COLORADO
WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
ROOM 818, 1313 SHERMAN ST., DENVER, CO 80203
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August 1, 2019

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 revised SWSI analysis based on the components shown below, which vary depending on the time of year. The revised 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, all within the HUC. That total volume is ranked against similar total volumes that occurred each January between 1970 and 2010.

Time Period	SWSI Components
February 1 – June 1	**Forecasted Runoff + Reservoir Storage**
July 1 – September 1	**Previous Month's Streamflow + Reservoir Storage**
October 1 –January 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 automated DNR SWSI was published. The results of each month's analysis are summarized within this report and additional information, maps & data are available at: http://water.state.co.us/DWRDocs/Reports/Pages/SWSIReport.aspx. This report also contains updates about current regional conditions and water matters prepared by each DWR Division Office.

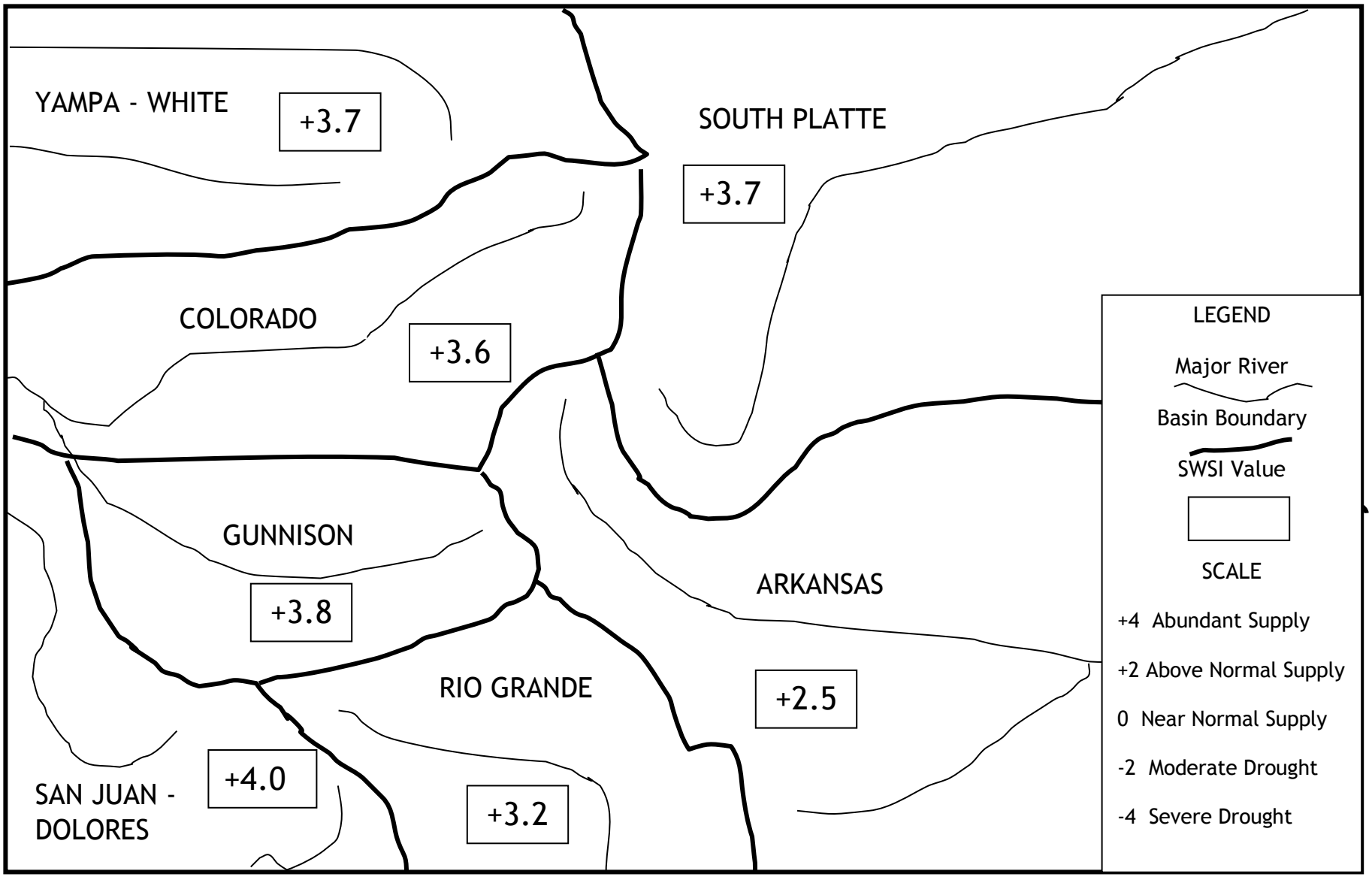
The SWSI calculation for the summer season (July 1 to September 1) is based on the previous month's natural streamflow (the estimate of flow without the impacts of diversions and imports), combined with reservoir storage at the end of last month, in this case July 31. The statewide SWSI values for August 1 are above average. The SWSI values range from a low of +2.5 in the Arkansas Basin and a high of +4.0 in the San Juan-Dolores Basin, natural streamflow is above average, however some reservoir levels are still below normal.

Basin	August 1 SWSI	Change from Previous Month*	Change from Previous Year
Arkansas	2.5	0.9	0.9
Colorado	3.6	0.5	7.3
Gunnison	3.8	0.5	7.6
Rio Grande	3.2	-0.6	5.3
San Juan-Dolores	4.0	-0.1	6.5
South Platte	3.7	1.9	4.0
Yampa-White	3.7	0.7	7.1

SWSI Scale

-4	-3	-2	-1	0	1	2	3	4
Severe Drought		Moderate Drought		Near Normal Supply		Above Normal Supply		Abundant Supply

SURFACE WATER SUPPLY INDEX FOR COLORADO BY MAJOR RIVER BASIN

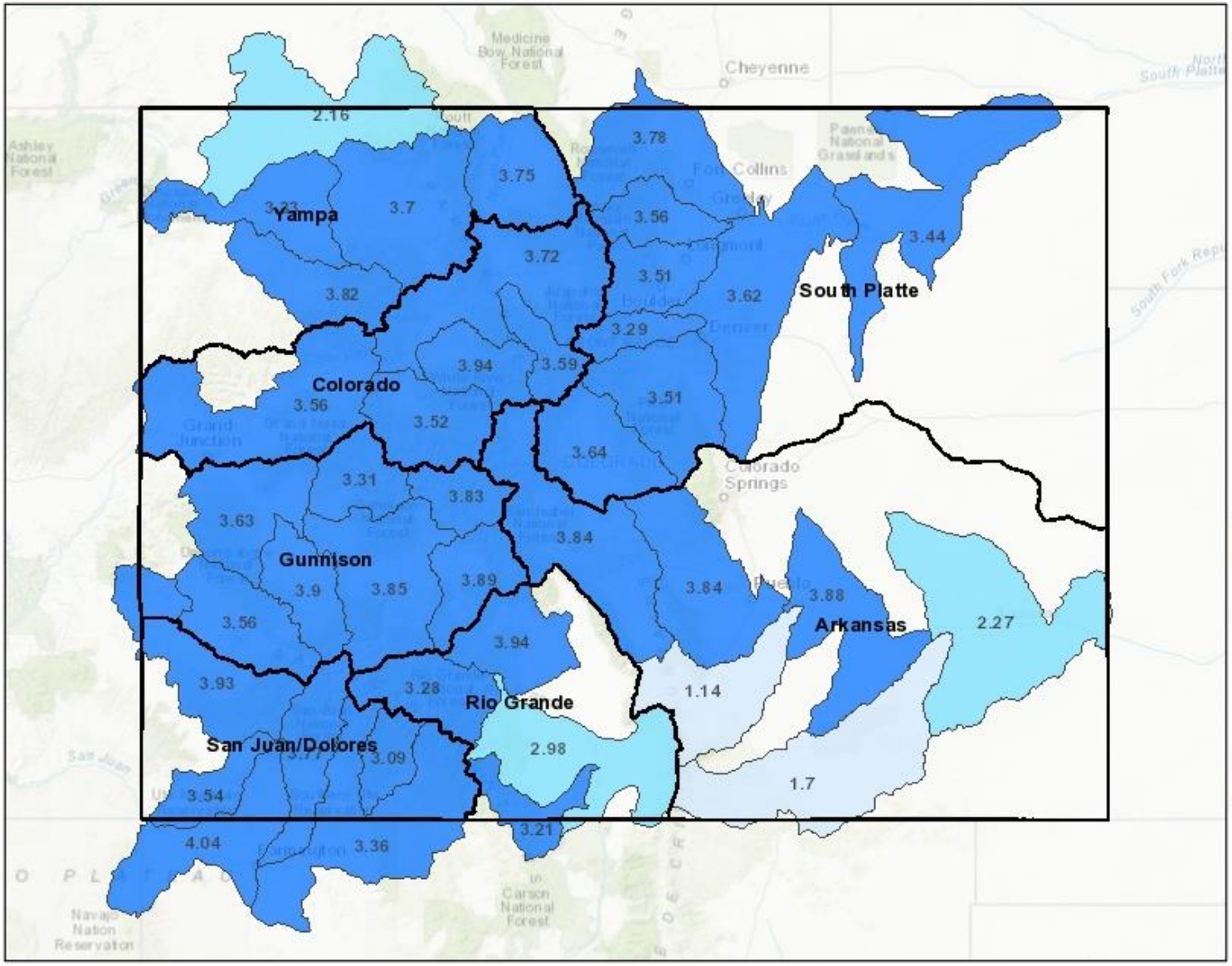


August 1, 2019

SURFACE WATER SUPPLY INDEX FOR COLORADO BY HUC

CDSS
Colorado's Decision Support Systems

SWSI August 1, 2019



Legend

SWSI - Current Report

- SWSI Not Applicable (-99.99)
- Extremely Dry (-3.0 to -4.2)
- Moderately Dry (-2.0 to -2.9)
- Slightly Dry (-1.0 to -1.9)
- Near Average (-0.9 to 0.9)
- Slightly Wet (1.0 to 1.9)
- Moderately Wet (2.0 to 2.9)
- Extremely Wet (3.0 to 4.2)

Water Division

Location

Notes

113.64 0 56.82 113.64 Miles

1: 3,600,000

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

Date Prepared: 8/19/2019 10:47:55 AM

August 1, 2019 SWSI Values by HUC and Non Exceedance Probabilities (NEP)

Basin	HUC ID	HUC Name	SWSI	Reservoir Storage NEP	Forecast Flow NEP	Total Vol (AF)
Arkansas	11020006	Huerfano	1.14	74	90	7,739
	11020010	Purgatoire	1.71	81	84	35,985
	11020005	Upper Arkansas-Lake Meredith	3.88	99	97	254,393
	11020009	Upper Arkansas-John Martin Reservoir	2.27	11	96	374,454
	11020001	Arkansas Headwaters	3.84	69	97	390,444
	11020002	Upper Arkansas	3.84	66	97	437,453
Colorado	14010003	Eagle	3.94	93	97	178,039
	14010002	Blue	3.60	87	93	284,383
	14010004	Roaring Fork	3.53	N/A	92	423,355
	14010001	Colorado Headwaters	3.72	82	93	722,544
	14010005	Colorado Headwaters-Plateau	3.57	82	93	1,004,722
Gunnison	14020003	Tomichi	3.90	79	97	33,476
	14030003	San Miguel	3.56	93	93	60,155
	14020004	North Fork Gunnison	3.31	85	91	76,049
	14020006	Uncompahgre	3.90	73	90	138,271
	14020001	East-Taylor	3.84	N/A	96	228,833
	14020005	Lower Gunnison	3.63	89	94	461,375
	14020002	Upper Gunnison	3.85	N/A	96	1,191,350
Rio Grande	13010004	Saguache	3.94	81	97	10,909
	13010002	Alamosa-Trinchera	2.98	85	86	44,982
	13010005	Conejos	3.21	N/A	89	98,844
	13010001	Rio Grande Headwaters	3.28	85	91	198,840
San Juan-Dolores	14080105	Middle San Juan	4.04	98	96	10,275
	14080107	Mancos	3.54	99	92	15,937
	14080102	Piedra	3.09	N/A	87	36,583
	14080104	Animas	3.78	89	95	229,942
	14080101	Upper San Juan	3.37	50	90	275,460
	14030002	Upper Dolores	3.94	90	92	442,540
South Platte	10190004	Clear	3.29	84	90	46,159
	10190005	St. Vrain	3.52	99	91	140,888
	10190001	South Platte Headwater	3.64	89	94	198,390
	10190007	Cache La Poudre	3.78	N/A	91	284,892
	10190003	Middle South Platte-Cherry Creek	3.63	97	90	383,070
	10190002	Upper South Platte	3.51	97	89	400,625
	10190012	Middle South Platte-Sterling	3.44	99	90	474,070
	10190006	Big Thompson	3.57	91	82	677,952
Yampa-White	14050003	Little Snake	2.17	N/A	76	35,690
	10180001	North Platte Headwaters	3.75	99	95	99,574
	14050005	Upper White	3.82	N/A	96	100,885
	14050001	Upper Yampa	3.71	N/A	88	186,946
	14050002	Lower Yampa	3.34	N/A	90	198,247

NEP is non exceedance percentage for total reservoir storage and streamflow forecast in HUC. Some HUCs do not have any reservoirs considered in the SWSI and are shown as "N/A". Total Vol is the volume of reservoir storage in the HUC plus the streamflow forecast. NEP is calculated compared to the volume historically occurring this month during the period 1970-2010. The following table lists each component considered in each HUC.

SWSI Color Scale: -4.0 (Severe Drought) | 0.0 (Normal) | 4.0 (Abundant Supply)

August 1, 2019 SWSI Component Information – Streamflow Forecast & Reservoir Storage - By HUC

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
11020001	Arkansas Headwaters	CLEAR CREEK RESERVOIR	8,517	57
		HOMESTAKE RESERVOIR	42,418	78
		TWIN LAKES RESERVOIR	67,949	75
		TURQUOISE LAKE	116,744	45
		ARKANSAS RIVER AT SALIDA	154,816	97
11020006	Huerfano	CUCHARAS RESERVOIR*	0	11
		CUCHARAS RIVER AT BOYD RANCH NR LA VETA	3,107	93
		HUERFANO RIVER NEAR REDWING	4,632	90
11020010	Purgatoire	PURGATOIRE RIVER AT TRINIDAD	11,865	84
		TRINIDAD LAKE	24,120	66
11020002	Upper Arkansas	PUEBLO RESERVOIR INFLOW	197,253	97
		PUEBLO RESERVOIR	240,200	81
11020009	Upper Arkansas-John Martin Reservoir	CUCHARAS RIVER AT BOYD RANCH NR LA VETA	3,107	93
		HUERFANO RIVER NEAR REDWING	4,632	90
		PURGATOIRE RIVER AT TRINIDAD	11,865	84
		ADOBE CREEK RESERVOIR	14,521	32
		JOHN MARTIN RESERVOIR	143,076	71
		PUEBLO RESERVOIR INFLOW	197,253	97
11020005	Upper Arkansas-Lake Meredith	CUCHARAS RIVER AT BOYD RANCH NR LA VETA	3,107	93
		HUERFANO RIVER NEAR REDWING	4,632	90
		LAKE HENRY	9,163	99
		MEREDITH RESERVOIR	40,238	93
		PUEBLO RESERVOIR INFLOW	197,253	97
14010002	Blue	BLUE RIVER INFLOW TO GREEN MOUNTAIN RES	138,577	93
		GREEN MOUNTAIN RESERVOIR	145,806	87
14010001	Colorado Headwaters	WOLFORD MOUNTAIN RESERVOIR	66,020	95
		WILLIAMS FORK RESERVOIR	96,200	83
		COLORADO RIVER NEAR DOTSERO	560,324	93
14010005	Colorado Headwaters-Plateau	VEGA RESERVOIR	28,967	82
		COLORADO RIVER NEAR CAMEO	975,755	93
14010003	Eagle	EAGLE RIVER BELOW GYPSUM	178,039	97
14010004	Roaring Fork	RUEDI RESERVOIR	101,484	82
		ROARING FORK AT GLENWOOD SPRINGS	321,871	92
14020001	East-Taylor	TAYLOR R INF TO TAYLOR PARK RESERVOIR	46,905	96
		EAST RIVER AT ALMONT	78,760	96
		TAYLOR PARK RESERVOIR	103,168	79
14020005	Lower Gunnison	GUNNISON RIVER NR GRAND JUNCTION	461,375	94
14020004	North Fork Gunnison	PAONIA RESERVOIR	15,467	73
		NORTH FORK GUNNISON R NR SOMERSET	60,582	91
14030003	San Miguel	SAN MIGUEL RIVER NEAR PLACERVILLE	60,155	93
14020003	Tomichi	VOUGA RESERVOIR NEAR DOYLEVILLE	673	85
		TOMICHI CREEK AT GUNNISON, CO	32,803	97

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
14020006	Uncompahgre	UNCOMPAHGRE RIVER AT COLONA	56,790	90
		RIDGEWAY RESERVOIR	81,481	89
14020002	Upper Gunnison	FRUITLAND RESERVOIR	6,970	94
		SILVER JACK RESERVOIR	12,460	78
		CRAWFORD RESERVOIR	13,030	92
		LAKE FORK AT GATEVIEW, CO	66,869	95
		MORROW POINT RESERVOIR	112,358	36
		GUNNISON RIVER NEAR GUNNISON, CO	157,112	96
		BLUE MESA RESERVOIR	822,551	95
13010002	Alamosa-Trinchera	SANGRE DE CRISTO	1,058	64
		TRINCHERA CK	2,798	89
		CULEBRA CREEK AT SAN LUIS	2,844	78
		UTE CREEK	3,554	93
		MOUNTAIN HOME	5,339	57
		TERRACE RESERVOIR	12,238	91
		ALAMOSA CREEK ABOVE TERRACE RESERVOIR	17,151	88
13010005	Conejos	PLATORO RESERVOIR	46,010	85
		CONEJOS RIVER NEAR MOGOTE	52,834	89
13010001	Rio Grande Headwaters	RIO GRANDE RESERVOIR	13,594	63
		SANTA MARIA RESERVOIR	14,209	82
		CONTINENTAL RESERVOIR	22,245	99
		RIO GRANDE NEAR DEL NORTE	148,792	91
13010004	Saguache	SAGUACHE CREEK NEAR SAGUACHE, CO	10,909	97
14080104	Animas	FLORIDA RIVER INFLOW TO LEMON RESERVOIR	19,755	95
		LEMON RESERVOIR	36,931	89
		ANIMAS RIVER AT DURANGO	173,256	95
14080107	Mancos	MANCOS RIVER NEAR MANCOS	6,451	92
		JACKSON GULCH RESERVOIR	9,486	90
14080105	Middle San Juan	LONG HOLLOW RESERVOIR	3,893	50
		LA PLATA RIVER AT HESPERUS	6,382	96
14080102	Piedra	PIEDRA RIVER NEAR ARBOLES	36,583	87
14030002	Upper Dolores	GROUNDHOG RESERVOIR	23,600	98
		DOLORES RIVER BELOW MCPHEE RESERVOIR	52,526	92
		MCPHEE RESERVOIR	366,414	96
14080101	Upper San Juan	LOS PINOS RIVER NEAR BAYFIELD	68,771	93
		SAN JUAN RIVER NEAR CARRACAS	82,753	86
		VALLECITO RESERVOIR	123,936	99
10190006	Big Thompson	MARIANO RESERVOIR	4,401	95
		LONE TREE RESERVOIR	7,714	96
		WILLOW CREEK RESERVOIR	8,367	83
		LAKE LOVELAND RESERVOIR	11,958	99
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	34,971	82
		BOYD LAKE	45,805	95
		CARTER LAKE	104,374	97
		LAKE GRANBY	460,362	80

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
10190007	Cache La Poudre	BLACK HOLLOW RESERVOIR	4,200	91
		HALLIGAN RESERVOIR	6,200	85
		CHAMBERS LAKE	8,200	94
		WINDSOR RESERVOIR	9,000	40
		FOSSIL CREEK RESERVOIR	9,600	86
		CACHE LA POUDRE	10,400	99
		COBB LAKE	21,800	98
		CACHE LA POUDRE R AT CANYON MOUTH	69,275	91
		HORSETOOTH RESERVOIR	146,217	99
10190004	Clear Creek	CLEAR CREEK AT GOLDEN	46,159	90
10190003	Middle South Platte-Cherry Creek	SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	9,787	86
		HORSECREEK RESERVOIR	10,200	55
		MILTON RESERVOIR	19,800	99
		BARR LAKE	24,700	83
		BOULDER CREEK NEAR ORODELL	26,648	95
		SAINT VRAIN CREEK AT LYONS	30,645	85
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	34,971	82
		STANDLEY RESERVOIR	41,900	66
		CLEAR CREEK AT GOLDEN	46,159	90
		SOUTH PLATTE RIVER AT SOUTH PLATTE	68,985	89
		CACHE LA POUDRE R AT CANYON MOUTH	69,275	91
10190012	Middle South Platte-Sterling	SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	9,787	86
		JULESBURG RESERVOIR	17,300	86
		PREWITT RESERVOIR	21,500	84
		JACKSON LAKE RESERVOIR	24,800	69
		EMPIRE RESERVOIR	25,700	91
		BOULDER CREEK NEAR ORODELL	26,648	95
		SAINT VRAIN CREEK AT LYONS	30,645	85
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	34,971	82
		RIVERSIDE RESERVOIR	44,000	97
		CLEAR CREEK AT GOLDEN	46,159	90
		POINT OF ROCKS RESERVOIR	54,300	89
		SOUTH PLATTE RIVER AT SOUTH PLATTE	68,985	89
		CACHE LA POUDRE R AT CANYON MOUTH	69,275	91
10190001	South Platte Headwater	ANTERO RESERVOIR	20,000	66
		ELEVENMILE CANYON RESV INFLOW	30,390	94
		SPINNEY MOUNTAIN RESERVOIR	48,200	84
		ELEVENMILE CANYON RESERVOIR	99,800	38
10190005	St. Vrain	TERRY RESERVOIR	7,100	73
		MARSHALL RESERVOIR	8,400	84
		SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	9,787	86
		UNION RESERVOIR	12,468	78
		BUTTONROCK (RALPH PRICE) RESERVOIR	16,200	65
		BOULDER CREEK NEAR ORODELL	26,648	95
		GROSS RESERVOIR	29,640	94
		SAINT VRAIN CREEK AT LYONS	30,645	85

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
10190002	Upper South Platte	SOUTH PLATTE RIVER AT SOUTH PLATTE	68,985	89
		CHEESMAN LAKE	78,640	59
		DILLON RESERVOIR	253,000	99
14050003	Little Snake	LITTLE SNAKE RIVER NEAR LILY	35,690	76
14050002	Lower Yampa	YAMPA RIVER NEAR MAYBELL	198,247	90
10180001	North Platte Headwaters	NORTH PLATTE R NR NORTHGATE	99,574	95
14050005	Upper White	WHITE RIVER NEAR MEEKER	100,885	96
14050001	Upper Yampa	ELKHEAD CREEK ABOVE LONG GULCH	1,930	81
		YAMCOLO RESERVOIR	8,690	92
		STAGECOACH RESERVOIR NR OAK CREEK	36,400	99
		YAMPA RIVER AT STEAMBOAT SPRINGS	54,672	89
		ELK RIVER NEAR MILNER, CO	85,254	89

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

*No longer exists

Water Volume NEP Color Scale: 0 (Well Below Normal) | 50 (Normal) | 100 (Well Above Normal)

Basinwide Conditions Assessment

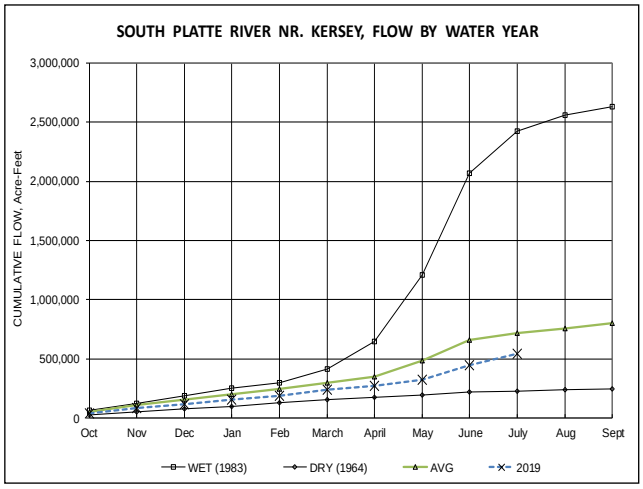
The SWSI value for the month was +3.7.

The weather pattern shifted towards average temperatures and below average precipitation throughout the South Platte Basin in northeastern Colorado during the month of July. Overall basin precipitation ended the month of July at 49% of the monthly average, bringing the water year to date precipitation down to 112% of average.

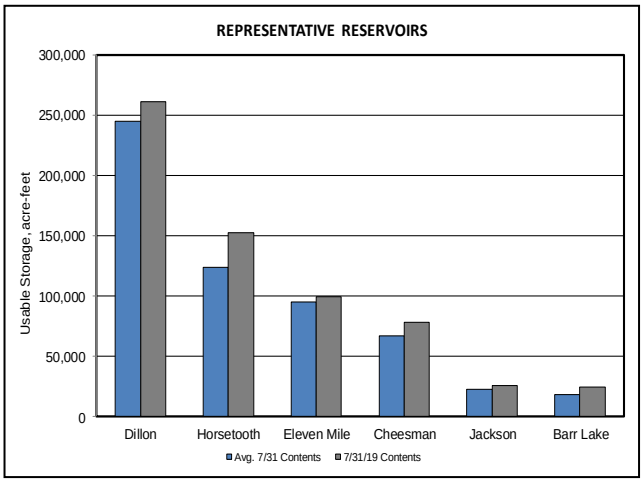
Widespread above average precipitation throughout the South Platte River basin in May and June continued the much welcomed trend of no drought conditions ending the month of July in the South Platte River basin. The flows peaked on the South Platte River basin near the end of June, several weeks later than normal, with several tributaries peaking in early July, more than 3 weeks later than normal. Cooler temperatures and precipitation in early July resulted in a smaller second peak on streamflows during the first week of July. Peak streamflows were well above average on the South Platte and tributaries during the month of July.

The overall basin above average precipitation, mostly in the form of high mountain snow, and slightly below average temperatures during the month of June and into July resulted in a delayed peak snowmelt, delayed by nearly 3 to 4 weeks throughout much of the South Platte River Basin. The delayed runoff resulted in above average flows in the streams during the first portion of July, with monthly flows in South Platte River near 250% of the historical average during the month of July. The flows at the Kersey gage downstream of the City of Greeley, with the average daily flows for the month of July of approximately 1,650 cfs, 238% of the historic mean value of 694 cfs. Due to the delayed peak runoff flows, the daily flows at the Julesburg gage for the month of July were above average during the first half of July and below average for the last half of the month resulting in average flow of 420 cfs, 128% of the historic mean monthly value of 327 cfs. The delay in the peak runoff resulted in well above monthly averages in stream sections at higher elevations. Flows at the lower end of the South Platte River Basin were near average for the month, as the delayed peak flows were met with elevated irrigation demands and the filling of reservoirs.

The Calls on the South Platte River were indicative of the delayed peak river flows from runoff that typically occurs during the middle of June, delayed until the first half of July. The delayed runoff resulted in free river conditions, no unsatisfied senior diverters, on the South Platte River during the later portion of June into the middle portion of July, and on several upstream tributaries into the middle of July. With the peak flows dropping on the South Platte River basin by mid-July, a 1922 call was placed, ending free river conditions, on the lower portion of the South Platte River Mainstem was placed on July 13th. With dropping flows on the mainstem of the South Platte and most tributaries dropping off during the last portion of July, the calls gradually went more senior from a 1922 call on July 13th to a 1888 senior call being placed on the lower end of the South Platte River on July 18th. Flows continued to drop and demand for direct flow irrigation rights continued to increase into the later parts of July, with the South Platte Compact Call being placed on the lower end of the river on July 26th through the remainder of July into August.



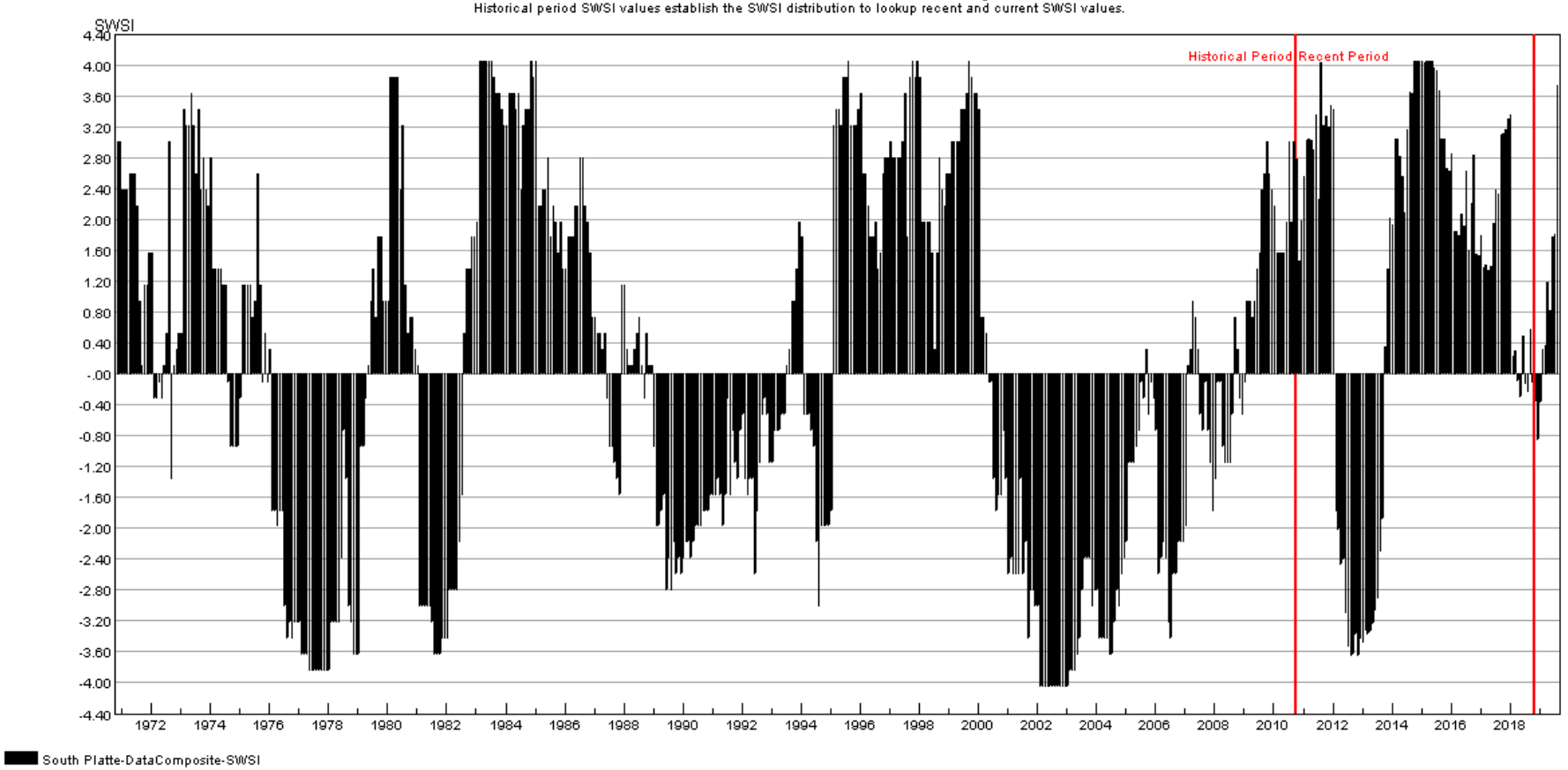
Typically the reservoir fill season is between November 1 and April 1 of each year, with irrigation season direct flows starting around April 1. The delayed runoff of snowmelt during the months of June into July limited some reservoirs abilities to fill at a fast pace, however the cooler weather and precipitation into late June and delayed snow melt allowed many reservoirs to continue to fill as well as some junior recharge rights to come into priority during much of June into mid-July. As the flows increased in late June into July as a result of snow melt, many reservoirs were able to continue to fill resulting in most reservoirs full or near full by mid-July when a direct flow right was placed on the mainstem of the South Platte River. Reservoir storage levels throughout the South Platte River mainstem ended the month of July above the average at the 6 SWSI Representative Reservoirs at 642,776 acre-feet volume, which is 112% of the long term average of 572,678. Additionally, 32 indexed reservoirs throughout Division 1 basin at 127% of the long term average (1981 - 2010) with a storage volume of 1,354,851 acre-feet at the end of July, representing approximately 91% of full capacity. This is ahead of the long term average of 72% for the end of July storage in the 32 indexed reservoirs throughout Division 1.



The temperature and precipitation outlook into August, September and October 2019, prepared by the National Weather Service, in northeastern Colorado indicates a trend toward slightly above average temperatures and above average precipitation in the South Platte River Basin.

South Platte Basin SWSI History

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



Basinwide Conditions Assessment

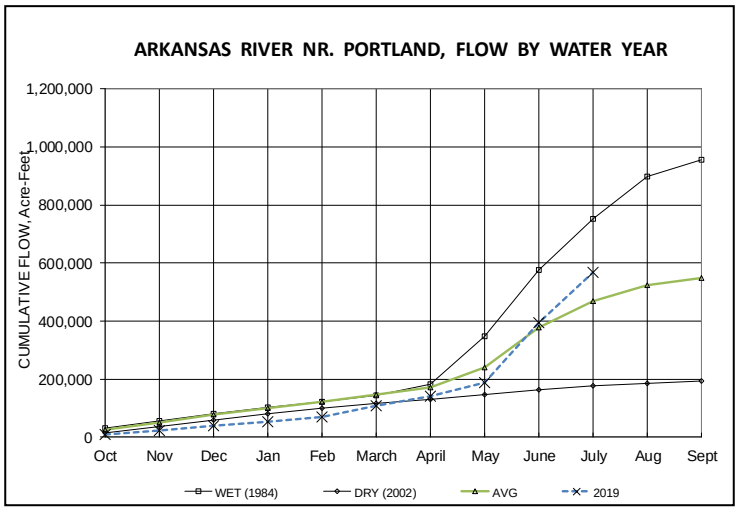
The SWSI value for the month was +2.5.

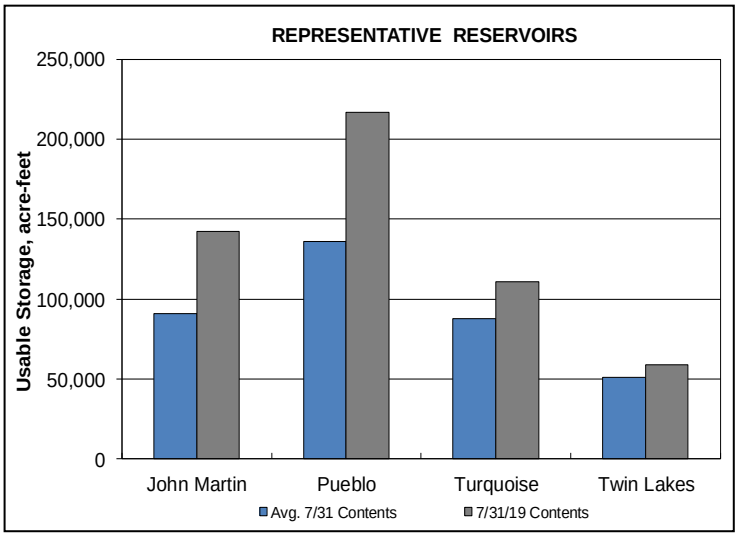
Outlook

As snowmelt flows have tapered off and the peak run off has passed, flows from the mountains steadily declined over the month of July. July started with a senior Amity Canal right of 8/31/1893 with a pass-thru call to the Fort Lyon Canal. The month ended with a 9/25/1889 senior call for the Holbrook Canal. Throughout the month, various storm events in the District 10 basin brought increased flows along the fountain that contributed to a junior call of 11/4/1909 for the Amity Canal.

Administrative/Management Concerns

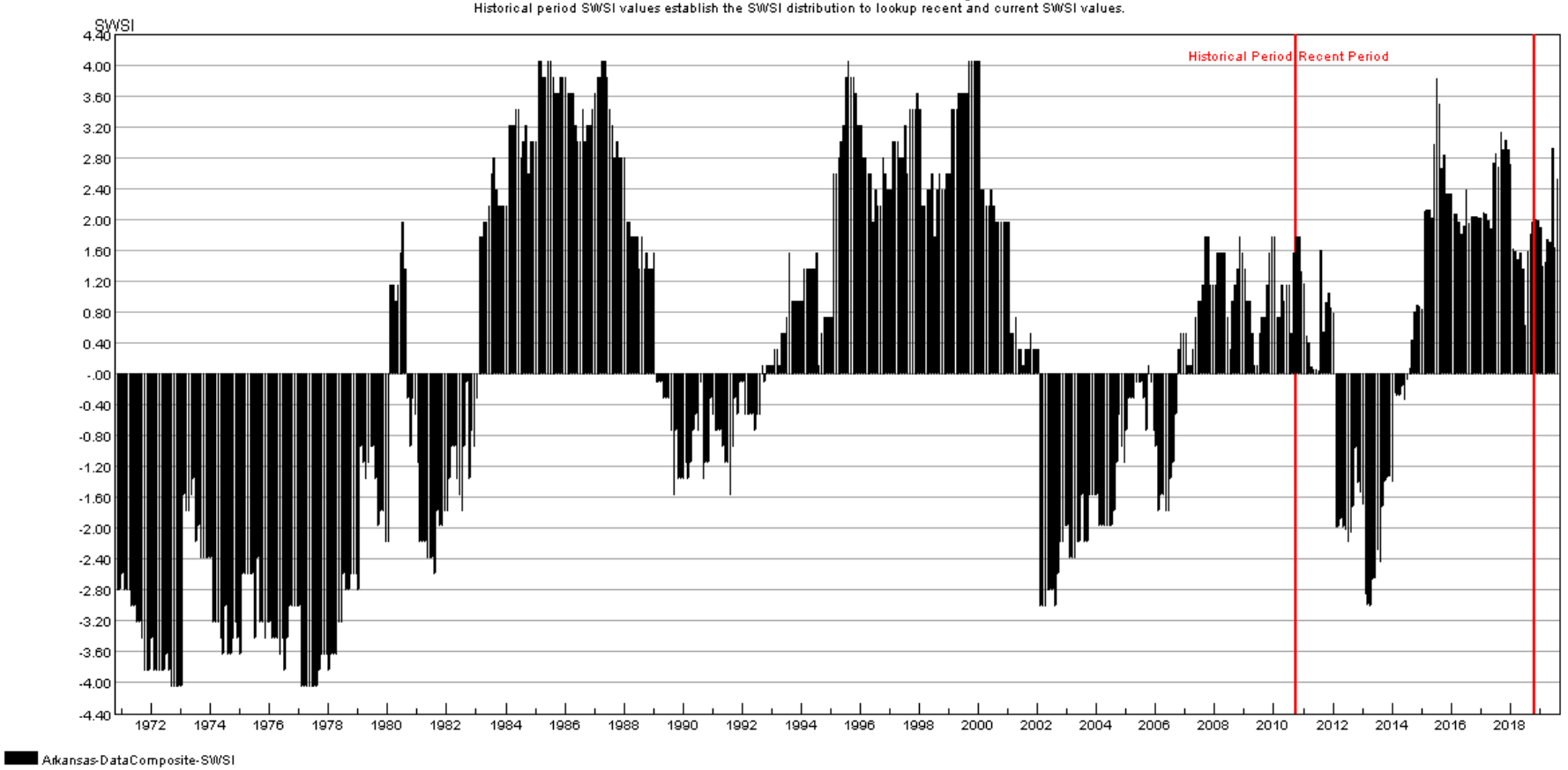
The runoff from better than average snowpack in both the Arkansas Basin and the Colorado River Basin provided some challenges in July. Transmountain imports for the Fryingpan-Arkansas system and other transmountain diversions produced high storage volumes in the upper basin reservoirs while high runoff flows from snowmelt in the Arkansas Basin produced ample water supply for the majority of irrigation ditches in the Arkansas Basin without having to draw down reservoir storage. This resulted in Pueblo Reservoir filling to near the top of the available conservation space and caused some strategic management of stored water by entities who might have had their account water spill.





Arkansas Basin SWSI History

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



Basinwide Conditions Assessment

The SWSI value for the month was +3.2.

Flow at the gaging station Rio Grande near Del Norte averaged 3027 cfs (241% of normal). Some of this volume was the result of draining Rio Grande Reservoir for Fall repair work. The Conejos River near Mogote had a mean flow of 911 cfs (203% of normal). Streamflow in the upper Rio Grande basin was generally well above the long term averages due to the late melt out. There were some drainages that under-performed, such as: La Jara Creek, the Rio San Antonio, and North Crestone Creek.

Irrigated areas are greener than normal for this time of year, but the foothills are drying out as the anticipated monsoon didn't yet arrive. Precipitation during July was generally poor in the San Luis Valley. Alamosa received only 0.08 inch during the month, 0.89 inch below normal.

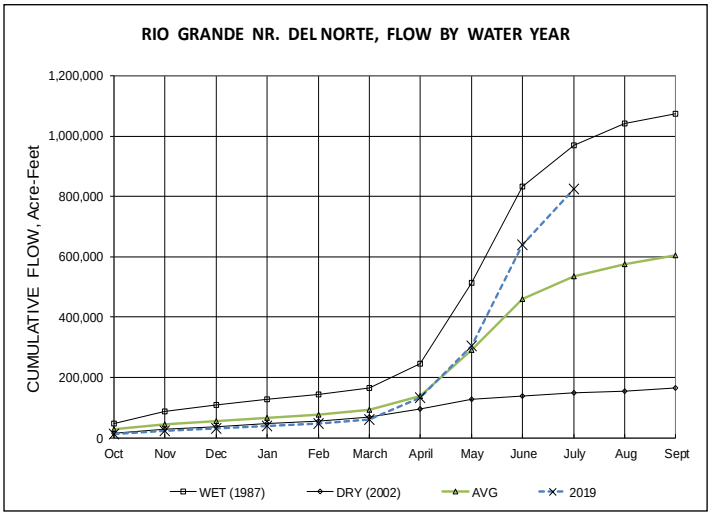
Outlook

Recent NOAA weather forecasts for the next month and beyond call for wetter and warmer than normal conditions for the upper Rio Grande basin. NOAA is suggesting a similar pattern through January, 2020.

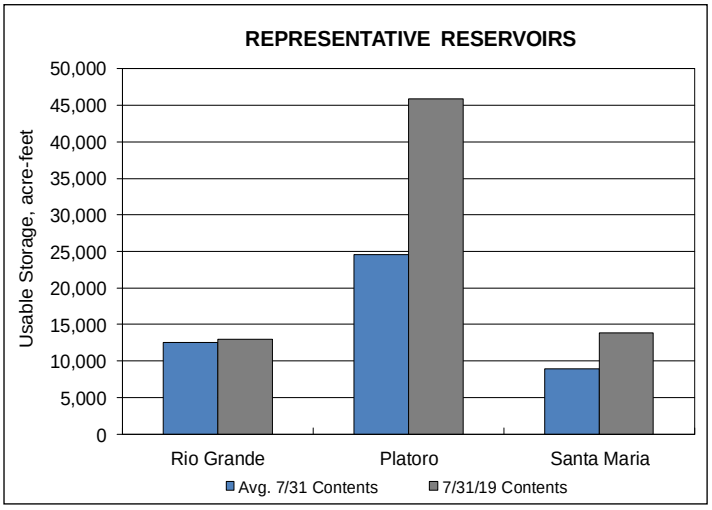
Administrative/Management Concerns

Significantly above normal streamflow in most areas of the basin during July kept water administrators busy with setting calls, adjusting / checking headgates, and making diversion records.

Water delivery to the State Line has been well above normal as the huge Rio Grande and Conejos River runoff created enormous Rio Grande Compact delivery requirements to New Mexico and Texas. In fact, at a projected annual index of 980,000 acre-feet (157% of average), the delivery requirement for the Rio Grande has increased to 410,000 acre-feet (42%). The Rio Grande delivery schedule requires all water indexed above 950,000 acre-feet to be delivered to the State Line, one for one. So there is no real benefit to that river system in Colorado after the 950,000 acre-feet index is reached. It has been since the late 1980's that the Rio Grande indexed 1,000,000 acre-feet – a possibility this calendar year.



The Conejos system is projected at 450,000 acre-feet this year (150% of average). Of that, 232,000 acre-feet are required for delivery (52%). At this level, only 800 acre-feet out of every additional 10,000 acre-feet can stay in the basin. This is the best runoff year on the Conejos system since 1995.

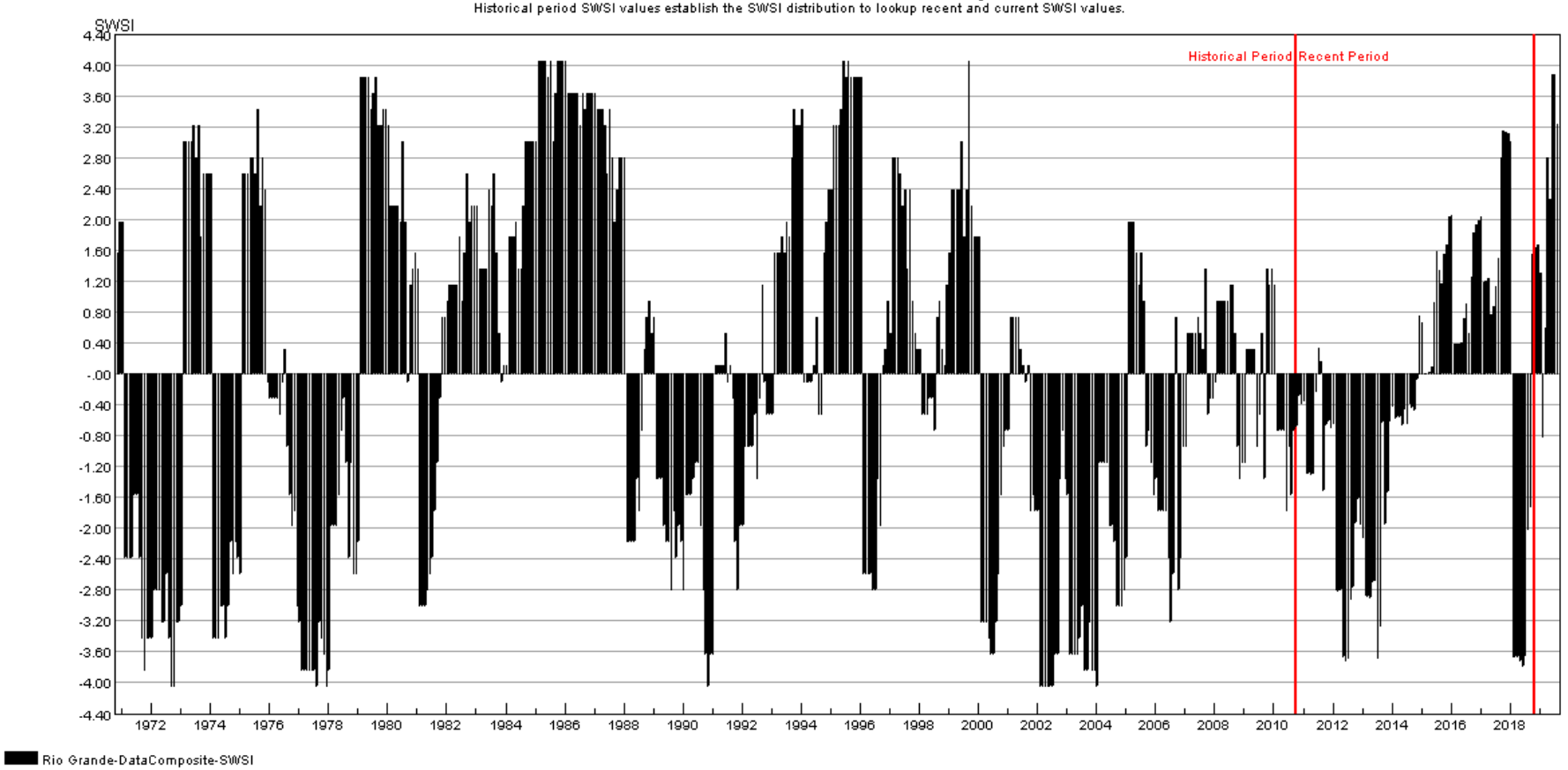


Public Use Impact

Although the runoff season arrived late and was better than normal in the San Luis Valley, many irrigators felt the pinch of recent dry conditions and ditches going out of priority. Well pumping increased as surface water supplies dwindled and temperatures rose. The San Luis Valley aquifers are expected to see some recovery after the brutal 2018 drought.

Rio Grande Basin SWSI History

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



Basinwide Conditions Assessment

The SWSI value for the month was +3.8.

The drying trend continued from June into July in the Gunnison basin. In fact, much of the Basin received between 70 and 90% of the average precipitation. Interestingly, the center of the basin, around Blue Mesa Reservoir, was the only area to receive near average precipitation. Temperatures basin wide were near normal throughout the month.

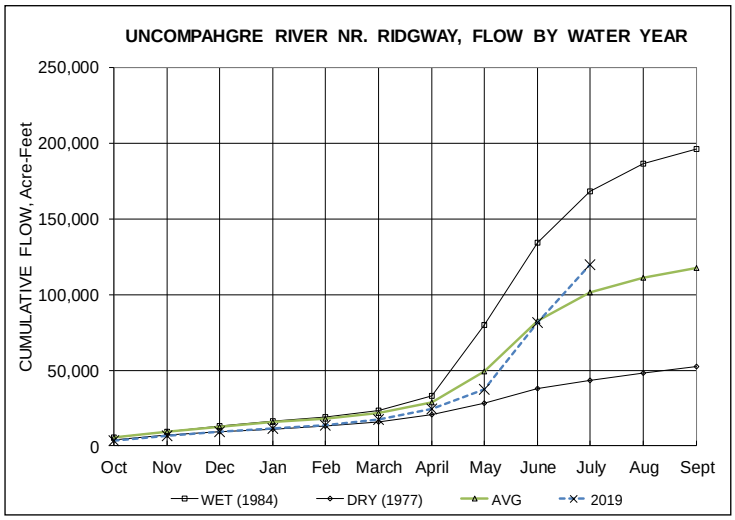
Outlook

During the next 30 and 90 day periods the National Weather Service Climate Prediction Center is forecasting a greater than 50% chance of above average precipitation and temperatures.

Administrative/Management Concerns

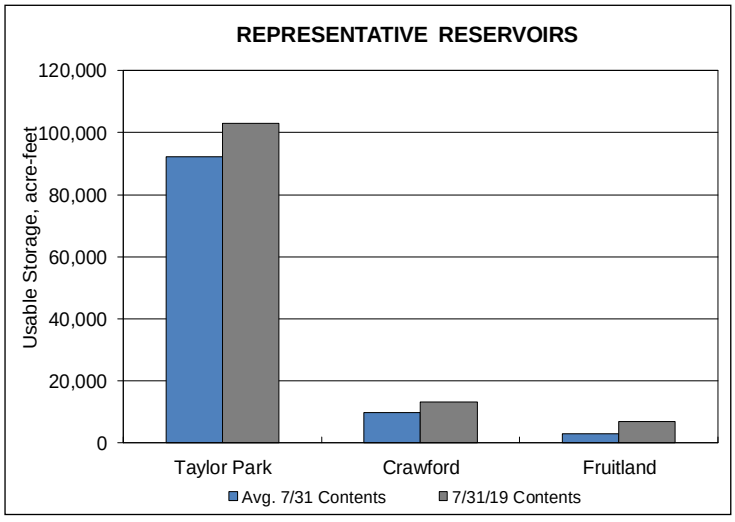
Actual April to July inflow into many reservoirs exceeded even the most recent projections from June 1st. For example, Blue Mesa Reservoir ended the runoff season with an actual April to July runoff volume of 1,089,000 acre-feet, which was 49,000 acre-feet greater than the June 1st forecast. This increase resulted in Blue Mesa Reservoir filling to a peak content of 827,241 acre-feet at a point just below the spillway.

Gunnison Tunnel demand continued to be met by natural inflow all month. As a result, Taylor Park Reservoir continued to fill and reached a peak content of 103,302 acre-feet on July 26th, also only a few inches below spill. As of August 1st, 94,357 acre-feet (90%) of Taylor Park's first fill account had been moved down into the Aspinall Unit pursuant to the accounting in the 86CW203 decree. It is estimated that the first fill account will be completely stored in the Aspinall Unit by mid August and Taylor Park will also fully fill its second fill right near the end of August.



Drying conditions has resulted in calls being placed at 21 locations in Water Division 4, however, most are on small tributaries that are on call every year. This year these calls came on later than normal and as of August 1st there are still no calls on the mainstem of the Gunnison River or its major tributaries such as the North Fork Gunnison River or the Uncompahgre River.

Streams in the Surface Creek system that drain from the Grand Mesa are mostly on call now and reservoir water is now being used to irrigate the orchards, vineyards and other crops. The amount of storage used in 2019, however, will likely be lower than average and the resulting carryover into the 2020 water year should be good.

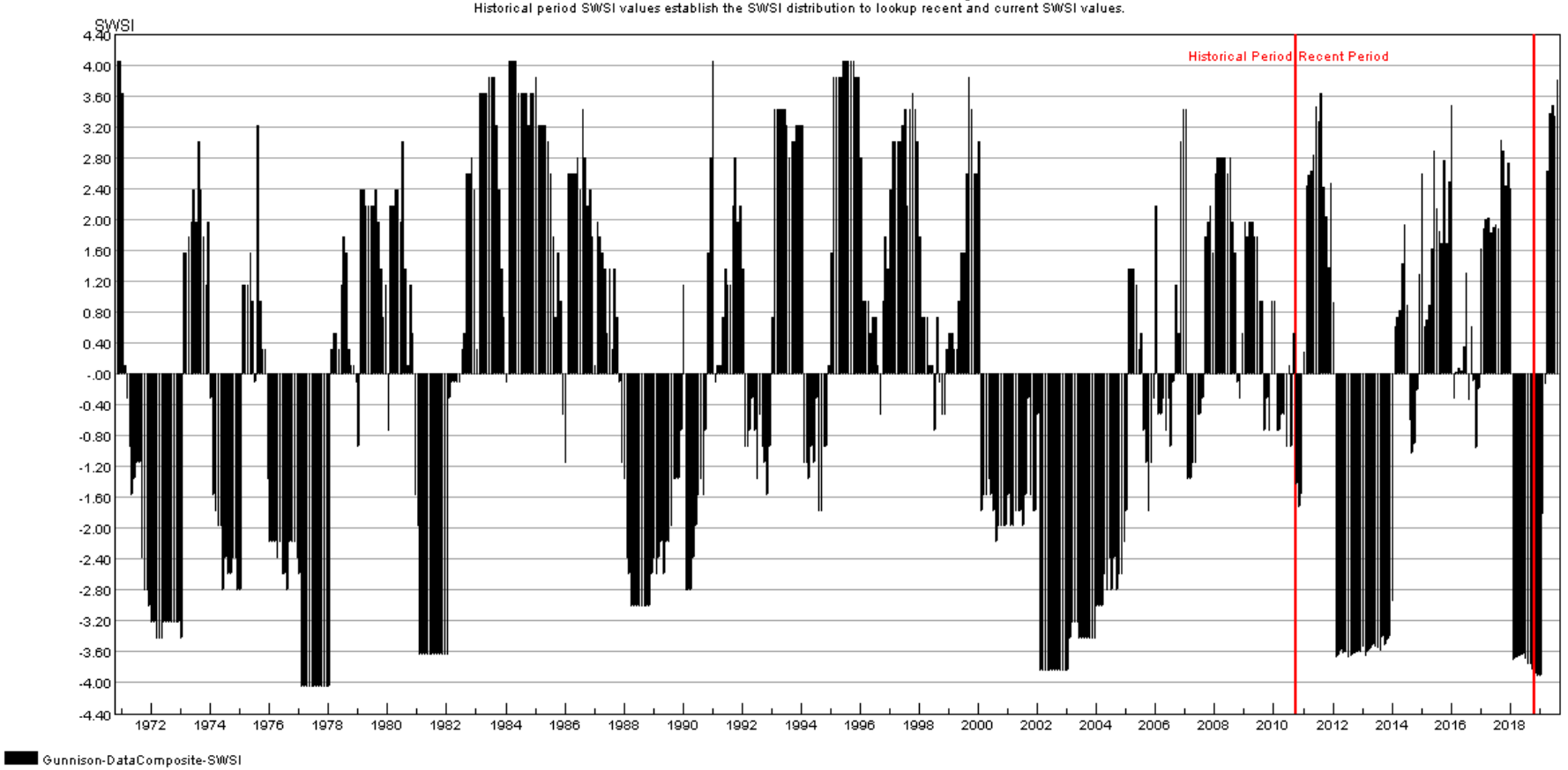


Public Use Impacts

Most streams returned to more normal flows by the end of July allowing boaters and fishermen to enjoy the area streams. In addition, the almost full status of most reservoirs such as Ridgway, Taylor Park and Blue Mesa have resulted in great flat water recreation and fishing opportunities with good reports from those that manage those facilities for State and Federal agencies.

Gunnison Basin SWSI History

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



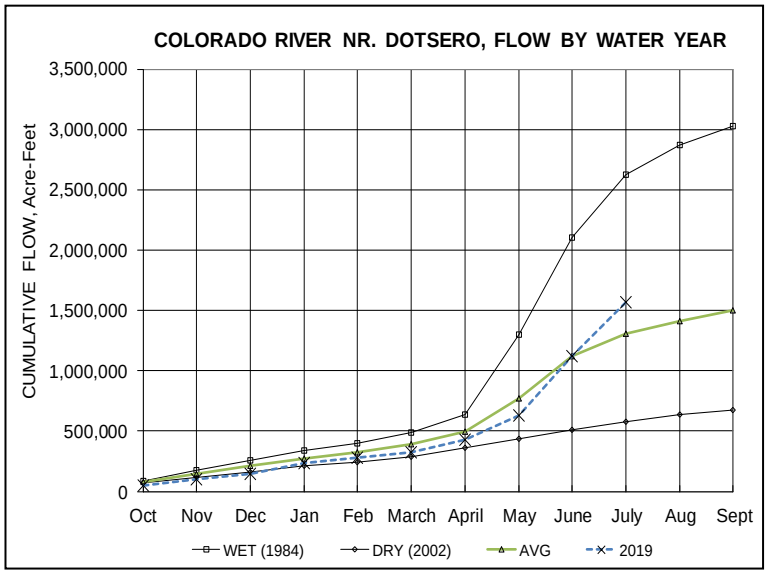
Basinwide Conditions Assessment
The SWSI value for the month was +3.6.

Outlook

Colorado River flows and most tributary flows are running above average. River flows are forecasted to continue above average through August. Average temperatures and below average precipitation are forecast for August.

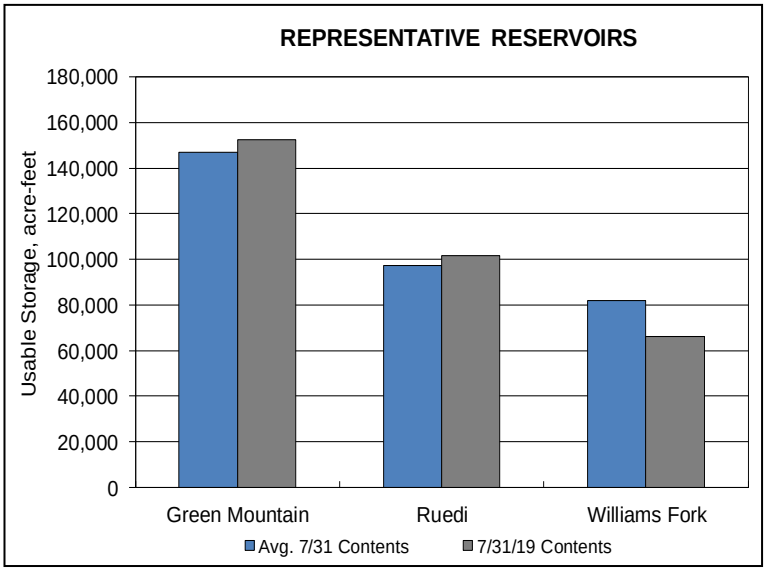
Administrative/Management Concerns

As of August 23, the call on the Colorado River mainstem is the Junior Shoshone (158cfs) water right. Grand Valley Irrigation diversions (Government Highline/Orchard Mesa Irrigation, Grand Valley Irrigation canals) continue at or near full capacity. Wolford Reservoir plans to be 10' below full by November 1 per their operating plan. They are also temporarily storing Fish Recovery water released from Granby Reservoir for use on a later date. Releases are being made from Granby and Ruedi Reservoirs for the 15 mile reach fish recovery program.



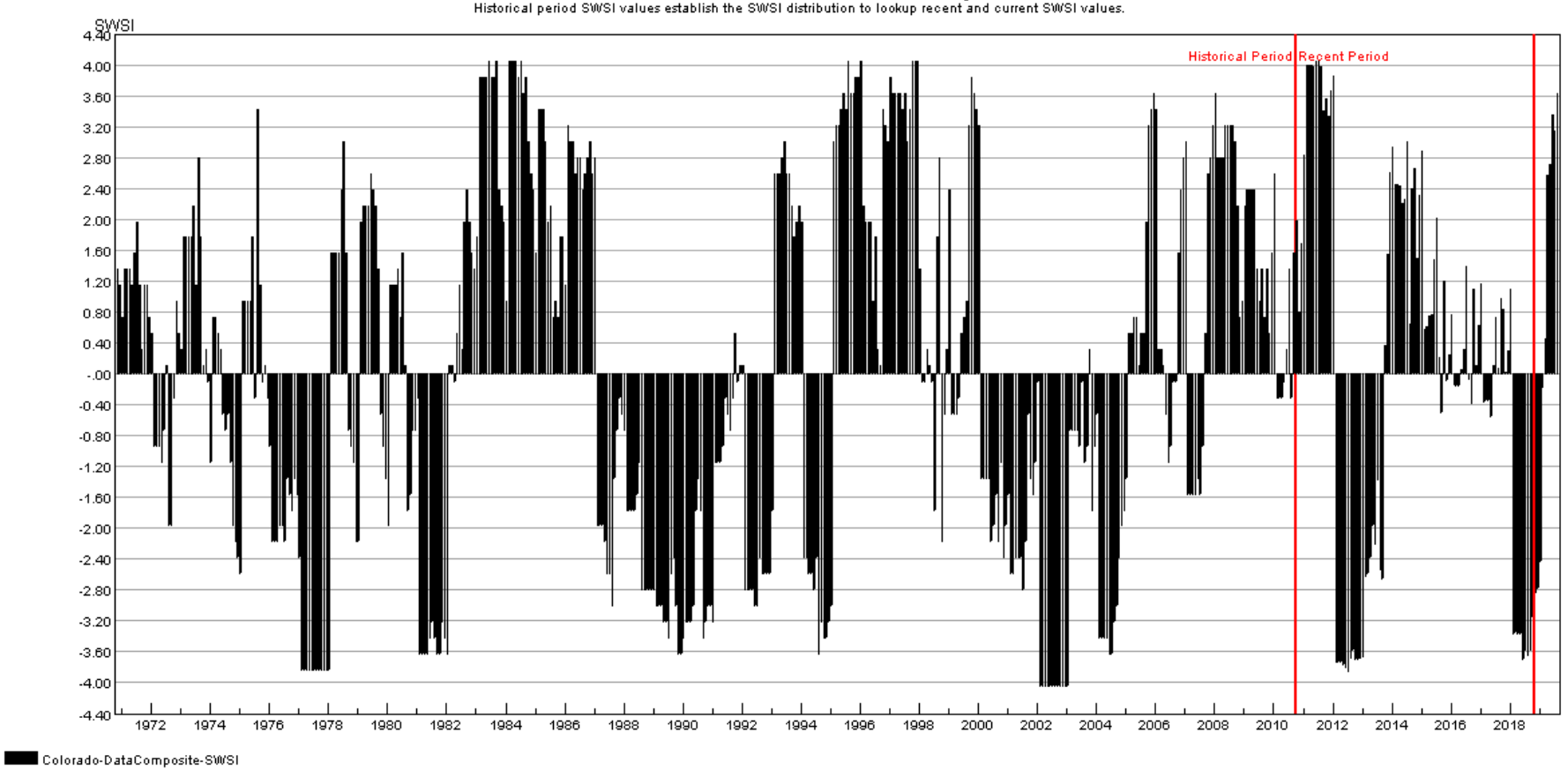
Public Use Impacts

Per an agreement between the U.S. Fish and Wildlife Service, the U.S. Bureau of Reclamation and the Colorado River District 35 cfs is being released from Granby Reservoir that immediately helps daytime temperatures in the river in the stretch of river below Granby Reservoir. This stretch of river is depleted due to transmountain diversions to the Front Range. Wolford Mountain Reservoir, then, is holding that 35 cfs for later release for the endangered fish in Mesa County.



Colorado Basin SWSI History

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



Basinwide Conditions Assessment

The SWSI value for the month was +3.7.

Snowpack: August 1, snowpack in the combined Yampa, White, and North Platte rivers basins had primarily melted off and provided an abundant amount of stream flow for irrigation, domestic, recreation, and storage needs.

Precipitation: July was witness to a more average pattern, than previous months…South Routt County monitor reported 1.27 inches for the month along the Five Pine Pine southwest of Yampa…the seasonal average for Steamboat Springs is 1.60 inches of precipitation for July.

Runoff: Historic above average median flow rates continued in many tributary basins throughout the Water Division. Typical seasonal River Calls were in place on the Bear River, South Hunt Creek, and Talamantes Creek during the month of July.

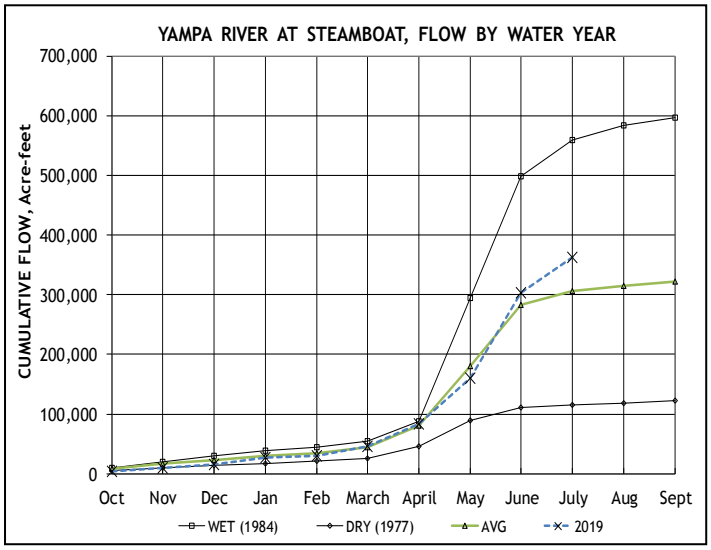
Reservoir Outlook

- Stagecoach Reservoir was maintaining a full storage elevation as of July 31, 2019; the capacity of Stagecoach is 36,439 AF.
- Yamcolo Reservoir was storing 8686 AF as of July 31, 2019; the capacity of Yamcolo is 9,621 AF / 90% of capacity.
- Elkhead Creek Reservoir was spilling as of June 31, 2019; the capacity of Elkhead Creek is 24,778 AF.
- Fish Creek Reservoir was storing 3626 AF as of June 31,2019: 99.9% of "useable" capacity / physical capacity of Fish Creek is 4,167 AF.

In general, water stored in Fish Creek Reservoir is for municipal purposes, in Yamcolo for irrigation purposes, Elkhead Creek for municipal, industrial, recreation, and fish recovery purposes. Stagecoach for recreation, but has a significant amount of stored water allocated for agriculture, municipal, industrial, and augmentation uses.

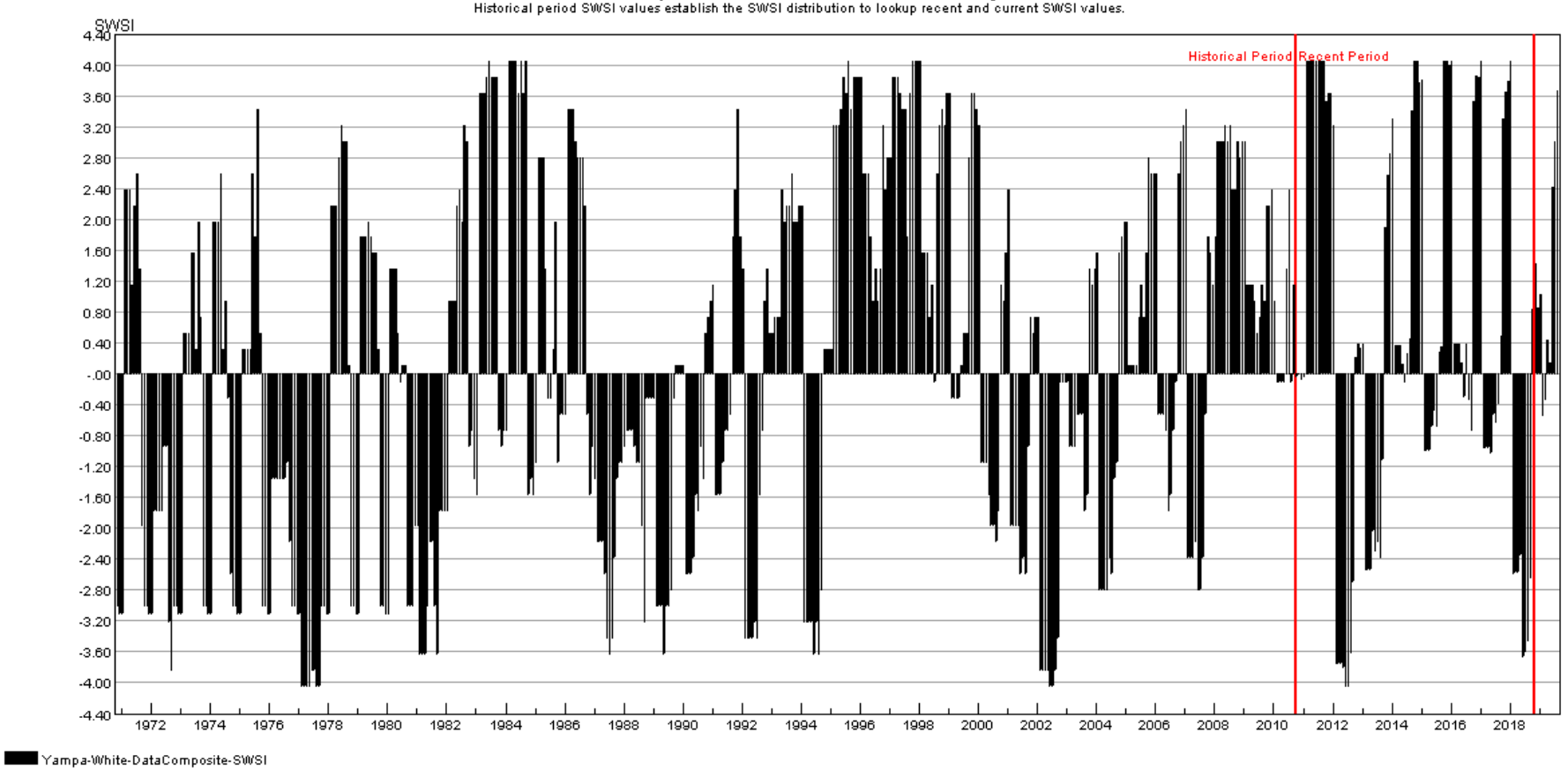
Public Use Impacts

Well into July local recreation water users experienced a larger than average runoff period…which ultimately lead to increased access for commercial and private rafters, anglers, and tubbers. More recently, flow rates have subsided but wet water recreation opportunities still abound. In addition, local irrigators began to curtail irrigation use, which of course helped sustain local stream flows.



Yampa-White Basin SWSI History

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



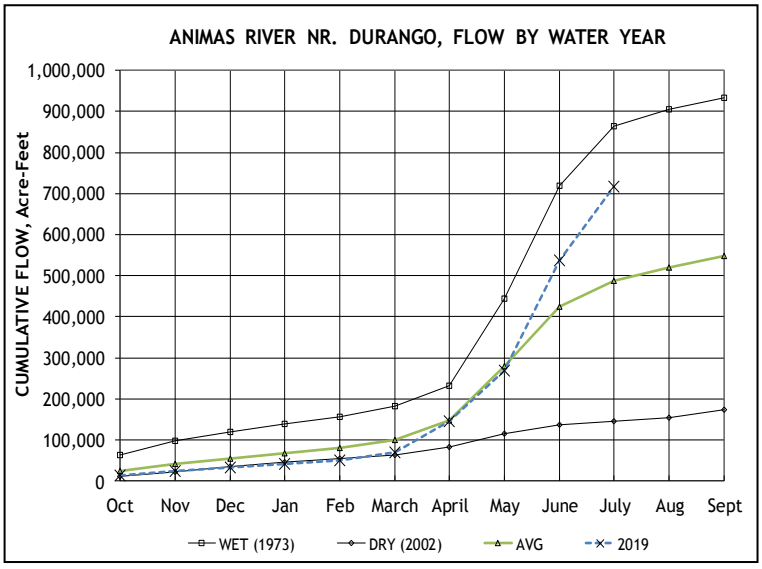
Basinwide Conditions Assessment

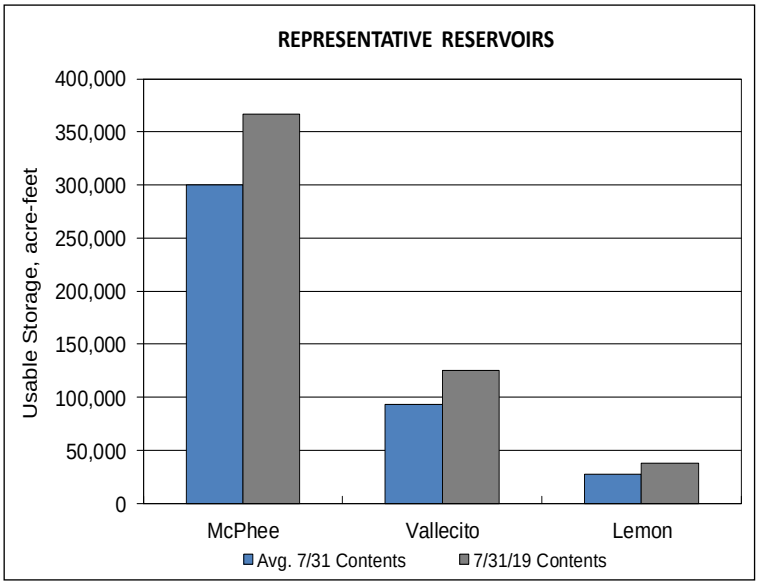
The SWSI value for the month was +4.0.

Flow at the Animas River at Durango averaged 2,818 cfs (248% of average). The flow at the Dolores River at Dolores averaged 847 cfs (222% of average). The La Plata River at Hesperus averaged 104 cfs (297% of average). Precipitation in Durango was 0.81 inches for the month, 52% of the 30-year average of 1.94 inches. Precipitation to date in Durango, for the water year is 19.68 inches, 131% of the 30-year average of 15.04 inches. End of last month precipitation to date, for the water year was 144% of average. The average high and low temperatures for the month of July in Durango were 89° and 52°. In comparison, the 30-year average high and low for the month is 86° and 54°. At the end of the month Vallecito Reservoir contained 124,806 acre-feet compared to its average content of 89,234 acre-feet (140% of average). McPhee Reservoir was up to 366,612 acre-feet compared to its average content of 307,276 (119% of average), while Lemon Reservoir was up to 37,510 acre-feet as compared to its average content of 26,641 acre-feet (141% of average).

Outlook

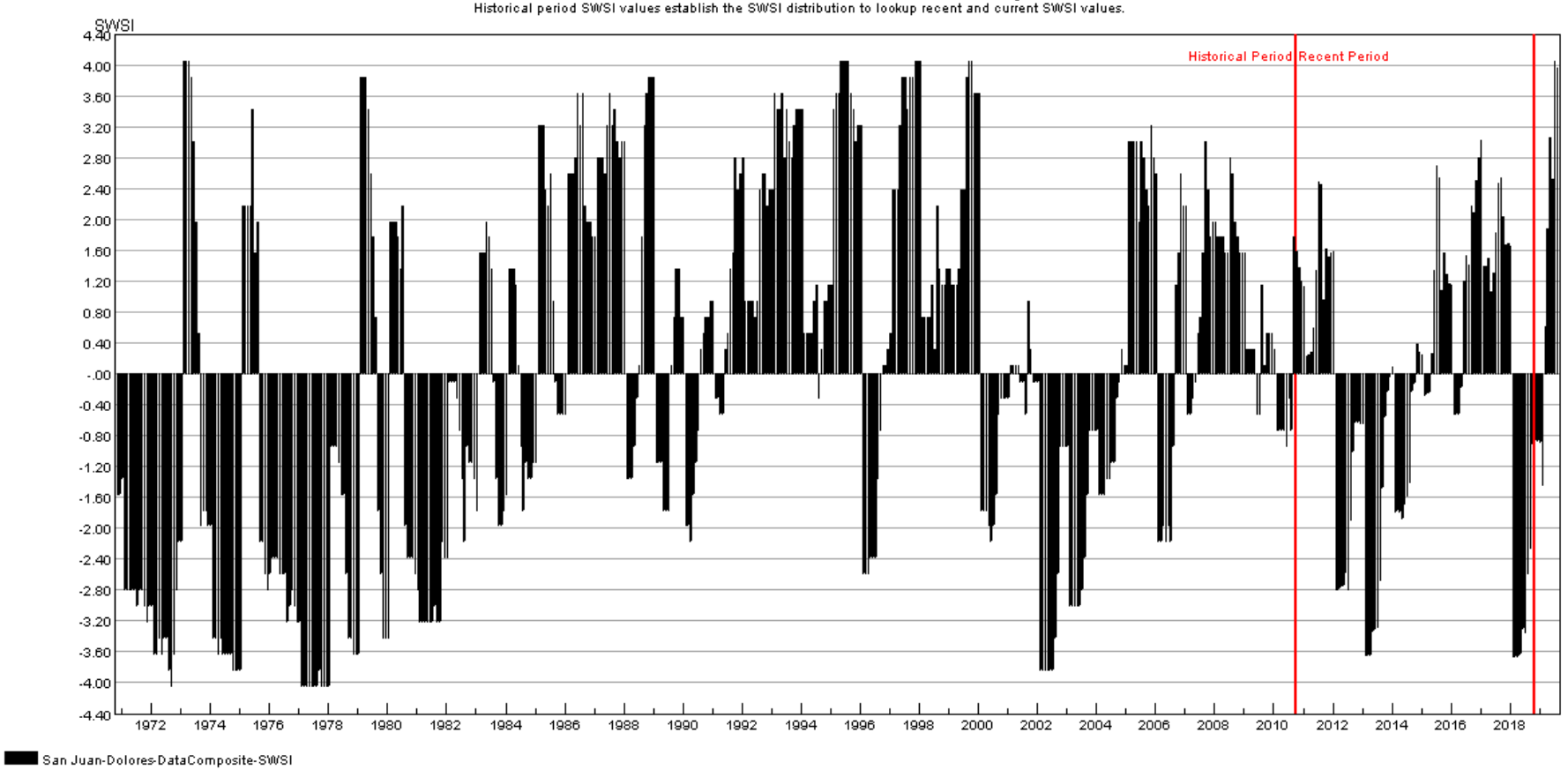
Precipitation (0.81 inches) was below average for July in Durango. There were 105 years out of 124 years of record where there was more precipitation than this year. The monsoon rains usually start in July in Durango, but that is not the case this year. The flows in the rivers within the basin remained well above average for this time of the year. There are 5 out of 108 years of record where the total flow past the Animas River at Durango stream gauge was more than this year. There were 9 out of 109 years of record where the total flow past the Dolores stream gauge was more than this year and 5 out of 102 years of record where the total flow past the La Plata River at Hesperus gauge was more than this year. Most of the reservoirs within the basin are full. Vallecito began releasing excess water on March 21 to prepare for the expected spring runoff within that basin. Vallecito has never been higher at this time of year out of 79 years of record.





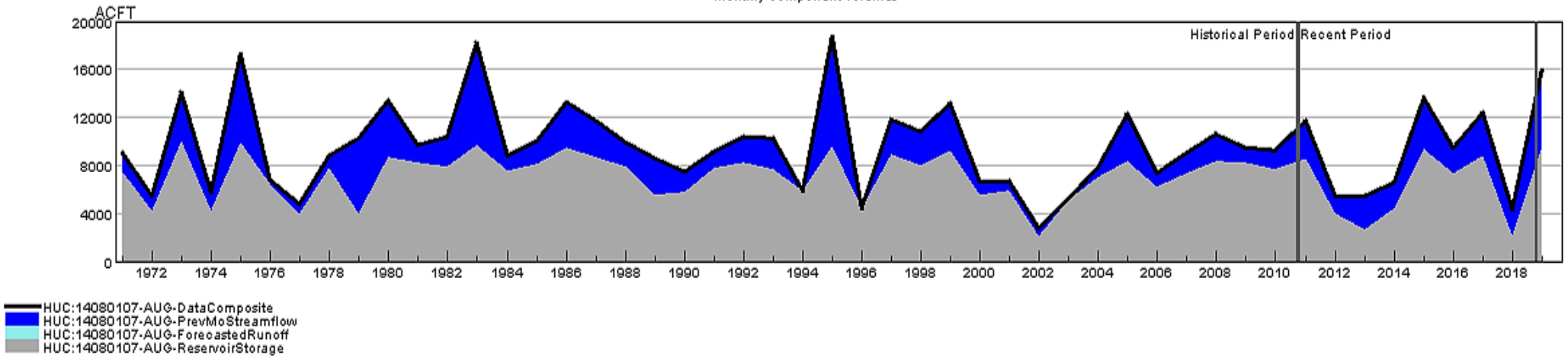
San Juan-Dolores Basin SWSI History

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



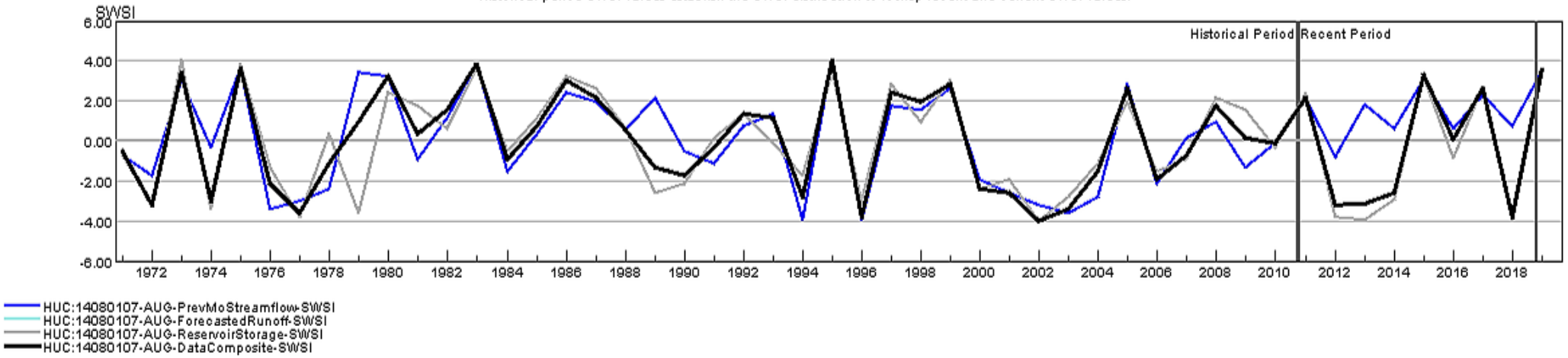
HUC 14080107 (Mancos) Surface Water Supply - AUG

Monthly component volumes



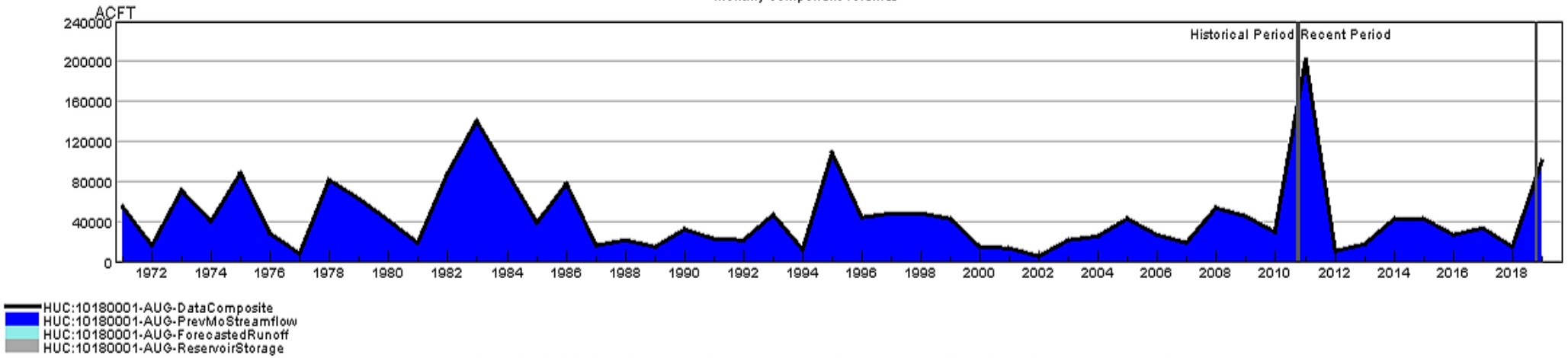
HUC 14080107 (Mancos) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



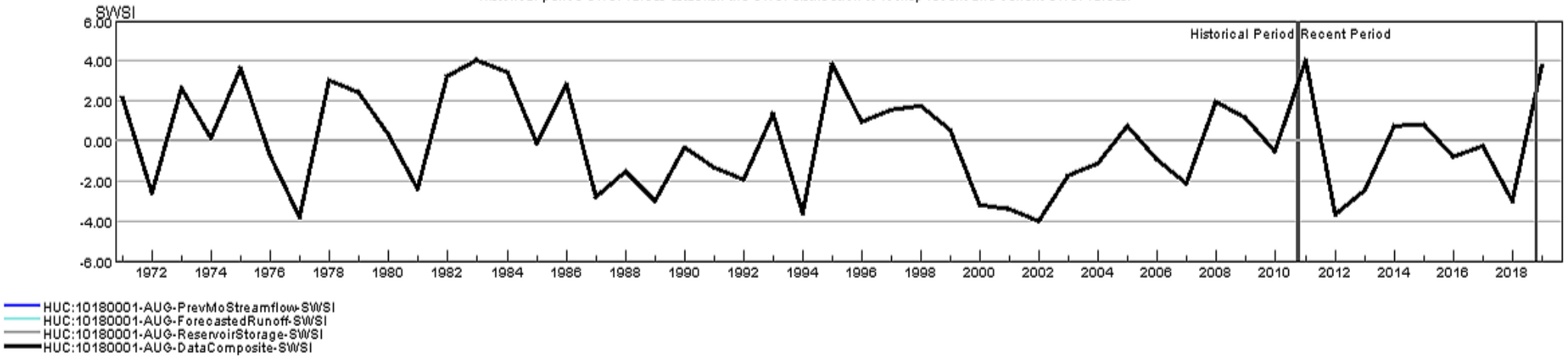
HUC 10180001 (North Platte Headwaters) Surface Water Supply - AUG

Monthly component volumes



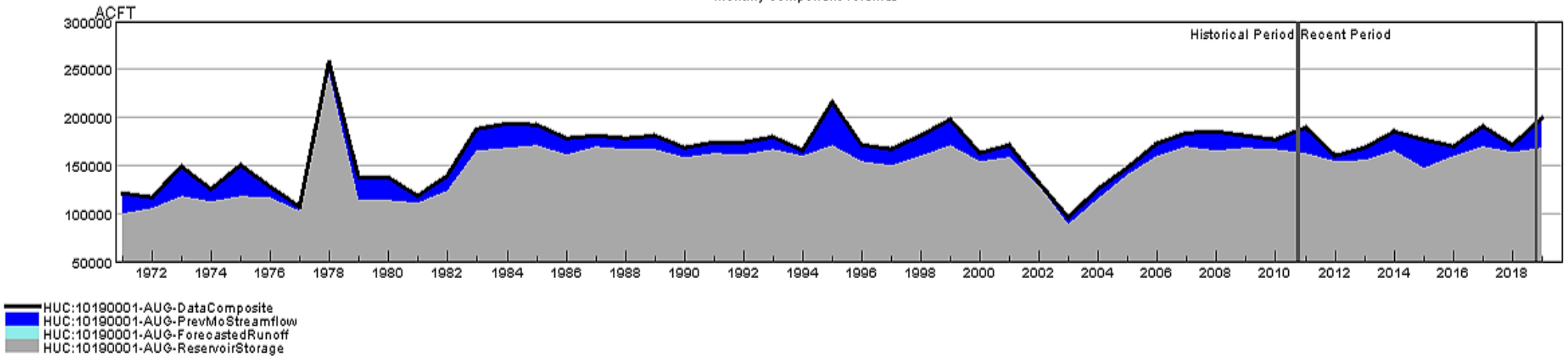
HUC 10180001 (North Platte Headwaters) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



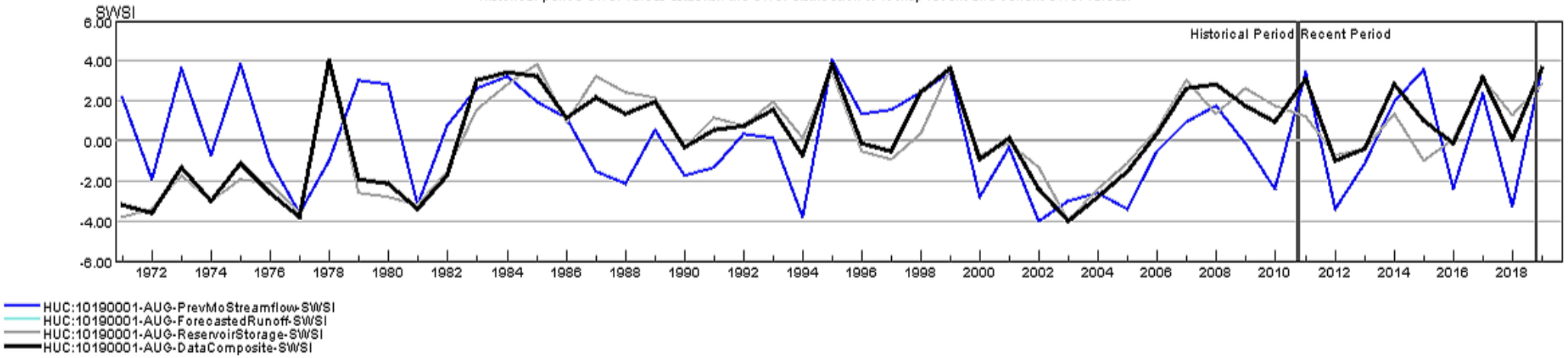
HUC 10190001 (South Platte Headwater) Surface Water Supply - AUG

Monthly component volumes



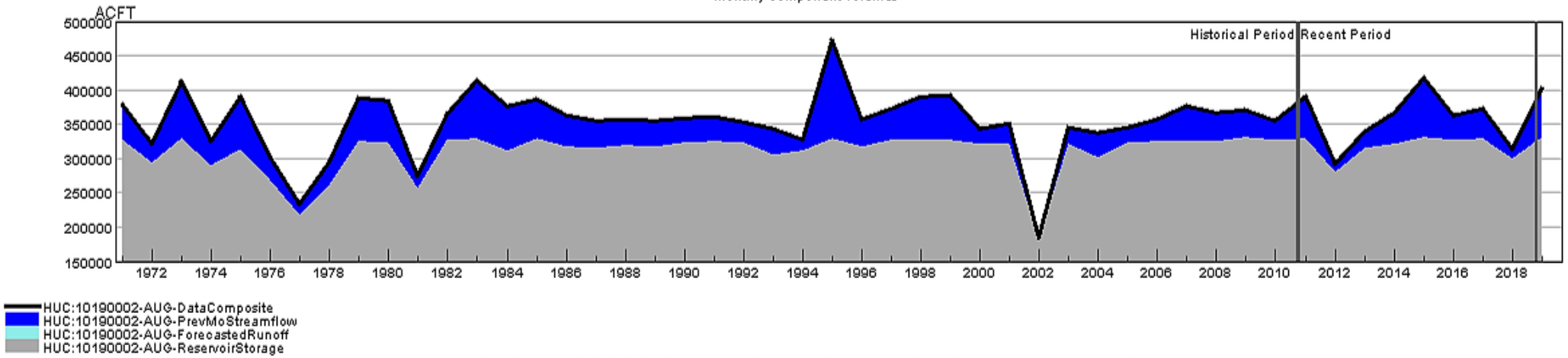
HUC 10190001 (South Platte Headwater) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



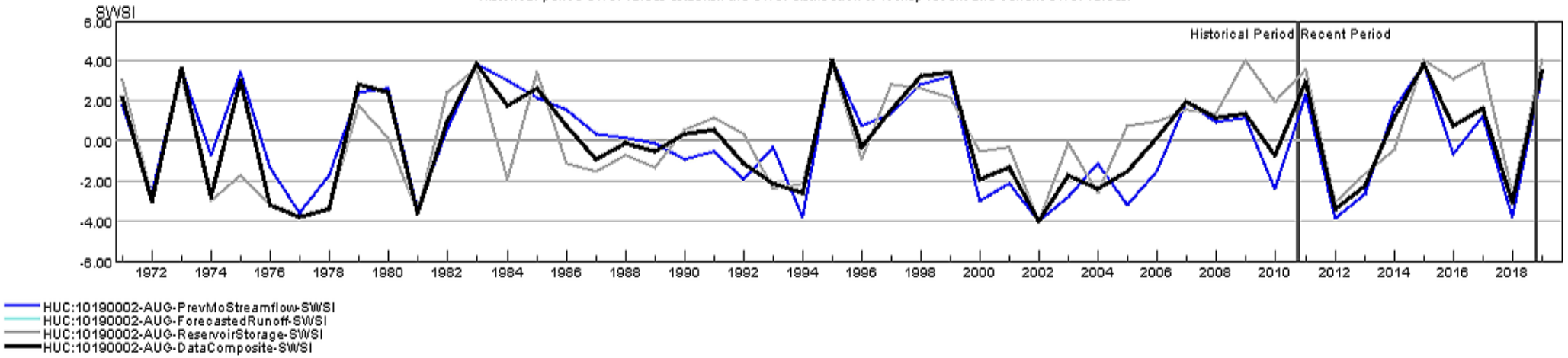
HUC 10190002 (Upper South Platte) Surface Water Supply - AUG

Monthly component volumes



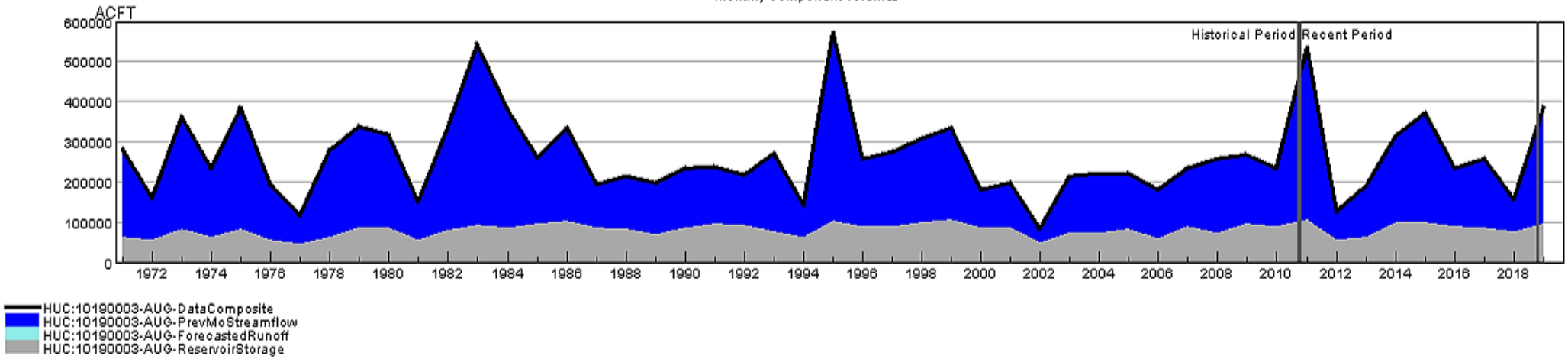
HUC 10190002 (Upper South Platte) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



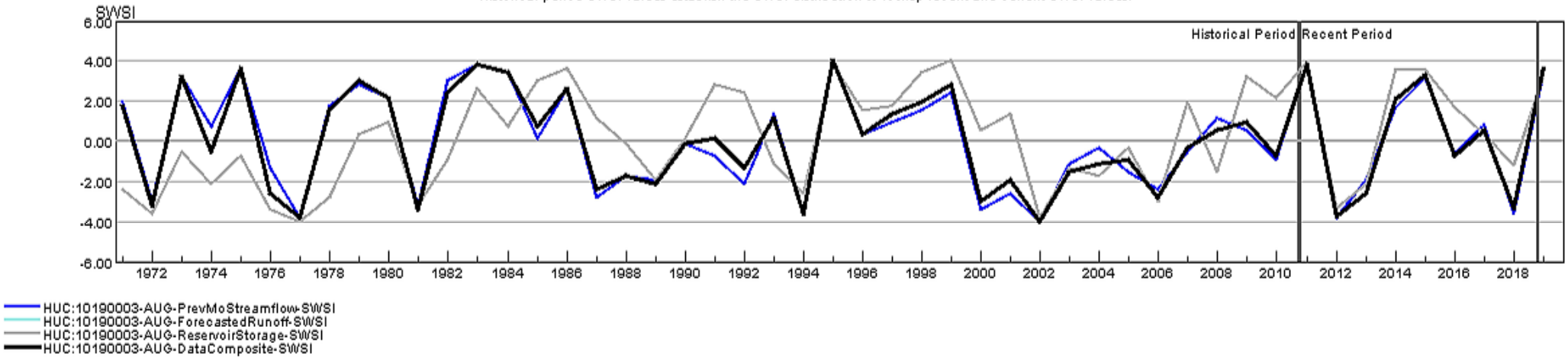
HUC 10190003 (Middle South Platte-Cherry Creek) Surface Water Supply - AUG

Monthly component volumes



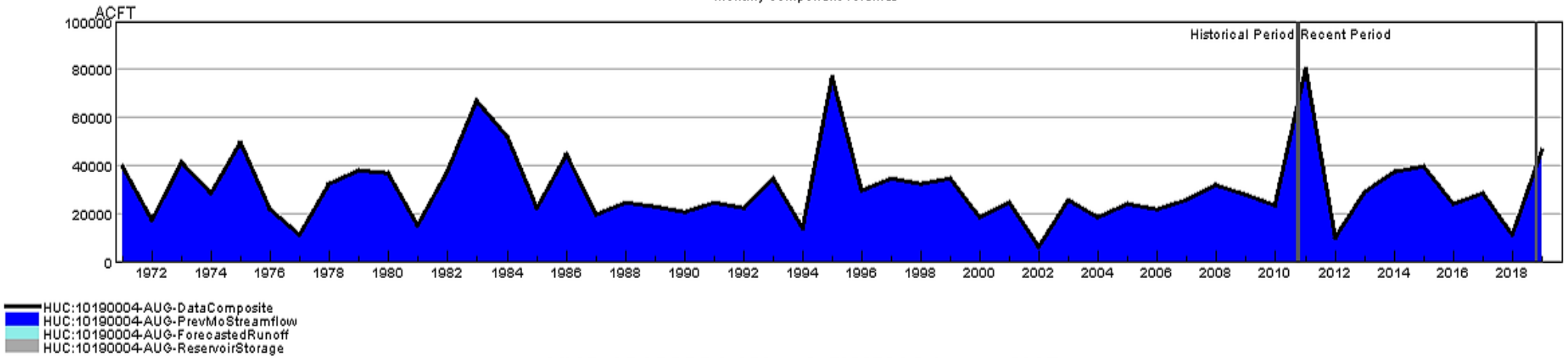
HUC 10190003 (Middle South Platte-Cherry Creek) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



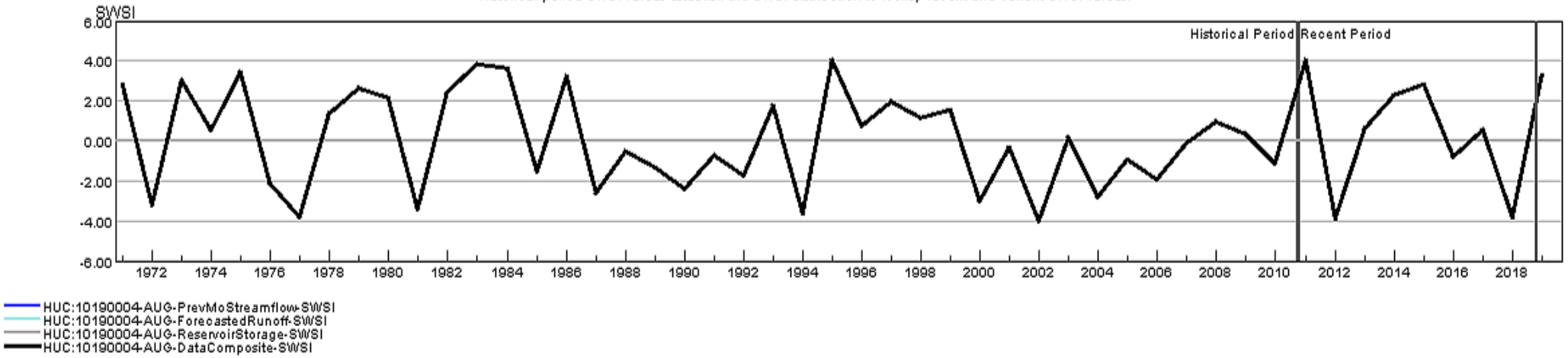
HUC 10190004 (Clear) Surface Water Supply - AUG

Monthly component volumes



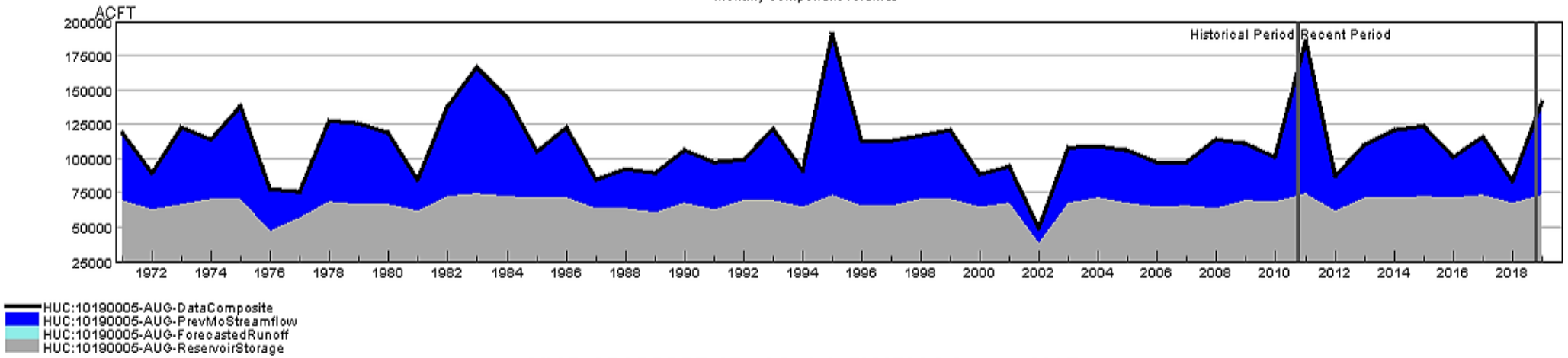
HUC 10190004 (Clear) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



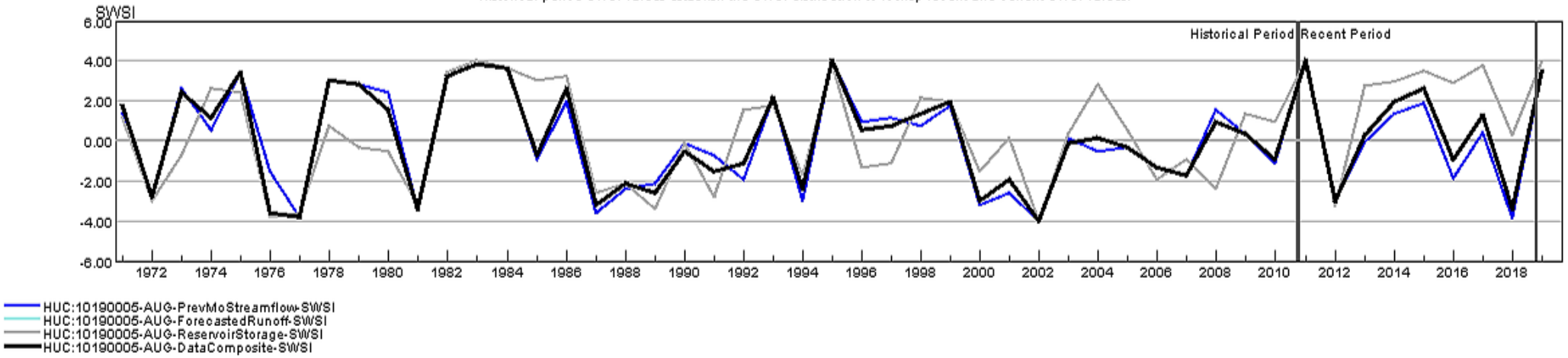
HUC 10190005 (St. Vrain) Surface Water Supply - AUG

Monthly component volumes



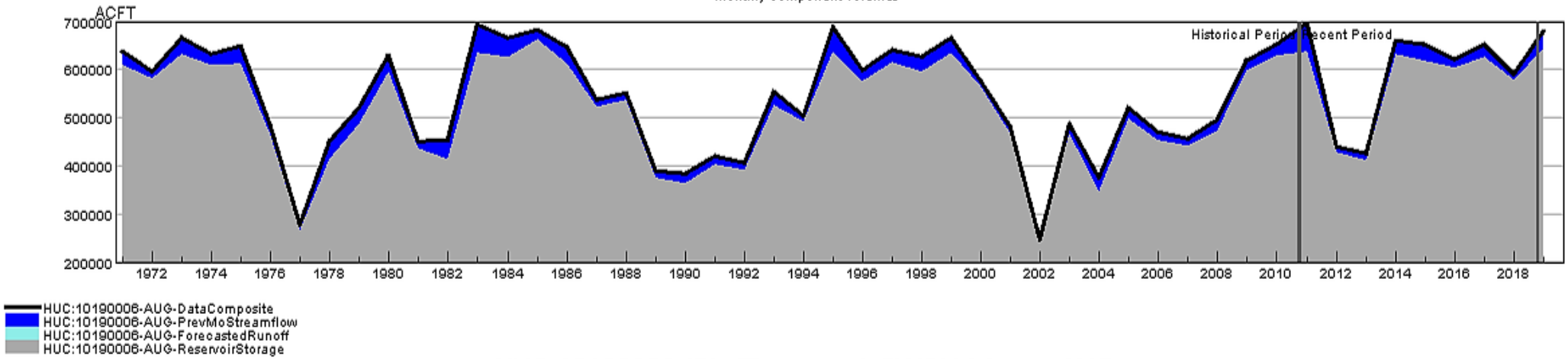
HUC 10190005 (St. Vrain) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



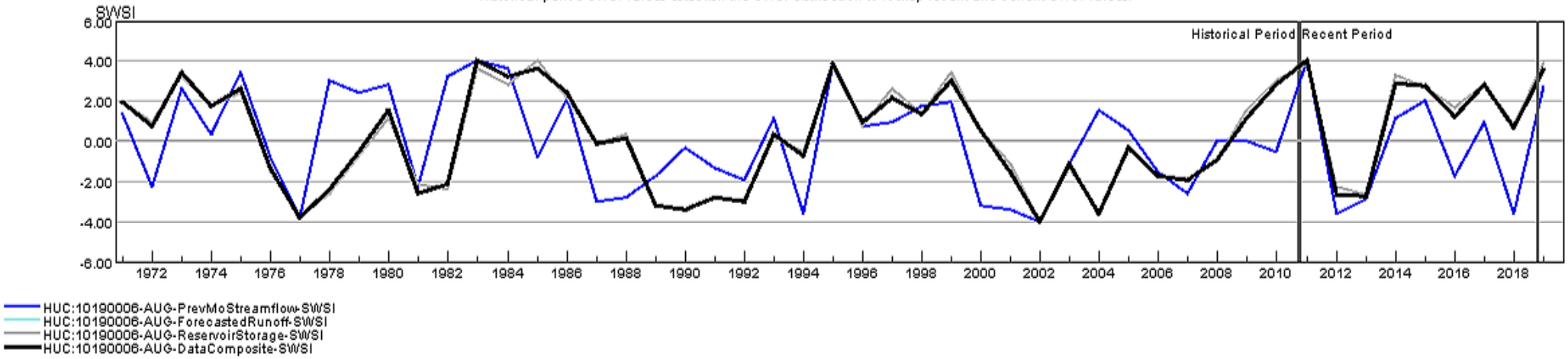
HUC 10190006 (Big Thompson) Surface Water Supply - AUG

Monthly component volumes



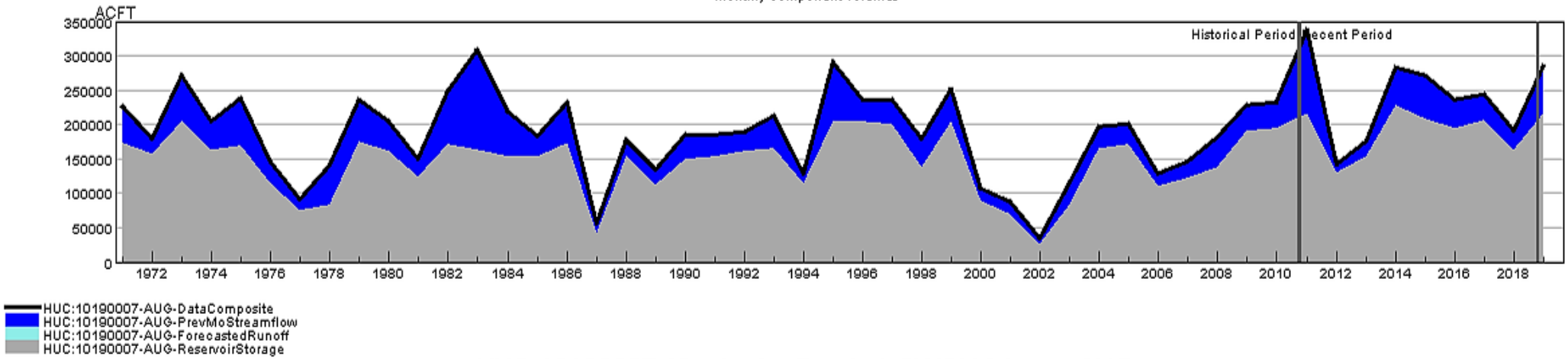
HUC 10190006 (Big Thompson) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



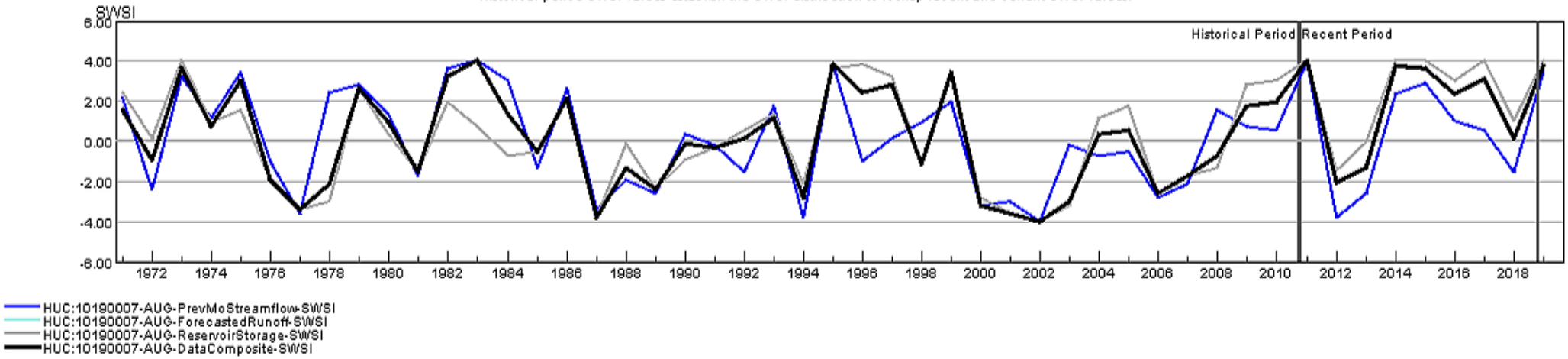
HUC 10190007 (Cache La Poudre) Surface Water Supply - AUG

Monthly component volumes



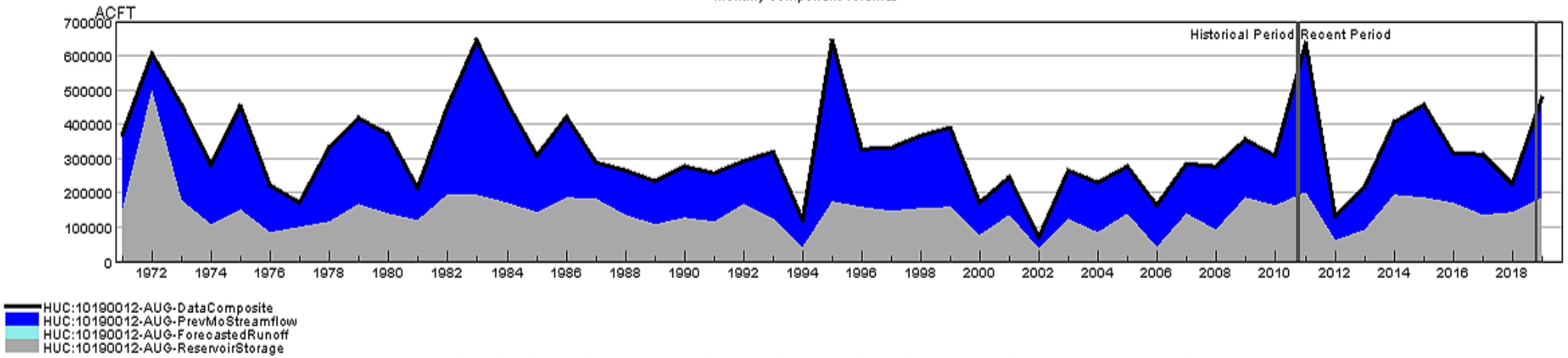
HUC 10190007 (Cache La Poudre) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



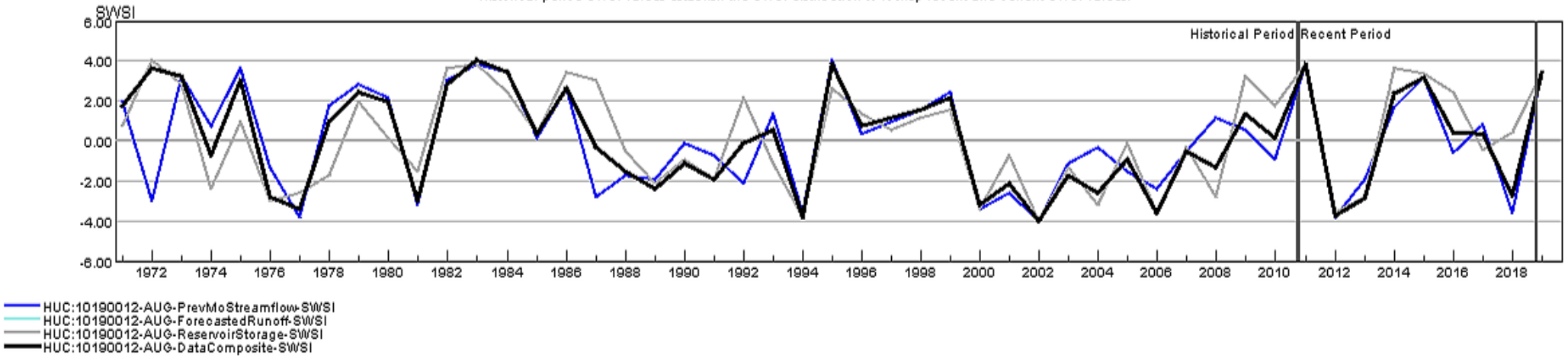
HUC 10190012 (Middle South Platte-Sterling) Surface Water Supply - AUG

Monthly component volumes



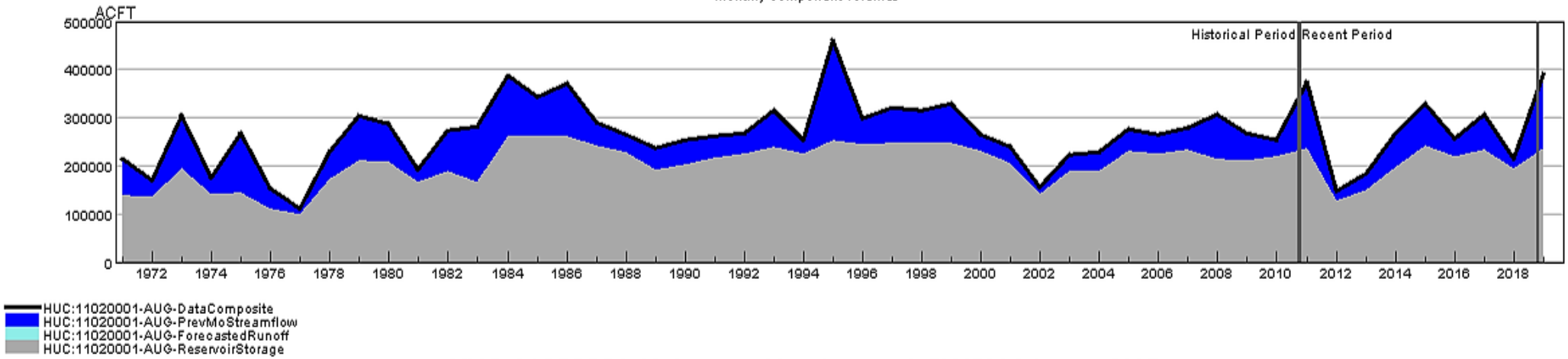
HUC 10190012 (Middle South Platte-Sterling) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



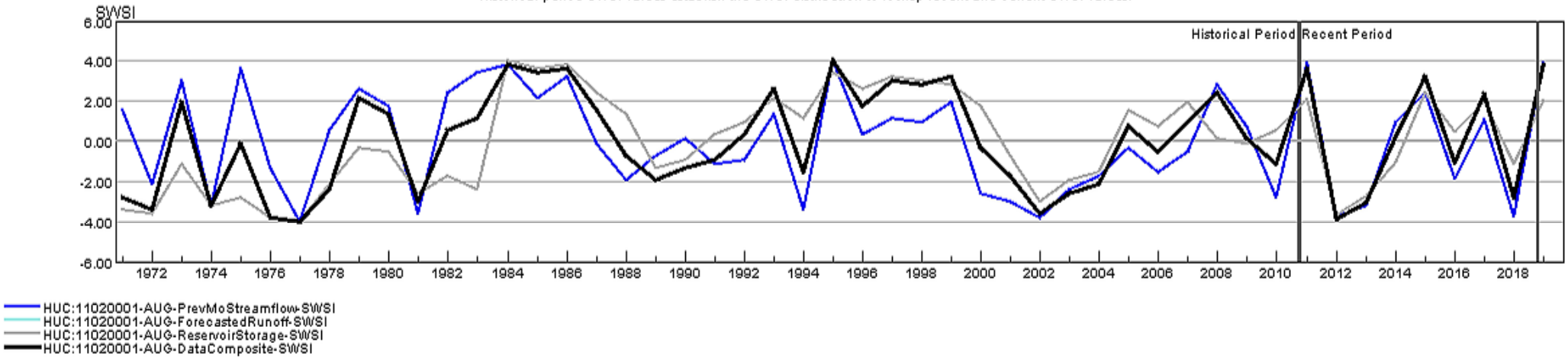
HUC 11020001 (Arkansas Headwaters) Surface Water Supply - AUG

Monthly component volumes



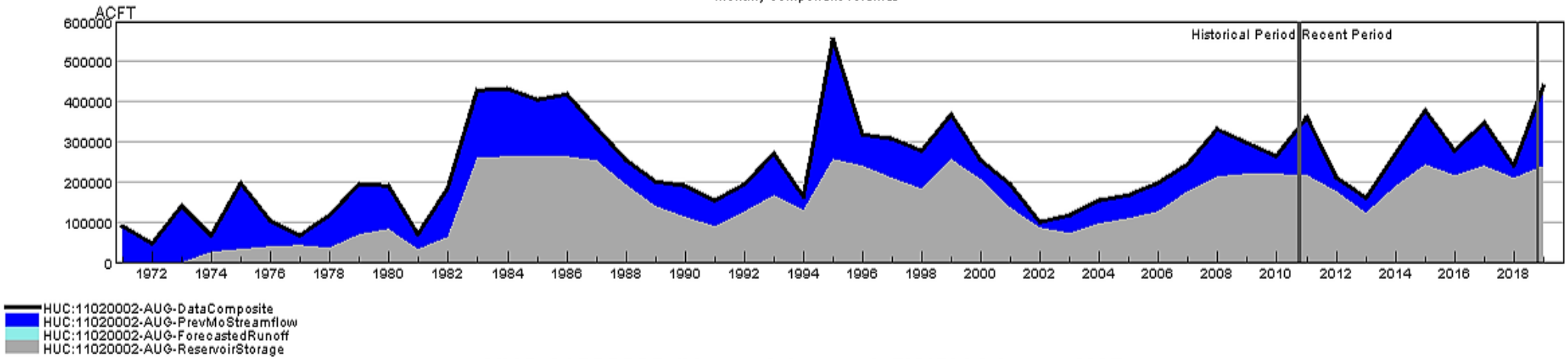
HUC 11020001 (Arkansas Headwaters) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



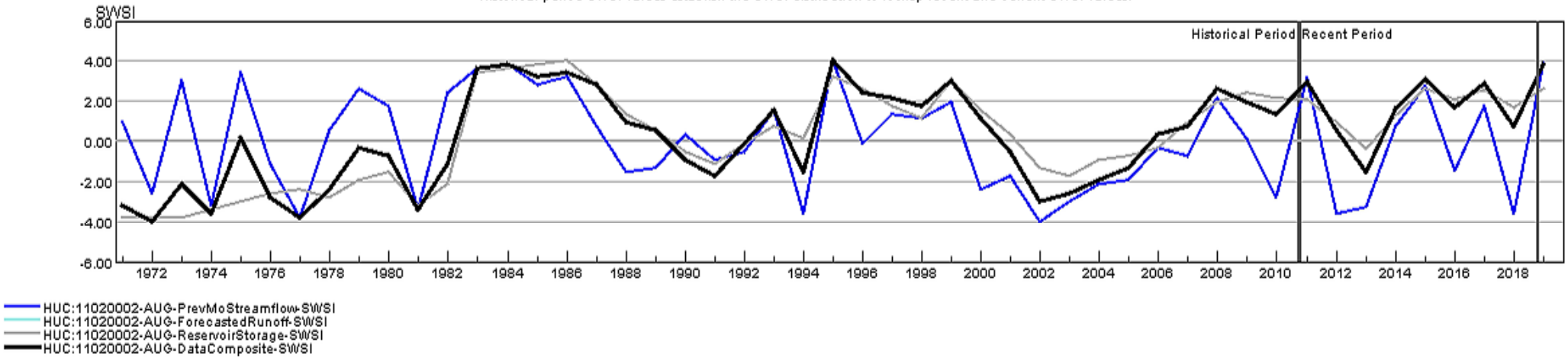
HUC 11020002 (Upper Arkansas) Surface Water Supply - AUG

Monthly component volumes



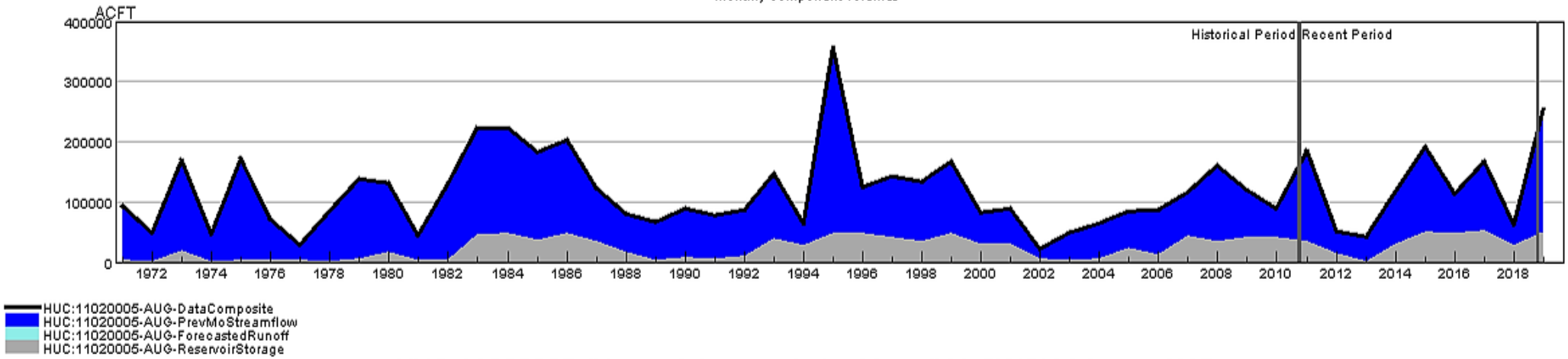
HUC 11020002 (Upper Arkansas) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



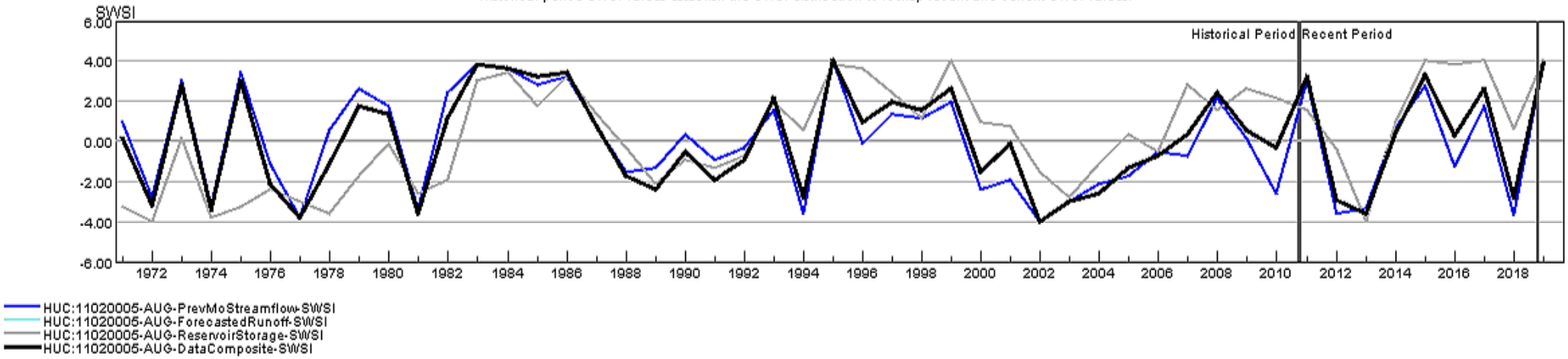
HUC 11020005 (Upper Arkansas-Lake Meredith) Surface Water Supply - AUG

Monthly component volumes



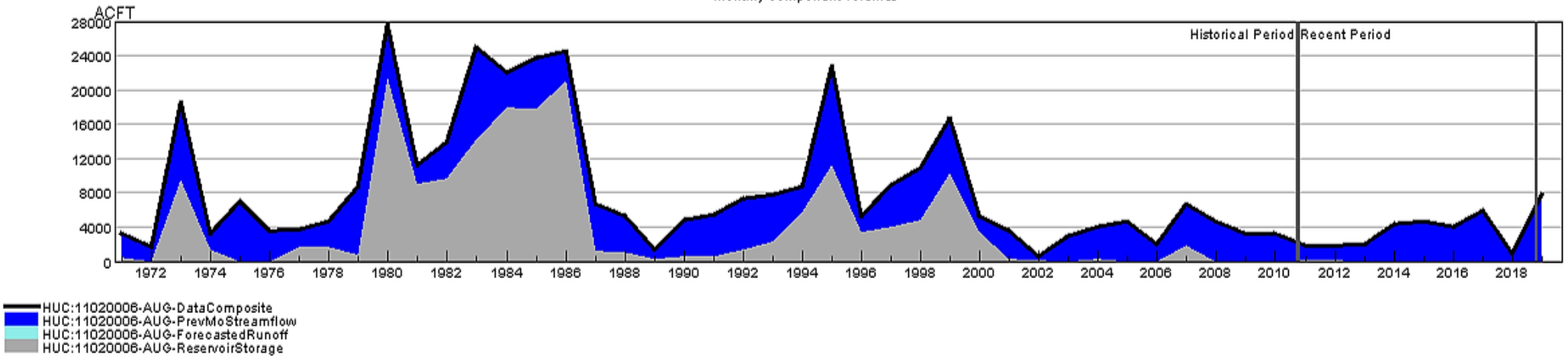
HUC 11020005 (Upper Arkansas-Lake Meredith) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



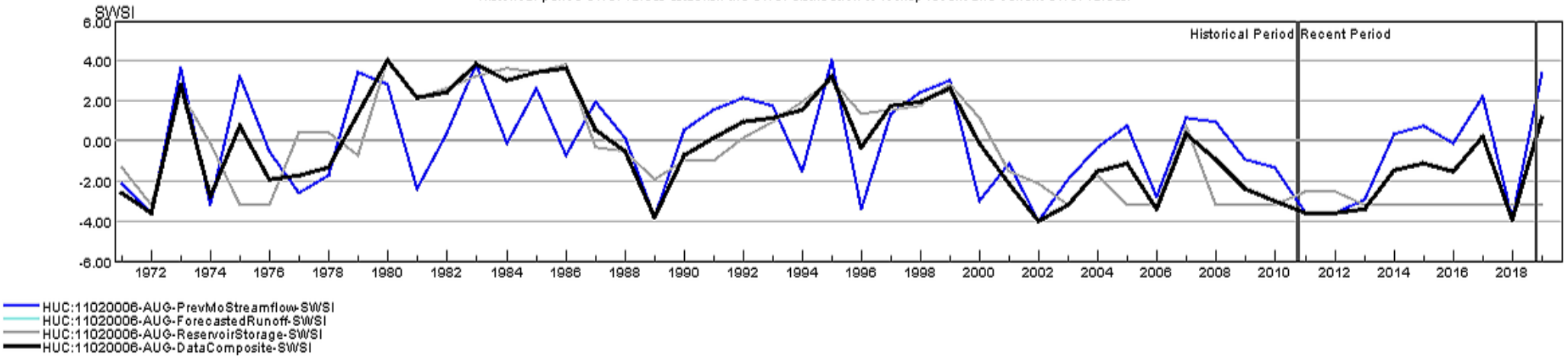
HUC 11020006 (Huerfano) Surface Water Supply - AUG

Monthly component volumes



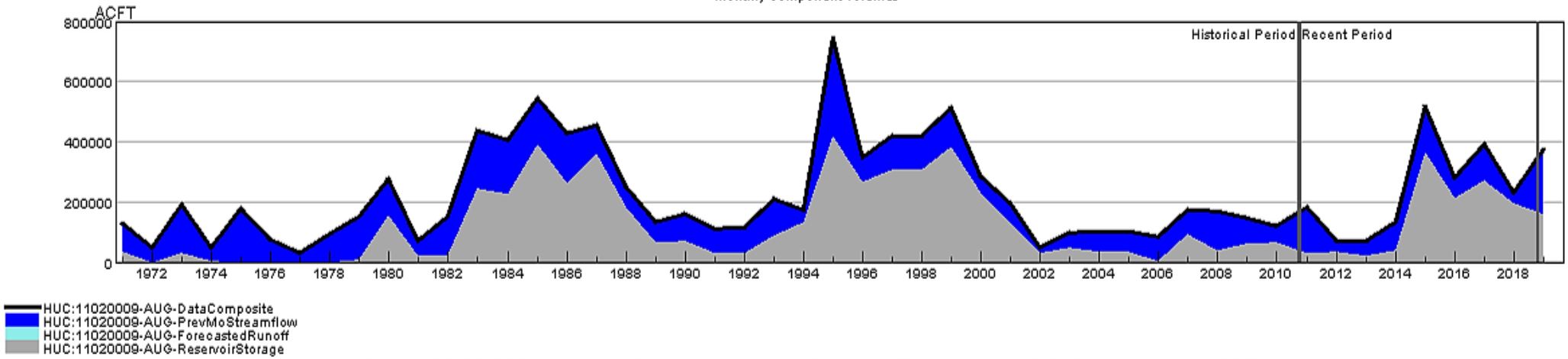
HUC 11020006 (Huerfano) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



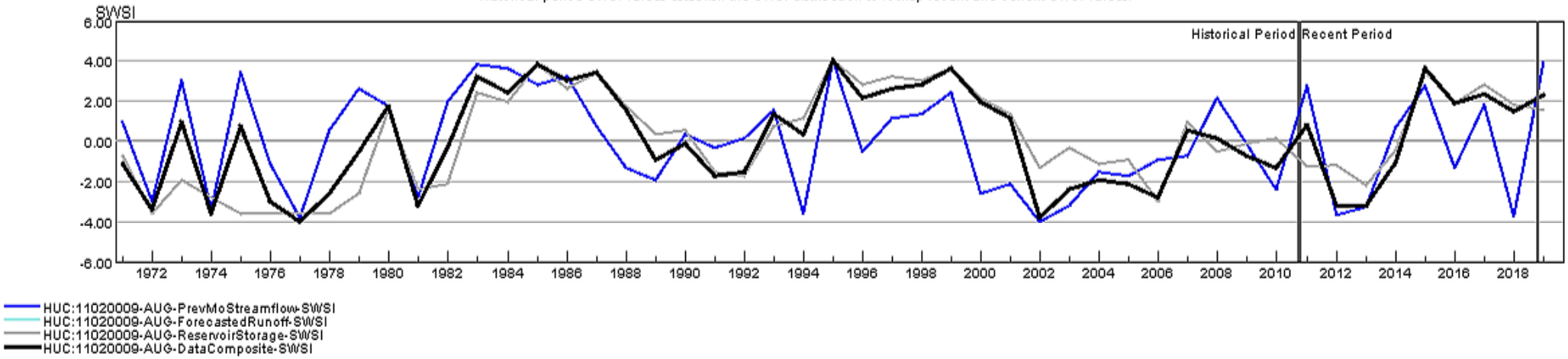
HUC 11020009 (Upper Arkansas-John Martin Reservoir) Surface Water Supply - AUG

Monthly component volumes



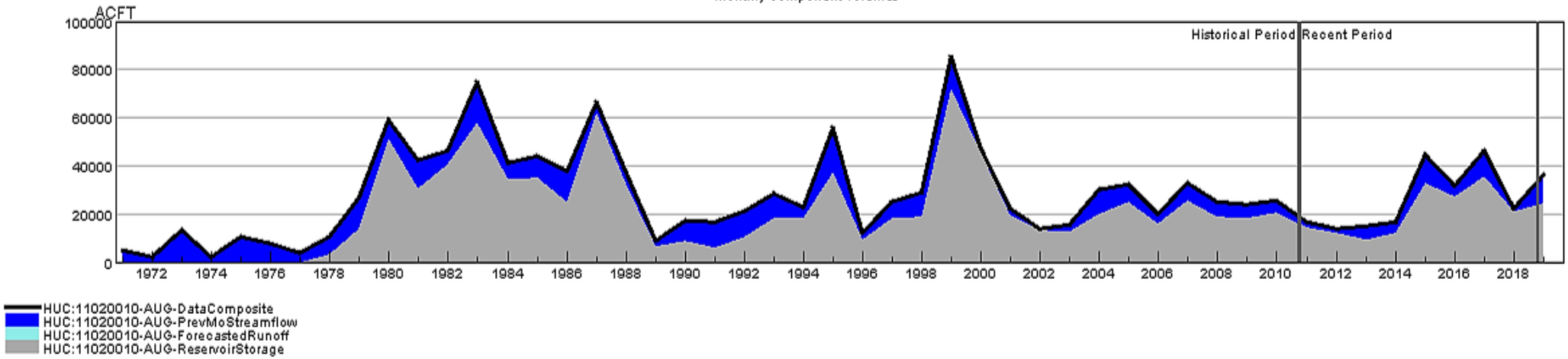
HUC 11020009 (Upper Arkansas-John Martin Reservoir) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



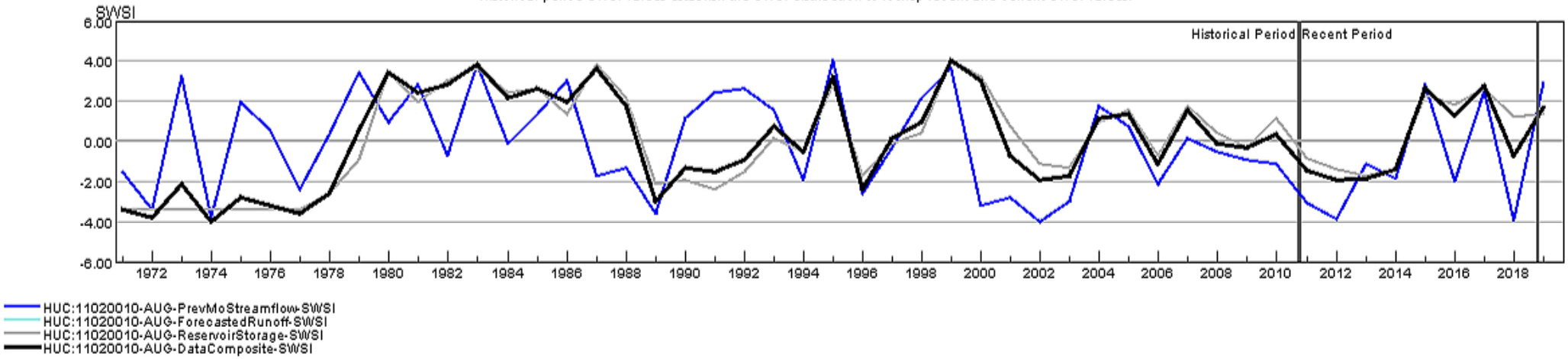
HUC 11020010 (Purgatoire) Surface Water Supply - AUG

Monthly component volumes



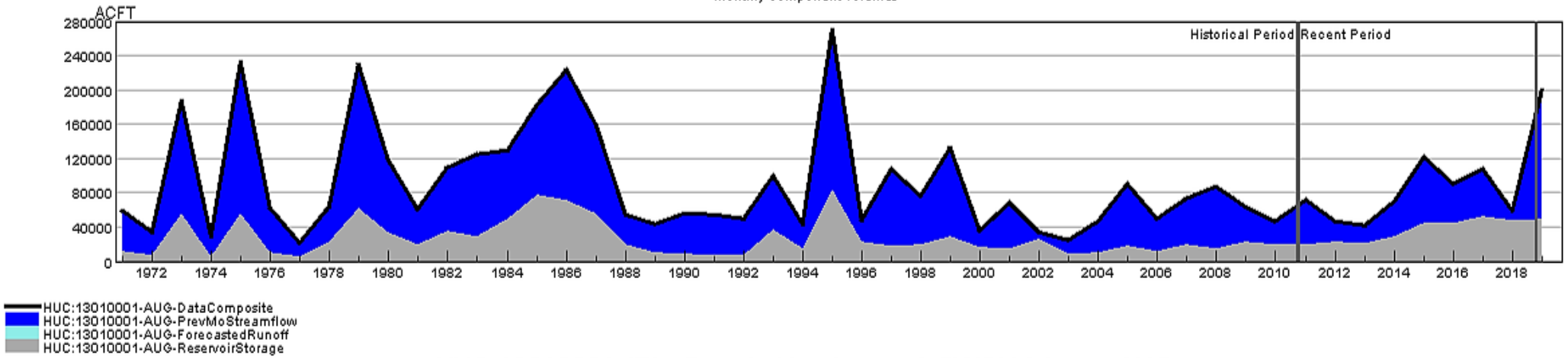
HUC 11020010 (Purgatoire) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



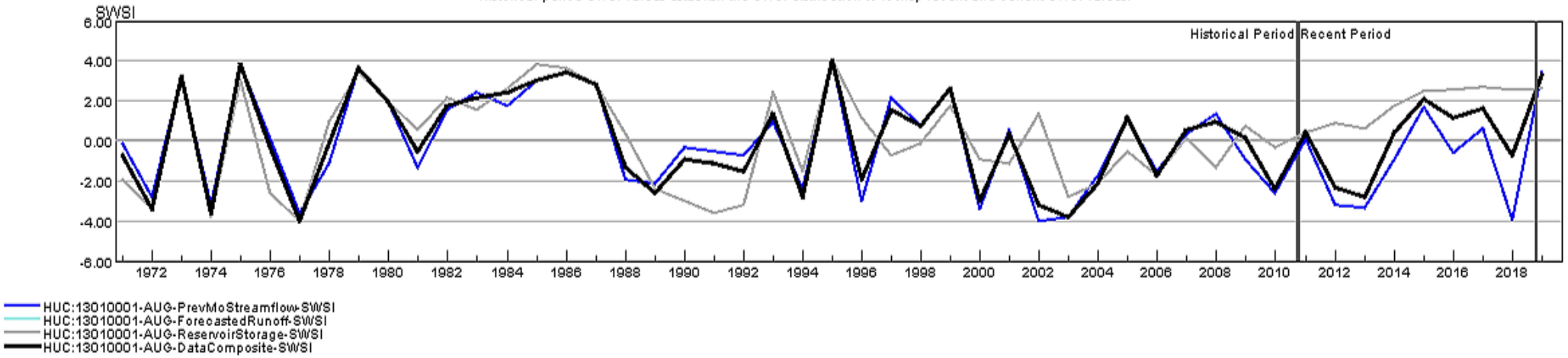
HUC 13010001 (Rio Grande Headwaters) Surface Water Supply - AUG

Monthly component volumes



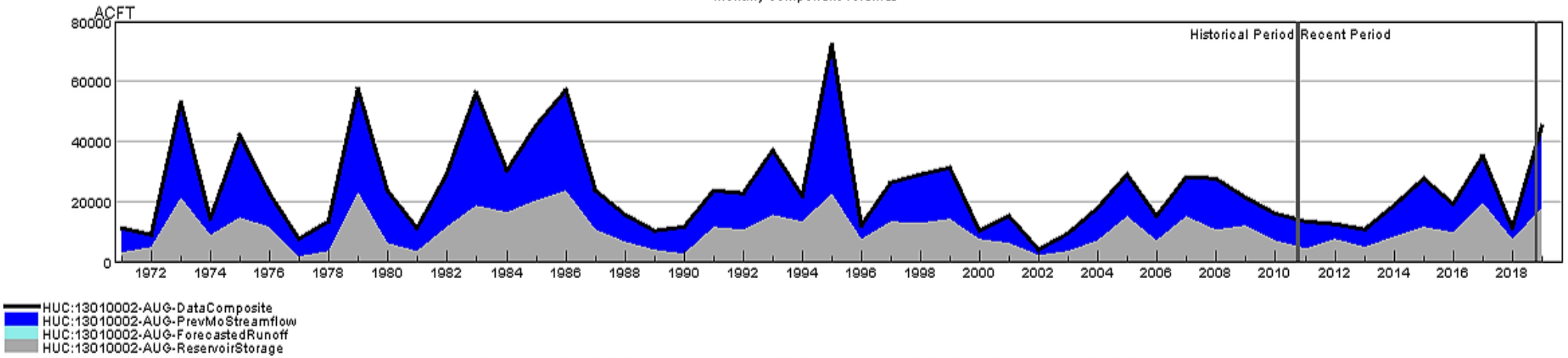
HUC 13010001 (Rio Grande Headwaters) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



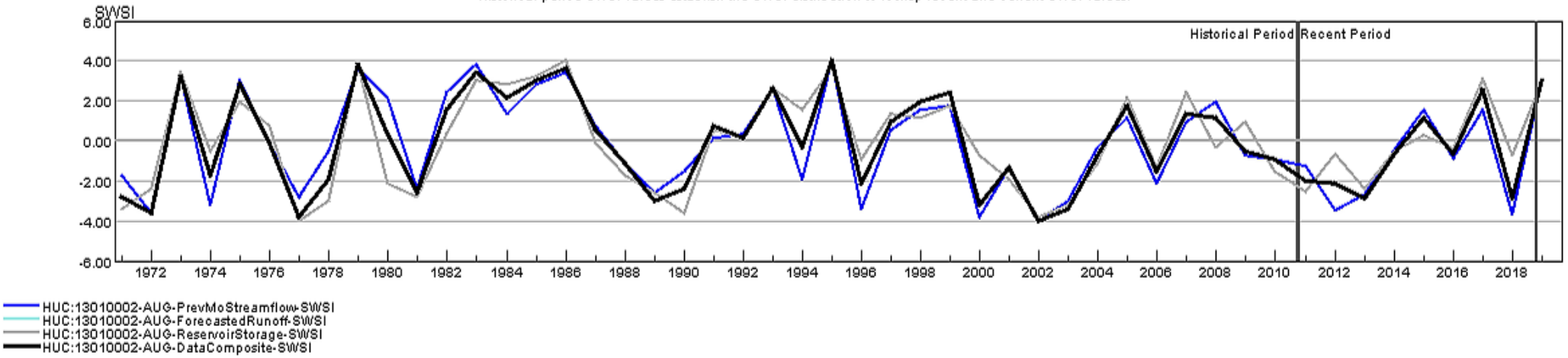
HUC 13010002 (Alamosa-Trinchera) Surface Water Supply - AUG

Monthly component volumes



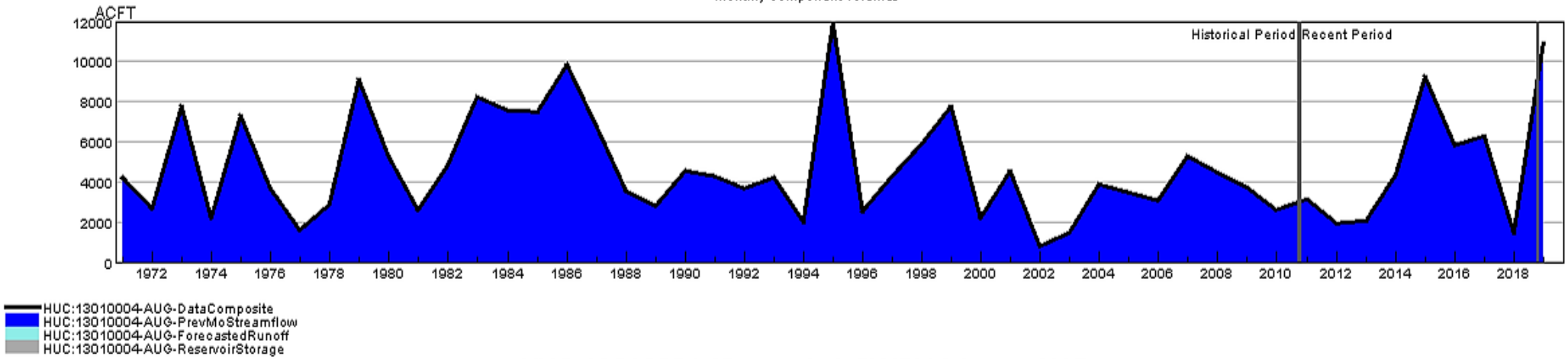
HUC 13010002 (Alamosa-Trinchera) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



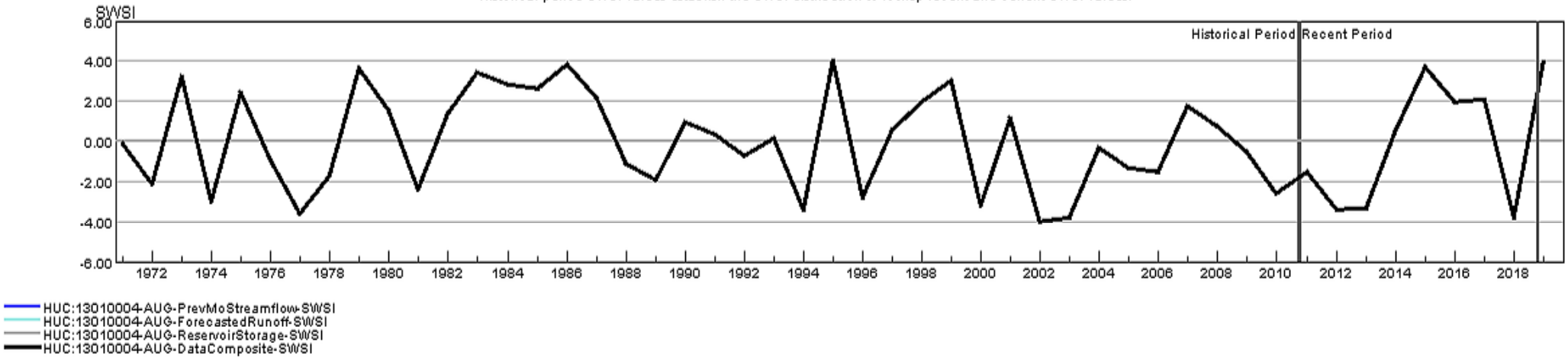
HUC 13010004 (Saguache) Surface Water Supply - AUG

Monthly component volumes



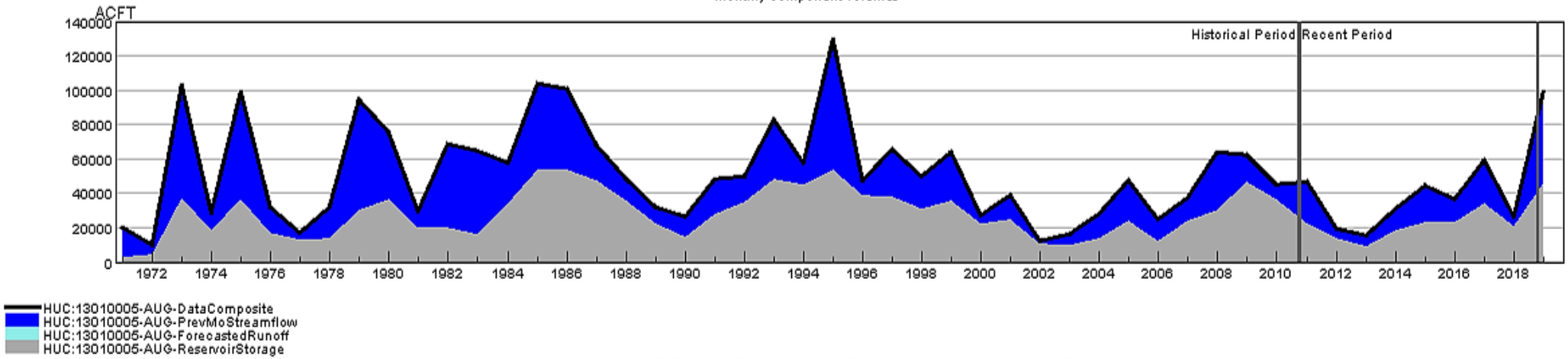
HUC 13010004 (Saguache) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



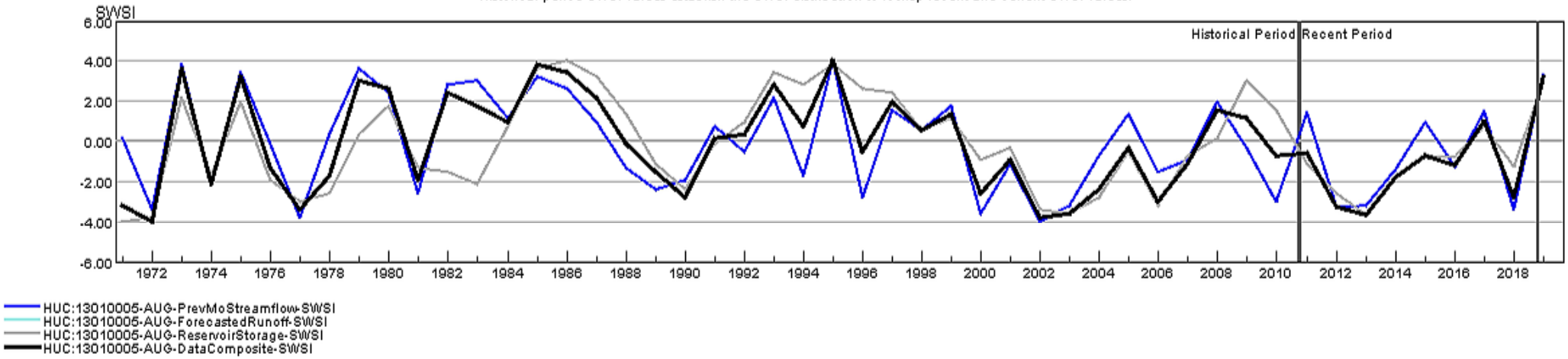
HUC 13010005 (Conejos) Surface Water Supply - AUG

Monthly component volumes



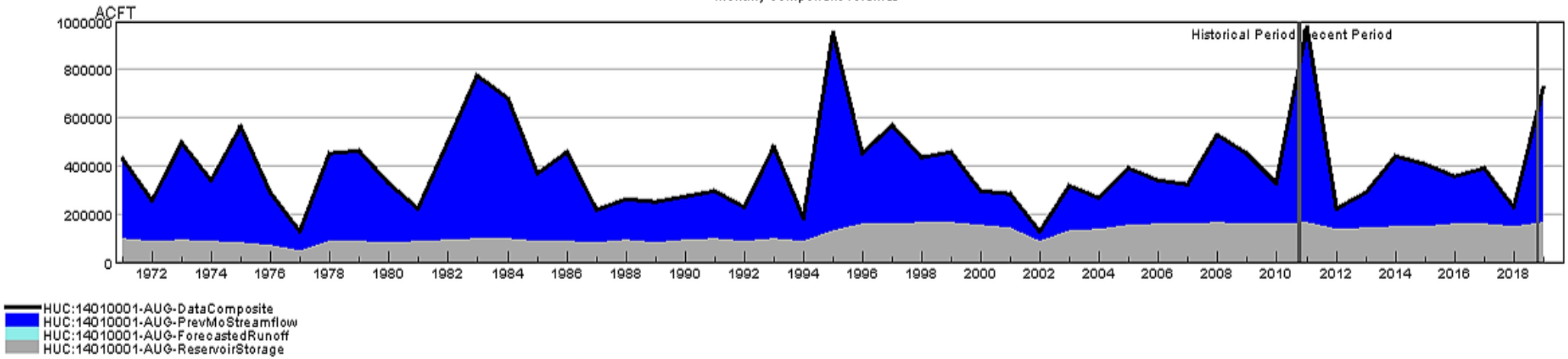
HUC 13010005 (Conejos) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



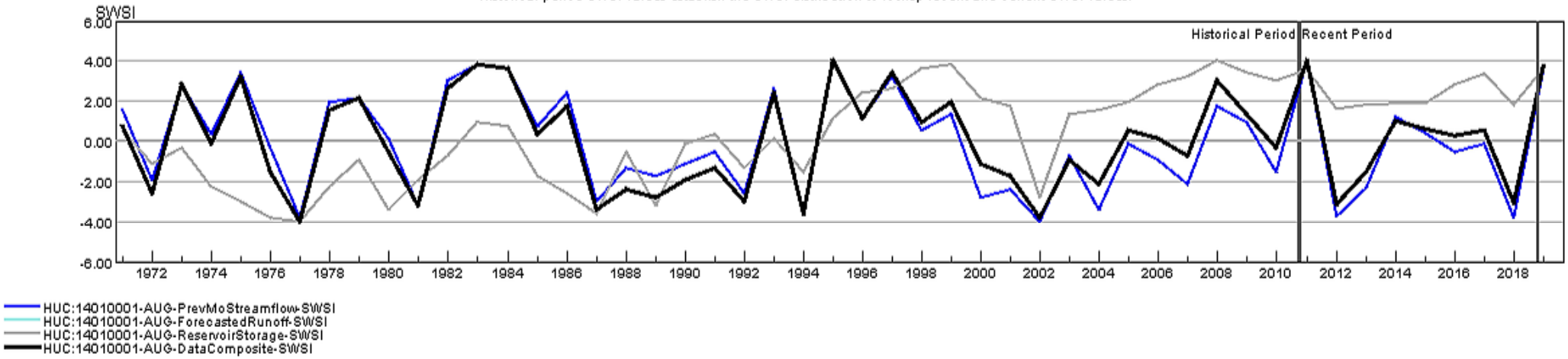
HUC 14010001 (Colorado Headwaters) Surface Water Supply - AUG

Monthly component volumes



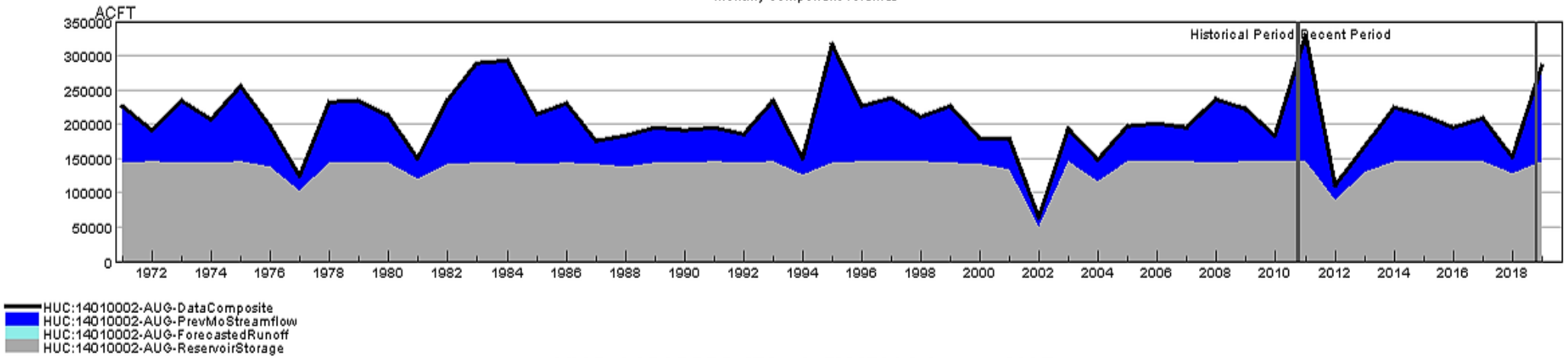
HUC 14010001 (Colorado Headwaters) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



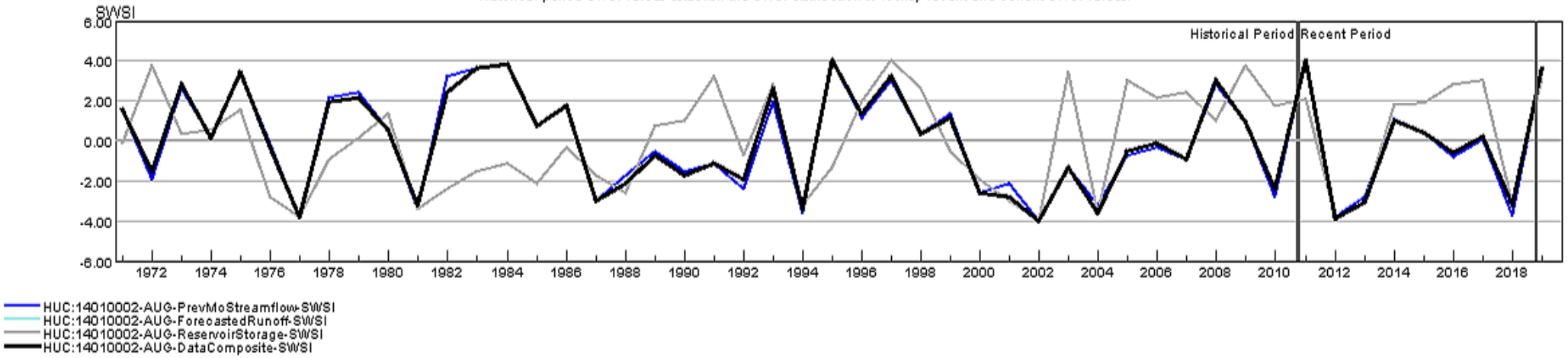
HUC 14010002 (Blue) Surface Water Supply - AUG

Monthly component volumes



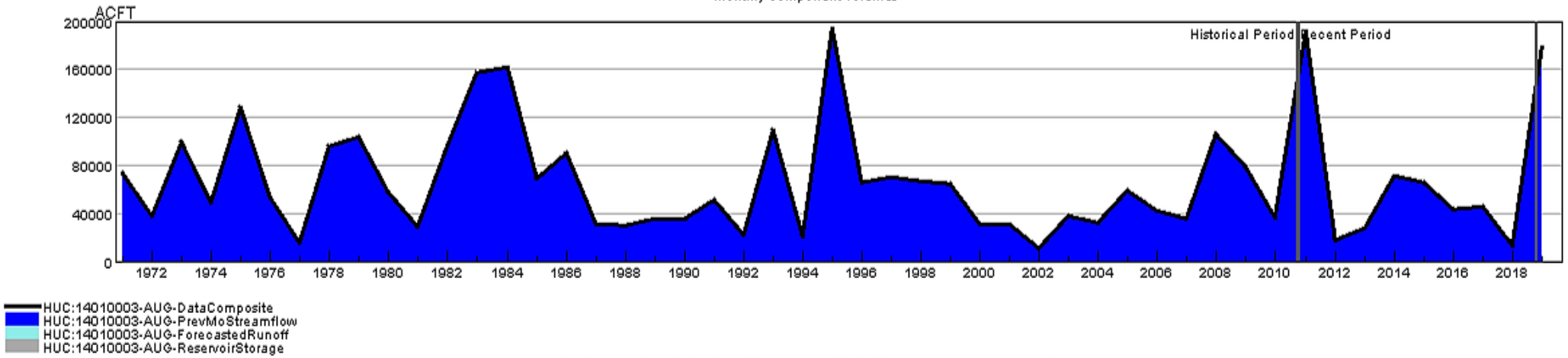
HUC 14010002 (Blue) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



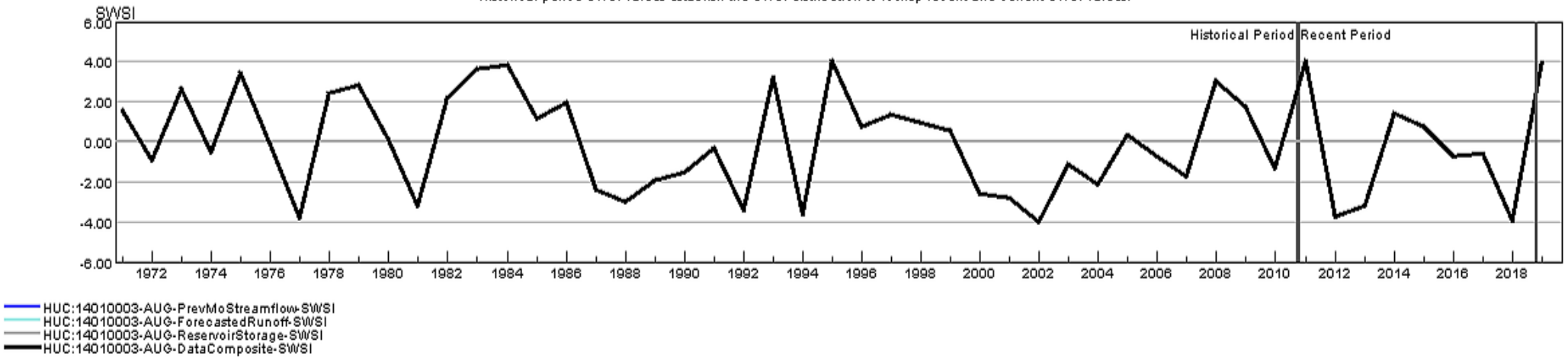
HUC 14010003 (Eagle) Surface Water Supply - AUG

Monthly component volumes



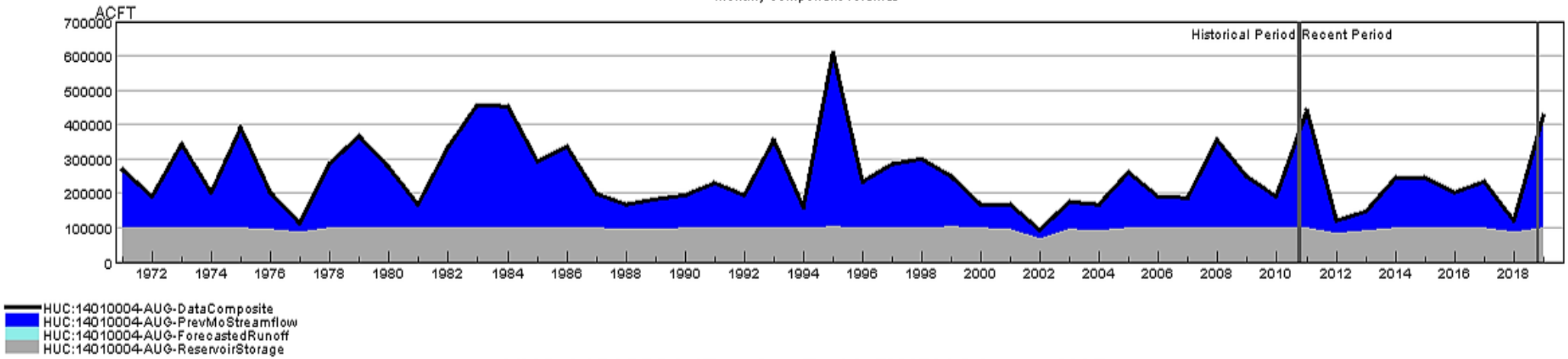
HUC 14010003 (Eagle) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



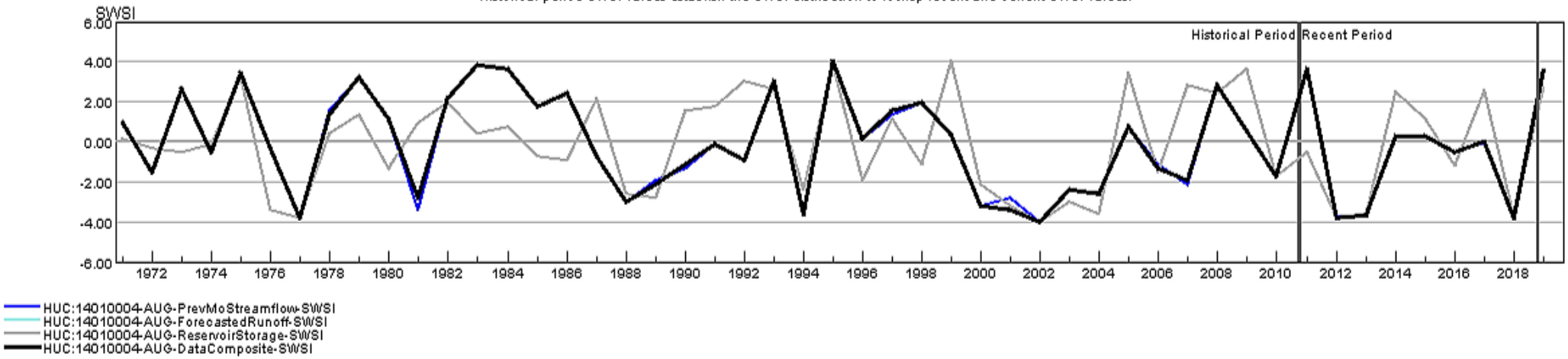
HUC 14010004 (Roaring Fork) Surface Water Supply - AUG

Monthly component volumes



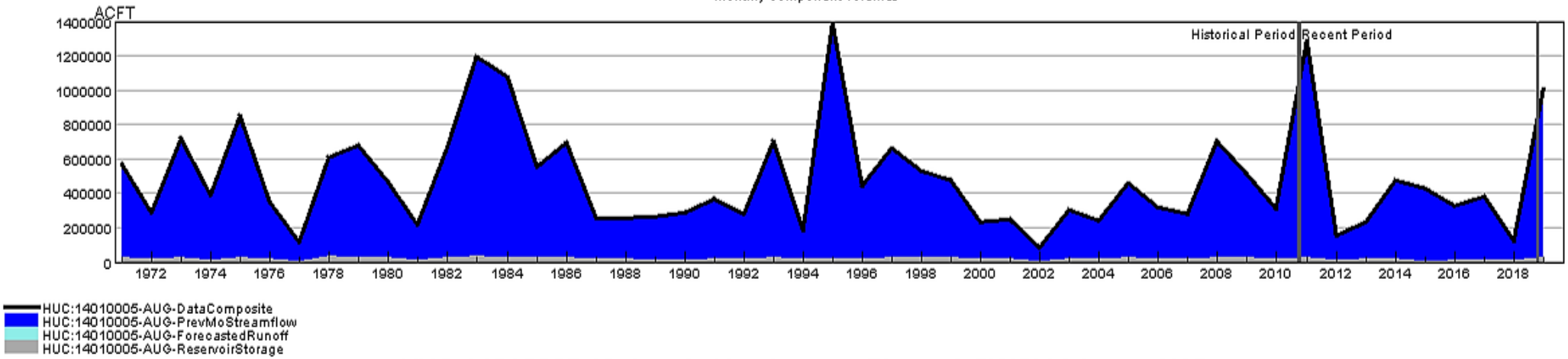
HUC 14010004 (Roaring Fork) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



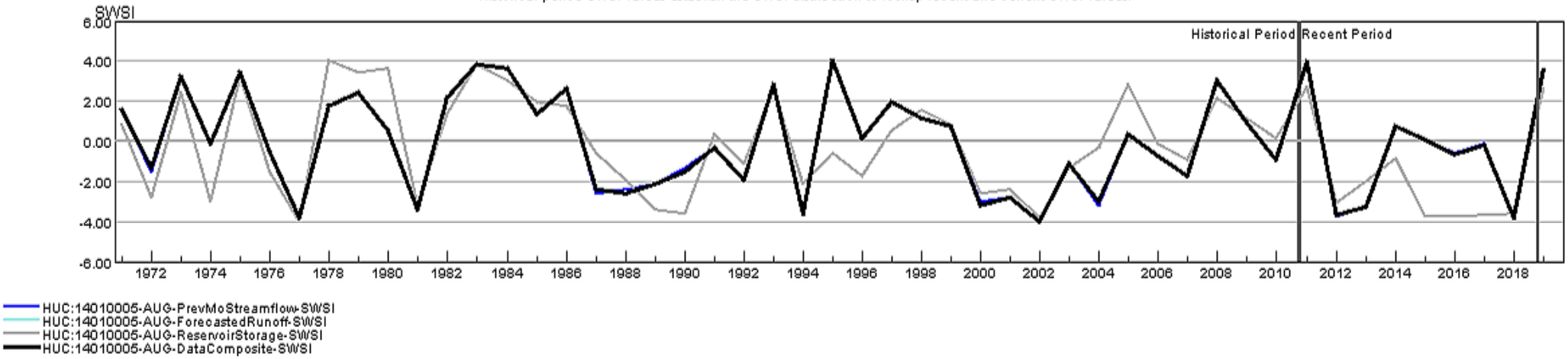
HUC 14010005 (Colorado Headwaters-Plateau) Surface Water Supply - AUG

Monthly component volumes



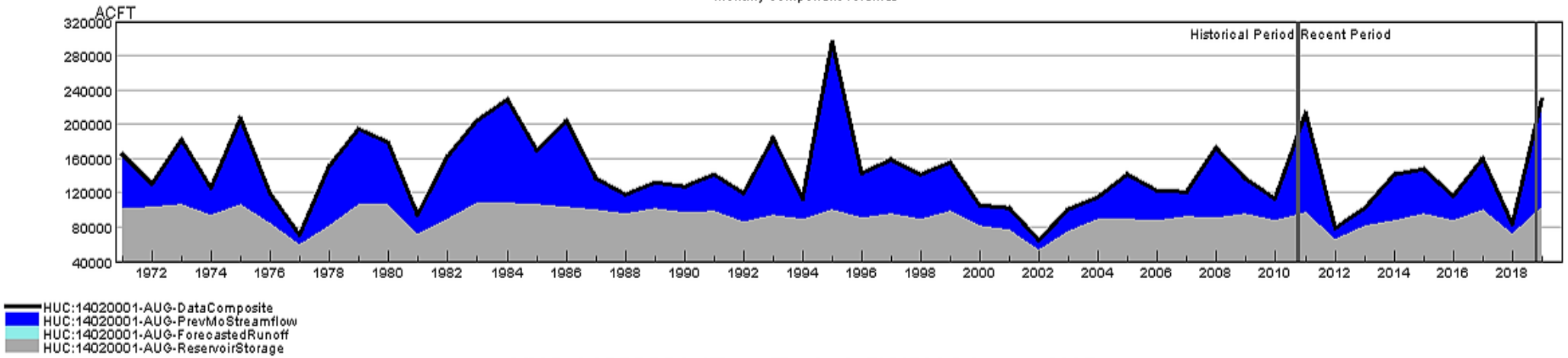
HUC 14010005 (Colorado Headwaters-Plateau) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



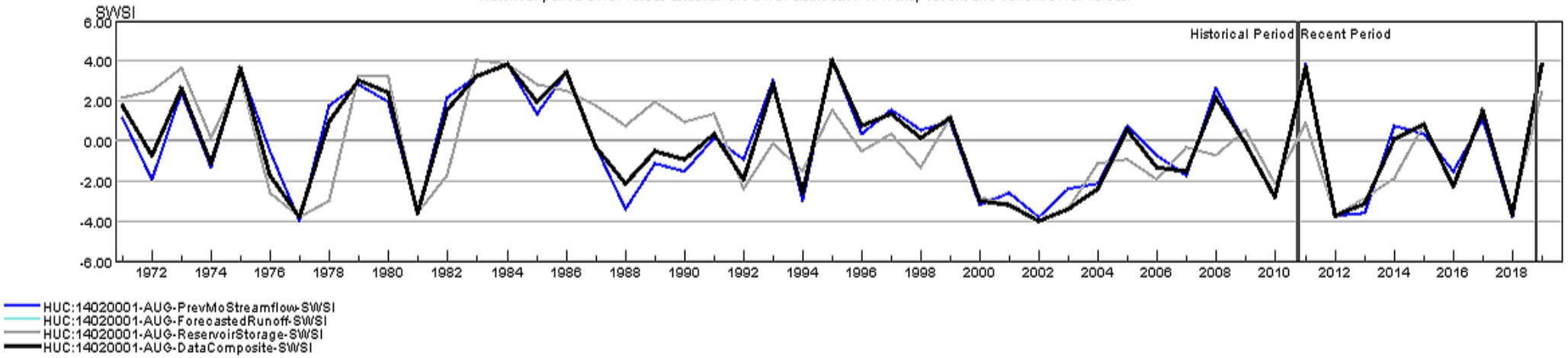
HUC 14020001 (East-Taylor) Surface Water Supply - AUG

Monthly component volumes



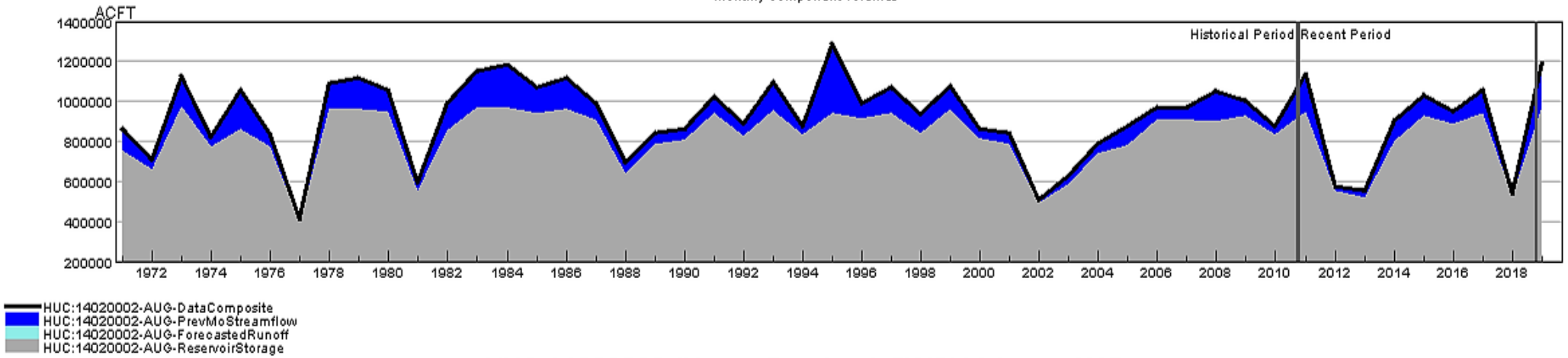
HUC 14020001 (East-Taylor) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



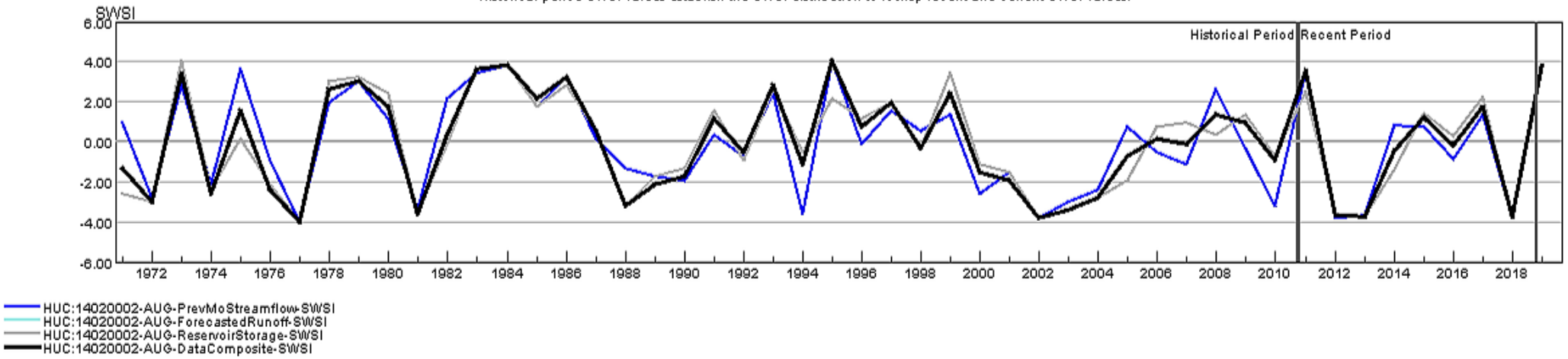
HUC 14020002 (Upper Gunnison) Surface Water Supply - AUG

Monthly component volumes



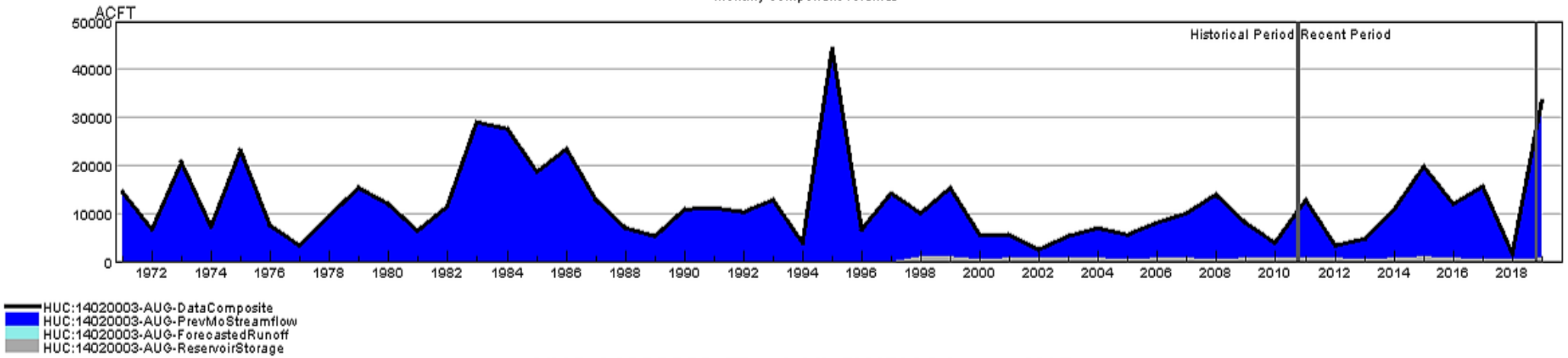
HUC 14020002 (Upper Gunnison) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



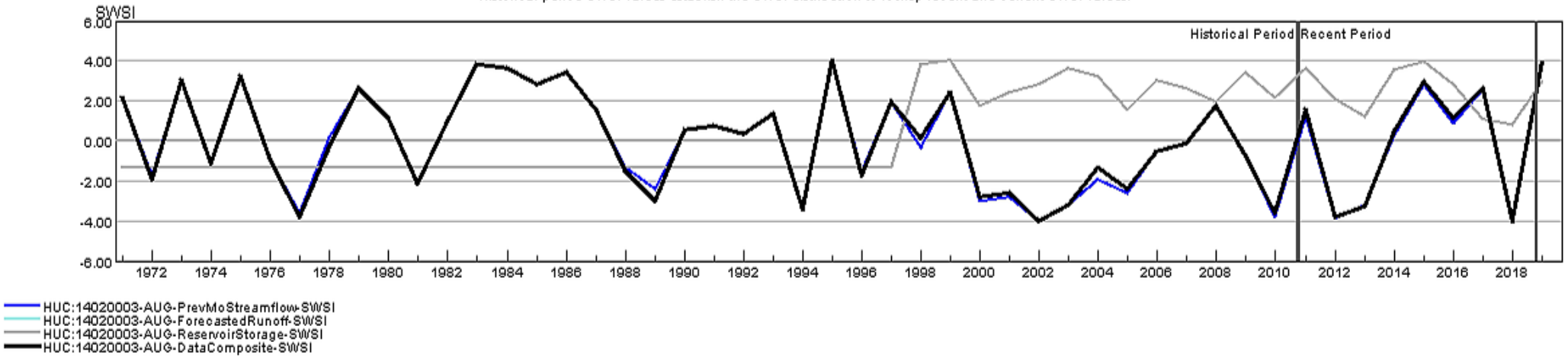
HUC 14020003 (Tomichi) Surface Water Supply - AUG

Monthly component volumes



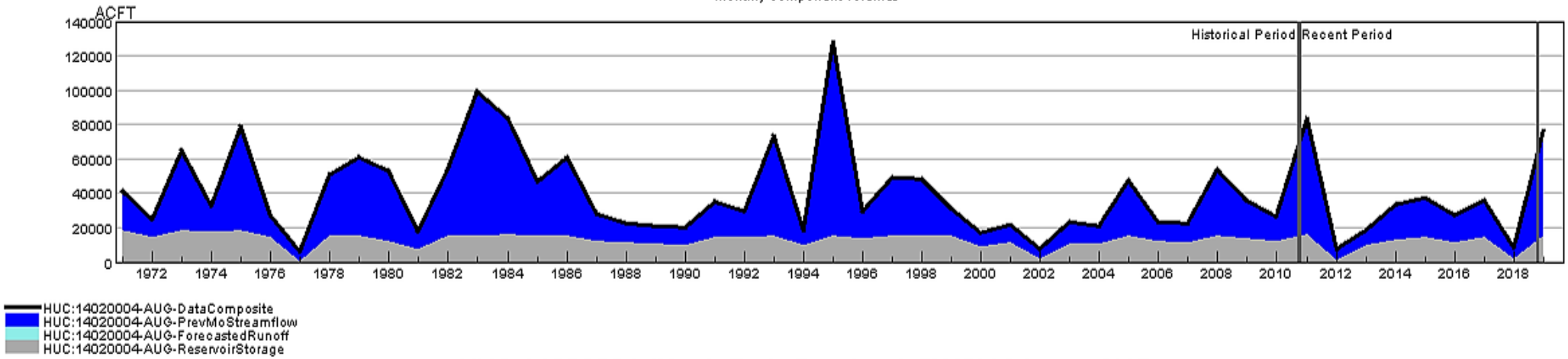
HUC 14020003 (Tomichi) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



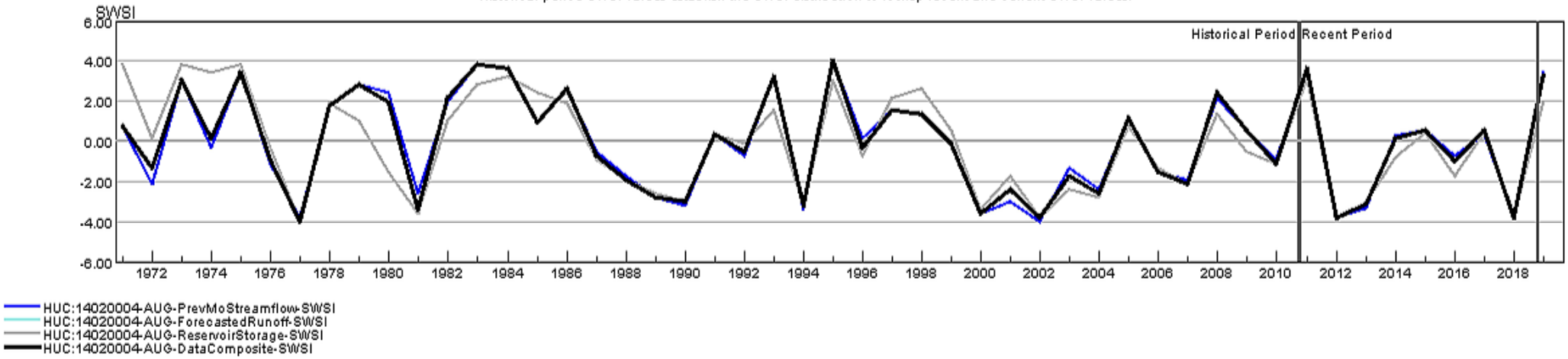
HUC 14020004 (North Fork Gunnison) Surface Water Supply - AUG

Monthly component volumes



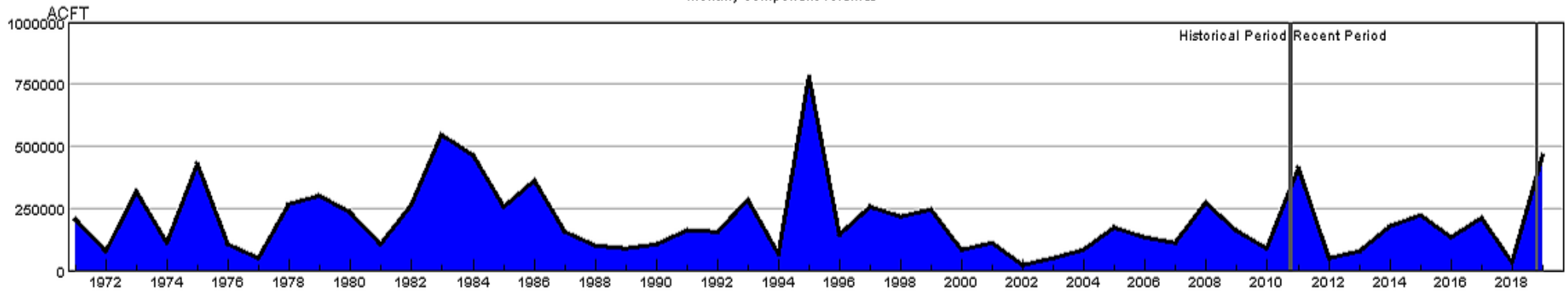
HUC 14020004 (North Fork Gunnison) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



HUC 14020005 (Lower Gunnison) Surface Water Supply - AUG

Monthly component volumes



HUC:14020005-AUG-DataComposite
HUC:14020005-AUG-PrevMoStreamflow
HUC:14020005-AUG-ForecastedRunoff
HUC:14020005-AUG-ReservoirStorage

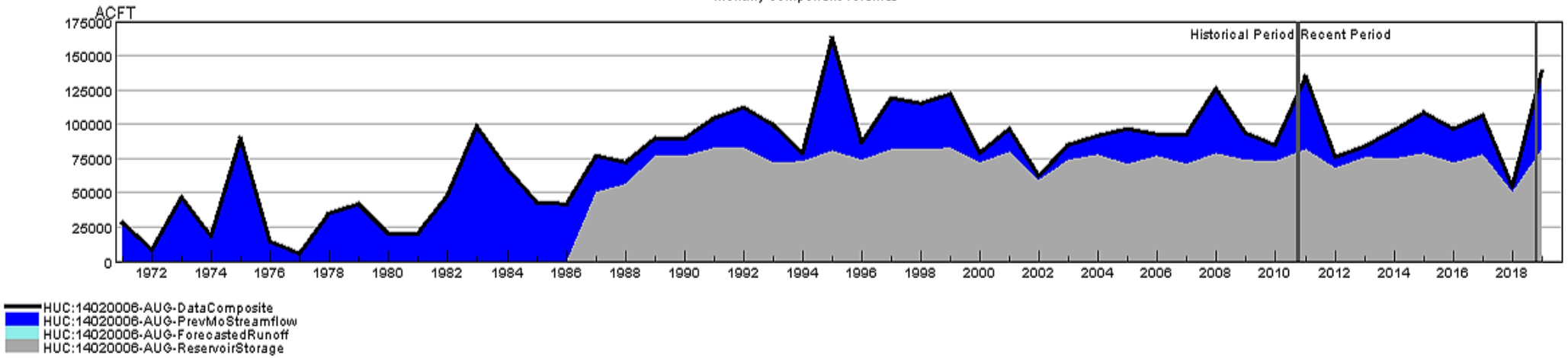
HUC 14020005 (Lower Gunnison) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.

HUC:14020005-AUG-PrevMoStreamflow-SWSI
HUC:14020005-AUG-ForecastedRunoff-SWSI
HUC:14020005-AUG-ReservoirStorage-SWSI
HUC:14020005-AUG-DataComposite-SWSI

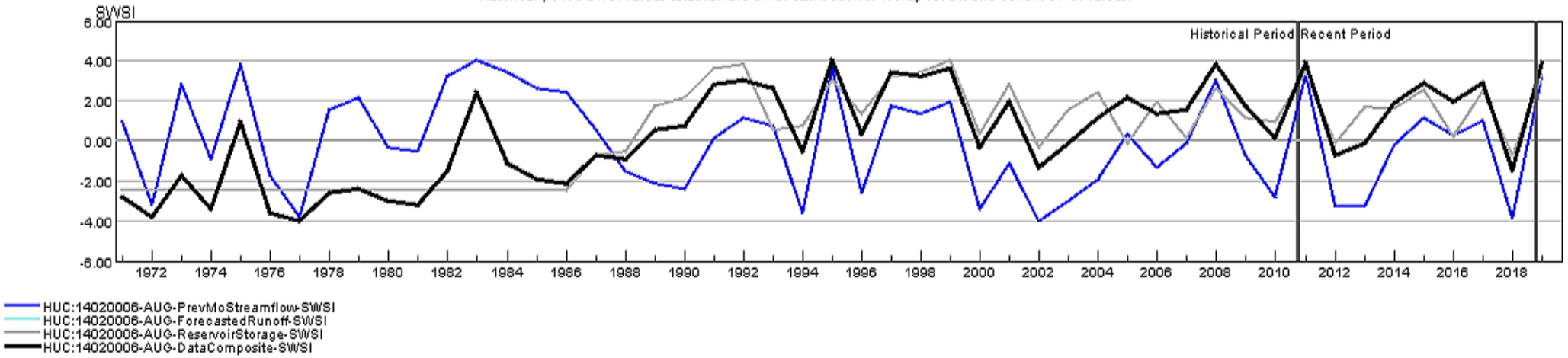
HUC 14020006 (Uncompahgre) Surface Water Supply - AUG

Monthly component volumes



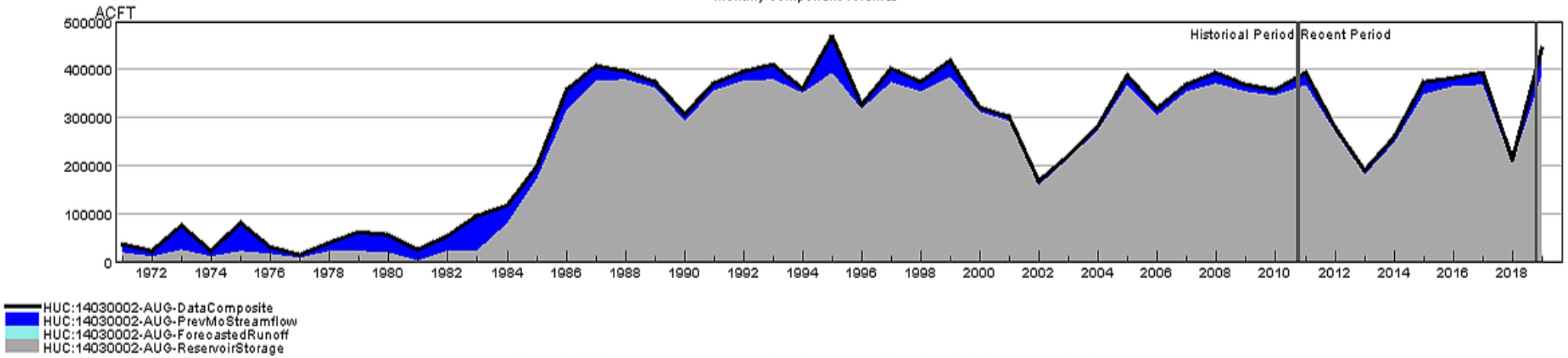
HUC 14020006 (Uncompahgre) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



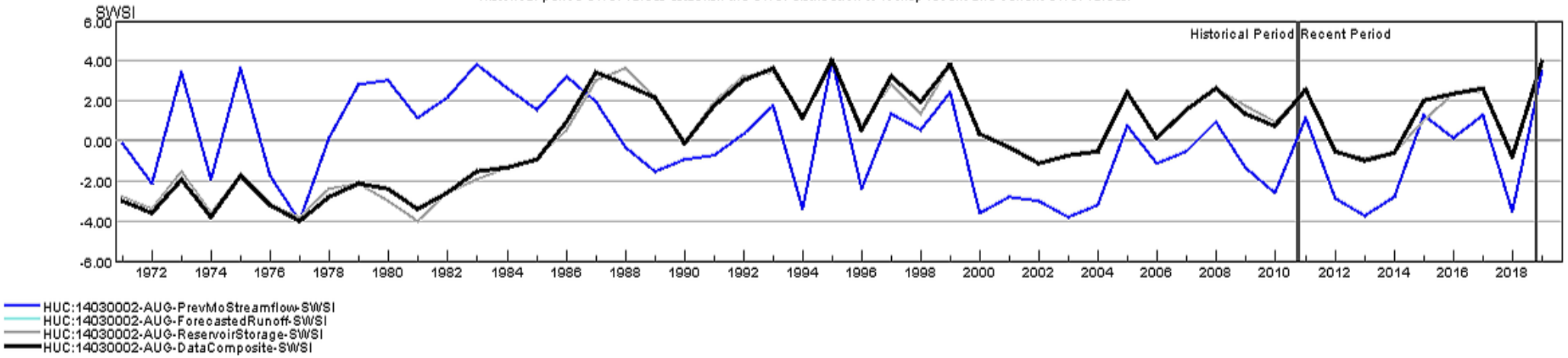
HUC 14030002 (Upper Dolores) Surface Water Supply - AUG

Monthly component volumes



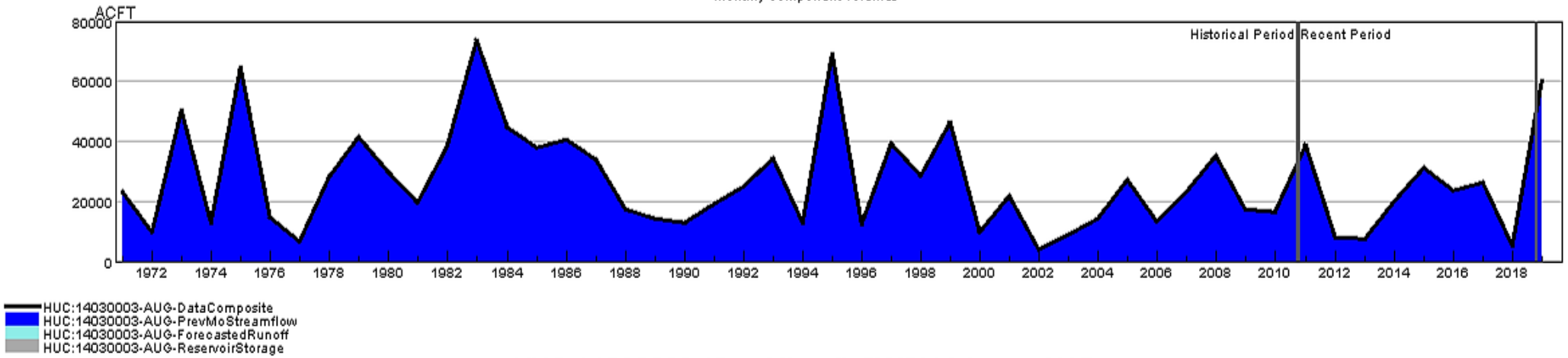
HUC 14030002 (Upper Dolores) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



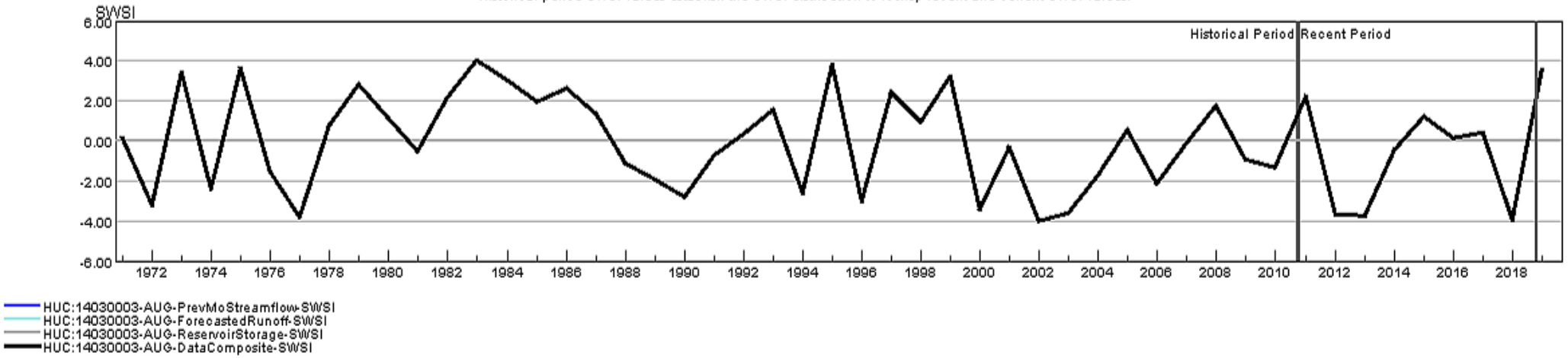
HUC 14030003 (San Miguel) Surface Water Supply - AUG

Monthly component volumes



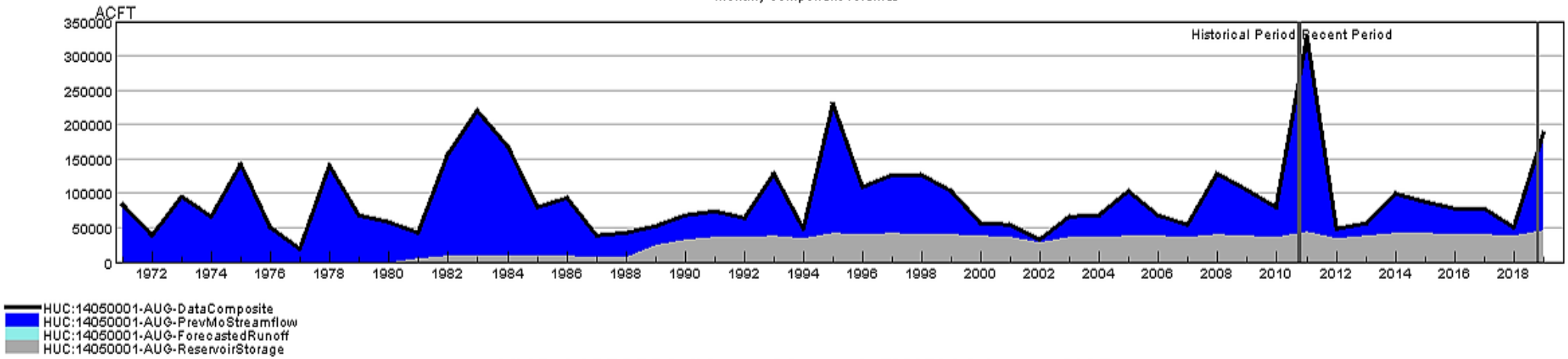
HUC 14030003 (San Miguel) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



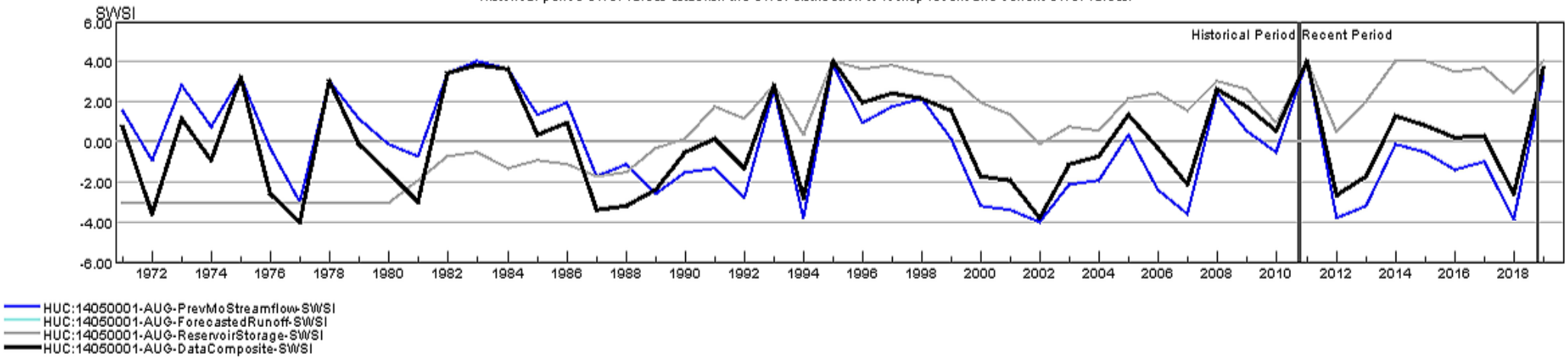
HUC 14050001 (Upper Yampa) Surface Water Supply - AUG

Monthly component volumes



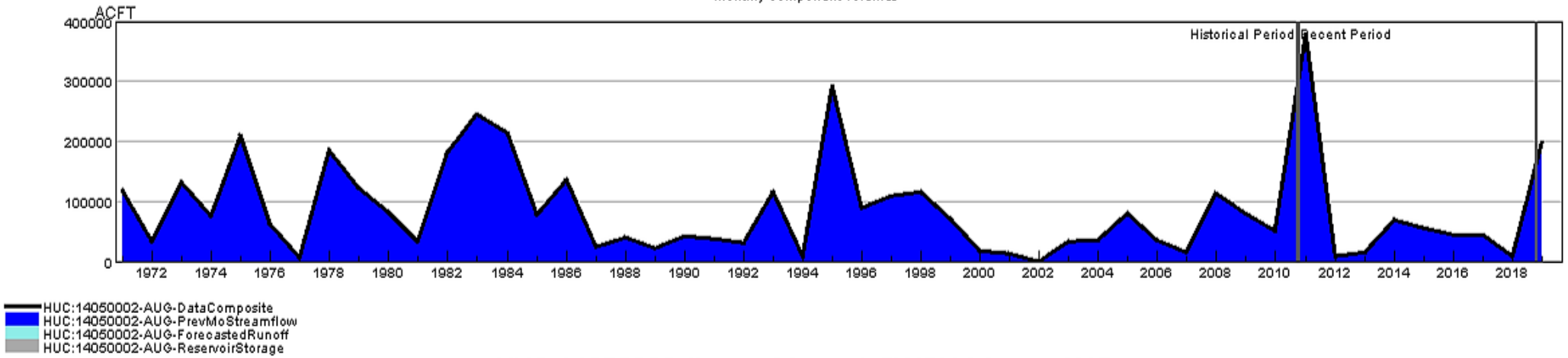
HUC 14050001 (Upper Yampa) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



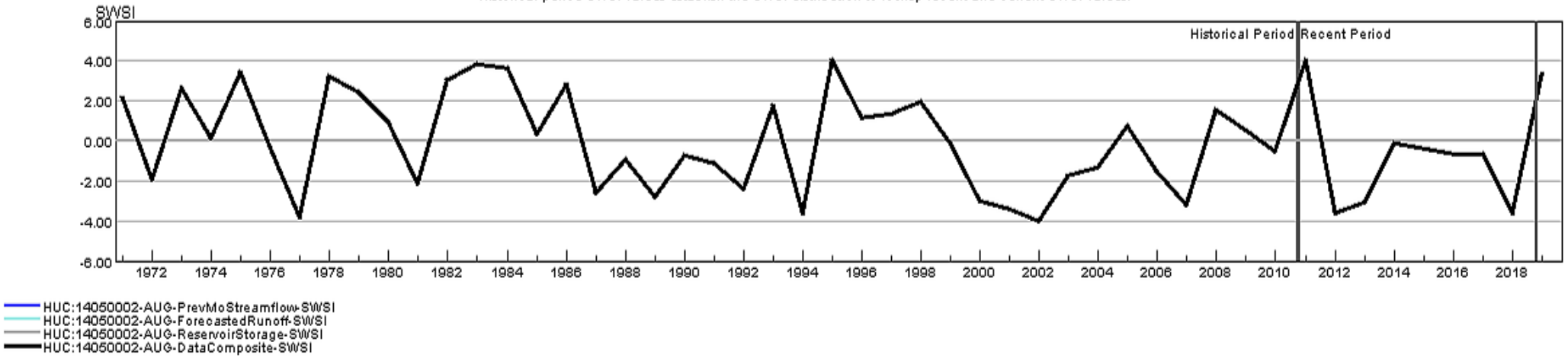
HUC 14050002 (Lower Yampa) Surface Water Supply - AUG

Monthly component volumes



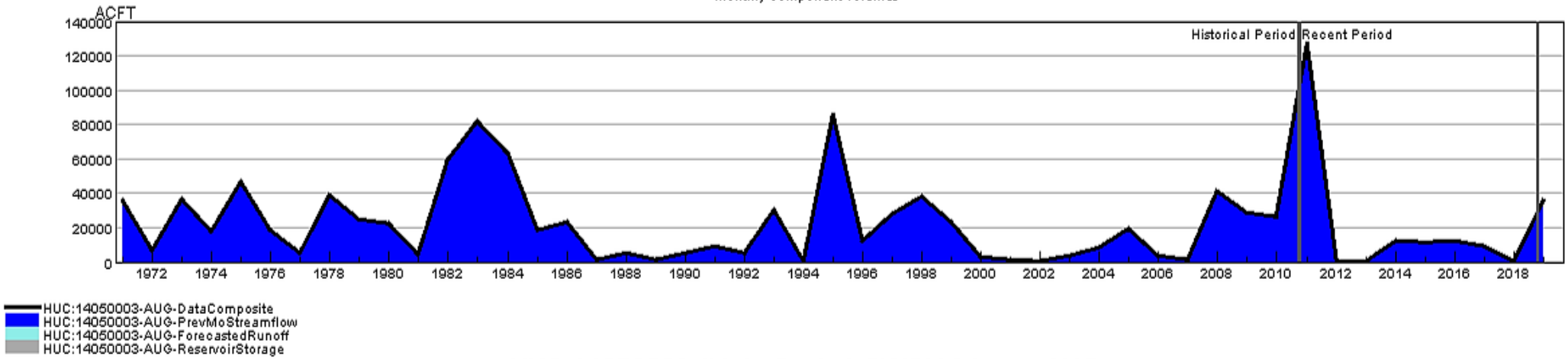
HUC 14050002 (Lower Yampa) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



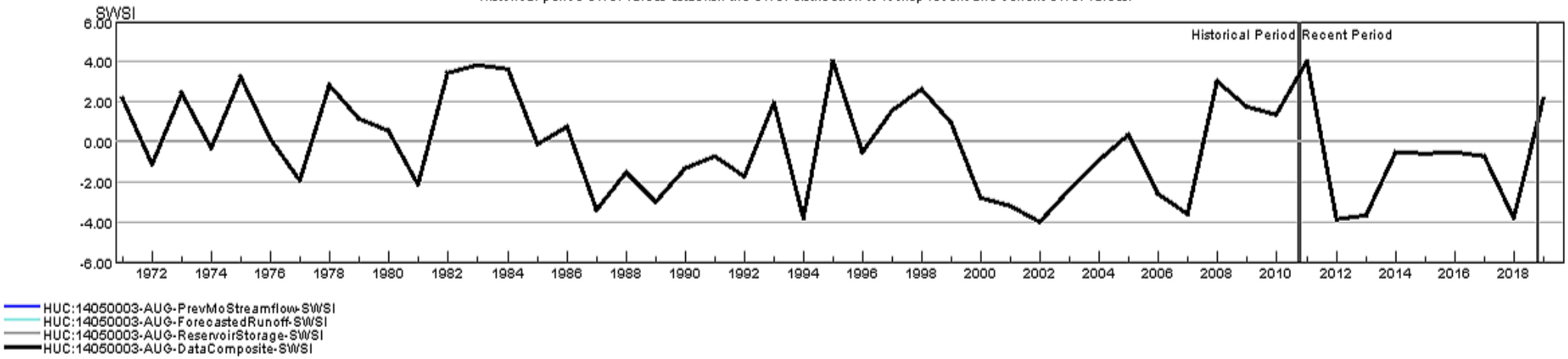
HUC 14050003 (Little Snake) Surface Water Supply - AUG

Monthly component volumes



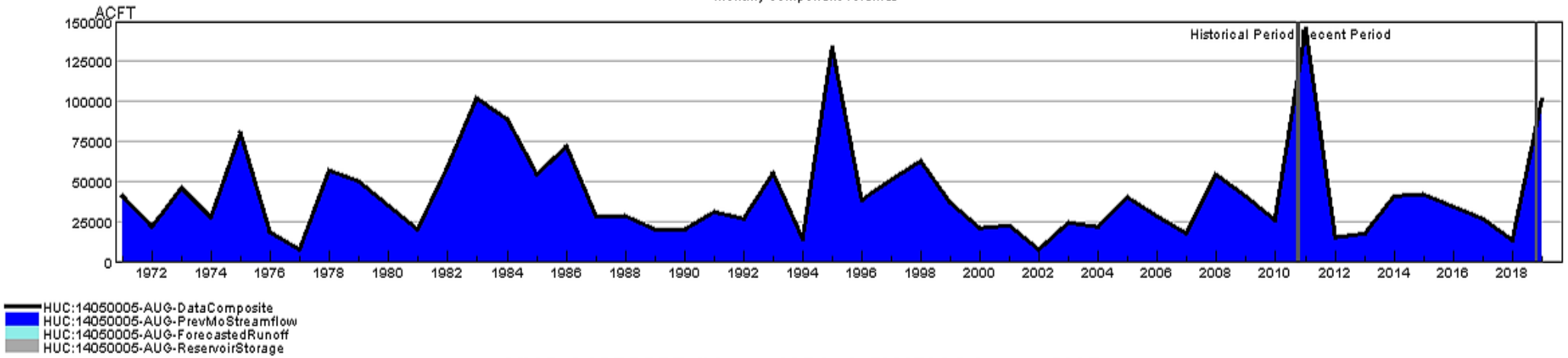
HUC 14050003 (Little Snake) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



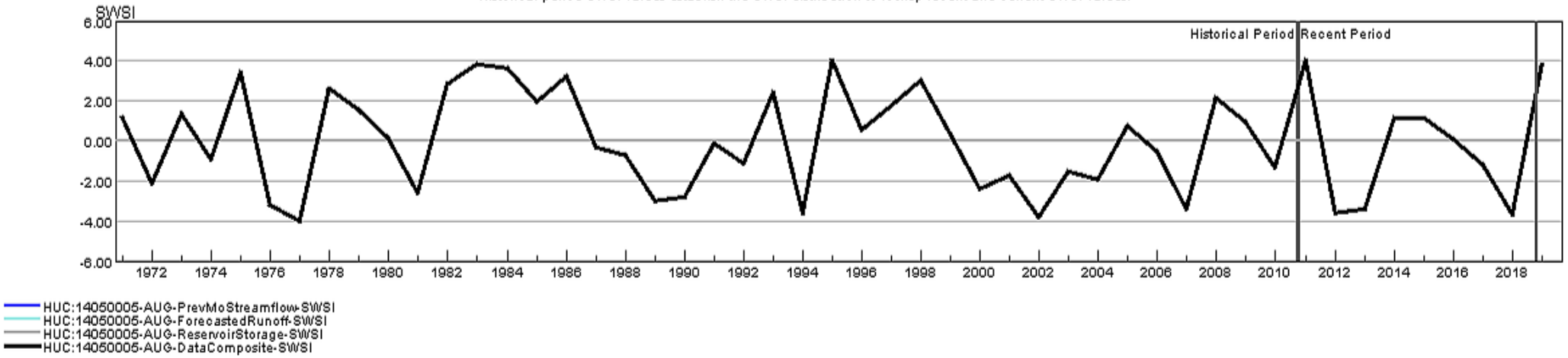
HUC 14050005 (Upper White) Surface Water Supply - AUG

Monthly component volumes



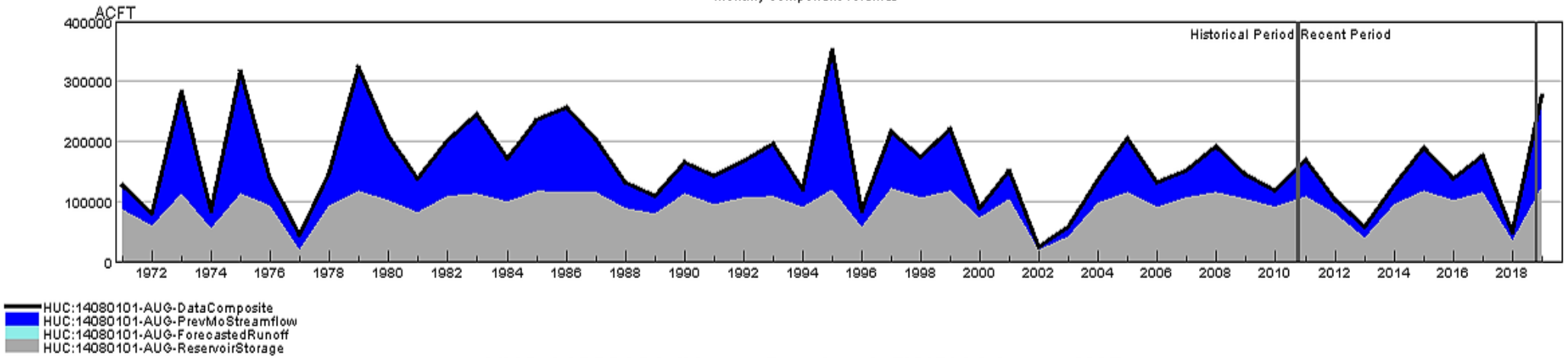
HUC 14050005 (Upper White) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



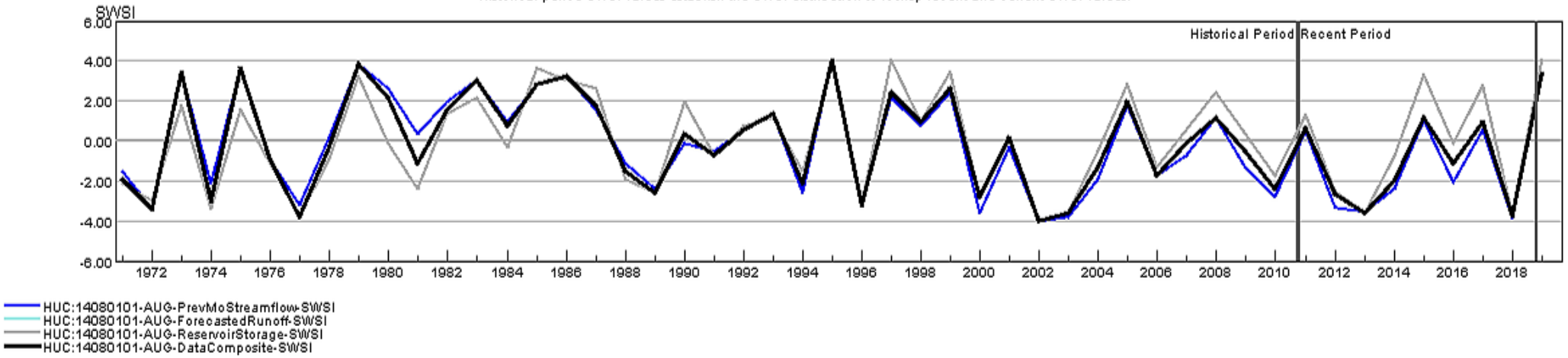
HUC 14080101 (Upper San Juan) Surface Water Supply - AUG

Monthly component volumes



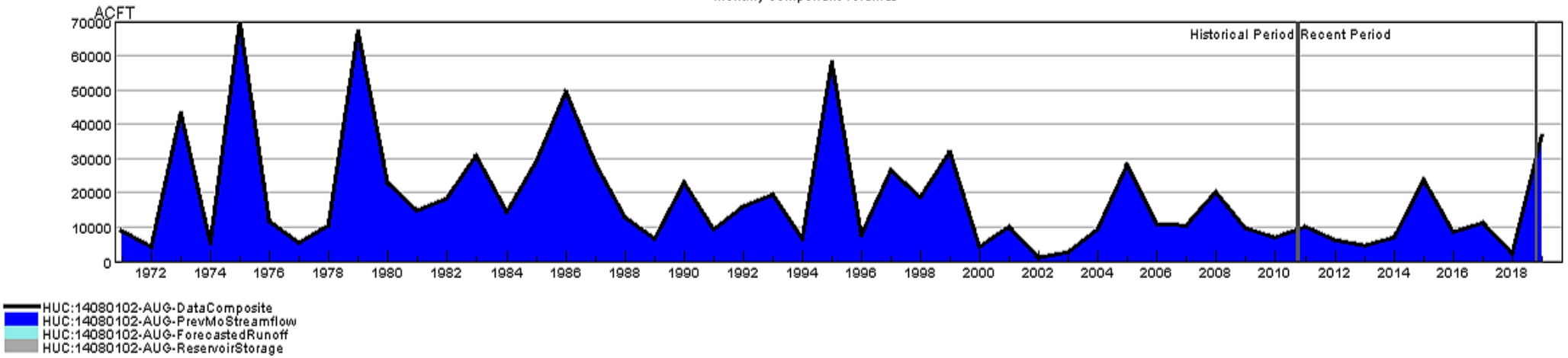
HUC 14080101 (Upper San Juan) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



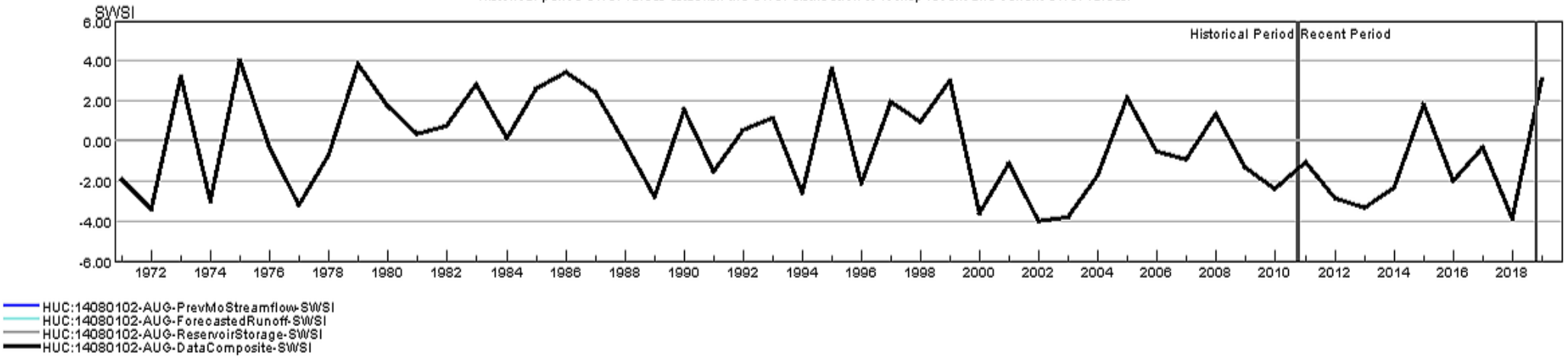
HUC 14080102 (Piedra) Surface Water Supply - AUG

Monthly component volumes



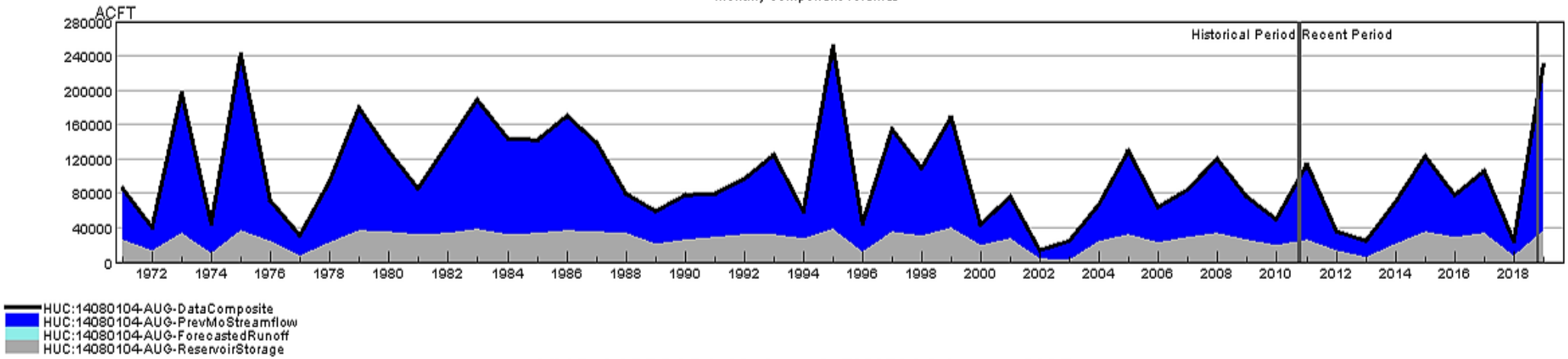
HUC 14080102 (Piedra) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



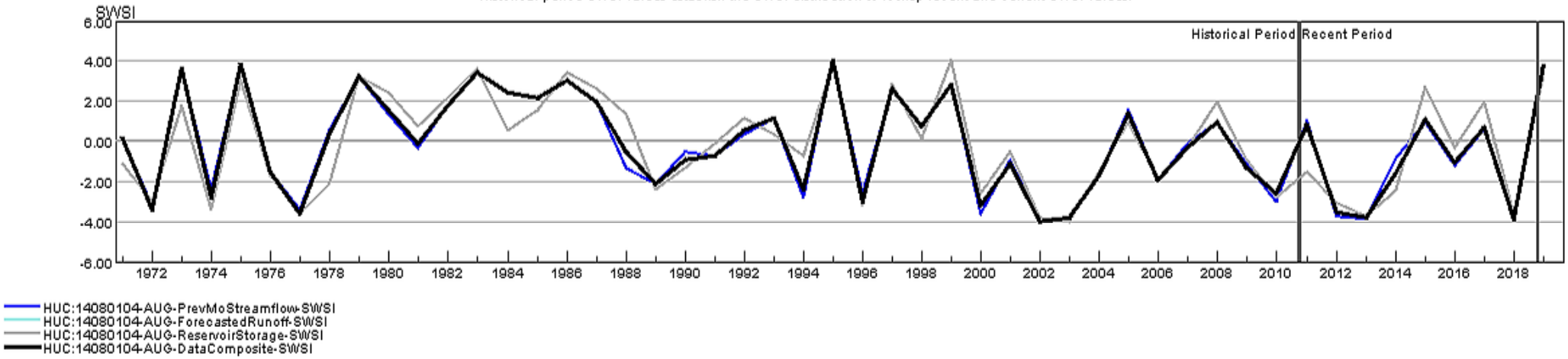
HUC 14080104 (Animas) Surface Water Supply - AUG

Monthly component volumes



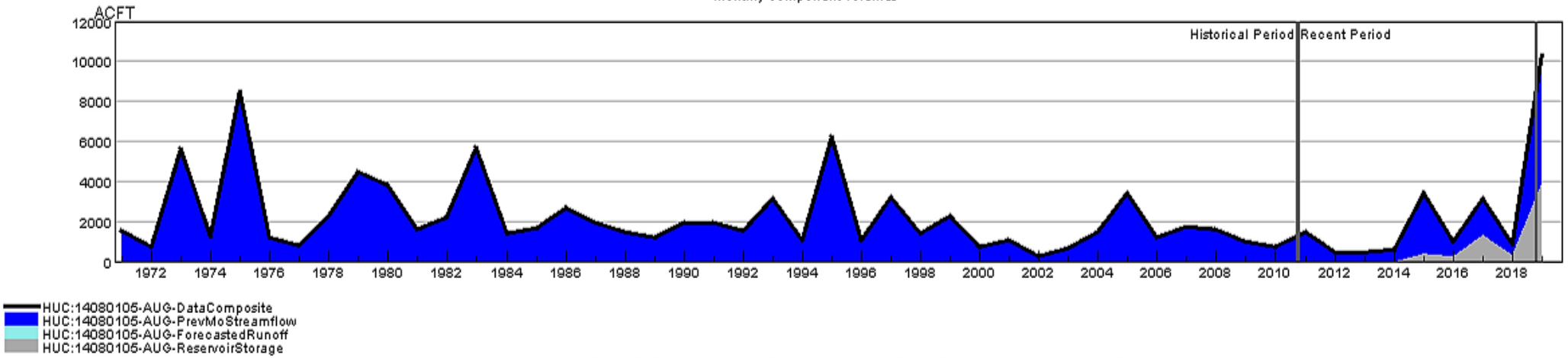
HUC 14080104 (Animas) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



HUC 14080105 (Middle San Juan) Surface Water Supply - AUG

Monthly component volumes



HUC 14080105 (Middle San Juan) SWSI Values - AUG

Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.