted Runoff + Reservoir Storage	
July 1 - September 1	Previous Month's Streamflow + Reservoir Storage	
October 1 - December 1	Reservoir Storage	

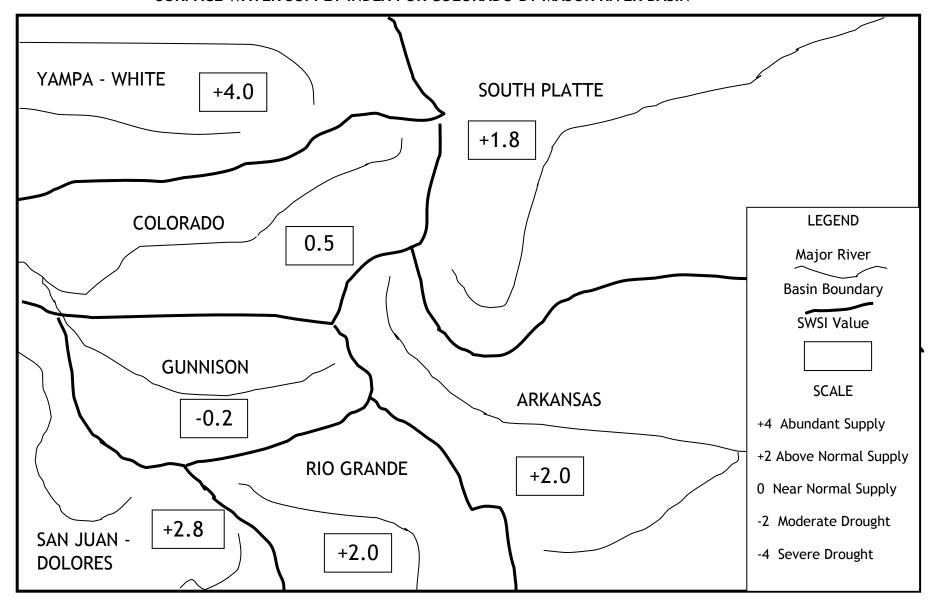
In 2015, CWCB and the Division of Water Resources (DWR) (both Divisions of the Colorado Department of Natural Resources) completed a software project to implement an automated calculation of the SWSI and to document the underlying hydrologic data. July 1, 2015 was the first month that the new DNR SWSI was published. The results are summarized within this monthly report and additional information, maps & data are available at: <a href="http://water.state.co.us/DWRDocs/Reports/Pages/SWSIReport.aspx">http://water.state.co.us/DWRDocs/Reports/Pages/SWSIReport.aspx</a>. This document also contains reports about regional conditions prepared by each DWR Division Office.

The SWSI calculation for the fall season (October 1 to December 1) is based on reservoir storage at the end of last month, in this case November 30. Any action relying on the SWSI values from the fall season should only be used with the consideration that they are based on <u>reservoir storage levels only</u>. The statewide SWSI values for November (December 1) range from a low of -0.2 in the Gunnison Basin a high of 4.0 in the Yampa-White Basin. The following SWSI values were computed for each of the seven major basins for December 1, 2016. The results for each HUC are summarized on the following pages.

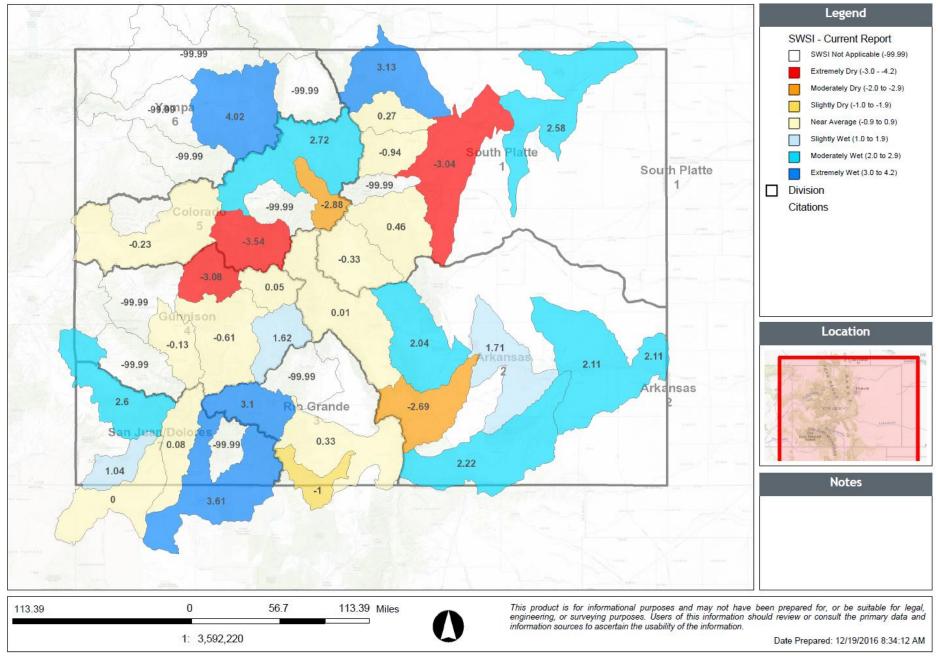
Basin	December 1 SWSI	Change from Previous Month	Change from Previous Year
Arkansas	2.0	0.0	-0.3
Colorado	0.5	0.5	0.3
Gunnison	-0.2	0.3	-2.8
Rio Grande	2.0	0.0	-0.1
San Juan-Dolores	2.8	0.3	1.6
South Platte	1.8	0.0	-0.8
Yampa-White	4.0	0.2	0.0



### SURFACE WATER SUPPLY INDEX FOR COLORADO BY MAJOR RIVER BASIN



### SURFACE WATER SUPPLY INDEX FOR COLORADO BY HUC



December 1, 2016 SWSI Values by HUC and Non Exceedance Probabilities (NEP)

Basin	HUC ID	HUC Name	SWSI	Reservoir Storage NEP	Total Vol (AF)
S	11020006	Huerfano River	-2.7	18	0
	11020001	Arkansas Headwaters	0.0	50	190,600
nsa	11020005	Upper Arkansas-Lake Meredith	1.7	71	29,800
Arkansas	11020002	Upper Arkansas	2.0	75	186,200
Ā	11020009	Upper Arkansas-John Martin Reservoir	2.1	75	136,900
	11020010	Purgatoire River	2.2	77	21,800
	14010004	Roaring Fork	-3.5	7	71,300
ဓ္ဓ	14010002	Blue River	-2.9	15	69,100
Colorado	14010005	Colorado Headwaters-Plateau	-0.2	47	9,500
lo	14010003	Eagle River			
	14010001	Colorado Headwaters	2.7	83	128,700
	14020004	North Fork Gunnison	-3.1	13	1,300
	14020002	Upper Gunnison	-0.6	43	714,500
nos	14020006	Uncompangre River	-0.1	48	60,300
Gunnison	14020005	Lower Gunnison			
l in	14030003	San Miguel			
	14020001	East-Taylor	0.1	51	69,500
	14020003	Tomichi Creek	1.6	69	400
4.	13010005	Conejos River	-1.0	38	15,800
o pr	13010004	Saguache Creek			
Rio Grande	13010002	Alamosa-Trinchera	0.3	54	6,249
	13010001	Rio Grande Headwaters	3.1	87	43,100
	14080102	Piedra River			
٠, ١٥	14080105	Middle San Juan	0.0	50	237
ual	14080104	Animas River	0.1	51	19,900
San Juan- Dolores	14080107	Mancos River	1.0	63	5,000
Sa	14030002	Upper Dolores	2.6	81	313,800
	14080101	Upper San Juan	3.6	93	78,800
	10190003	Middle South Platte-Cherry Creek	-3.0	13	51,800
4.	10190005	St. Vrain River	-0.9	39	47,100
Itte	10190001	South Platte Headwaters	-0.3	46	141,800
Pla	10190004	Clear Creek			
ቱ	10190006	Big Thompson River	0.3	53	485,100
South Platte	10190002	Upper South Platte	0.5	56	294,200
	10190012	Middle South Platte-Sterling	2.6	81	144,300
	10190007	Cache La Poudre	3.1	88	150,300
	10180001	North Platte Headwaters			
e 9	14050002	Lower Yampa			
Yampa- White	14050003	Little Snake			
× ₹	14050005	Upper White			
<u></u>	14050001	Upper Yampa	4.0	98	40,600

NEP is non exceedance percentage for total reservoir storage in HUC. Some HUCs do not have any reservoirs considered in the SWSI and do not have a SWSI for the October through December period. Total Vol is the volume of reservoir storage in the HUC. NEP is calculated compared to the volume of active storage historically occurring this month during the period 1970-2010. The following table lists each component considered in each HUC.

December 1, 2016 SWSI Component Information By HUC

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
11020001		CLEAR CREEK RESERVOIR	6,300	59
		TURQUOISE LAKE	101,100	55
	Arkansas Headwaters	TWIN LAKES RESERVOIR	41,300	29
		HOMESTAKE RESERVOIR	41,900	80
11020002	Upper Arkansas	PUEBLO RESERVOIR	186,200	75
11020005	Upper Arkansas-Lake	MEREDITH RESERVOIR	23,400	69
11020005	Meredith	LAKE HENRY	6,400	96
11020006	Huerfano River	CUCHARAS RESERVOIR	0*	18
11020000	Upper Arkansas-John	ADOBE CREEK RESERVOIR	35,700	81
11020009	Martin Reservoir	JOHN MARTIN RESERVOIR	101,200	75
11020010	Purgatoire River	TRINIDAD LAKE	21,800	77
1.404.0004	Colorado Headwaters	WILLIAMS FORK RESERVOIR	77,100	76
14010001		WOLFORD MOUNTAIN RESERVOIR	51,600	89
14010002	Blue River	GREEN MOUNTAIN RESERVOIR	69,100	15
14010004	Roaring Fork	RUEDI RESERVOIR	71,300	7
14010005	Colorado Headwaters- Plateau	VEGA RESERVOIR	9,500	47
14020001	East-Taylor	TAYLOR PARK RESERVOIR	69,500	51
	Upper Gunnison	BLUE MESA RESERVOIR	600,900	45
		MORROW POINT RESERVOIR	107,100	5
14020002		FRUITLAND RESERVOIR	600	50
		CRAWFORD RESERVOIR	4,200	24
		SILVER JACK RESERVOIR	1,700	11
14020003	Tomichi Creek	VOUGA RESERVOIR NEAR DOYLEVILLE	400	69
14020004	North Fork Gunnison	PAONIA RESERVOIR	1,300	13
14020006	Uncompahgre River	RIDGEWAY RESERVOIR	60,300	48
	Rio Grande Headwaters	RIO GRANDE RESERVOIR	20,100	78
13010001		SANTA MARIA RESERVOIR	15,800	88
		CONTINENTAL RESERVOIR	7,200	90
42040000	Alamosa-Trinchera	TERRACE RESERVOIR	3,100	39
13010002		MOUNTAIN HOME	3,149	70
13010005	Conejos River	PLATORO RESERVOIR	15,800	38
14030002	Upper Dolores	GROUNDHOG RESERVOIR	17,600	99
		MCPHEE RESERVOIR	296,200	78
14080101	Upper San Juan	VALLECITO RESERVOIR	78,800	93
14080104	Animas River	LEMON RESERVOIR	19,900	51
14080105	Middle San Juan	LONG HOLLOW RESERVOIR	237	50
14080107	Mancos River	JACKSON GULCH RESERVOIR	5,000	63
	South Platte Headwaters	ANTERO RESERVOIR	13,900	18
10190001		ELEVENMILE CANYON RESERVOIR	99,700	85
		SPINNEY MOUNTAIN RESERVOIR	28,200	46
40400000	Upper South Platte	CHEESMAN LAKE	66,000	64
10190002		DILLON RESERVOIR	228,200	49

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
10190003	Middle South Platte-Cherry Creek	BARR LAKE	18,000	45
		MILTON RESERVOIR	400	3
		STANDLEY RESERVOIR	32,100	37
		HORSECREEK RESERVOIR	1,300	18
		GROSS RESERVOIR	14,100	39
		MARSHALL RESERVOIR	4,900	47
10190005	St. Vrain River	BUTTONROCK (RALPH PRICE) RESERVOIR	12,900	14
		TERRY RESERVOIR	5,000	40
		UNION RESERVOIR	10,200	43
		BOYD LAKE	26,900	38
		CARTER LAKE	41,200	16
		LAKE LOVELAND RESERVOIR	4,200	14
10190006	Big Thompson River	LONE TREE RESERVOIR	3,100	19
		MARIANO RESERVOIR	800	13
		LAKE GRANBY	403,100	68
		WILLOW CREEK RESERVOIR	5,800	25
	Cache La Poudre	BLACK HOLLOW RESERVOIR	3,300	81
		CACHE LA POUDRE	3,000	24
		CHAMBERS LAKE	3,100	63
10190007		COBB LAKE	17,700	72
10190007		FOSSIL CREEK RESERVOIR	8,000	87
		HALLIGAN RESERVOIR	5,500	96
		HORSETOOTH RESERVOIR	102,200	85
		WINDSOR RESERVOIR	7,500	57
	Middle South Platte- Sterling	EMPIRE RESERVOIR	18,800	58
		JACKSON LAKE RESERVOIR	24,000	82
10100012		JULESBURG RESERVOIR	13,200	22
10190012		POINT OF ROCKS RESERVOIR	33,000	52
		PREWITT RESERVOIR	13,100	50
		RIVERSIDE RESERVOIR	42,200	98
14050001		STAGECOACH RESERVOIR NR OAK CREEK	34,800	99
		YAMCOLO RESERVOIR	5,800	66

NEP is non exceedance percentage (percentile) for volume of the component compared to this month during the historical period 1970-2010.

<sup>\*</sup>Empty, filling restriction

The SWSI value for the month was +1.8 based on reservoir storage. Despite a decent mid-month snow storm and a somewhat split personality, November continued the warmer and dryer than normal conditions experienced in northeast Colorado since September. Temperatures over all of northeast Colorado were above normal for the month, mainly because it was very warm for about the first half of the month before slipping into a more normal temperature pattern for the last half of the month. Precipitation was less uniform than temperature, but outside of a few relatively small areas, it was well below normal over the entire area in November.

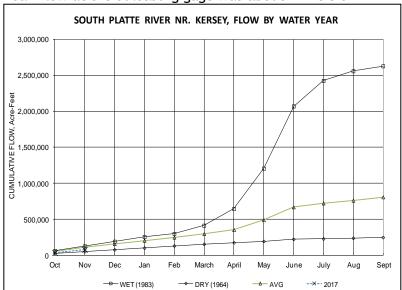
As further evidence of the abnormally dry conditions, November brought the first 2016 appearance of an area in northeast Colorado with the USDA Drought Monitor "Severe Drought (D2)" rating. This area with a D2 rating covered much of Larimer County and a smaller area in northwest Lincoln County. The rest of northeast Colorado remained in either the D0 "Abnormally Dry" or D1 "Moderate Drought" categories. There are also indications that, without a significant increase in precipitation, at least the D1 area may expand in December.

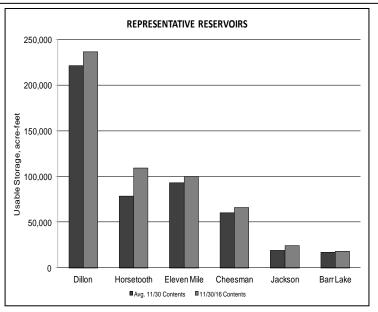
For the 5<sup>th</sup> month in a row, the November flow in the South Platte River at the Julesburg index gage was below the long term average. The overall November mean flow at the Julesburg gage was about 214 cfs or

approximately 60% of the period of record mean flow of 355 cfs. However, the flow at the Kersey gage was a bit above the long term average. The overall November mean flow at the Kersey gage was approximately 793 cfs or approximately 106% of the period of record mean flow of 747 cfs.

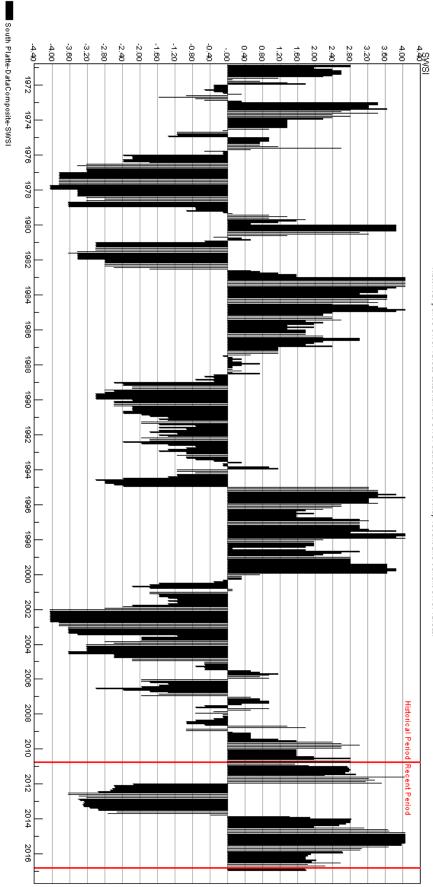
The calls on the South Platte mainstem were, surprisingly, slightly more junior than "normal" for November. Flows were sufficient and demand small enough that a 1922 storage call originating from near Brush controlled the river upstream for the entire month with no call below that point (primarily Water District 64). Most of the major South Platte tributaries had typical November calls (not more junior than normal) and were internally controlled the entire month.

The overall storage in the South Platte was almost exactly "normal" by the end of November. The long term average end of November storage is at 60% of capacity. The end of November 2016 storage was at 61% of capacity.









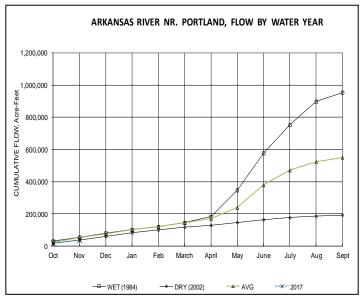
The SWSI value for the month was +2.0 based on reservoir storage.

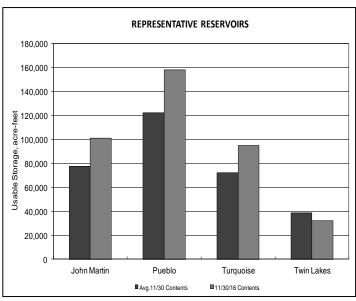
### Outlook

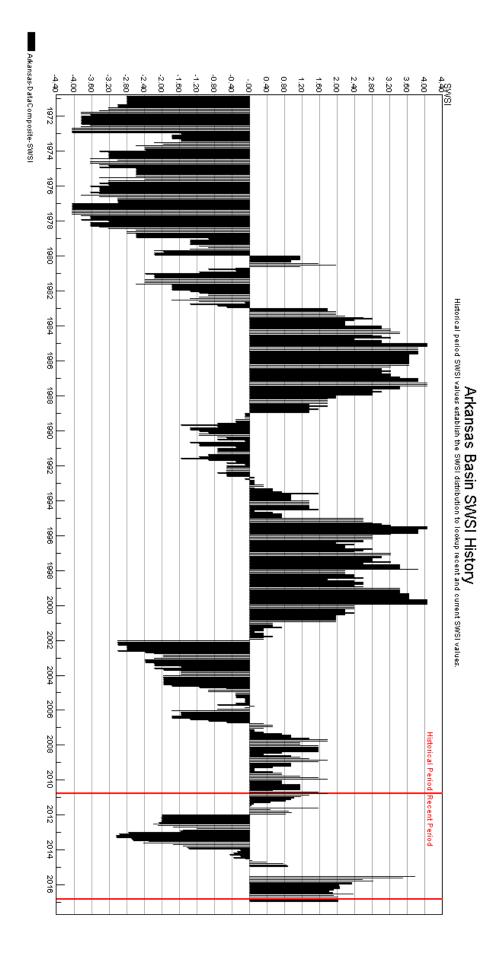
Winter Compact storage began in John Martin Reservoir on November 1, 2016. The Pueblo Winter Water Program began operation on November 15, 2016 with storage taking place initially in Pueblo and John Martin Reservoirs and under the Fort Lyon Canal system in Adobe Reservoir. Storage in John Martin Reservoir during November totaled approximately 6,337 acre-feet for Conservation Storage and 1,758 acre-feet for Winter Water participants. Storage overall under the Pueblo Winter Water Program in November totaled approximately 11,824 acre-feet in all storage locations. These storage levels are significantly lower than 2015.

### Administrative/Management Concerns

The protracted lack of precipitation left late irrigation season river flows significantly lower than in 2014 and 2015, both of which were good storage years. Barring a change in the pattern that produces runoff during the storage season, amounts stored may tend to be much more like the lower storage years of 2012 and 2013.







The SWSI value for the month was +2.0 based on reservoir storage. The lack of precipitation in the mountains for the past five months has taken a toll as below average streamflow continued throughout the southern and central areas of the Upper Rio Grande basin. The northern drainages, such as Carnero, Saguache and Rito Alto Creeks have fared better during 2016. Flow at the gaging station Rio Grande near Del Norte averaged 254 cfs (93% of normal). The Conejos River near Mogote had a mean flow of 74 cfs 82% of normal).

Precipitation during November in Alamosa was 0.40 inches, very near the long term average. Finally on the 27th, a spotty snowstorm blanketed most of the valley floor. So far, snowpack accumulation in the higher elevations of the basin is well below normal and the poorest in the state.

#### Outlook

Weather conditions have been very pleasant with sunny days and mild temperatures this autumn. These conditions may persist for awhile as National Weather Service forecasts continue to suggest above normal temperatures and below normal precipitation for Southern Colorado.

#### Administrative/Management Concerns

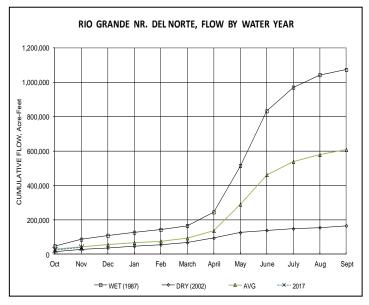
Colorado will slightly over-deliver on the amount required to meet the Rio Grande Compact delivery requirement to New Mexico and Texas during 2016. Individually, the Conejos basin is very close to their delivery requirement, while the Rio Grande is expected to over-deliver slightly more than 5000 acre-feet.

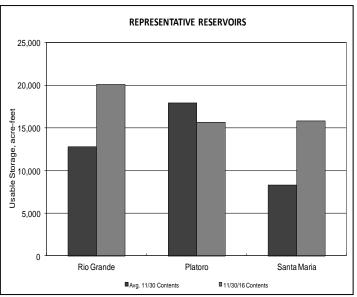
December 1st was the deadline for annual submittal of meter readings on irrigation wells in Water Division 3. Compliance has been generally good, with a few stragglers still working out data submittal issues with the staff.

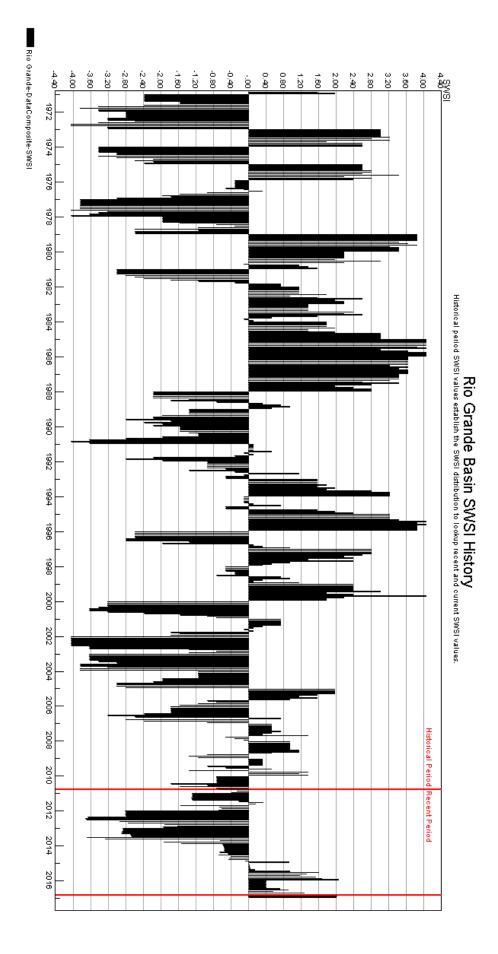
The reservoir storage season typically begins November 1st each year. This year, the reservoirs storing Rio Grande tributary flow were held off until November 8 because the irrigation season was extended. Current reservoir storage in the basin is in poor to fair condition. Heavy demand during the previous irrigation seasons has drawn down most reservoirs. These reservoirs must rely on capturing winter inflows as their junior rights are normally called-out during the irrigation season.

#### Public Use Impact

Mild weather conditions continued throughout November and well into December. The snowpack may be off to a slow start, but local residents don't miss the bitter cold associated with a snow-covered Valley floor.







The SWSI value for the month was -0.2 based on reservoir storage. While it wasn't as dry in November as October, precipitation in the Gunnison basin remained well below normal with most of the basin receiving between 70 and 90 percent of average. Temperatures across the basin, however, remained at 5 to 7 degrees above average during November. As a result of the warmer than average temperatures and dry conditions, the Gunnison basin on December 1st stands at 70% of the 30 year median snowpack.

#### Outlook

The NWS 90-day precipitation forecast its uncertain with equal chances of below or above average precipitation forecast, however, above average temperatures are expected for that same period.

#### Administrative/Management Concerns

The Gunnison Tunnel shut-down on November 1st, which is typicall and will now run every few weeks to supply water for the Project 7 water treatment plant that provides treated water to seven entities that provide municipal water to most of the Uncompangre Valley. As of December 1st, Taylor Park had accrued 4,550 acre-feet of storage in the second fill account. This is approximately 1,500 acre-feet less than last year when the same account contained 5,900 acre-feet on the same date. Blue Mesa Reservoir sits at around 2- feet above the target to prevent icing impacts upstream.

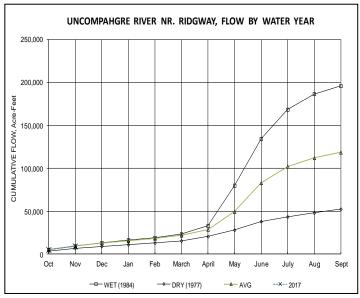
The instream flow (ISF) on the Slate River remained on call for much of November due to relatively dry and warm

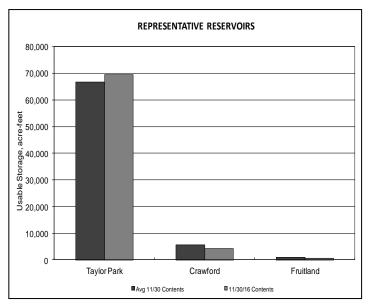
conditions. As a result, augmentation releases were made to cover depletions later in the season than is typical.

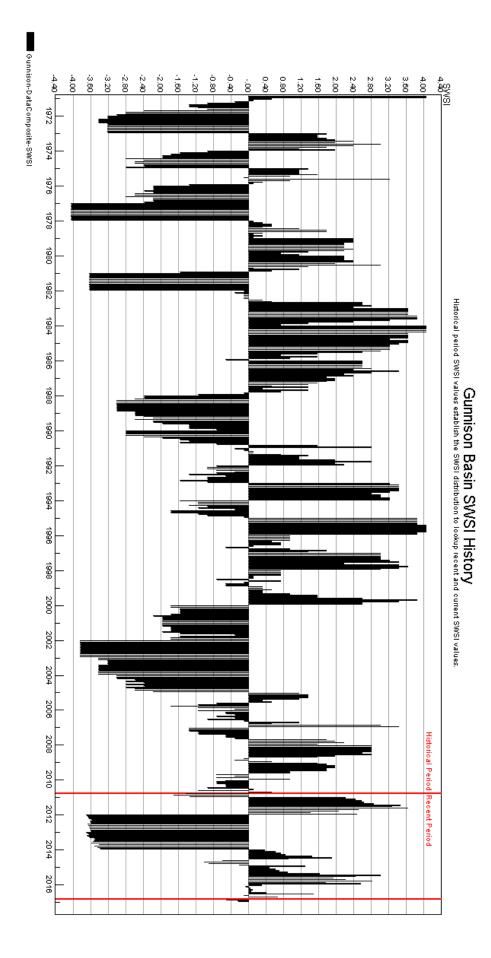
During November, the Orchard City Irrigation District (OCID), operators of Fruitgrowers Reservoir, placed a call with their Alfalfa Ditch right to fill the reservoir during November. This doesn't typically occur, but because many irrigators were continuing to irrigate into November due to the warm temperatures, flows in the stream were much lower and OCID was concerned about losing that additional water during the beginning of storage season. Their call was made with a junior priority, which allowed the stockwater decrees in many Surface Creek ditches to remain on.

#### **Public Use Impacts**

Ski conditions during Thanksgiving at the two major Gunnison basin resorts of Telluride and Crested Butte was fairly not great due to the lack of natural snow combined with temperatures that were too great at times to make artificial snow. The good news for skiers is that the forecast for the second week of December includes a change in the weather pattern that will hopefully result in more natural snow.







The SWSI value for the month was 0.5 based on reservoir storage.

### Outlook

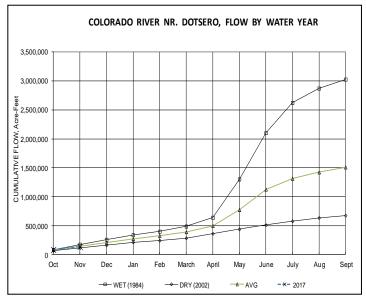
Colorado River flows continue near average or slightly below average with tributary flows running near or slightly above average throughout December. As of December 14, the Upper Colorado River Basin snowpack was 93 percent of median snow water equivalent and 89 percent of average precipitation. Forecasts call for equal chances of above or below precipitation with above normal temperatures for western Colorado through December.

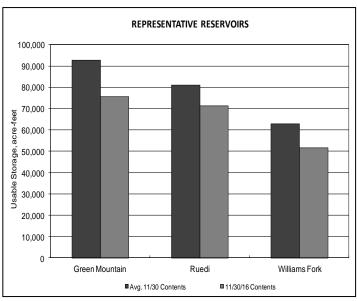
### Administrative/Management Concerns

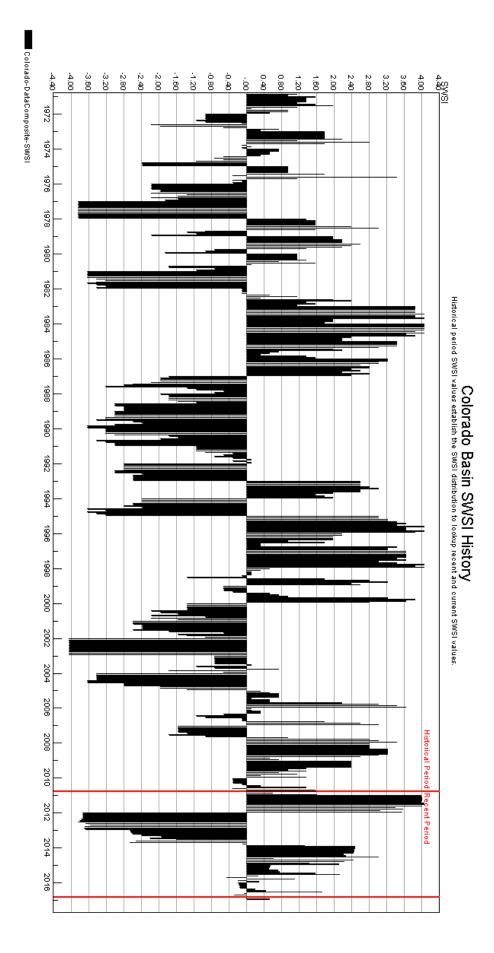
Since October 28, the call on the Colorado River main stem has been the Shoshone Hydro Power Right for 1250 cfs. The Orchard Mesa Irrigation District above Palisade (ORCHIDCO) gage has started diverting for the Grand Valley Power Plant for the duration of the winter. Green Mountain is releasing to pass inflows, release contract water, CB-T replacement water and HUP water.

### **Public Use Impacts**

A ruling in the Colorado Supreme Court clarifies that transmountain water diverted by the City of Aurora to the East Slope from the headwaters of the Fryingpan River does not automatically come with the right to store that water in a reservoir. The court's majority opinion stated, "The right to store water in the basin of import prior to use is not an automatic incident of transmountain water rights, but rather, must be reflected, or at least implied, in the decree."







The SWSI value for the month was +4.0 based on reservoir storage. November precipitation was below average in the Yampa, White, and North Platte River basins. Precipitation for the month, as measured at the SNOTEL sites operated by NRCS, was reported at 73% of average for the combined Yampa, White, and North Platte River basins. Total precipitation for the water year as a percent of average to date in the combined basins at the end of November is 73%.

All seasonal gages in Division 6 have been closed for winter. The gages above Lake Catamount (YAMABVCO) and on the Williams Fork River (WMFKMHCO) will remain open through the winter.

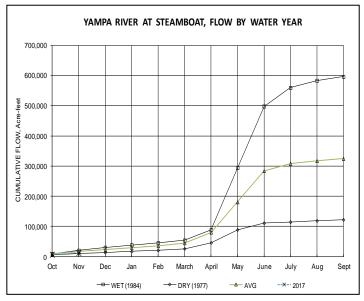
### Outlook

As of November 30th Fish Creek Reservoir was storing approximately 3,019 AF, 72% of capacity. The capacity of Fish Creek Reservoir is 4,167 AF. Yamcolo Reservoir was storing 5,800 AF at the end of November 2016. The capacity of Yamcolo Reservoir is 8,700 AF. On November 30th, 2016, Stagecoach Reservoir was storing 34,800 AF which is 105% of capacity. On November 30th, Elkhead Creek Reservoir was 97% full and storing 24,062.

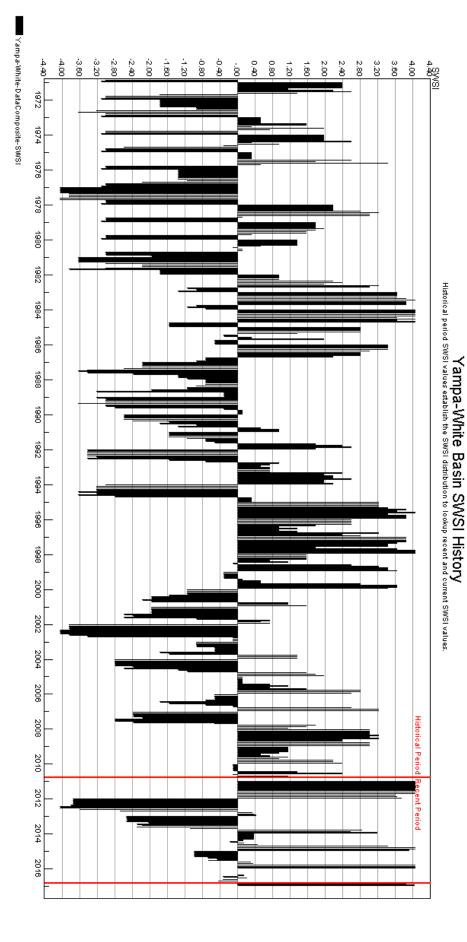
Water stored in Fish Creek Reservoir is used primarily for municipal purposes, water stored in Yamcolo Reservoir is used for irrigation purposes. Elkhead Creek Reservoir is used for municipal, industrial, recreational, and fish recovery releases. Stagecoach Reservoir is primarily used for recreation though a significant amount of allocated water is for industrial, irrigation and augmentation uses.

### **Public Use Impacts**

At Steamboat Lake State all boat ramps, the marina and the swim beach are now closed. The Camper Services Building and the RV dump are now closed. Fishing is reported as really picking up with many larger fish being caught.



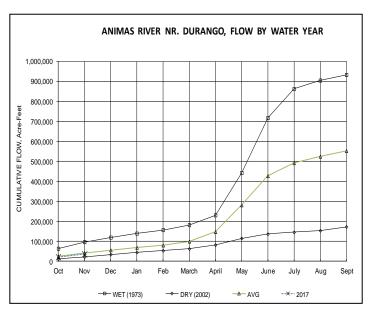
At Stagecoach Reservoir State Park all boat ramps are closed. The swim beach is closed. The reservoir is closed to motorized boating. For details on fishing, please visit the Stagecoach Park conditions site at http://cpw.state.co.us/placestogo/Parks.

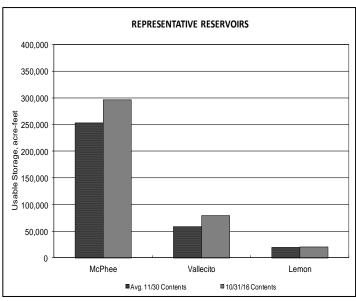


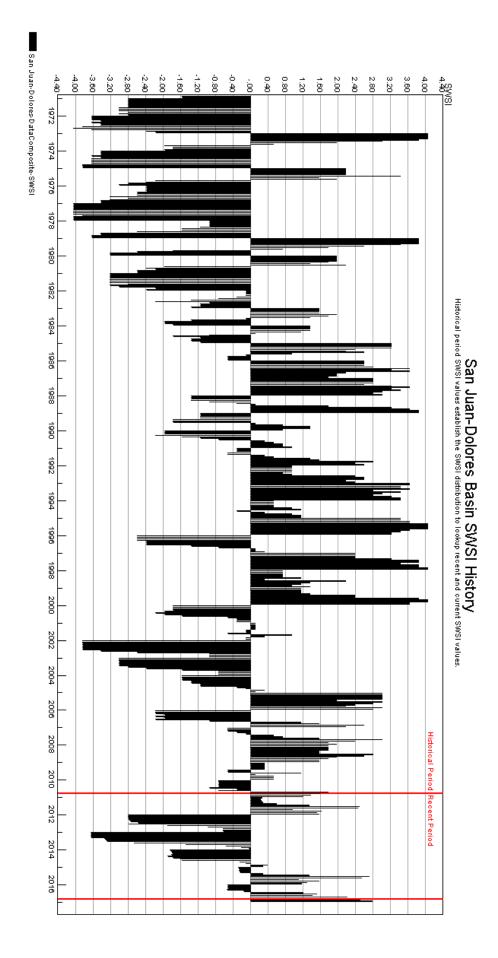
The SWSI value for the month was +2.8 based on reservoir storage. Flow at the Animas River at Durango averaged 239 cfs (84% of average). The flow at the Dolores River at Dolores was estimated to average 60 cfs (73% of average). The La Plata River at Hesperus averaged 6.6 cfs (33% of average). Precipitation in Durango was 2.70 inches for the month, 158% of the 30-year average of 1.71 inches. Precipitation was the 18th highest amount recorded in November, in Durango, out of 122 years of record. Precipitation to date in Durango, for the water year, is 3.77 inches, 113% of the 30-year average of 3.34 inches. End of last month precipitation to date, for the water year was 55% of average. The average high and low temperatures for the month of November in Durango were 56° and 28°. In comparison, the 30-year average high and low for the month is 51° and 24°. At the end of the month Vallecito Reservoir contained 79,589 acre-feet compared to its average content of 53,998 acre-feet (147% of average). McPhee Reservoir was up to 296,371 acre-feet compared to its average content of 258,219 (115% of average), while Lemon Reservoir was up to 20,280 acre-feet as compared to its average content of 19,484 acre-feet (104% of average).

#### Outlook

Precipitation (2.70 inches) was well above average for November in Durango. There were only 18 years out of 122 years of record where there was more precipitation than this year. Ninety two percent of the moisture for the month was in the form of rain. The remaining 8% of the moisture was in the form of snow. Flows in the rivers within the basin remained below average. There were 63 out of 106 years of record where the total flow past the Animas River at Durango stream gauge was more than this year. There were 63 out of 107 years of record where the total flow past the Dolores stream gauge was more than this year and 70 out of 100 years of record where the total flow past the La Plata River at Hesperus gauge was more than this year.

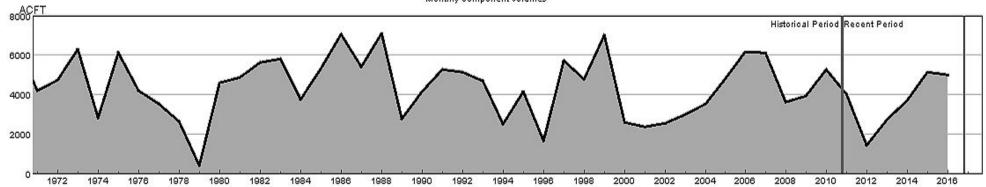






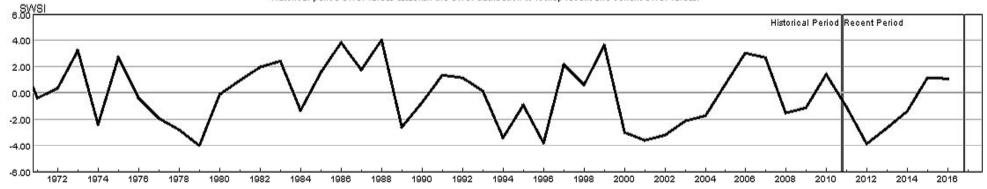
# HUC 14080107 (Mancos) Surface Water Supply - DEC





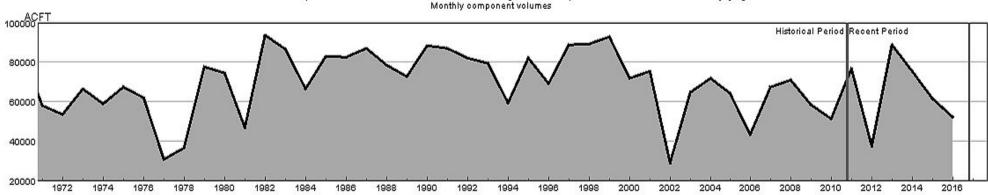
HUC:14080107-DEC-PataComposite HUC:14080107-DEC-PrevMoStreamflow HUC:14080107-DEC-ForecastedRunoff HUC:14080107-DEC-ReservoirStorage

# HUC 14080107 (Mancos) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



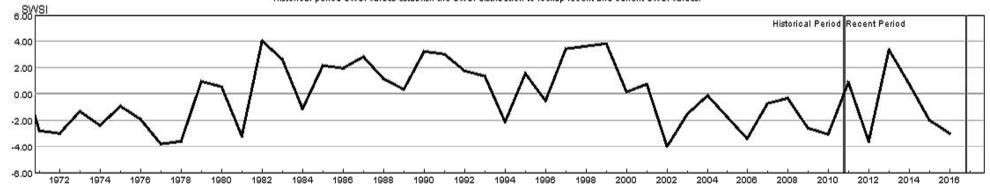
- HUC:14080107-DEC-PrevMoStreamflow-SWSI - HUC:14080107-DEC-ForeoastedRunoff-SWSI - HUC:14080107-DEC-ReservoirStorage-SWSI - HUC:14080107-DEC-DataComposite-SWSI

# HUC 10190003 (Middle South Platte-Cherry Creek) Surface Water Supply - DEC



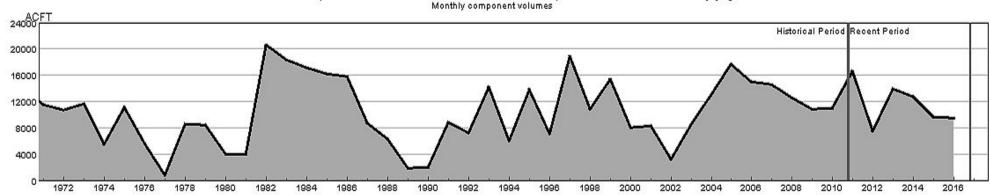
HUC:10190003-DEC-DataComposite HUC:10190003-DEC-PrevMoStreamflow HUC:10190003-DEC-ForecastedRunoff HUC:10190003-DEC-ResenvoirStorage

# HUC 10190003 (Middle South Platte-Cherry Creek) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



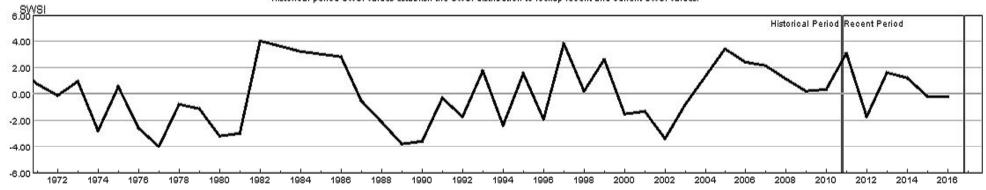
- HUC:10190003-DEC-PrevMoStreamflow-SWSI - HUC:10190003-DEC-ForeoastedRunoff-SWSI - HUC:10190003-DEC-ReservoirStorage-SWSI - HUC:10190003-DEC-DataComposite-SWSI

# HUC 14010005 (Colorado Headwaters-Plateau) Surface Water Supply - DEC



HUC:14010005-DEC-DataComposite HUC:14010005-DEC-PrevMoStreamflow HUC:14010005-DEC-ForeoastedRunoff HUC:14010005-DEC-ResenvoirStorage

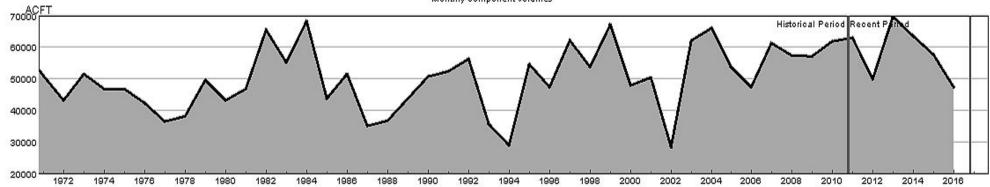
# HUC 14010005 (Colorado Headwaters-Plateau) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



- HUC:14010005-DEC-PrevMoStreamflow-SWSI - HUC:14010005-DEC-ForeoastedRunoff-SWSI - HUC:14010005-DEC-ReservoirStorage-SWSI - HUC:14010005-DEC-DataComposite-SWSI

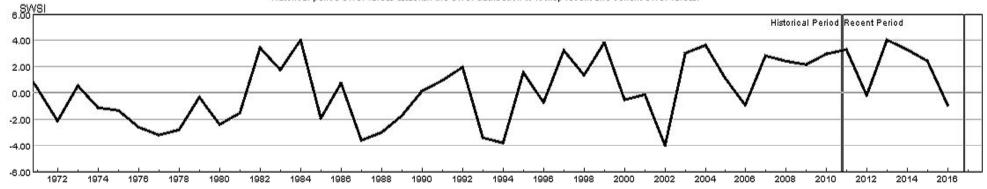
# HUC 10190005 (St. Vrain) Surface Water Supply - DEC





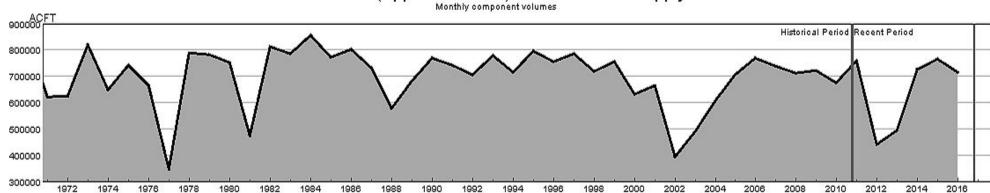
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# HUC 10190005 (St. Vrain) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



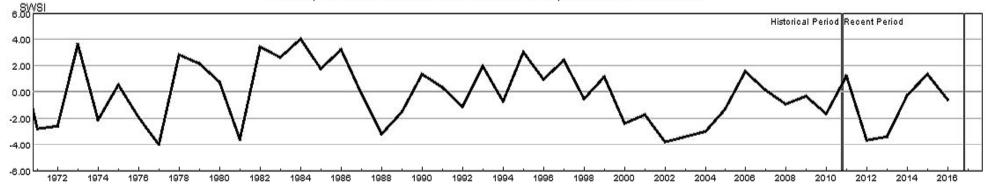
- HUC:10190005-DEC-PrevMoStreamflow-SWSI - HUC:10190005-DEC-ForeoastedRunoff-SWSI - HUC:10190005-DEC-ReservoirStorage-SWSI - HUC:10190005-DEC-DataComposite-SWSI

# HUC 14020002 (Upper Gunnison) Surface Water Supply - DEC



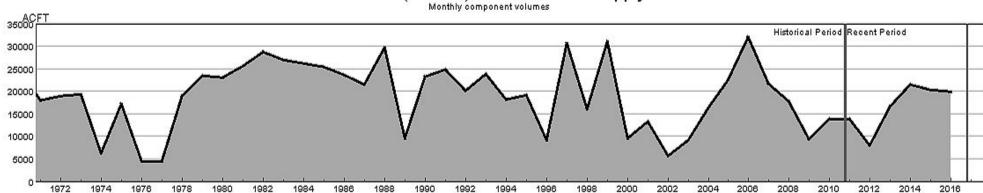
■HUC:14020002-DEC-DataComposite | HUC:14020002-DEC-PrevMoStreamflow | HUC:14020002-DEC-ForeoastedRunoff | HUC:14020002-DEC-ReservoirStorage

# HUC 14020002 (Upper Gunnison) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



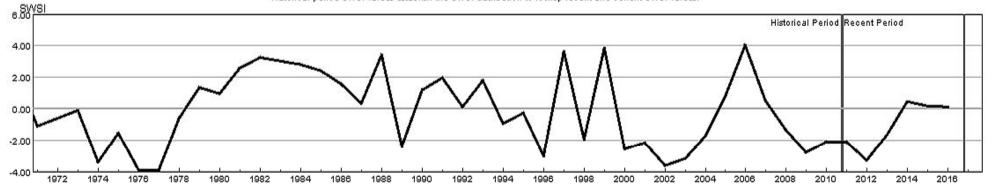
- HUC:14020002-DEC-PrevMoStreamflow-SWSI - HUC:14020002-DEC-ForeoastedRunoff-SWSI - HUC:14020002-DEC-ReservoirStorage-SWSI - HUC:14020002-DEC-DataComposite-SWSI

# HUC 14080104 (Animas) Surface Water Supply - DEC



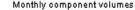
HUC:14080104-DEC-DataComposite
HUC:14080104-DEC-PrevMoStreamflow
HUC:14080104-DEC-ForecastedRunoff
HUC:14080104-DEC-ReservoirStorage

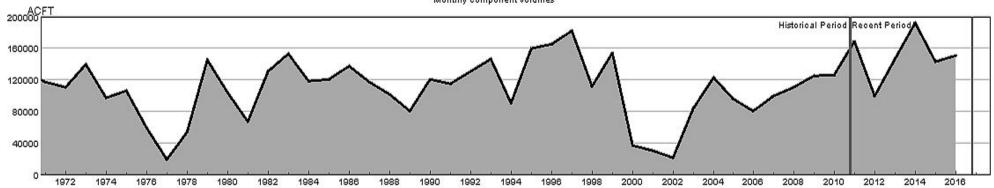
# HUC 14080104 (Animas) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



- HUC:14080104-DEC-PrevMoStreamflow-SWSI - HUC:14080104-DEC-ForeoastedRunoff-SWSI - HUC:14080104-DEC-ReservoirStorage-SWSI - HUC:14080104-DEC-DataComposite-SWSI

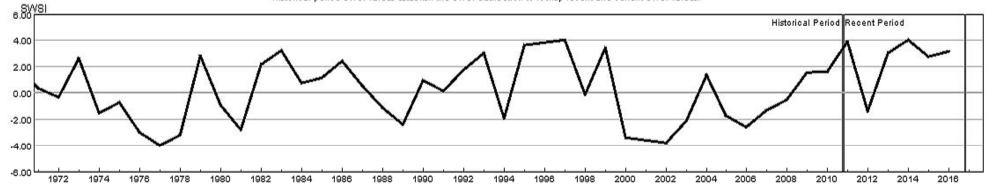
# HUC 10190007 (Cache La Poudre) Surface Water Supply - DEC





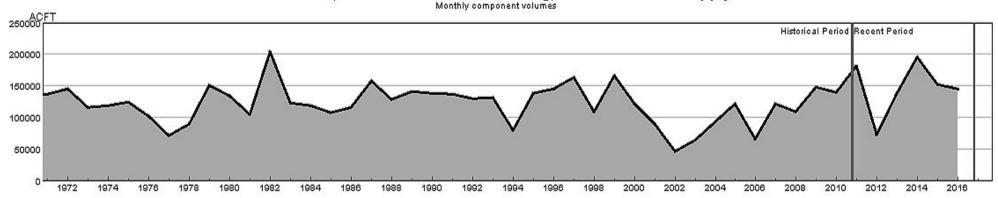
HUC:10190007-DEC-DataComposite HUC:10190007-DEC-PrevMoStreamflow HUC:10190007-DEC-ForecastedRunoff HUC:10190007-DEC-ResenvoirStorage

# HUC 10190007 (Cache La Poudre) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



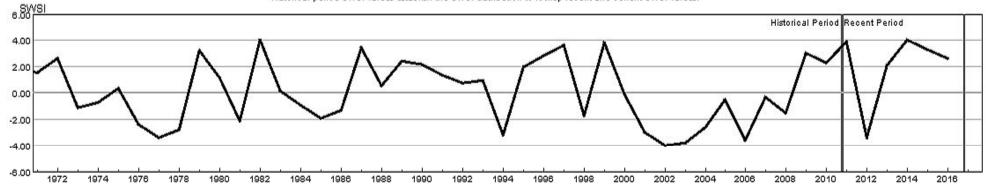
- HUC:10190007-DEC-PrevMoStreamflow-SWSI - HUC:10190007-DEC-ForeoastedRunoff-SWSI - HUC:10190007-DEC-ReservoirStorage-SWSI - HUC:10190007-DEC-DataComposite-SWSI

# HUC 10190012 (Middle South Platte-Sterling) Surface Water Supply - DEC



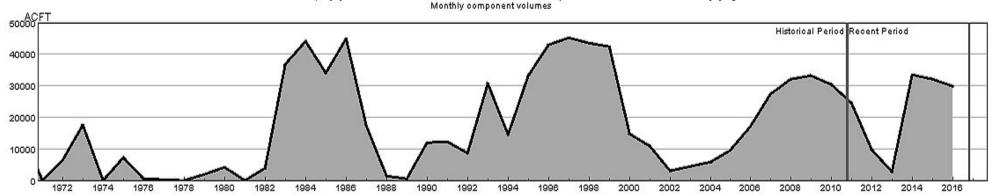
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# HUC 10190012 (Middle South Platte-Sterling) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



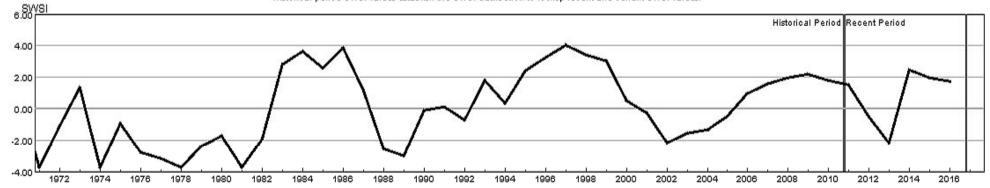
- HUC:10190012-DEC-PrevMoStreamflow-SWSI - HUC:10190012-DEC-ForeoastedRunoff-SWSI - HUC:10190012-DEC-ReservoirStorage-SWSI - HUC:10190012-DEC-DataComposite-SWSI

# HUC 11020005 (Upper Arkansas-Lake Meredith) Surface Water Supply - DEC



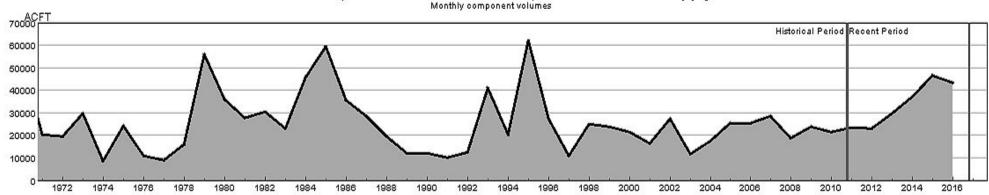


# HUC 11020005 (Upper Arkansas-Lake Meredith) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



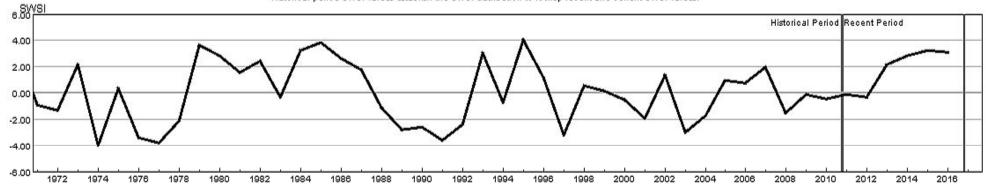
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# HUC 13010001 (Rio Grande Headwaters) Surface Water Supply - DEC



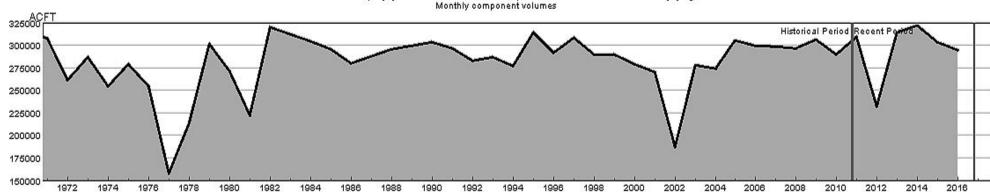
HUC:13010001-DEC-PataComposite
HUC:13010001-DEC-PrevMoStreamflow
HUC:13010001-DEC-ForecastedRunoff
HUC:13010001-DEC-ReservoirStorage

# HUC 13010001 (Rio Grande Headwaters) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



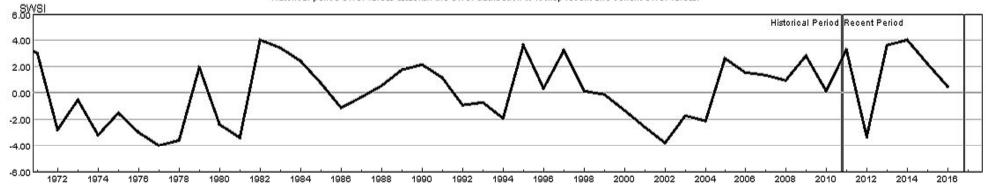
- HUC:13010001-DEC-PrevMoStreamflow-SWSI - HUC:13010001-DEC-ForeoastedRunoff-SWSI - HUC:13010001-DEC-ReservoirStorage-SWSI - HUC:13010001-DEC-DataComposite-SWSI

# HUC 10190002 (Upper South Platte) Surface Water Supply - DEC



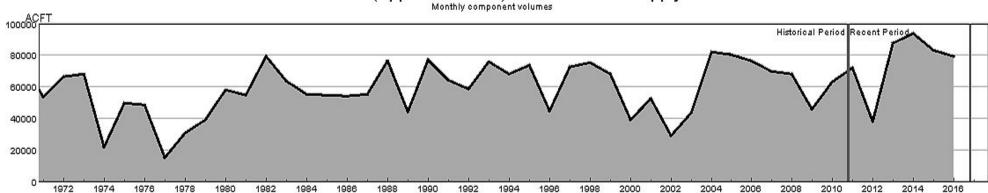
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# HUC 10190002 (Upper South Platte) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



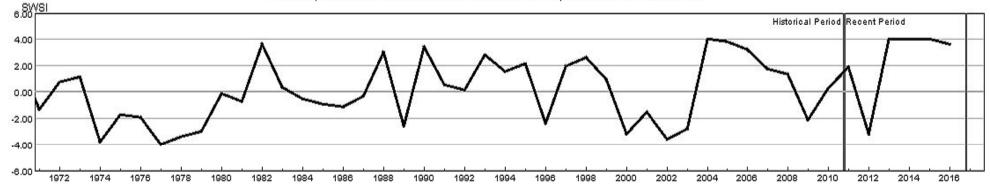
- HUC:10190002-DEC-PrevMoStreamflow-SWSI - HUC:10190002-DEC-ForeoastedRunoff-SWSI - HUC:10190002-DEC-ReservoirStorage-SWSI - HUC:10190002-DEC-DataComposite-SWSI

# HUC 14080101 (Upper San Juan) Surface Water Supply - DEC



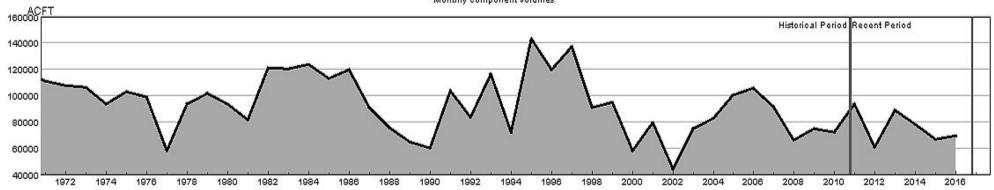
HUC:14080101-DEC-DataComposite
HUC:14080101-DEC-PrevMoStreamflow
HUC:14080101-DEC-ForeoastedRunoff
HUC:14080101-DEC-ReservoirStorage

# HUC 14080101 (Upper San Juan) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



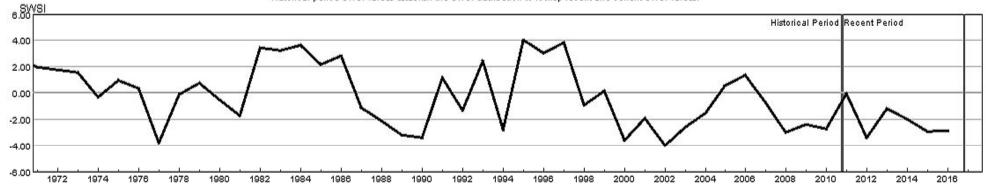
- HUC:14080101-DEC-PrevMoStreamflow-SWSI - HUC:14080101-DEC-ForeoastedRunoff-SWSI - HUC:14080101-DEC-ReservoirStorage-SWSI - HUC:14080101-DEC-DataComposite-SWSI

# HUC 14010002 (Blue) Surface Water Supply - DEC



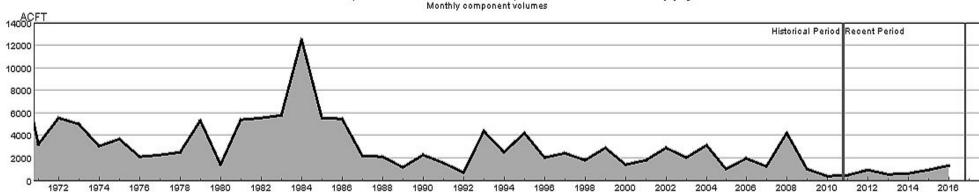
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# HUC 14010002 (Blue) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



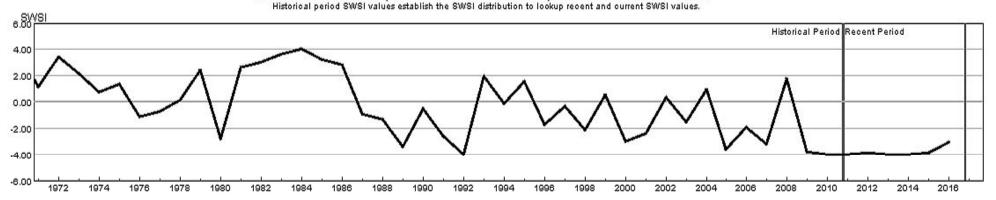
- HUC:14010002-DEC-PrevMoStreamflow-SWSI - HUC:14010002-DEC-ForeoastedRunoff-SWSI - HUC:14010002-DEC-ReservoirStorage-SWSI - HUC:14010002-DEC-DataComposite-SWSI

# HUC 14020004 (North Fork Gunnison) Surface Water Supply - DEC



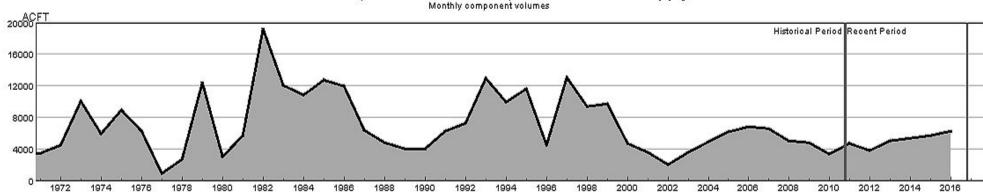


# HUC 14020004 (North Fork Gunnison) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



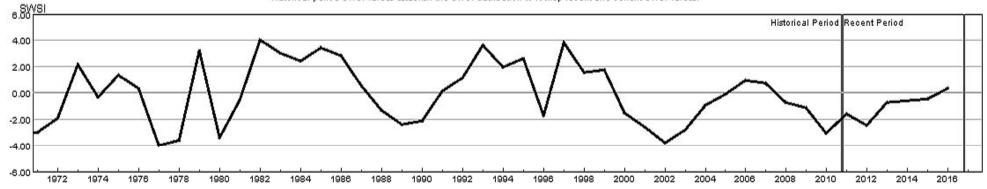
HUC:14020004-DEC-PrevMoStreamflow-SWSI
 HUC:14020004-DEC-ForecastedRunoff-SWSI
 HUC:14020004-DEC-ReservoirStorage-SWSI
 HUC:14020004-DEC-DataComposite-SWSI

# HUC 13010002 (Alamosa-Trinchera) Surface Water Supply - DEC



HUC:13010002-DEC-PataComposite
HUC:13010002-DEC-PrevMoStreamflow
HUC:13010002-DEC-ForeoastedRunoff
HUC:13010002-DEC-ReservoirStorage

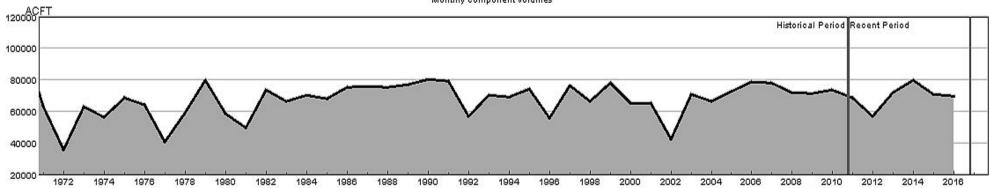
# HUC 13010002 (Alamosa-Trinchera) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



- HUC:13010002-DEC-PrevMoStreamflow-SWSI - HUC:13010002-DEC-ForeoastedRunoff-SWSI - HUC:13010002-DEC-ReservoirStorage-SWSI - HUC:13010002-DEC-DataComposite-SWSI

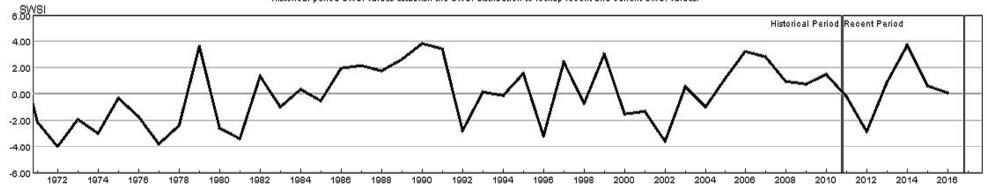
# HUC 14020001 (East-Taylor) Surface Water Supply - DEC





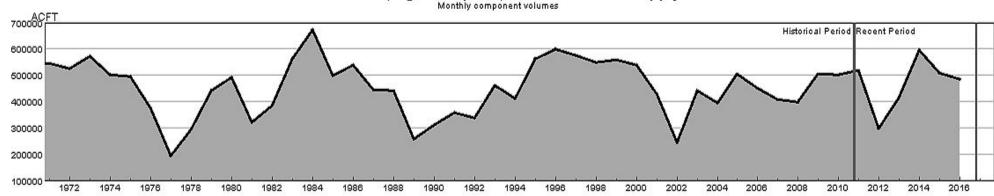
HUC:14020001-DEC-DataComposite HUC:14020001-DEC-PrevMoStreamflow HUC:14020001-DEC-ForecastedRunoff HUC:14020001-DEC-ResenvoirStorage

# HUC 14020001 (East-Taylor) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



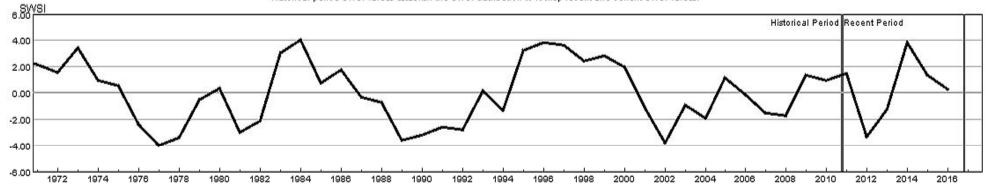
- HUC:14020001-DEC-PrevMoStreamflow-SWSI - HUC:14020001-DEC-ForeoastedRunoff-SWSI - HUC:14020001-DEC-ReservoirStorage-SWSI - HUC:14020001-DEC-DataComposite-SWSI

# HUC 10190006 (Big Thompson) Surface Water Supply - DEC



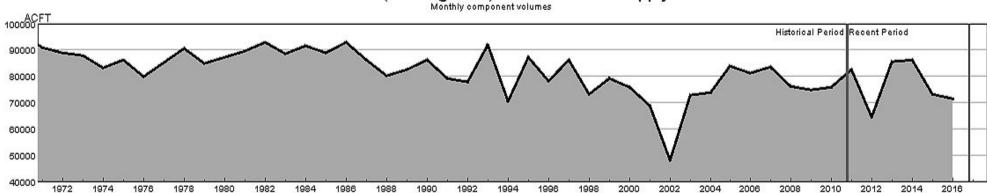
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### HUC 10190006 (Big Thompson) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



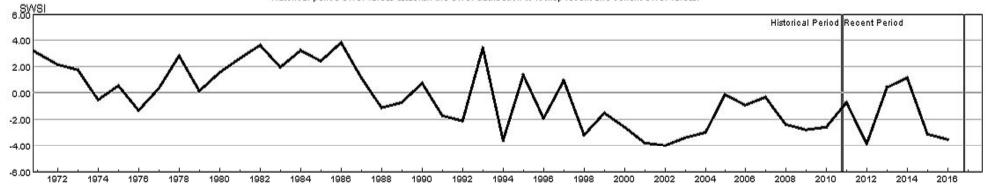
- HUC:10190006-DEC-PrevMoStreamflow-SWSI - HUC:10190006-DEC-ForeoastedRunoff-SWSI - HUC:10190006-DEC-ReservoirStorage-SWSI - HUC:10190006-DEC-DataComposite-SWSI

# HUC 14010004 (Roaring Fork) Surface Water Supply - DEC



HUC:14010004-DEC-DataComposite HUC:14010004-DEC-PrevMoStreamflow HUC:14010004-DEC-ForecastedRunoff HUC:14010004-DEC-ResenvoirStorage

### HUC 14010004 (Roaring Fork) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



- HUC:14010004 DEC-PrevMoStreamflow-SWSI - HUC:14010004 DEC-ForeoastedRunoff-SWSI - HUC:14010004 DEC-ReservoirStorage-SWSI - HUC:14010004 DEC-DataComposite-SWSI

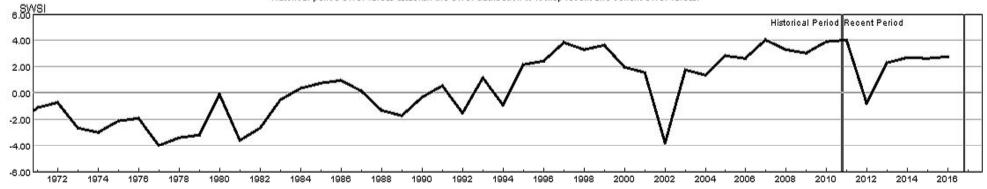
# HUC 14010001 (Colorado Headwaters) Surface Water Supply - DEC





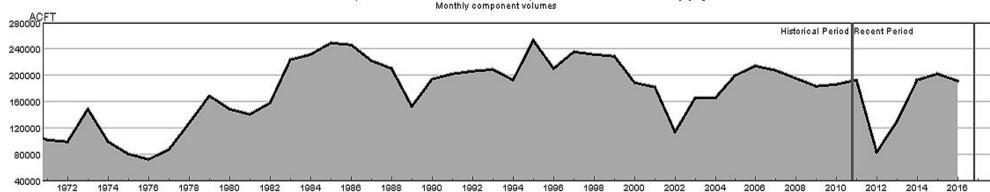
■HUC:14010001-DEC-DataComposite | HUC:14010001-DEC-PrevMoStreamflow | HUC:14010001-DEC-ForeoastedRunoff | HUC:14010001-DEC-ReservoirStorage

### HUC 14010001 (Colorado Headwaters) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



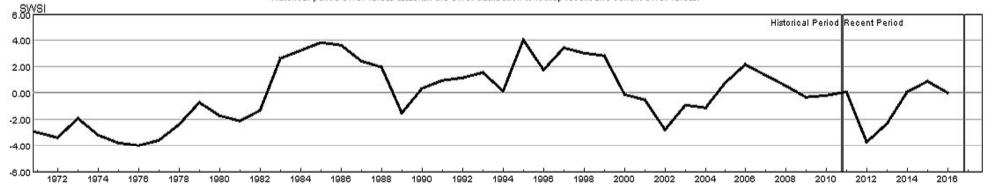
- HUC:14010001-DEC-PrevMoStreamflow-SWSI - HUC:14010001-DEC-ForeoastedRunoff-SWSI - HUC:14010001-DEC-ReservoirStorage-SWSI - HUC:14010001-DEC-DataComposite-SWSI

# HUC 11020001 (Arkansas Headwaters) Surface Water Supply - DEC



HUC:11020001-DEC-DataComposite HUC:11020001-DEC-PrevMoStreamflow HUC:11020001-DEC-ForeoastedRunoff HUC:11020001-DEC-ResenvoirStorage

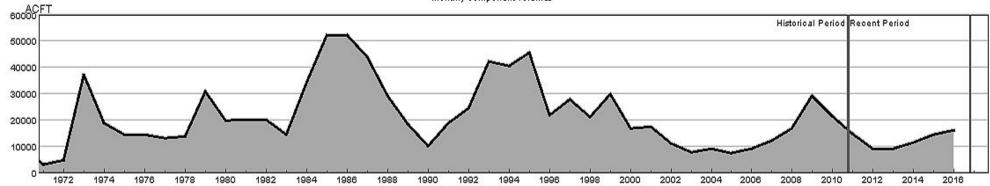
### HUC 11020001 (Arkansas Headwaters) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



- HUC:11020001-DEC-PrevMoStreamflow-SWSI - HUC:11020001-DEC-ForeoastedRunoff-SWSI - HUC:11020001-DEC-ReservoirStorage-SWSI - HUC:11020001-DEC-DataComposite-SWSI

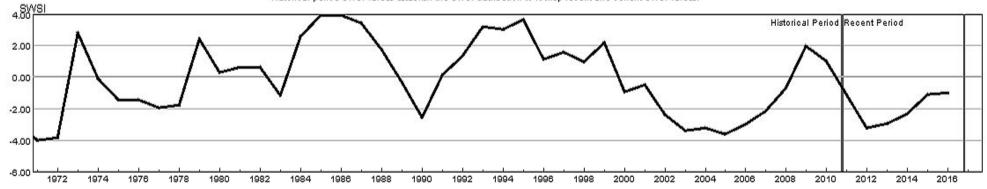
## HUC 13010005 (Conejos) Surface Water Supply - DEC





HUC:13010005-DEC-DataComposite
HUC:13010005-DEC-PrevMoStreamflow
HUC:13010005-DEC-ForecastedRunoff
HUC:13010005-DEC-ReservoirStorage

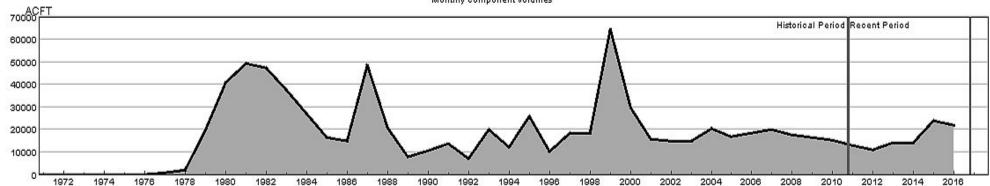
### HUC 13010005 (Conejos) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



- HUC:13010005-DEC-PrevMoStreamflow-SWSI - HUC:13010005-DEC-ForeoastedRunoff-SWSI - HUC:13010005-DEC-ReservoirStorage-SWSI - HUC:13010005-DEC-DataComposite-SWSI

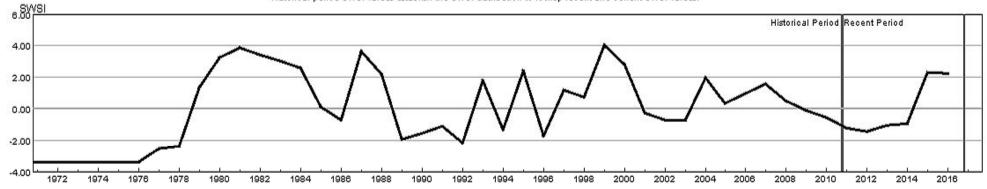
## HUC 11020010 (Purgatoire) Surface Water Supply - DEC





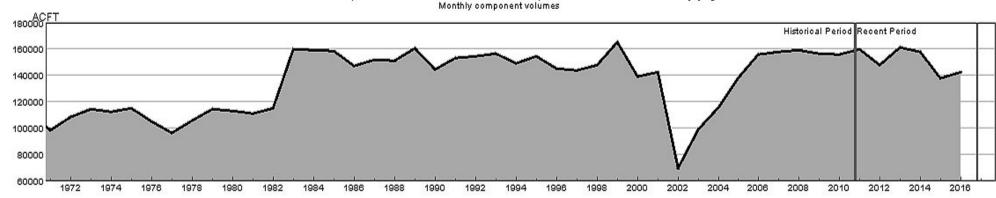
HUC:11020010-DEC-PataComposite HUC:11020010-DEC-PrevMoStreamflow HUC:110220010-DEC-ForeoastedRunoff HUC:11020010-DEC-ReservoirStorage

### HUC 11020010 (Purgatoire) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



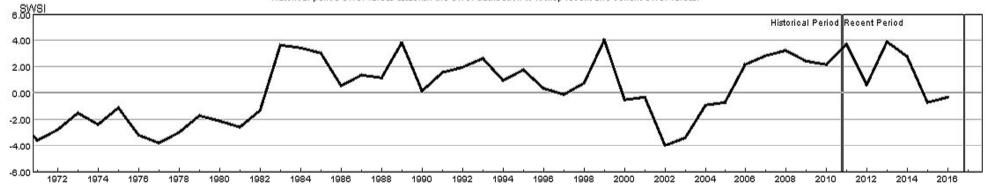
- HUC:11020010-DEC-PrevMoStreamflow-SWSI - HUC:11020010-DEC-ForeoastedRunoff-SWSI - HUC:11020010-DEC-ReservoirStorage-SWSI - HUC:11020010-DEC-DataComposite-SWSI

# HUC 10190001 (South Platte Headwater) Surface Water Supply - DEC



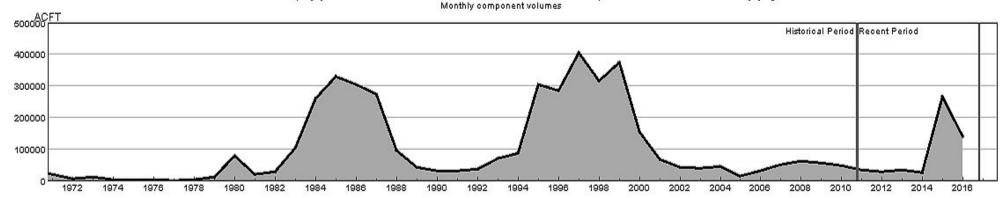
HUC:10190001-DEC-DataComposite HUC:10190001-DEC-PrevMoStreamflow HUC:10190001-DEC-ForecastedRunoff HUC:10190001-DEC-ResenvoirStorage

### HUC 10190001 (South Platte Headwater) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



HUC:10190001-DEC-PrevMoStreamflow-SWSI HUC:10190001-DEC-ForecastedRunoff-SWSI HUC:10190001-DEC-ReservoirStorage-SWSI HUC:10190001-DEC-DataComposite-SWSI

### HUC 11020009 (Upper Arkansas-John Martin Reservoir) Surface Water Supply - DEC

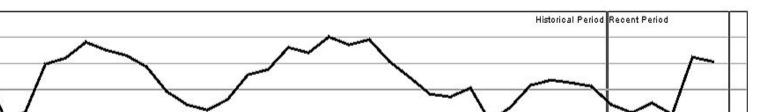


HUC:11020009-DEC-DataComposite HUC:11020009-DEC-PrevMoStreamflow HUC:11020009-DEC-ForeoastedRunoff HUC:11020009-DEC-ReservoirStorage

4.00

2.00 0.00 -2.00 -4.00 -6.00

### HUC 11020009 (Upper Arkansas-John Martin Reservoir) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



2000

2002

2004

2006

2008

2010

2012

2014

2016

1972 1974 1976 1978

HUC:11020009-DEC-PrevMoStreamflow-SWSI
HUC:11020009-DEC-ForecastedRunoff-SWSI
HUC:11020009-DEC-ReservoirStorage-SWSI
HUC:11020009-DEC-DataComposite-SWSI

1980

1982

1984

1986

1988

1990

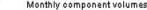
1992

1994

1996

1998

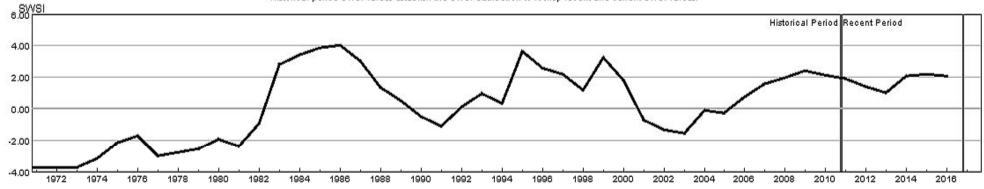
## HUC 11020002 (Upper Arkansas) Surface Water Supply - DEC





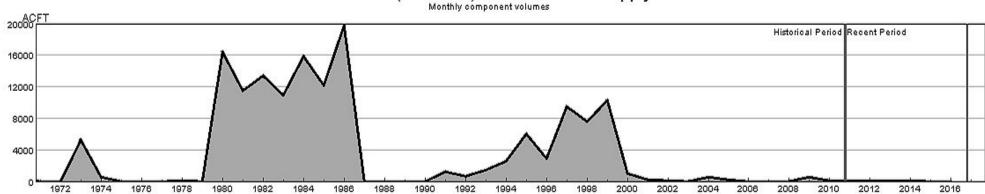
■HUC:11020002-DEC-DataComposite HUC:11020002-DEC-PrevMoStreamflow HUC:11020002-DEC-ForeoastedRunoff HUC:11020002-DEC-ReservoirStorage

### HUC 11020002 (Upper Arkansas) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



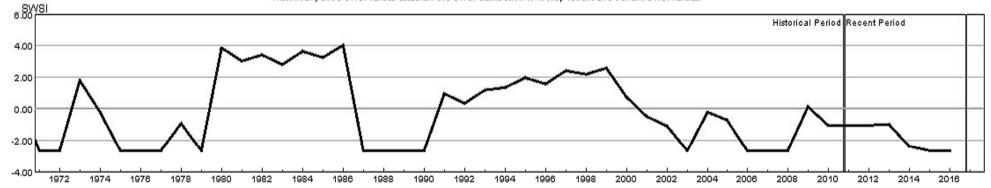
- HUC:11020002-DEC-PrevMoStreamflow-SWSI - HUC:11020002-DEC-ForeoastedRunoff-SWSI - HUC:11020002-DEC-ReservoirStorage-SWSI - HUC:11020002-DEC-DataComposite-SWSI

## HUC 11020006 (Huerfano) Surface Water Supply - DEC



HUC:11020006-DEC-PataComposite HUC:11020006-DEC-PrevMoStreamflow HUC:11020008-DEC-ForeoastedRunoff HUC:11020008-DEC-ReservoirStorage

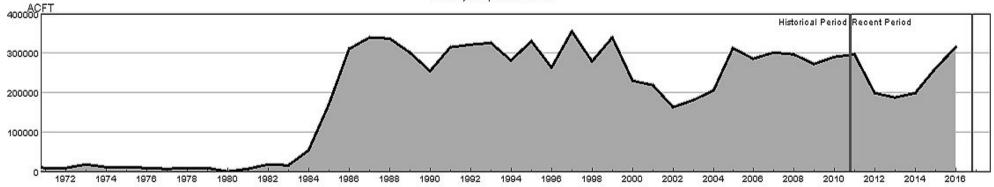
### HUC 11020006 (Huerfano) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



- HUC:11020006-DEC-PrevMoStreamflow-SWSI - HUC:11020006-DEC-ForeoastedRunoff-SWSI - HUC:11020006-DEC-ReservoirStorage-SWSI - HUC:11020006-DEC-DataComposite-SWSI

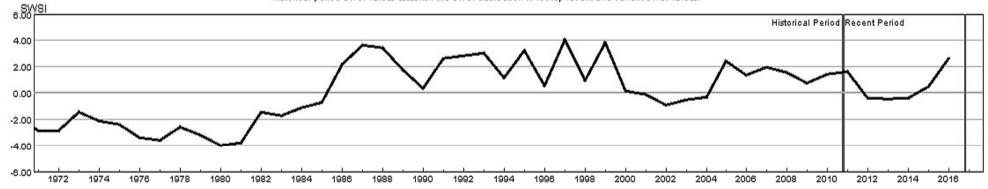
# HUC 14030002 (Upper Dolores) Surface Water Supply - DEC





HUC:14030002-DEC-DataComposite HUC:14030002-DEC-PrevMoStreamflow HUC:14030002-DEC-ForecastedRunoff HUC:14030002-DEC-ResenvoirStorage

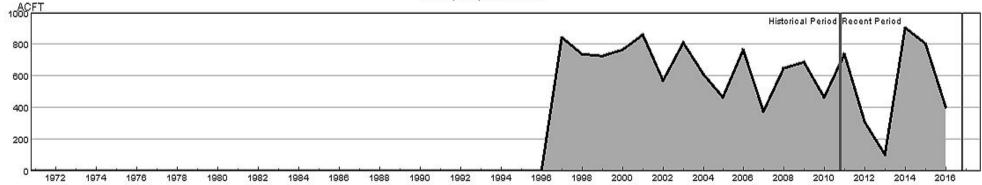
### HUC 14030002 (Upper Dolores) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



- HUC:14030002-DEC-PrevMoStreamflow-SWSI - HUC:14030002-DEC-ForeoastedRunoff-SWSI - HUC:14030002-DEC-ReservoirStorage-SWSI - HUC:14030002-DEC-DataComposite-SWSI

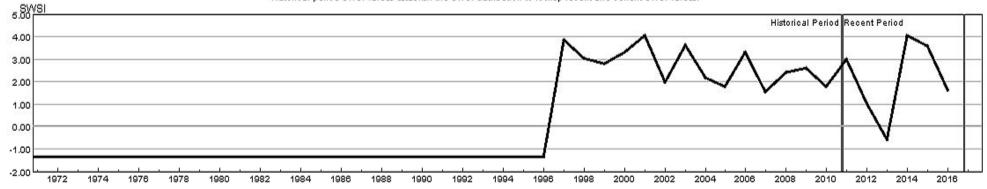
## HUC 14020003 (Tomichi) Surface Water Supply - DEC





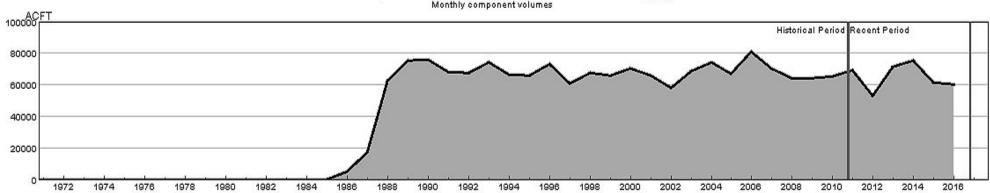
HUC:14020003-DEC-DataComposite HUC:14020003-DEC-PrevMoStreamflow HUC:14020003-DEC-ForecastedRunoff HUC:14020003-DEC-ReservoirStorage

### HUC 14020003 (Tomichi) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



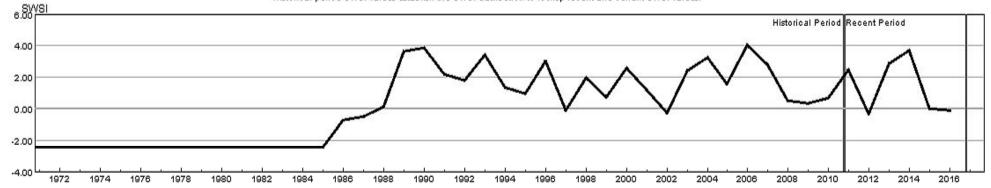
- HUC:14020003-DEC-PrevMoStreamflow-SWSI - HUC:14020003-DEC-ForeoastedRunoff-SWSI - HUC:14020003-DEC-ReservoirStorage-SWSI - HUC:14020003-DEC-DataComposite-SWSI

## HUC 14020006 (Uncompandere) Surface Water Supply - DEC



HUC:14020006-DEC-DataComposite HUC:14020006-DEC-PrevMoStreamflow HUC:14020006-DEC-ForeoastedRunoff HUC:14020006-DEC-ResenvoirStorage

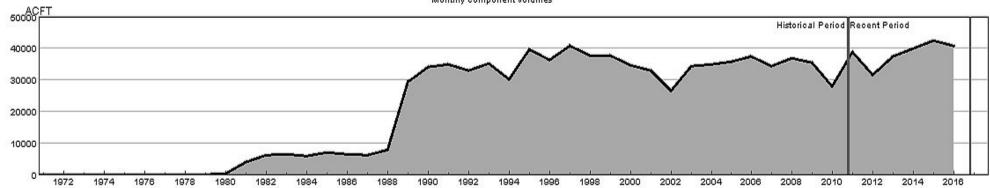
### HUC 14020006 (Uncompangre) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



- HUC:14020006-DEC-PrevMoStreamflow-SWSI - HUC:14020006-DEC-ForeoastedRunoff-SWSI - HUC:14020006-DEC-ReservoirStorage-SWSI - HUC:14020006-DEC-DataComposite-SWSI

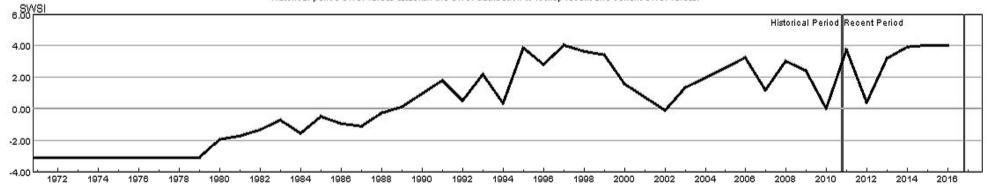
## HUC 14050001 (Upper Yampa) Surface Water Supply - DEC





HUC:14050001-DEC-DataComposite HUC:14050001-DEC-PrevMoStreamflow HUC:14050001-DEC-ForeoastedRunoff HUC:14050001-DEC-ResenvoirStorage

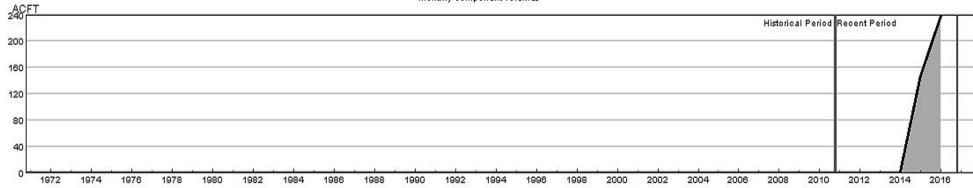
### HUC 14050001 (Upper Yampa) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



- HUC:14050001-DEC-PrevMoStreamflow-SWSI - HUC:14050001-DEC-ForeoastedRunoff-SWSI - HUC:14050001-DEC-ReservoirStorage-SWSI - HUC:14050001-DEC-DataComposite-SWSI

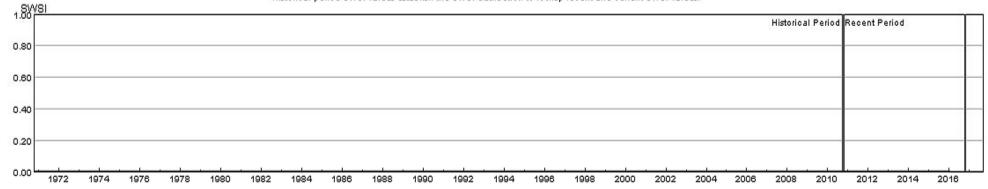
# HUC 14080105 (Middle San Juan) Surface Water Supply - DEC





HUC:14080105-DEC-DataComposite
HUC:14080105-DEC-PrevMoStreamflow
HUC:14080105-DEC-ForeoastedRunoff
HUC:14080105-DEC-ReservoirStorage

### HUC 14080105 (Middle San Juan) SWSI Values - DEC Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



- HUC:14080105-DEC-PrevMoStreamflow-SWSI - HUC:14080105-DEC-ForeoastedRunoff-SWSI - HUC:14080105-DEC-ReservoirStorage-SWSI - HUC:14080105-DEC-DataComposite-SWSI