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

December 1, 2018

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
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 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.

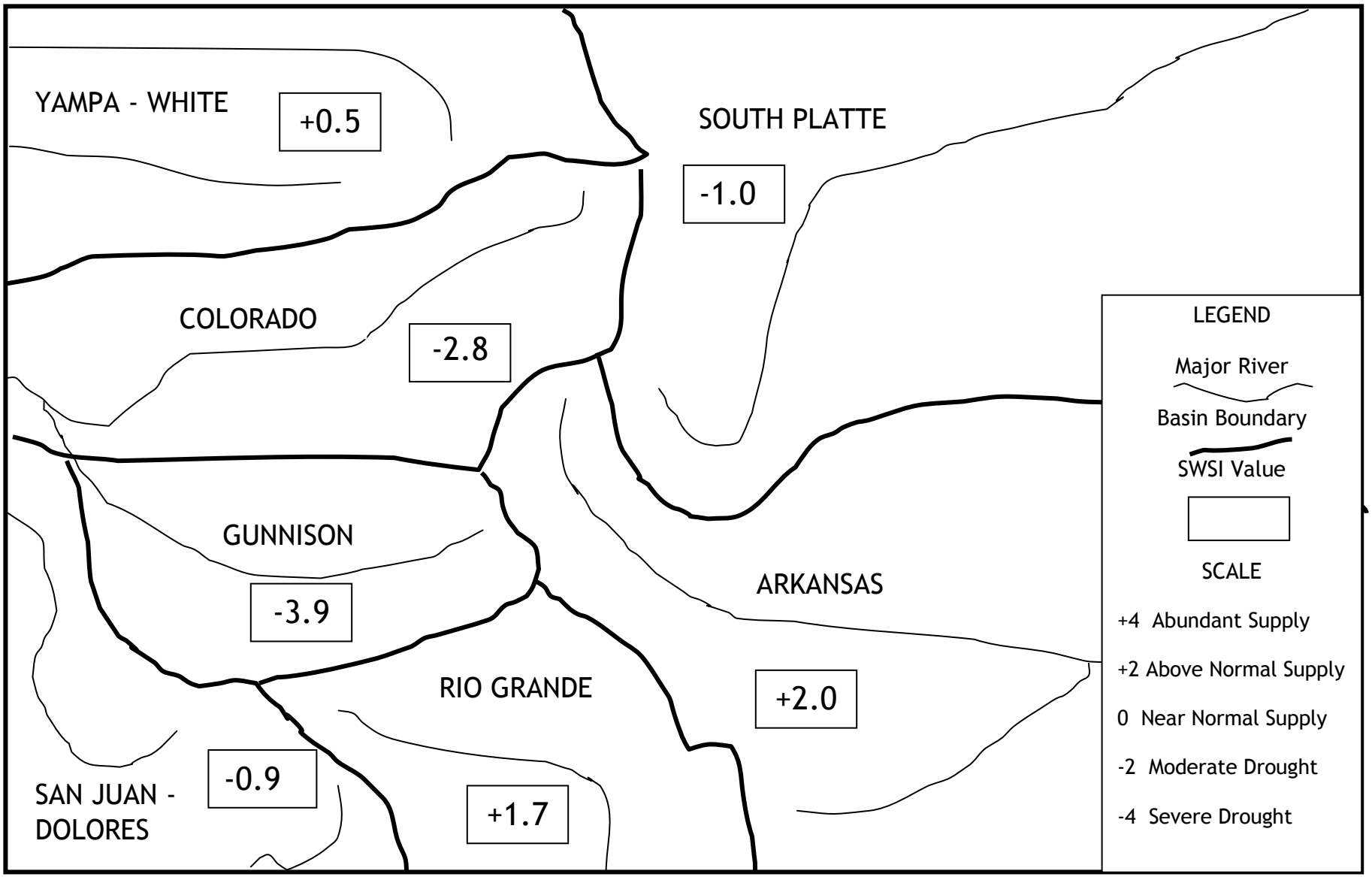
The SWSI calculation for the fall season (October 1 to December 1) is based solely on reservoir storage at the end of last month, in this case November 30. The following SWSI values were computed for each of the seven major basins for December 1, 2018. Water supply conditions, as represented by water in storage, are below normal in all but the San-Juan Dolores and South Platte River basins and well below normal in the Colorado and Gunnison basins.

Basin	December 1 SWSI	Change from Previous Month	Change from Previous Year
Arkansas	2.0	0.0	-0.9
Colorado	-2.8	0.1	-3.1
Gunnison	-3.9	0.0	-6.6
Rio Grande	1.7	0.1	-1.4
San Juan-Dolores	-0.9	0.0	-2.6
South Platte	-1.0	-1.0	-4.3
Yampa-White	0.5	-0.9	-3.3

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

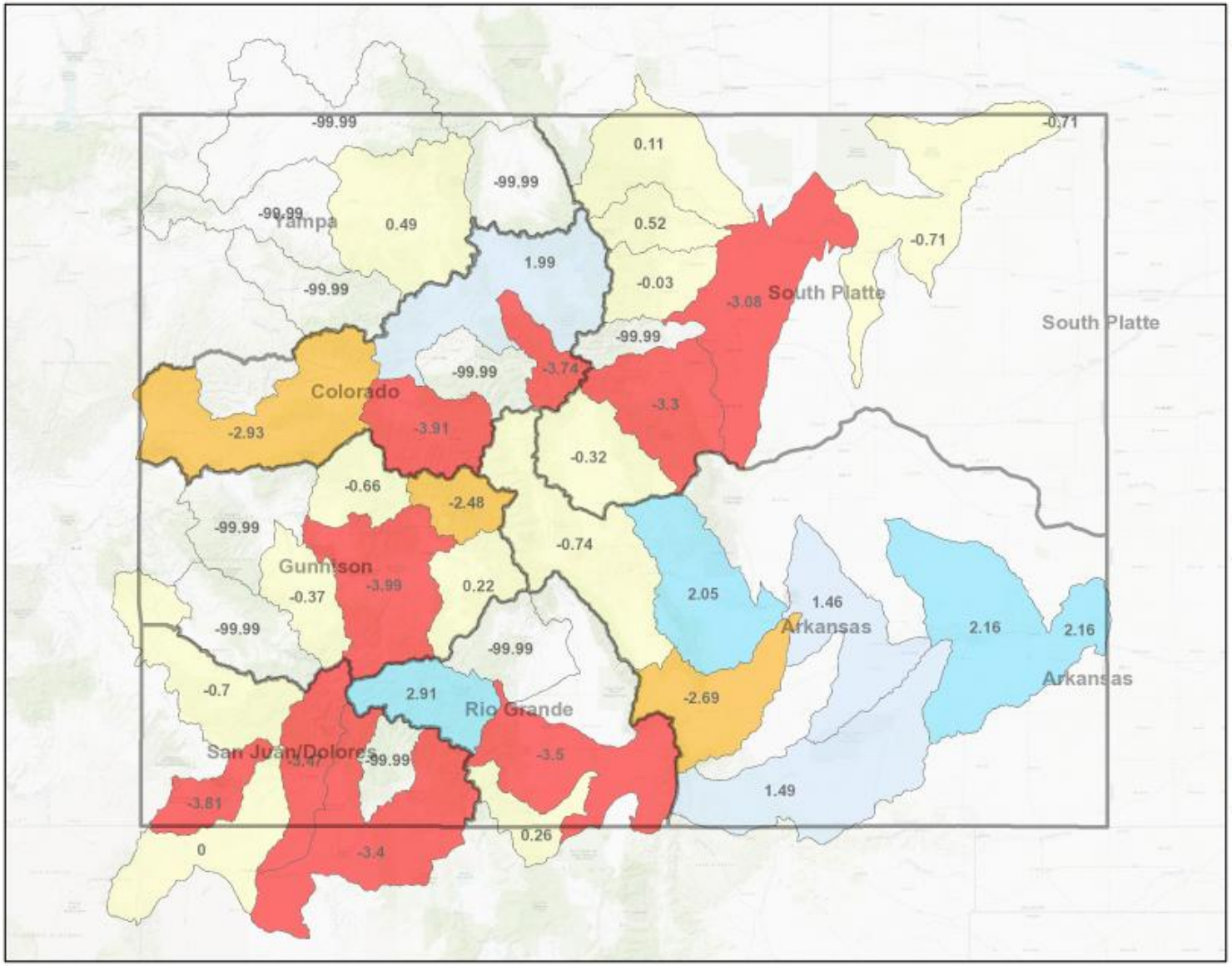


December 1, 2018

SURFACE WATER SUPPLY INDEX FOR COLORADO BY HUC

CDSS
Colorado's Decision Support Systems

SWSI December 1, 2018



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: 12/18/2018 10:59:21 AM

December 1, 2018 SWSI Values by HUC and Non Exceedance Probabilities (NEP)

Basin	HUC ID	HUC Name	SWSI	Reservoir Storage NEP	Total Vol (AF)
Arkansas	11020006	Huerfano	-2.69	18	0
	11020010	Purgatoire	1.50	68	19,690
	11020005	Upper Arkansas-Lake Meredith	1.46	68	22,900
	11020009	Upper Arkansas-John Martin Reservoir	2.16	76	148,900
	11020001	Arkansas Headwaters	-0.74	41	167,619
	11020002	Upper Arkansas	2.06	75	189,100
Colorado	14010005	Colorado Headwaters-Plateau	-2.94	15	4,466
	14010002	Blue	-3.74	5	54,093
	14010004	Roaring Fork	-3.91	3	60,583
	14010001	Colorado Headwaters	2.00	74	108,160
	14010003	Eagle	N/A		
Gunnison	14020003	Tomichi	0.22	53	200
	14020004	North Fork Gunnison	-0.66	42	2,027
	14020006	Uncompahgre	-0.38	45	45,072
	14020001	East-Taylor	-2.48	20	58,778
	14020002	Upper Gunnison	-4.00	2	355,696
	14020005	Lower Gunnison	N/A		
	14030003	San Miguel	N/A		
Rio Grande	13010002	Alamosa-Trinchera	-3.50	8	2,900
	13010005	Conejos	0.26	53	19,400
	13010001	Rio Grande Headwaters	2.91	85	38,600
	13010004	Saguache	N/A		
San Juan-Dolores	14080105	Middle San Juan	0.00	50	196
	14080107	Mancos	-3.81	4	1,723
	14080104	Animas	-3.48	8	6,846
	14080101	Upper San Juan	-3.41	9	30,835
	14030002	Upper Dolores	-0.70	42	169,566
	14080102	Piedra	N/A		
South Platte	10190005	St. Vrain	-0.04	50	51,100
	10190003	Middle South Platte-Cherry Creek	-3.09	13	51,900
	10190007	Cache La Poudre	0.11	51	114,300
	10190012	Middle South Platte-Sterling	-0.71	41	118,400
	10190001	South Platte Headwater	-0.33	46	143,400
	10190002	Upper South Platte	-3.31	10	239,500
	10190006	Big Thompson	0.53	56	463,546
	10190004	Clear	N/A		
Yampa-White	14050001	Upper Yampa	0.49	56	33,400
	10180001	North Platte Headwaters	N/A		
	14050002	Lower Yampa	N/A		
	14050003	Little Snake	N/A		
	14050005	Upper White	N/A		

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)

December 1, 2018 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	6,100	52
		TWIN LAKES RESERVOIR	32,192	23
		HOMESTAKE RESERVOIR	41,200	73
		TURQUOISE LAKE	88,127	36
11020006	Huerfano	CUCHARAS RESERVOIR*	0	18
11020010	Purgatoire	TRINIDAD LAKE	19,690	68
11020002	Upper Arkansas	PUEBLO RESERVOIR	189,100	75
11020009	Upper Arkansas-John Martin Reservoir	ADOBE CREEK RESERVOIR	9,200	39
		JOHN MARTIN RESERVOIR	139,700	76
11020005	Upper Arkansas-Lake Meredith	LAKE HENRY	4,800	68
		MEREDITH RESERVOIR	18,100	67
14010002	Blue	GREEN MOUNTAIN RESERVOIR	54,093	5
14010001	Colorado Headwaters	WOLFORD MOUNTAIN RESERVOIR	35,360	70
		WILLIAMS FORK RESERVOIR	72,800	61
14010005	Colorado Headwaters-Plateau	VEGA RESERVOIR	4,466	15
14010004	Roaring Fork	RUEDI RESERVOIR	60,583	3
14020001	East-Taylor	TAYLOR PARK RESERVOIR	58,778	20
14020004	North Fork Gunnison	PAONIA RESERVOIR	2,027	42
14020003	Tomichi	VOUGA RESERVOIR NEAR DOYLEVILLE	200	53
14020006	Uncompahgre	RIDGEWAY RESERVOIR	45,072	45
14020002	Upper Gunnison	FRUITLAND RESERVOIR	300	35
		SILVER JACK RESERVOIR	387	2
		CRAWFORD RESERVOIR	839	1
		MORROW POINT RESERVOIR	104,091	1
		BLUE MESA RESERVOIR	250,079	3
13010002	Alamosa-Trinchera	MOUNTAIN HOME**	0	1
		TERRACE RESERVOIR	2,900	31
13010005	Conejos	PLATORO RESERVOIR	19,400	53
13010001	Rio Grande Headwaters	RIO GRANDE RESERVOIR**	0	1
		CONTINENTAL RESERVOIR	14,200	99
		SANTA MARIA RESERVOIR	24,400	93
14080104	Animas	LEMON RESERVOIR	6,846	8
14080107	Mancos	JACKSON GULCH RESERVOIR	1,723	4
14080105	Middle San Juan	LONG HOLLOW RESERVOIR	196	50
14030002	Upper Dolores	GROUNDHOG RESERVOIR	85	3
		MCPHEE RESERVOIR	169,481	43
14080101	Upper San Juan	VALLECITO RESERVOIR	30,835	9
10190006	Big Thompson	LAKE LOVELAND RESERVOIR	400	9
		MARIANO RESERVOIR	700	11
		LONE TREE RESERVOIR	5,200	62
		WILLOW CREEK RESERVOIR	6,096	68
		BOYD LAKE	31,900	60
		CARTER LAKE	52,100	32
		LAKE GRANBY	367,150	56

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
10190007	Cache La Poudre	HALLIGAN RESERVOIR	2,900	69
		CHAMBERS LAKE	3,600	68
		BLACK HOLLOW RESERVOIR	4,200	99
		CACHE LA POUDRE	5,300	60
		WINDSOR RESERVOIR	6,800	19
		FOSSIL CREEK RESERVOIR	8,400	90
		COBB LAKE	15,200	56
		HORSETOOTH RESERVOIR	67,900	48
10190003	Middle South Platte-Cherry Creek	HORSECREEK RESERVOIR	0	1
		MILTON RESERVOIR	9,900	25
		BARR LAKE	11,900	16
		STANDLEY RESERVOIR	30,100	30
10190012	Middle South Platte-Sterling	JULESBURG RESERVOIR	14,400	27
		EMPIRE RESERVOIR	15,900	55
		PREWITT RESERVOIR	16,600	63
		RIVERSIDE RESERVOIR	18,000	19
		JACKSON LAKE RESERVOIR	23,000	74
		POINT OF ROCKS RESERVOIR	30,500	48
10190001	South Platte Headwater	ANTERO RESERVOIR	18,900	58
		SPINNEY MOUNTAIN RESERVOIR	24,500	41
		ELEVENMILE CANYON RESERVOIR	100,000	90
10190005	St. Vrain	TERRY RESERVOIR	4,800	29
		MARSHALL RESERVOIR	4,900	47
		UNION RESERVOIR	9,100	39
		BUTTONROCK (RALPH PRICE) RESERVOIR	13,800	31
		GROSS RESERVOIR	18,500	61
10190002	Upper South Platte	CHEESMAN LAKE	59,500	42
		DILLON RESERVOIR	180,000	10
14050001	Upper Yampa	YAMCOLO RESERVOIR	2,200	28
		STAGECOACH RESERVOIR NR OAK CREEK	31,200	87

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

*Empty, filling restriction
**Empty for repairs

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

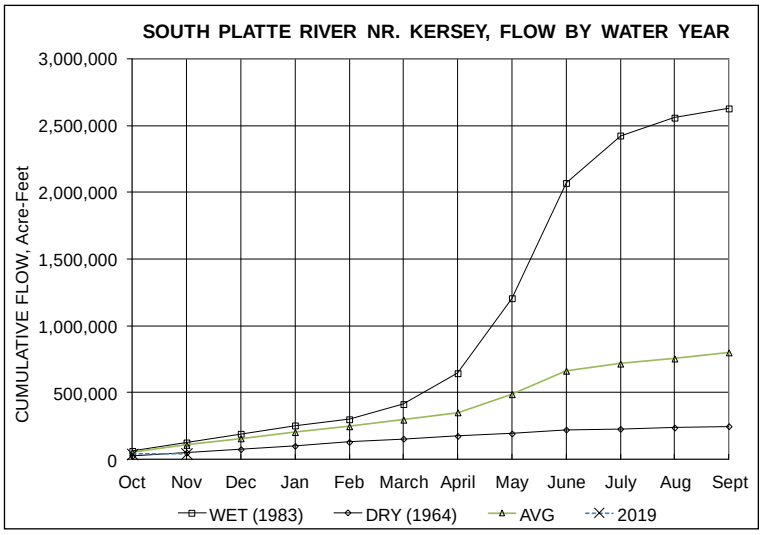
Basinwide Conditions Assessment

The SWSI value for the month was -1.0.

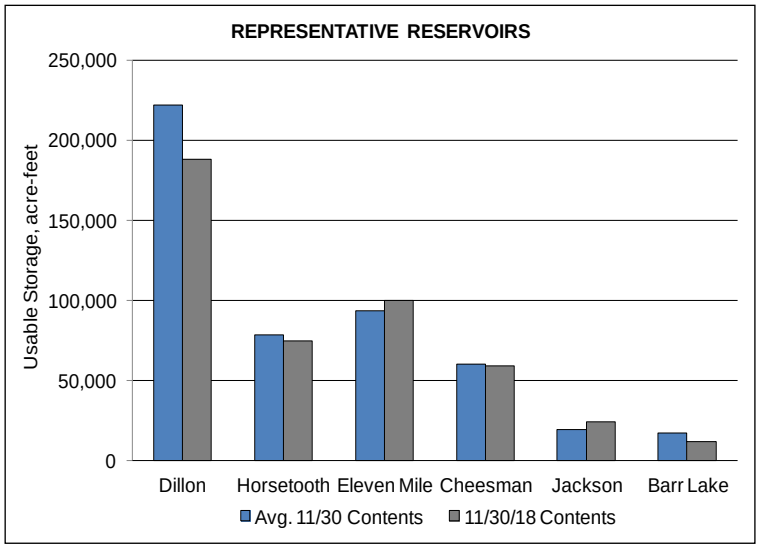
Northeast Colorado experienced slightly below average temperatures in much of the basin during the month of November. Much welcomed snow occurred throughout the basin in November, with above average precipitation in the mountains and foothills, and average precipitation on much of the eastern plains. The South Platte Basin received 146% of average precipitation during the month of November. With most irrigation ending near the end of October and the reservoir fill season beginning on November 1st, reservoirs stored water through November throughout the South Platte River Basin.

The USDA Drought Monitor rating for northeast Colorado remained fairly constant through the month of November, with a rating of DO (abnormally dry) in the westerly (mountainous/foothill areas) areas of Larimer, Jefferson, Douglas, Elbert and Arapaho Counties; a rating of D1 (moderate drought) in Gilpin, Clear Creek, and Park Counties; a rating of portions of Lincoln, El Paso, Teller and Park Counties rated as D1-D2 (moderate to severe). The DO (abnormally dry) extended easterly into Morgan and Washington Counties. The lone change in pattern, was the majority of Boulder County moving from a rating of abnormally dry to average during the month of November. The remainder of the eastern plains in the South Platte and Republican River basins continue to receive average to above average precipitation and are not currently in a drought condition.

The overall slightly below average temperatures and above average precipitation during the month of November resulted in just below average flows at the Kersey gage, with the average daily flows for the month of November approximately 723 cfs, 95% of the historic mean value of 764 cfs. The average daily flows at the Julesburg gage for the month of November was 134 cfs, 39% of the historic mean value of 31346 cfs, partly due to diversions to recharge and junior reservoir storage.

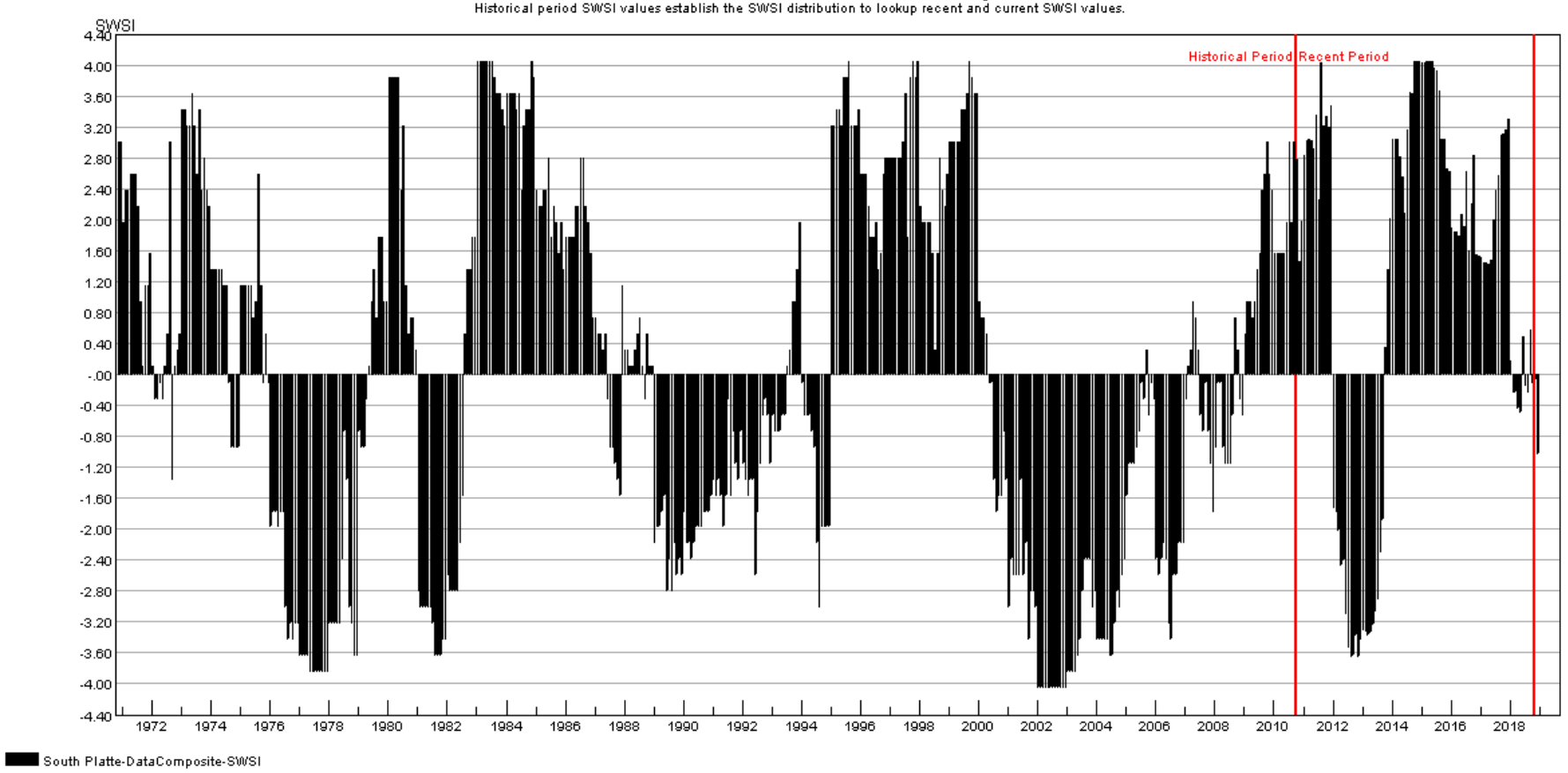


The reservoir fill season began November 1st, with reservoir storage throughout the South Platte River Basin continuing through the month of November. Reservoir calls throughout November have been controlled by a Jackson Inlet 1907 or Riverside 1909 call on the lower portion of the South Platte River. The dry summer with predominately above average temperatures and below average precipitation, resulted in water storage in many reservoirs in the South Platte River Basin being substantially lowered. It is anticipated that senior reservoir calls throughout the winter into the spring runoff will prevail, with junior storage rights starting during runoff season.



South Platte Basin SWSI History

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



Basinwide Conditions Assessment

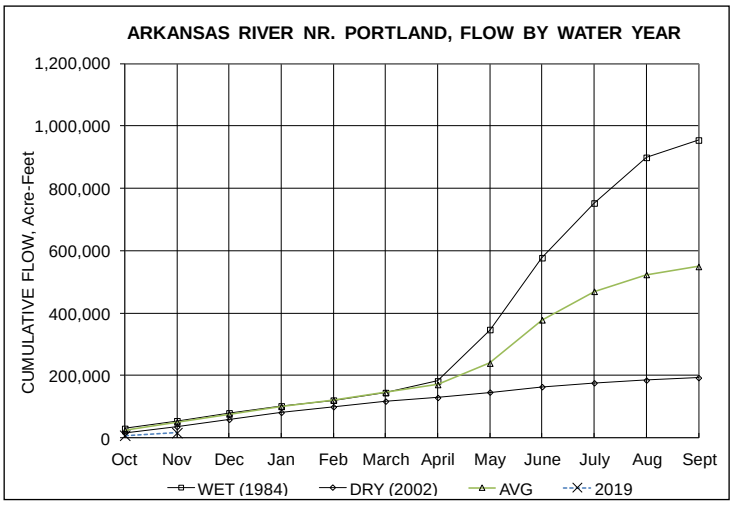
The SWSI value for the month was +2.0.

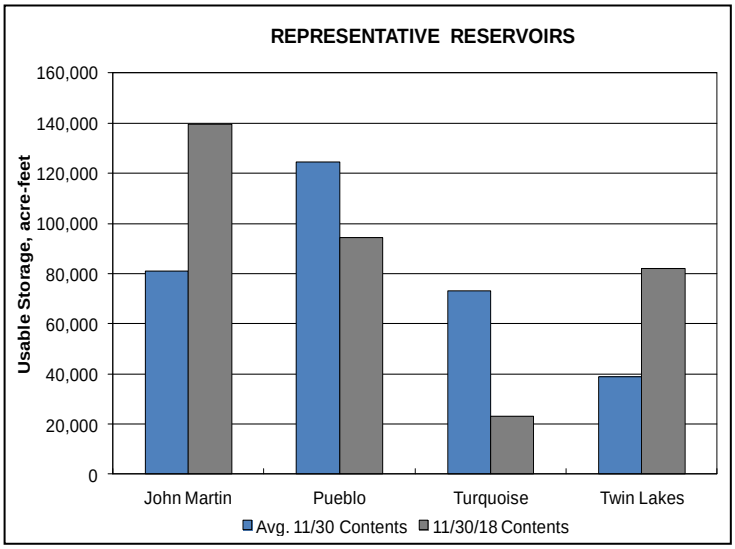
Outlook

Winter Compact storage began in John Martin Reservoir on November 1, 2018. The Pueblo Winter Water Program began operation on November 15, 2018 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 1,390 acre-feet for Conservation Storage and 5,690 acre-feet for Winter Water participants. Storage overall under the Pueblo Winter Water Program in November totaled approximately 12,160 acre-feet in all storage locations. These storage levels are significantly lower than 2017.

Administrative/Management Concerns

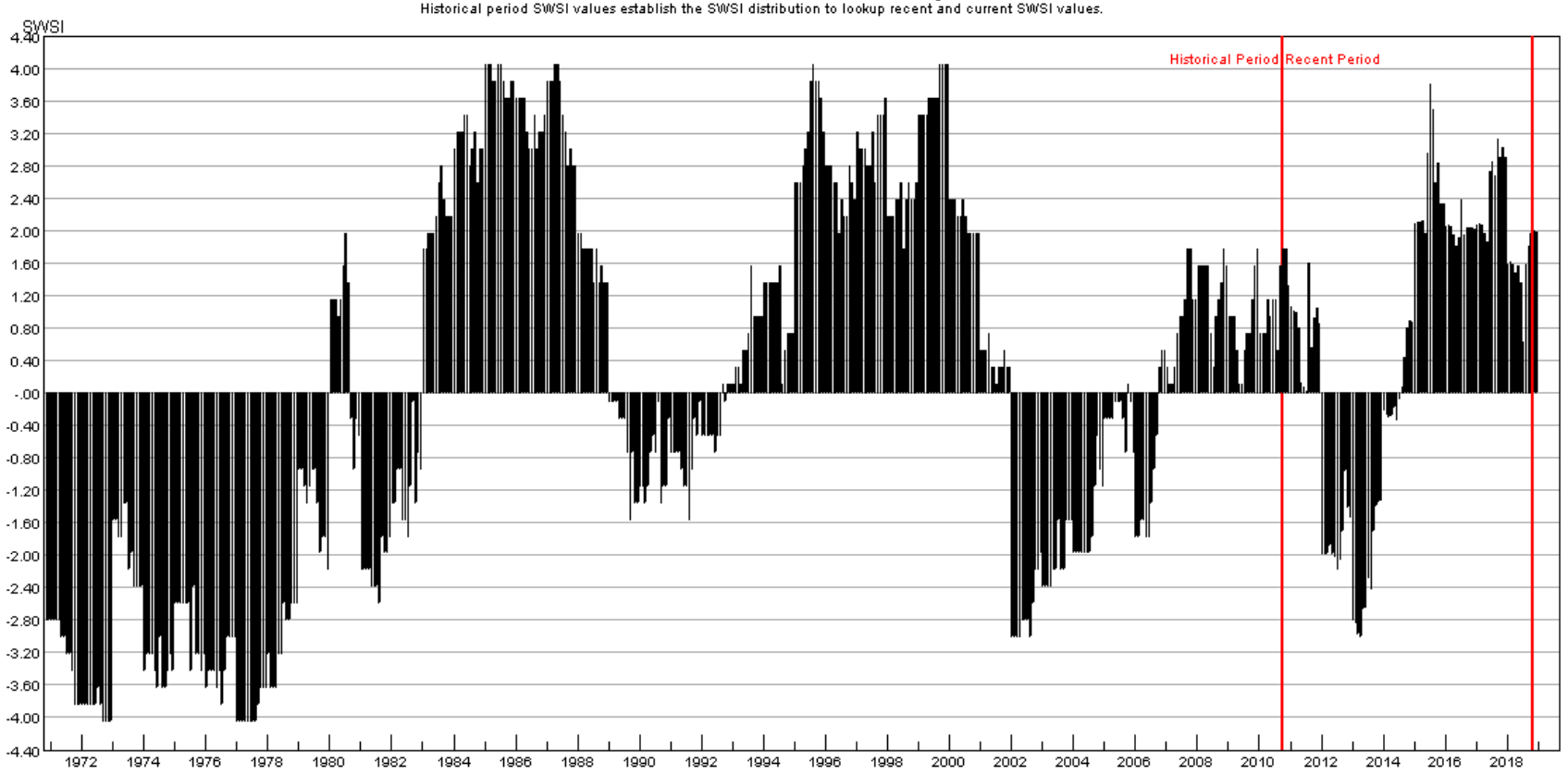
Due to the continued lack of precipitation in November, river flows are significantly lower than the historic averages. The probability of water levels matching 2018 storage levels in the reservoir system is low. It is unlikely at present with current conditions that the Trinidad Reservoir will fill the Purgatoire River Water Conservancy District's transferred Model storage right before the end of the winter water program. There is little to no danger of the Pueblo Reservoir filling above the conservation pool into the flood space and the concern in 2017 of the reservoir spilling account water has been abated.





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 +1.7.

The lack of precipitation in the basin for the past seven months has taken a toll as below average streamflow continued throughout the Upper Rio Grande basin. Flow at the gaging station Rio Grande near Del Norte averaged 170 cfs (62% of normal). The Conejos River near Mogote had a mean flow of 56 cfs (also 62% of normal).

Finally, a month of below average temperature in Alamosa. For the first time in over a year, the average monthly temperature was below the long term average. This won't affect the inevitable outcome of an annual temperature being nearly three degrees warmer than the historic average during 2018 in Alamosa.

Precipitation during November in Alamosa was 0.16 inches, 0.26 inch below the long term average. Only two spotty snowstorms blanketed the San Luis Valley floor. So far, snowpack accumulation in the higher elevations of the basin is slightly below normal and nearly the poorest in the state.

Outlook

National Weather Service forecasts continue to suggest above normal temperatures and precipitation for Southern Colorado this winter and into Spring, 2019.

Administrative/Management Concerns

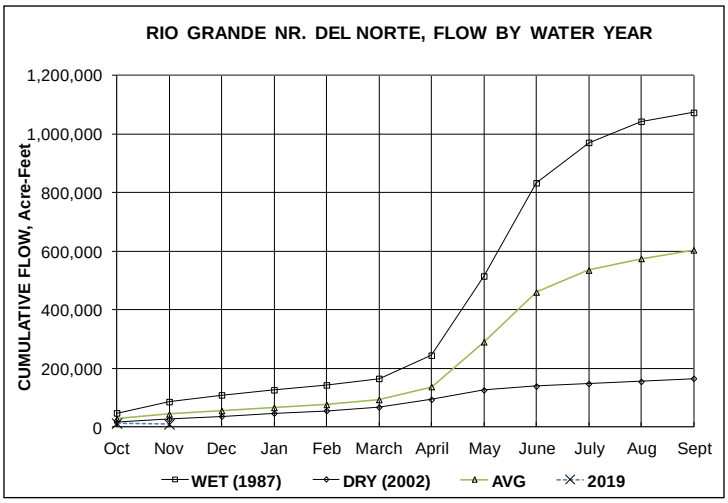
Colorado will slightly over-deliver on the amount required to meet the Rio Grande Compact delivery requirement to New Mexico and Texas during 2018.

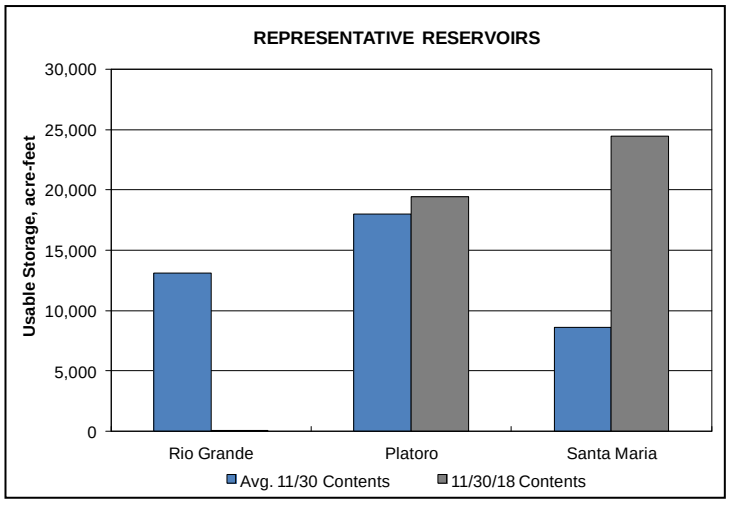
December 1st was the deadline for annual submittal of meter readings on irrigation wells in Water Division 3. Compliance has been generally good, with a few stragglers still working out data submittal issues with the staff.

The reservoir storage season typically begins November 1st each year. 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. 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.





Rio Grande Basin SWSI History

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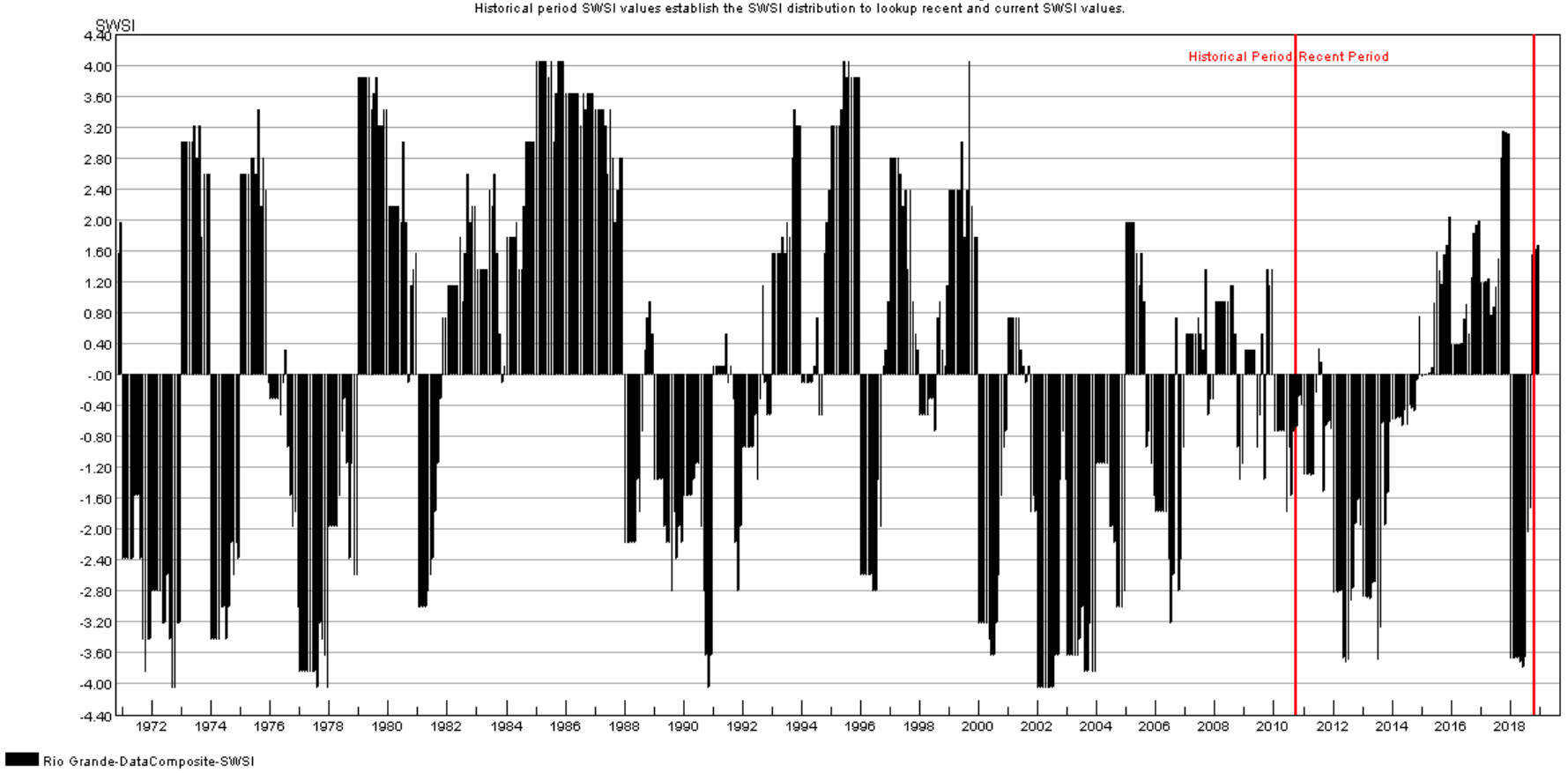


Basinwide Conditions Assessment

The SWSI value for the month was -3.9.

November returned to drier than average for most of the Gunnison basin with precipitation generally between 70-90% of average and below 50% of average in the southwest basins such as the upper Uncompahgre River drainage. The only exception was the Taylor River drainage, which received slightly greater than average precipitation during November. Temperatures during November were 1-3 degrees below average, helping to prevent the snow that has fallen from melting at accelerated levels. Resulting snowpack conditions on December 1st vary, with southwestern areas generally worse than northeastern areas. For example, the drainage above Ridgway Reservoir contains 93% of the 30-year median on December 1st while the drainages above Blue Mesa Reservoir contain 115% of the median. Worst conditions are found on the Uncompahgre Plateau where the Columbine Pass Snotel site only contains 52% of the median for the date.

The good news is that conditions basin wide are significantly better than in 2017. On December 1st the Park Reservoir Snotel site contained 8.1 inches of snow water equivalent (SWE), which compares with 1.7 inches of SWE in 2017. In fact, this site didn't reach it's current level until February 23rd last year and is already at 64% of the 12.6 inches it held at the peak last year.

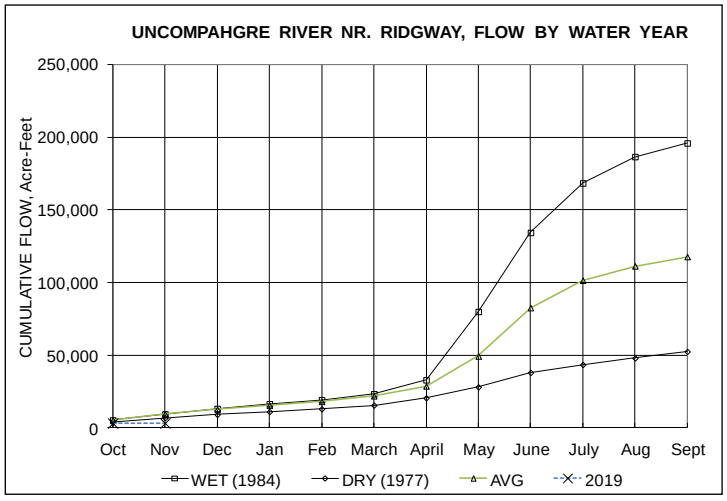
Outlook

NOAA climate forecasts improved to depict the Gunnison basin fully within an area that has a better than average chance of receiving above average precipitation during December through February. Temperatures during that same period are forecast to be above average.

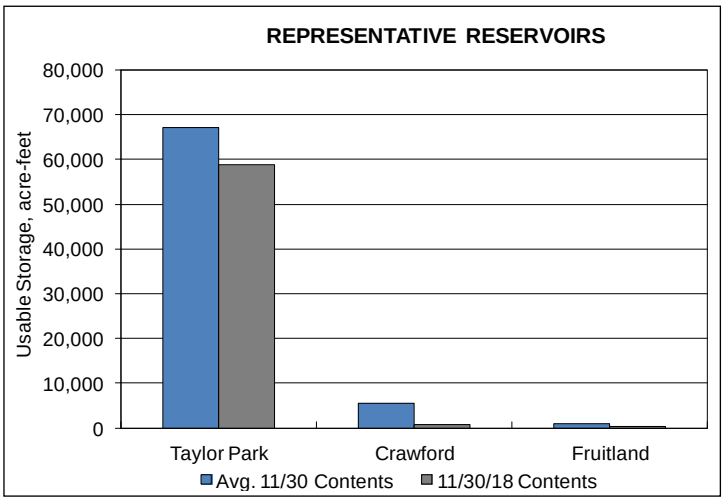
Administrative/Management Concerns

Blue Mesa Reservoir levels have not changed (247,000 acre-feet) as the monthly inflow and outflow were similar during November.

Taylor Park Reservoir levels similarly remain unchanged, but the storage in each account has changed slightly. Storage in the first fill account increased by 3,000 acre-feet during November while the storage of Aspinall Unit water exchanged into Taylor Park continued to be paid back at a rate of approximately 100 acre-feet per day. The total amount of Aspinall Unit water exchanged into Taylor Park during 2018 was 25,980 acre-feet and 23,307 acre-feet remains to be repaid. Likely the full amount will not be released back to the Aspinall Unit until spring runoff as Taylor Park operations plans include releases at 50 cfs for the winter.



Calls went off almost all streams in the basin on November 1st, however, flows remain below normal levels. This is concerning on streams like Surface Creek that contain a municipal diversion for the Upper Surface Creek Domestic system, but the stream is barely producing enough to satisfy their demand and fill stock water decrees. Hopefully flows won't drop off further as it gets colder during December and January.

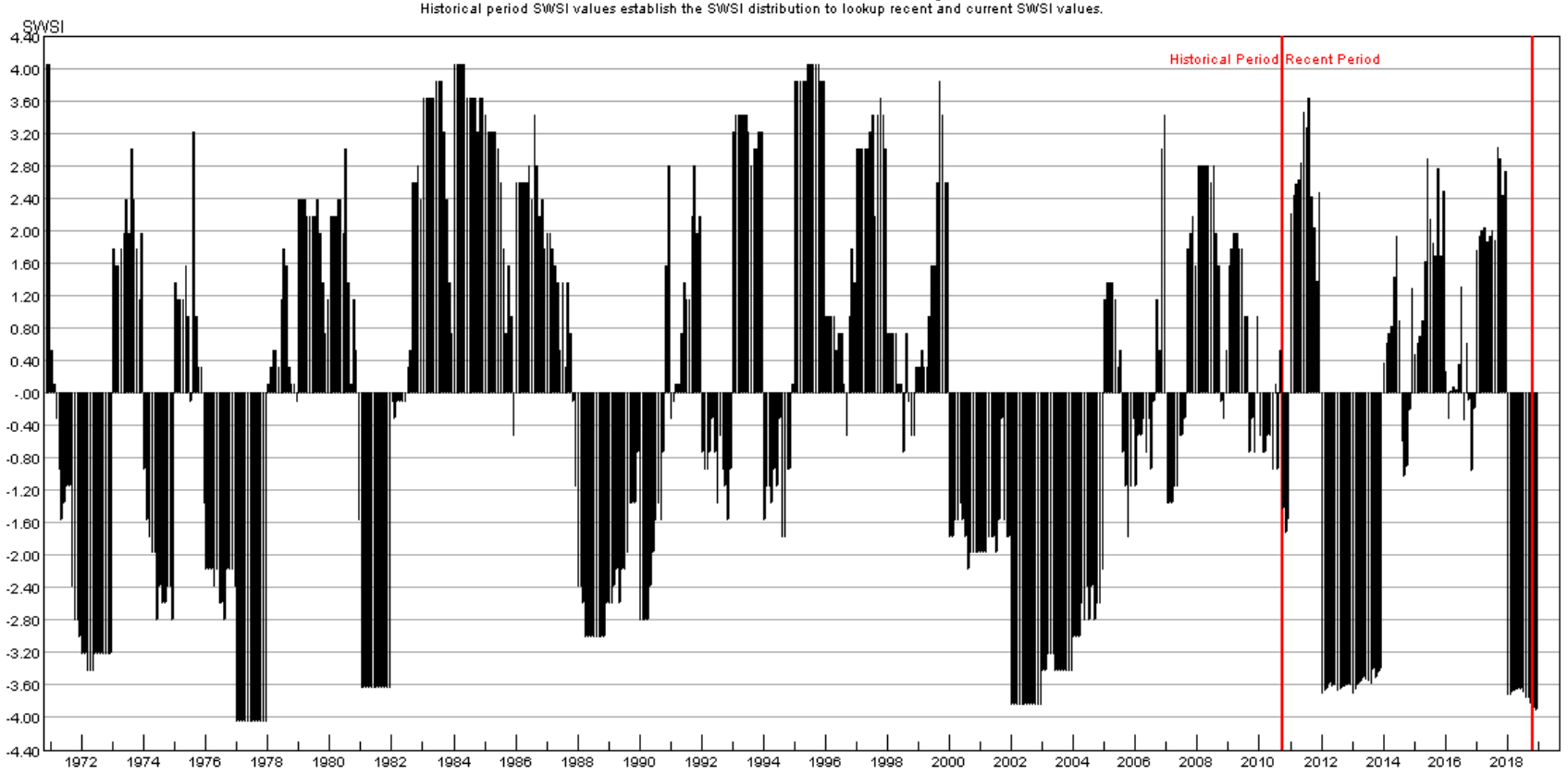


Public Use Impacts

Snow conditions at basin ski resorts, such as Telluride and Crested Butte, are much improved from 2017. For example, Crested Butte didn't begin snowmaking until late November last year and received very little natural snow causing them to postpone their opening. Contrast that with this November where Crested Butte was able to make snow all November and due to favorable conditions completed snowmaking operations on December 11th. Hopefully this will continue into 2019!

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 -2.8.

Outlook

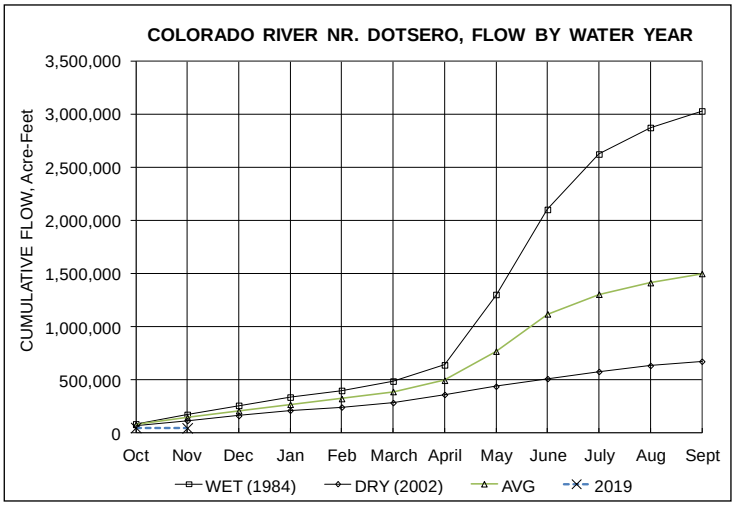
Colorado River flows are running below average with tributary flows also running below average throughout December. As of December 14, the Upper Colorado River Basin snowpack was 94 percent of median snow water equivalent and 103 percent of average precipitation. Forecasts call for above average precipitation with above and below normal temperatures for western Colorado through December.

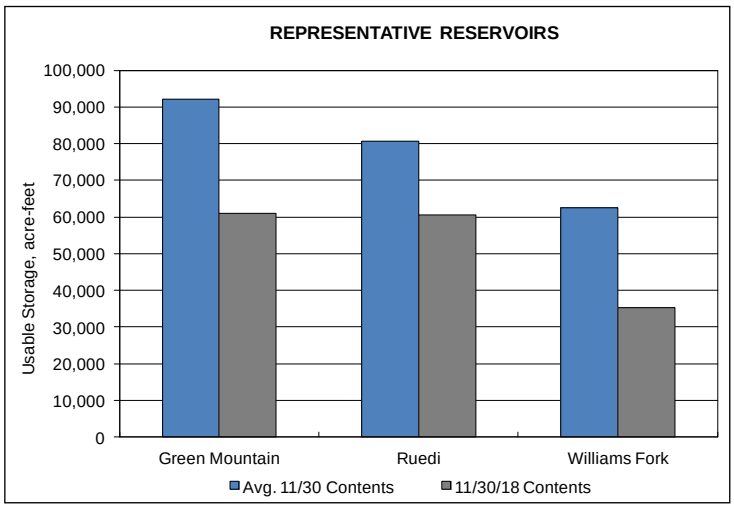
Administrative/Management Concerns

The call on the Colorado River mainstem is the Senior Shoshone Power Plant water right. Green Mountain is releasing to pass inflows, release contract water, CB-T replacement water and HUP water.

Public Use Impacts

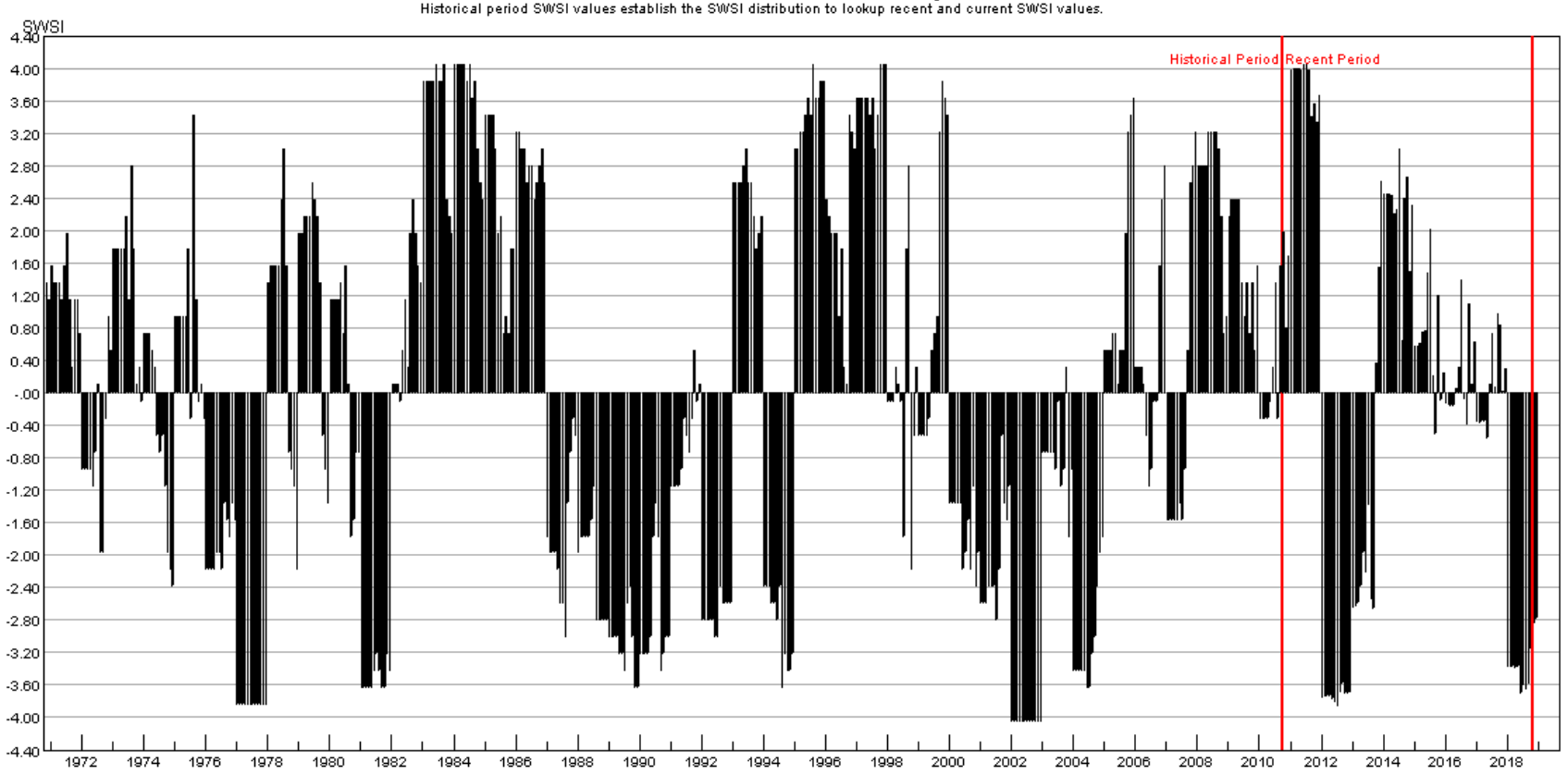
The federal Farm Bill included Colorado River conservation. The bill includes expanded programs to help farmers implement water conservation practices through cost-sharing agreements, incentive payments and technical assistance.





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 +0.5.

November precipitation was well above 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 134% of average for the 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 was 123%. Snowpack in the Yampa, White, and North Platte River basins was at 137% of average. Snow water equivalent in those basins was 139% of average.

The Yampa River (YAMABVCO) gage remains open through the winter.

Outlook

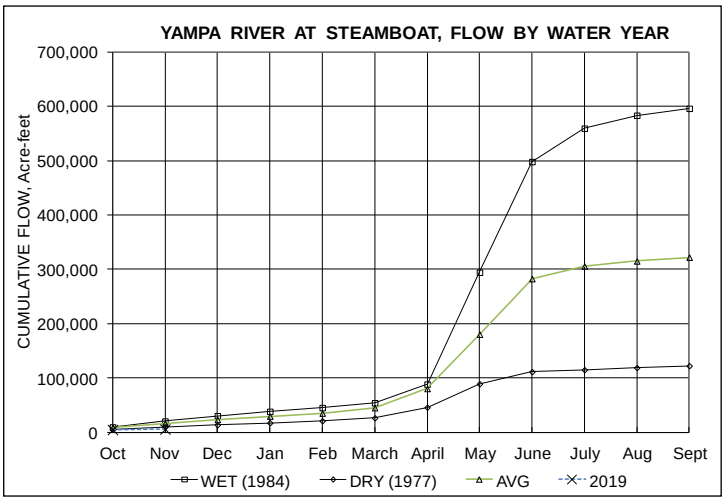
As of November 30th Fish Creek Reservoir was storing approximately 1,978 AF, 48% of capacity. The capacity of Fish Creek Reservoir is 4,167 AF. Yamcolo Reservoir was storing 2,200 AF (25% capacity) at the end of November 2018. The capacity of Yamcolo Reservoir is 8,700 AF. The G3 website is down for Elkhead Reservoir. On November 30, 2018, Stagecoach Reservoir was storing 31,200 AF, 85% of capacity.

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

Public Use Impacts

Stagecoach Reservoir is closed to motorized boating. Only non-motorized, ANS-Exempt watercraft may be used. Please see website for current fishing conditions. Ice is in early season conditions and may be unstable. The reservoir is iced over as of 12/10/2018. Coves are showing 4-6" of ice, while the main reservoir body is still fairly thin at 2-4". For additional information on ice safety, Please visit the CPW ice safety website (http://cpw.state.co.us/learn/Pages/SurvivalIceSafety.aspx). Limited campsites are available during the winter (October 1 through May 15) in the Pinnacle campground on a first-come/first-serve basis and include 30 amp electrical hookups. Water is not available and the dump station is closed.

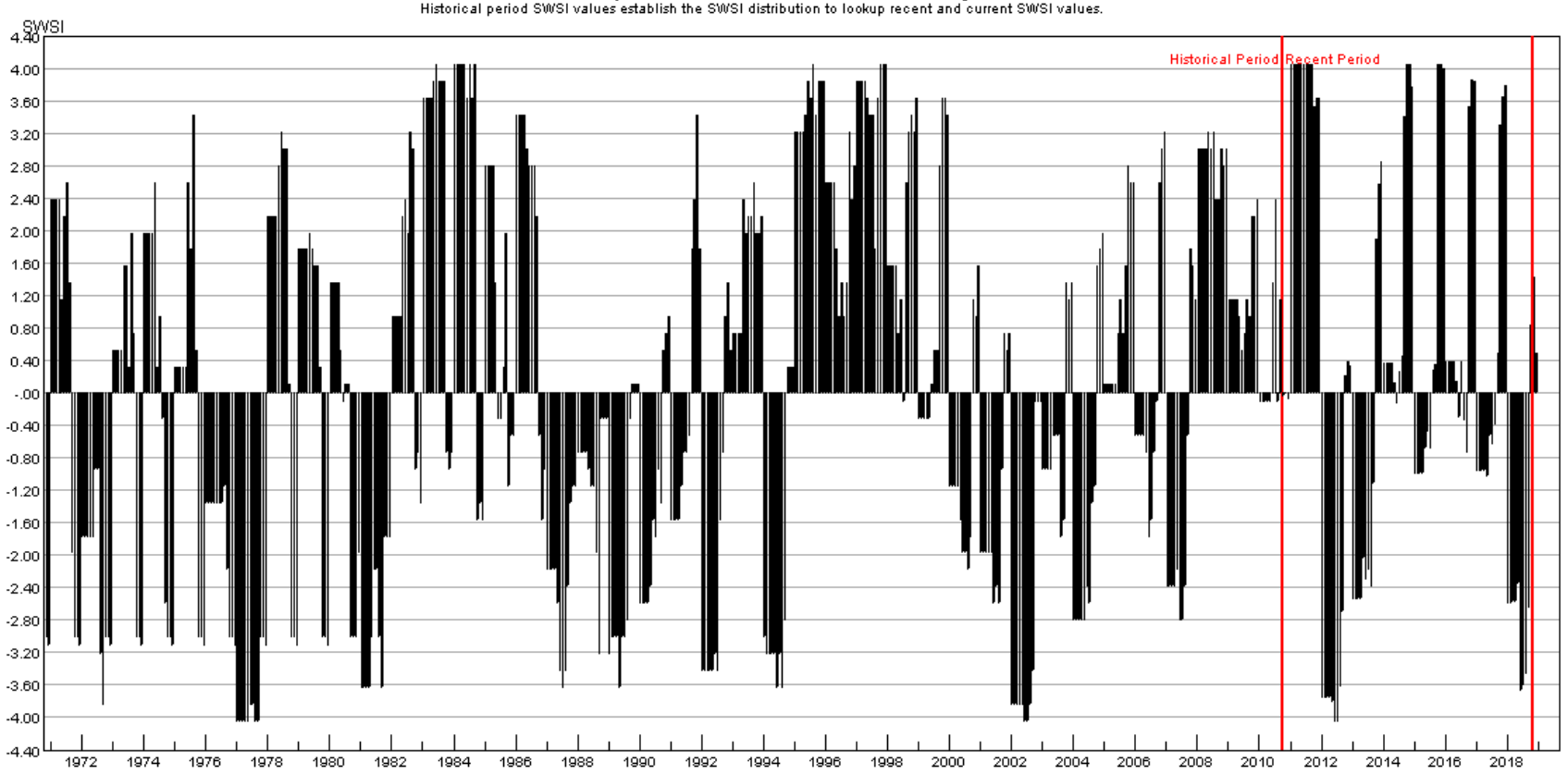
Winter camping with electrical outlets is available on a first-come/first-serve basis in the Marina parking lot. Camper cabins are open and reservable year-round by calling 970-879-7019. Sunrise Vista is open and the road into Dutch Hill towards the Marina and Swim Beach areas is also open. The Dutch Hill Campground areas are closed for the season and Sage Flats is closed for construction. Check the park conditions website for the fishing report. Ice on Steamboat Lake is about 3-4" thick in most areas. There is about 6" of slush on top of the ice. Refer to the CPW ice safety website listed above.



Steamboat Ski Resort currently has 165 trails open with 16 lifts. There is outstanding early season conditions with the snowpack at 118% of the 30-year average.

Yampa-White Basin SWSI History

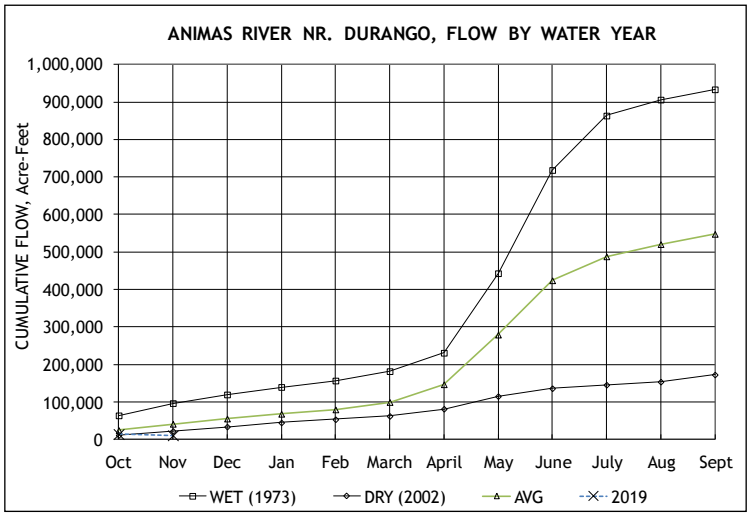
Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.

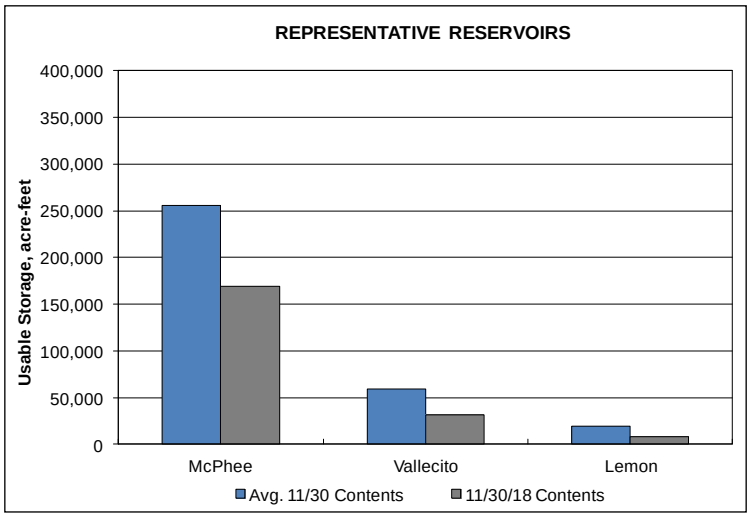


Basinwide Conditions Assessment

The SWSI value for the month was -0.9.

Flow at the Animas River at Durango averaged 126 cfs (28% of average). The flow at the Dolores River at Dolores averaged 56 cfs (31% of average). The La Plata River at Hesperus averaged 4.3 cfs (22% of average). Precipitation in Durango was 0.28 inches for the month, 12% of the 30-year average of 2.43 inches. Precipitation to date in Durango, for the water year, is 7.68 inches, 39% of the 30-year average of 19.46 inches. Precipitation in Durango was the lowest value ever recorded for the water year out of 124 years of record. The second lowest recorded total precipitation for the water year was 8.78 inches recorded in 1977. End of last month precipitation to date, for the water year was 42% of average. The average high and low temperatures for the month of September in Durango were 83° and 45°. In comparison, the 30-year average high and low for the month is 77° and 45°. At the end of the month Vallecito Reservoir contained 21,560 acre-feet compared to its average content of 58,394 acre-feet (37% of average). McPhee Reservoir was up to 168,081 acre-feet compared to its average content of 269,863 (62% of average), while Lemon Reservoir was up to 6,029 acre-feet as compared to its average content of 18,732 acre-feet (32% of average). As with all SWSI calculations, the NEP and SWSI values for the Upper Dolores are based on a comparison of water volumes available for water supply back to 1970. Although conditions in the Upper Dolores are comparable to 2002 and 2012, since McPhee Reservoir was not constructed until the 1980's, the earlier years of record do not have any water attributed to McPhee, resulting in an October 1 SWSI closer to normal (-0.68) than what is being experienced by agricultural water users. In addition, the water in McPhee Reservoir below the active pool of 151,000 acre-feet is not available to irrigation users but only to the relatively minor demands for municipal, industrial, and fish and wildlife uses.



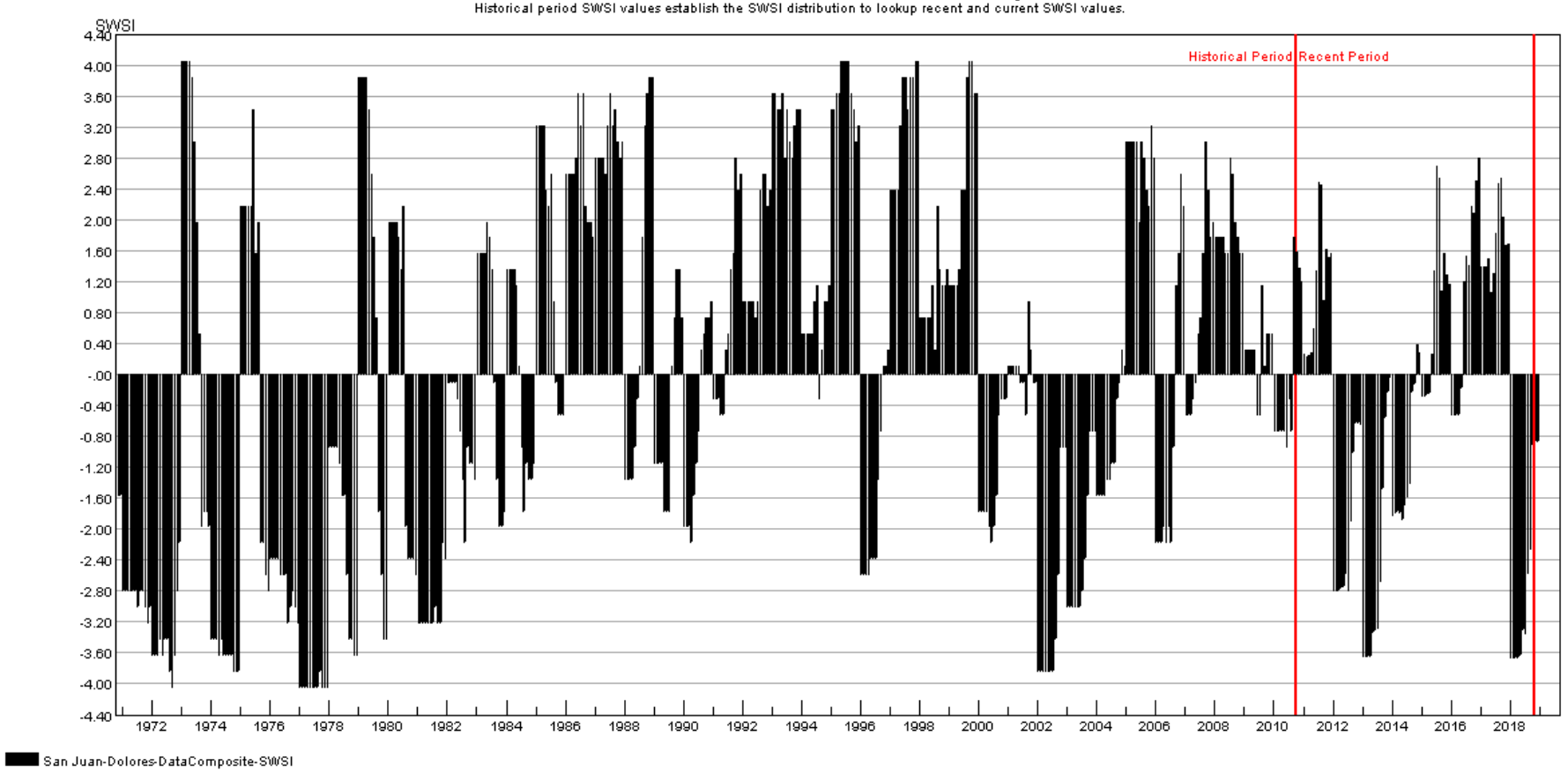


Outlook

Precipitation (0.28 inches) was well below average for September in Durango. There were 116 years out of 124 years of record where there was more precipitation than this year. The flows in the rivers within the basin remained well below average for this time of year. The flows on the Animas River were the lowest total flow for September out of 108 years of record. There were 102 out of 109 years of record where the total flow past the Dolores stream gauge was more than this year and 101 out of 102 years of record where the total flow past the La Plata River at Hesperus gauge was more than this year. Flows on the Dolores River were impacted by the release from Groundhog Reservoir. Montezuma Valley Irrigation District is draining the reservoir for maintenance on the dam. Flows on the Dolores would show much lower without the release.

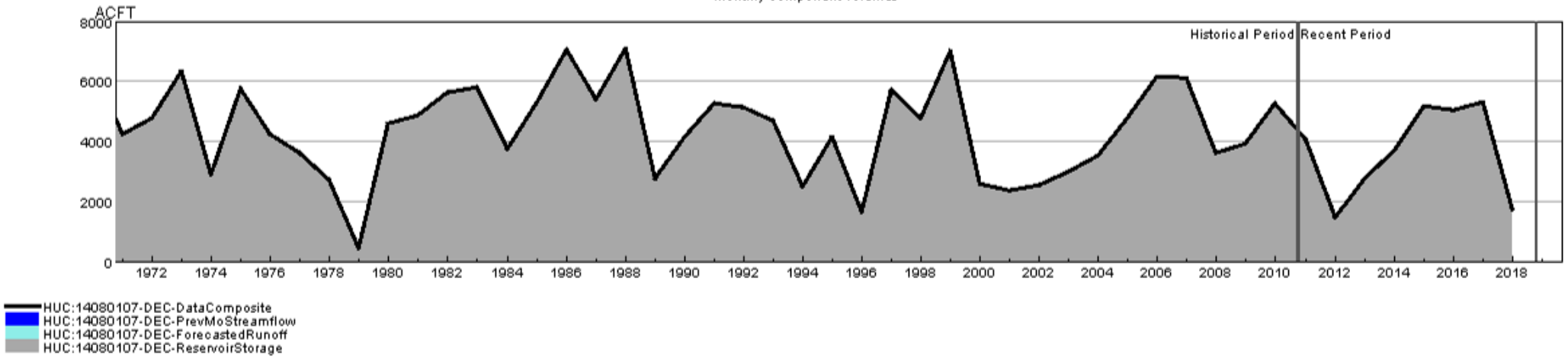
San Juan-Dolores Basin SWSI History

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



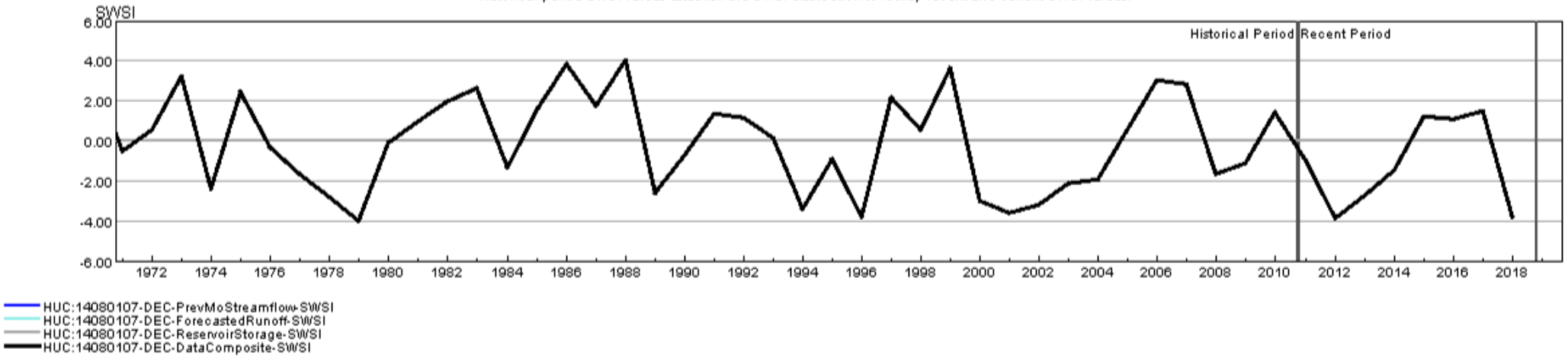
HUC 14080107 (Mancos) Surface Water Supply - DEC

Monthly component volumes



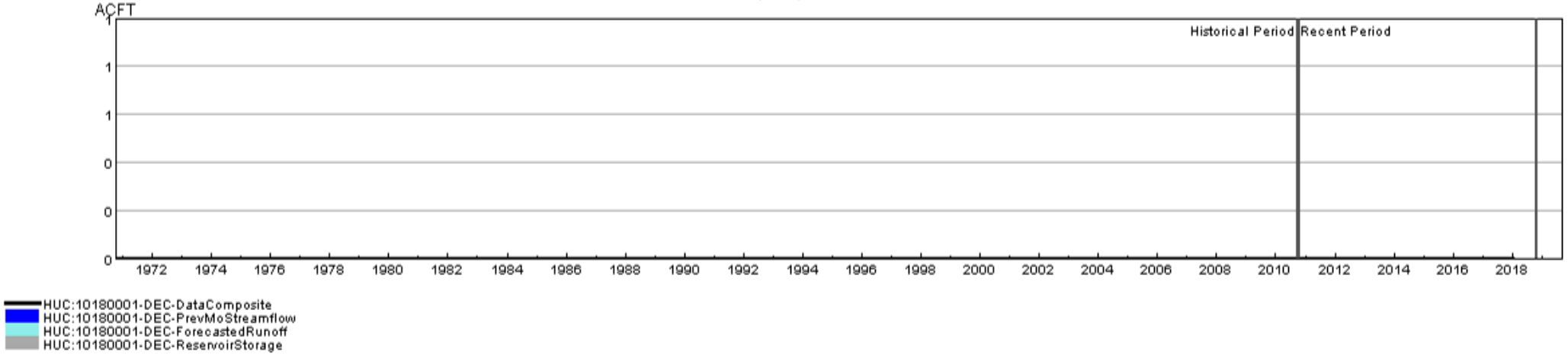
HUC 14080107 (Mancos) SWSI Values - DEC

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



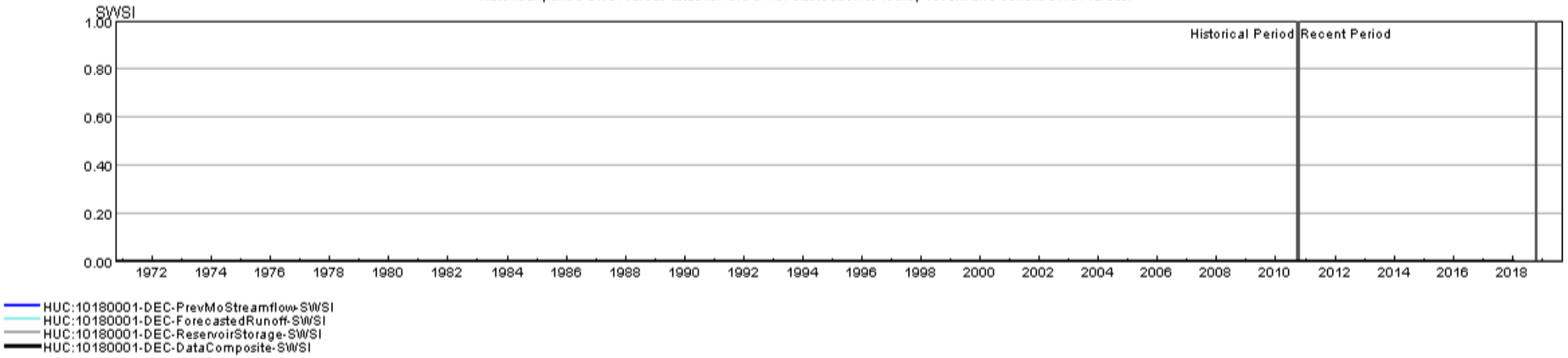
HUC 10180001 (North Platte Headwaters) Surface Water Supply - DEC

Monthly component volumes



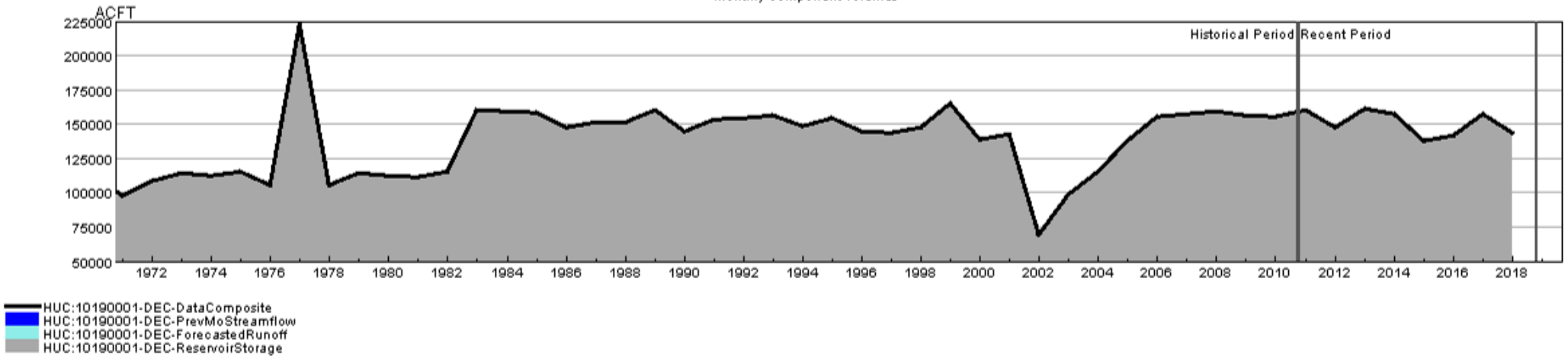
HUC 10180001 (North Platte Headwaters) SWSI Values - DEC

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



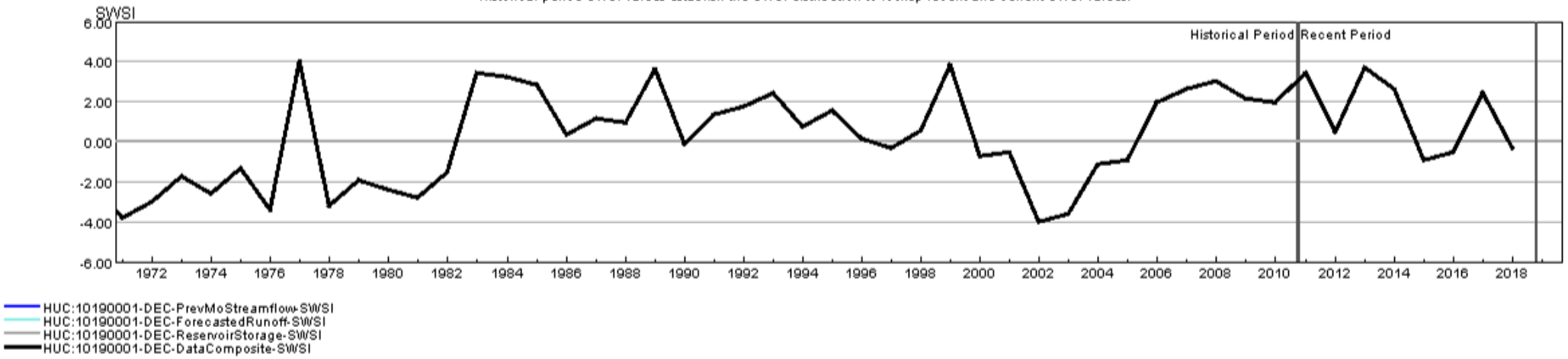
HUC 10190001 (South Platte Headwater) Surface Water Supply - DEC

Monthly component volumes



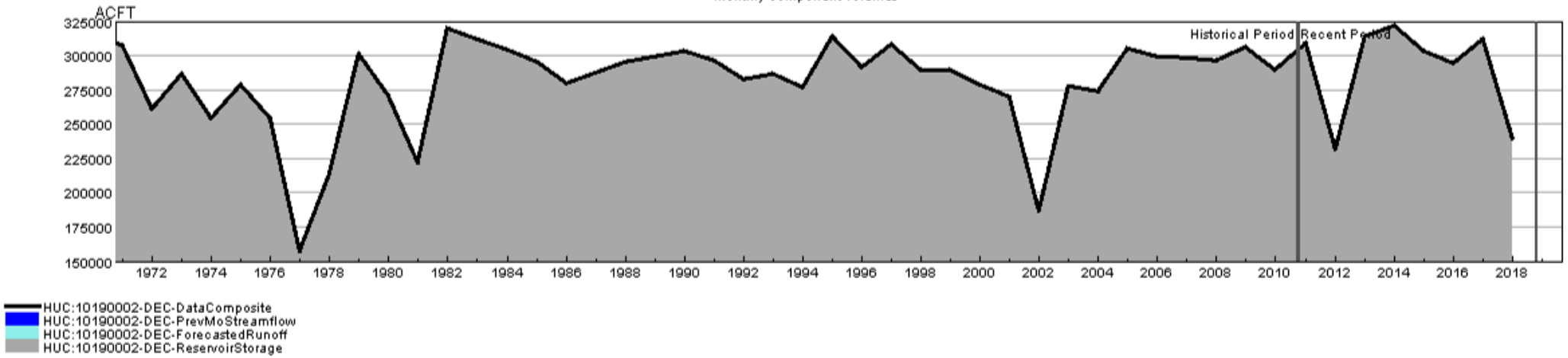
HUC 10190001 (South Platte Headwater) SWSI Values - DEC

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



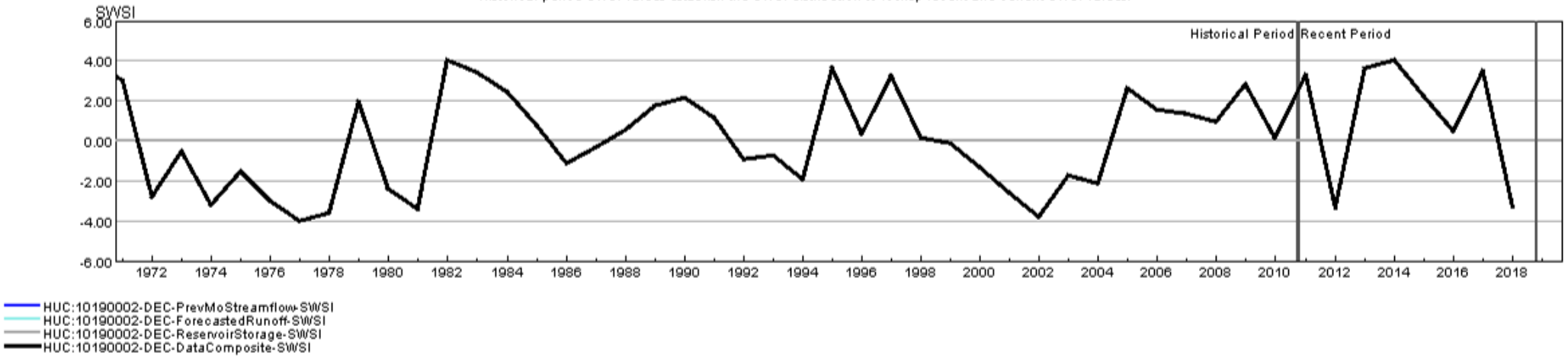
HUC 10190002 (Upper South Platte) Surface Water Supply - DEC

Monthly component volumes



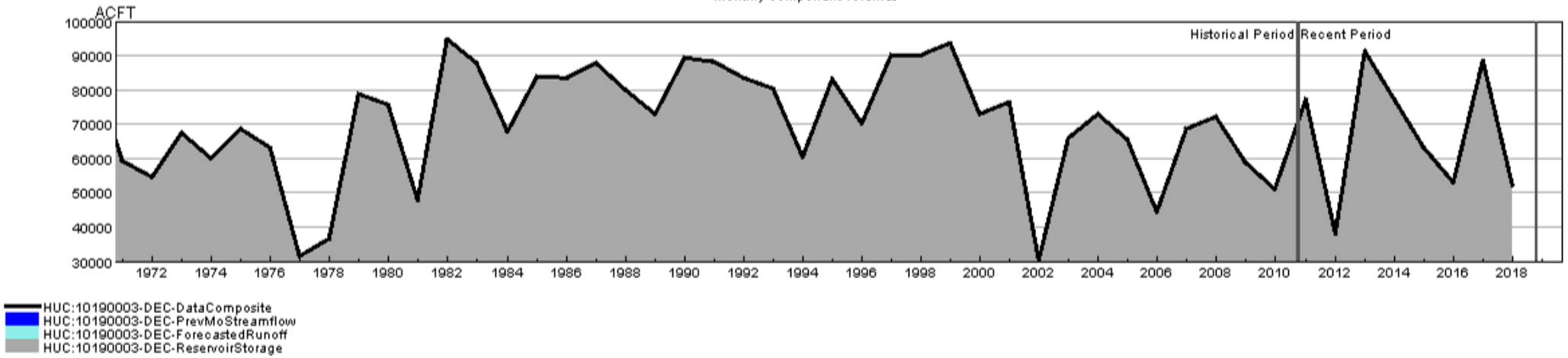
HUC 10190002 (Upper South Platte) SWSI Values - DEC

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



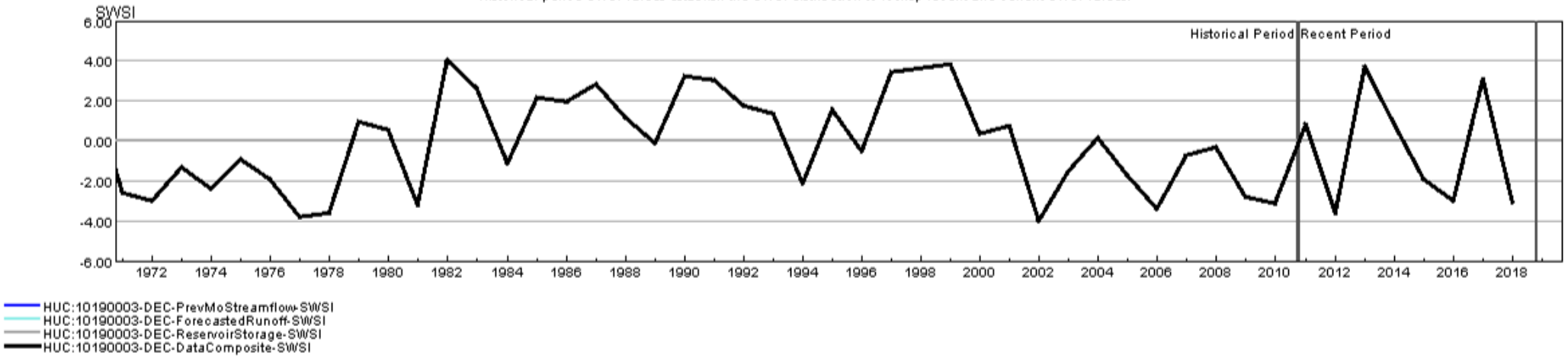
HUC 10190003 (Middle South Platte-Cherry Creek) Surface Water Supply - DEC

Monthly component volumes



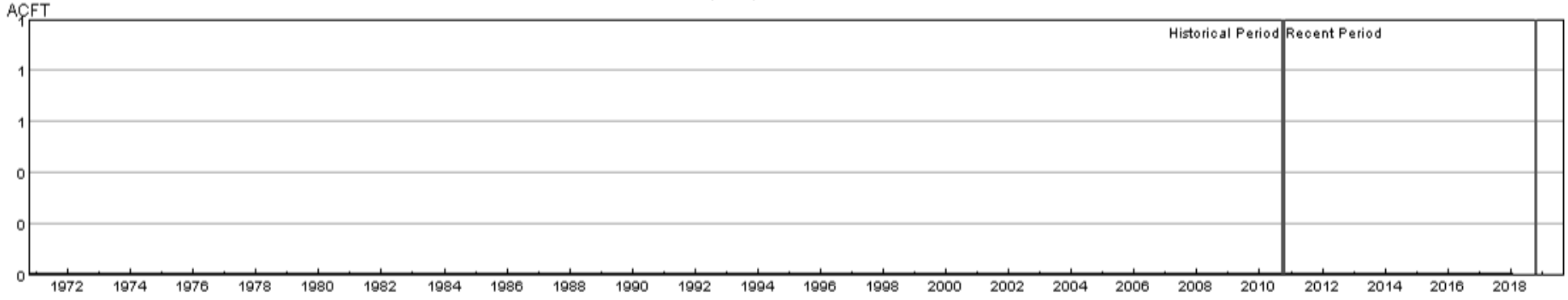
HUC 10190003 (Middle South Platte-Cherry Creek) SWSI Values - DEC

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



HUC 10190004 (Clear) Surface Water Supply - DEC

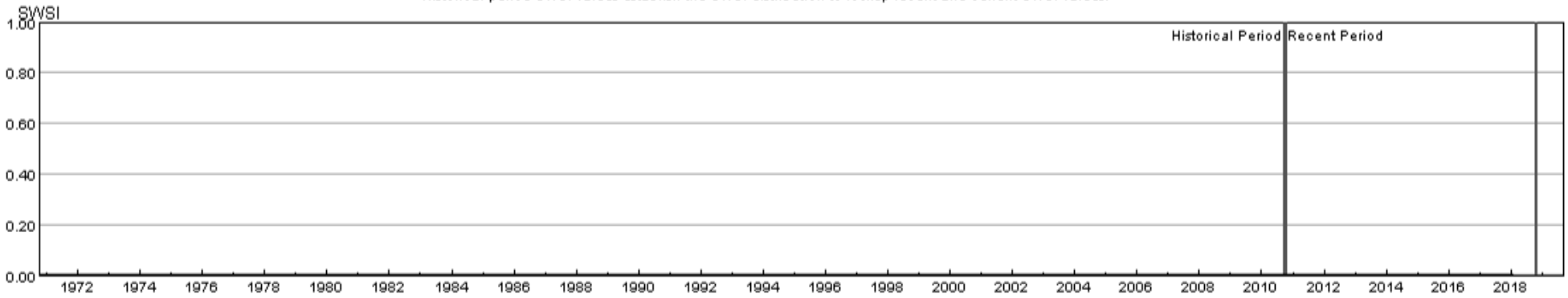
Monthly component volumes



HUC:10190004-DEC-DataComposite
HUC:10190004-DEC-PrevMoStreamflow
HUC:10190004-DEC-ForecastedRunoff
HUC:10190004-DEC-ReservoirStorage

HUC 10190004 (Clear) SWSI Values - DEC

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



HUC:10190004-DEC-PrevMoStreamflow-SWSI
HUC:10190004-DEC-ForecastedRunoff-SWSI
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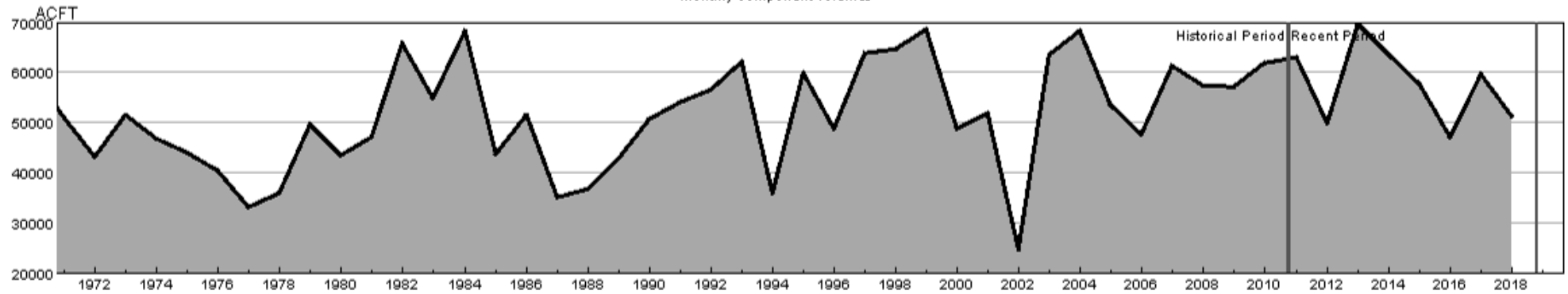
HUC:10190004-DEC-DataComposite-SWSI

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

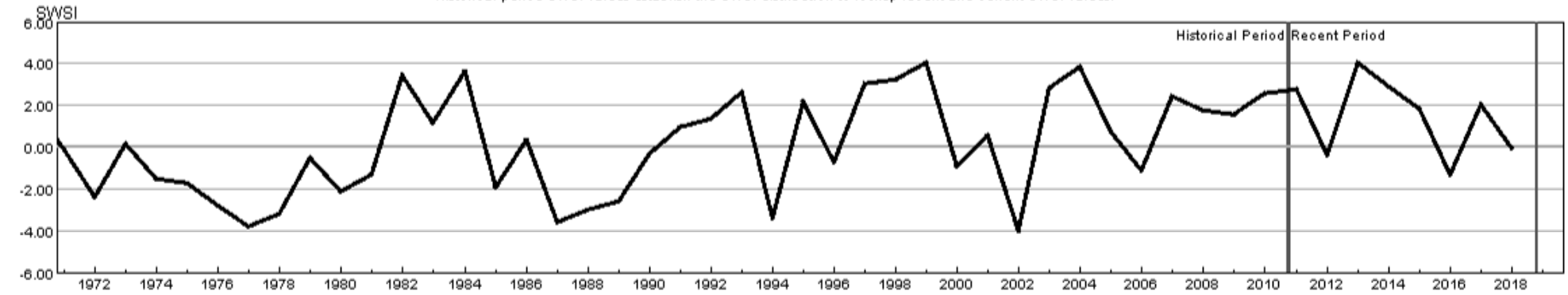
Monthly component volumes



HUC:10190005-DEC-DataComposite
HUC:10190005-DEC-PrevMoStreamflow
HUC:10190005-DEC-ForecastedRunoff
HUC:10190005-DEC-ReservoirStorage

HUC 10190005 (St. Vrain) SWSI Values - DEC

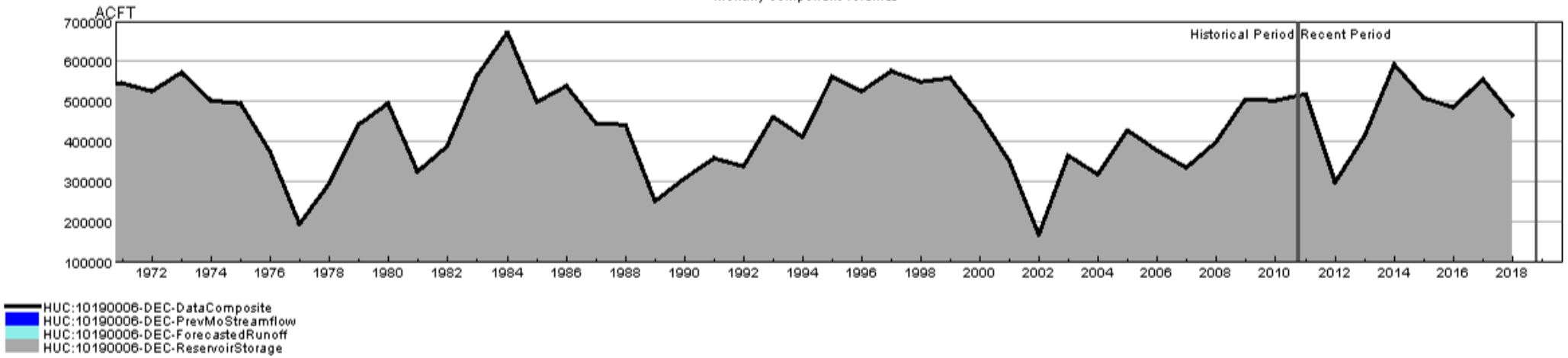
Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



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

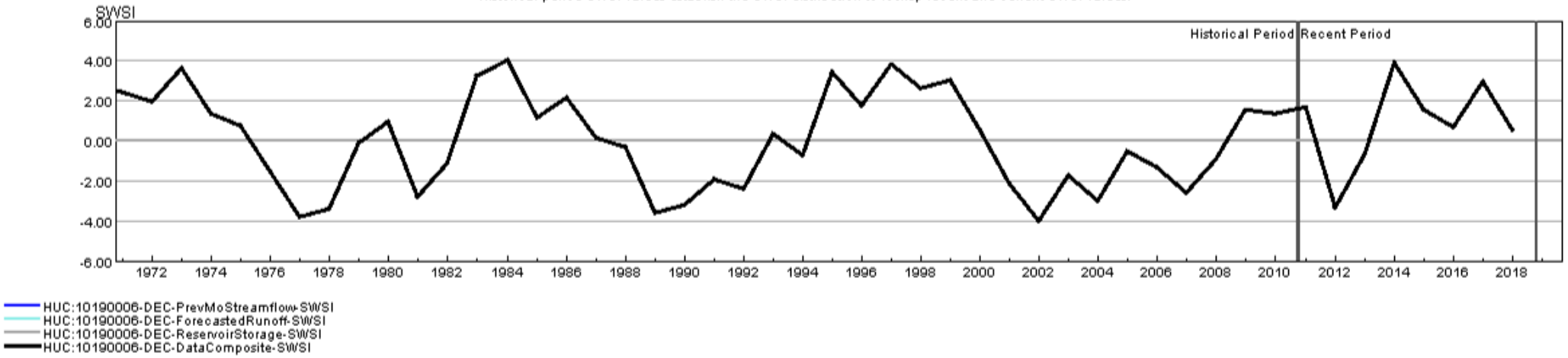
HUC 10190006 (Big Thompson) Surface Water Supply - DEC

Monthly component volumes



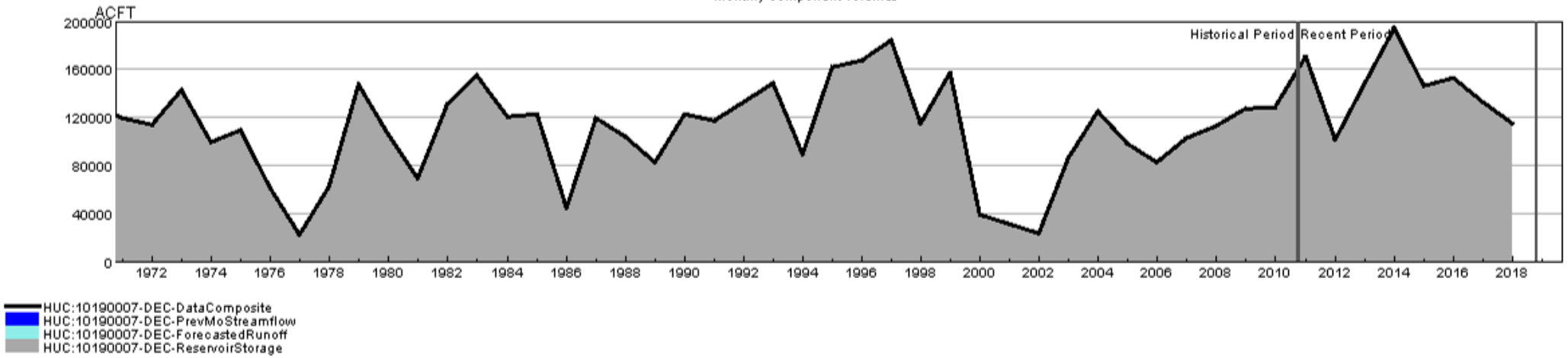
HUC 10190006 (Big Thompson) SWSI Values - DEC

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



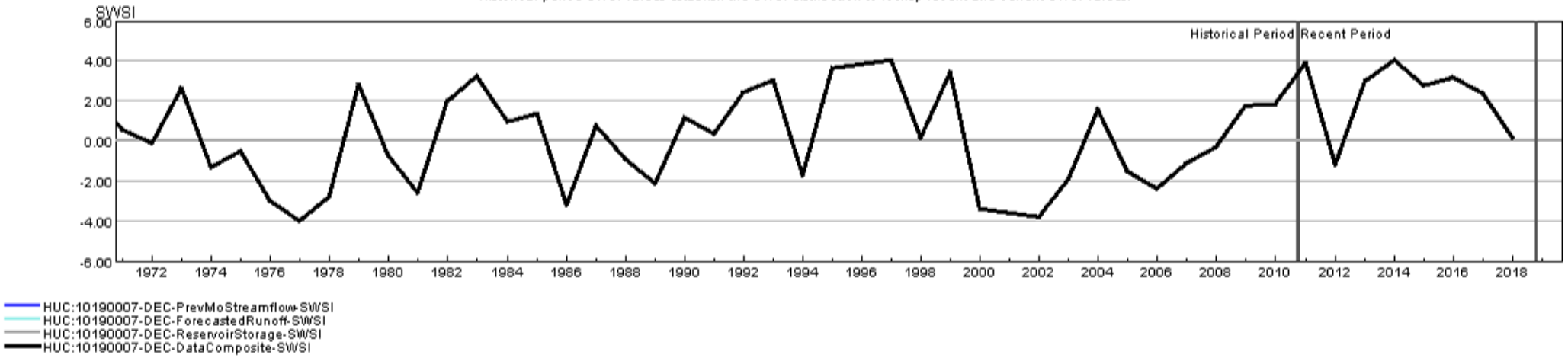
HUC 10190007 (Cache La Poudre) Surface Water Supply - DEC

Monthly component volumes



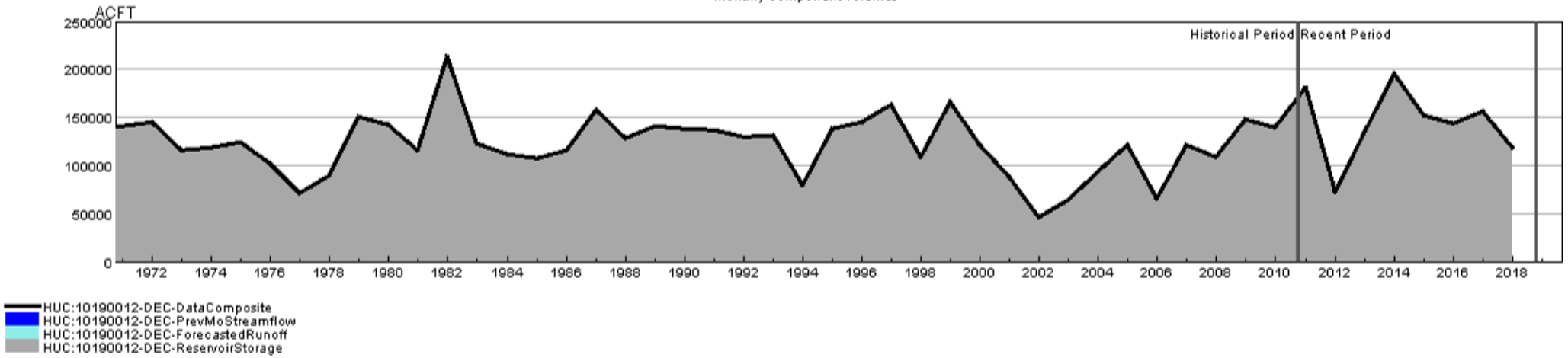
HUC 10190007 (Cache La Poudre) SWSI Values - DEC

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



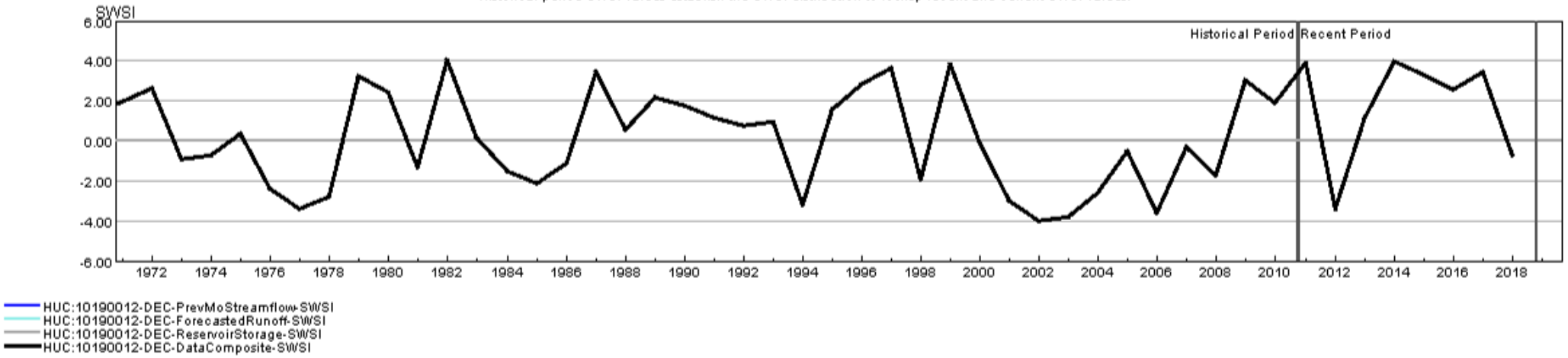
HUC 10190012 (Middle South Platte-Sterling) Surface Water Supply - DEC

Monthly component volumes



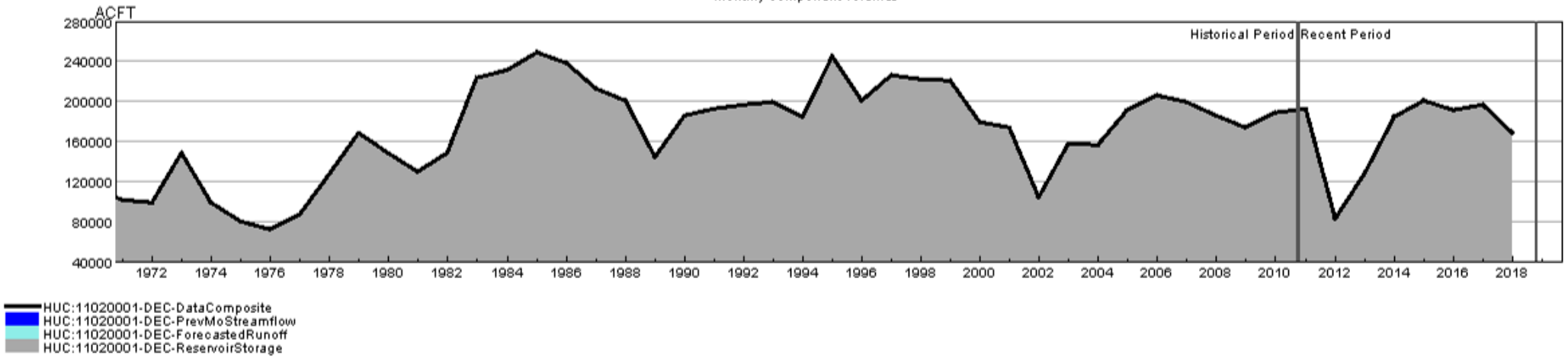
HUC 10190012 (Middle South Platte-Sterling) SWSI Values - DEC

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



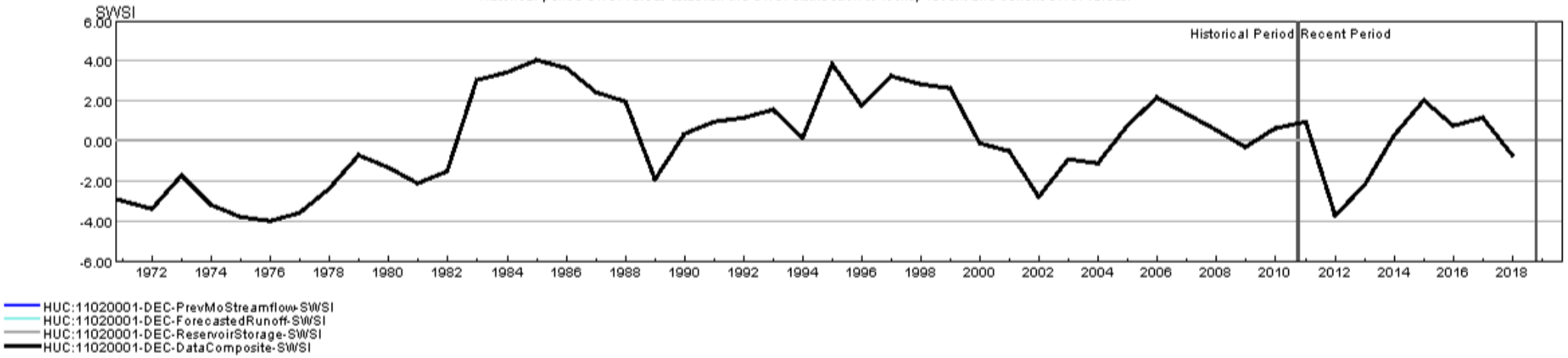
HUC 11020001 (Arkansas Headwaters) Surface Water Supply - DEC

Monthly component volumes



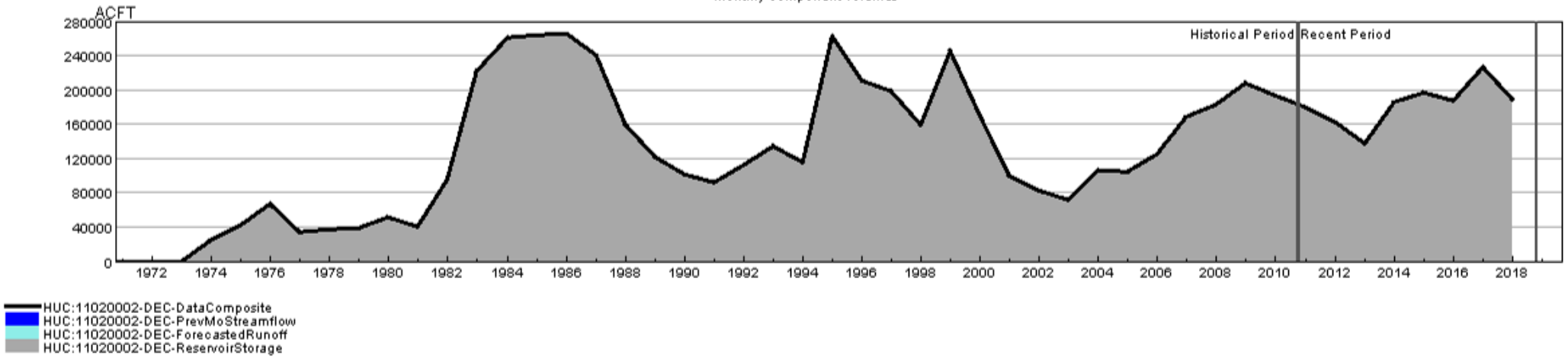
HUC 11020001 (Arkansas Headwaters) SWSI Values - DEC

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



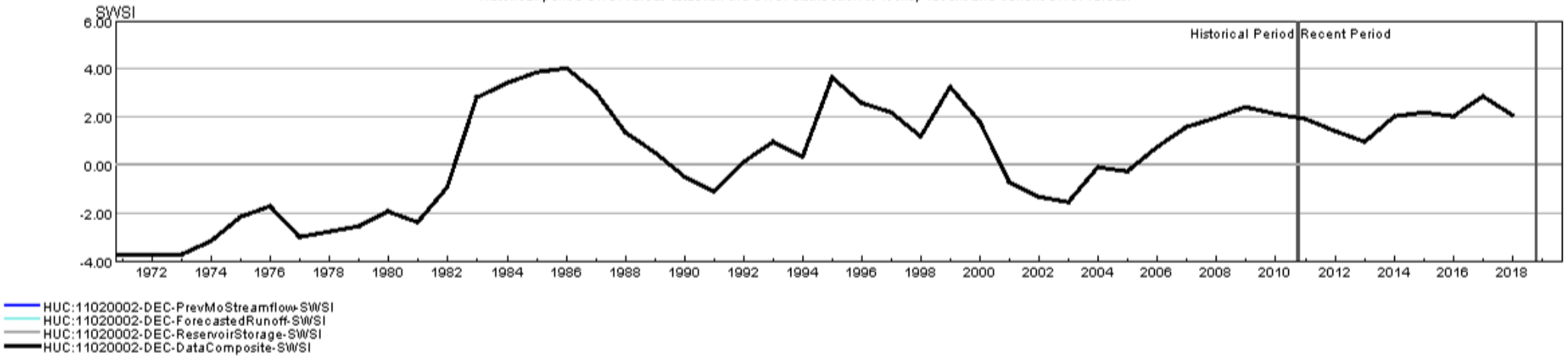
HUC 11020002 (Upper Arkansas) Surface Water Supply - DEC

Monthly component volumes



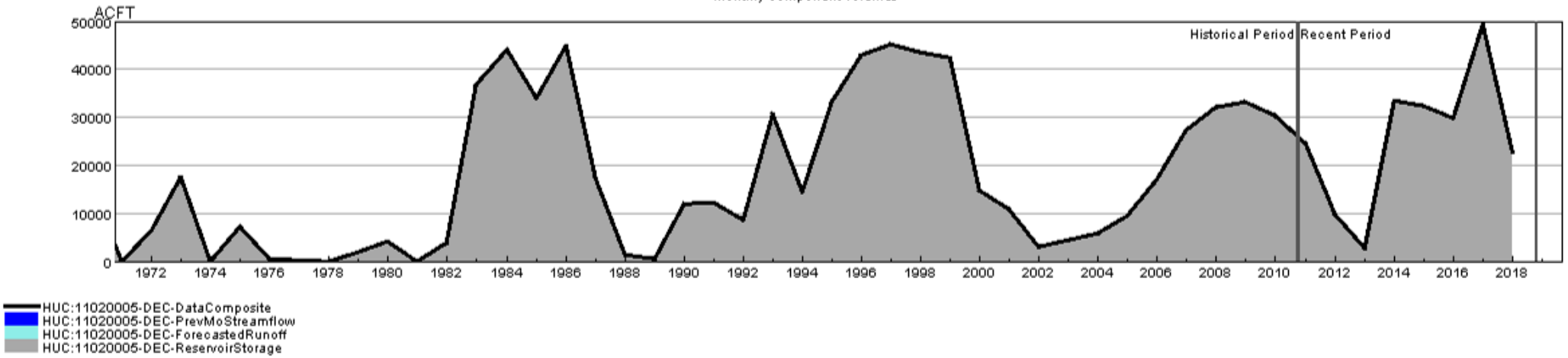
HUC 11020002 (Upper Arkansas) SWSI Values - DEC

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



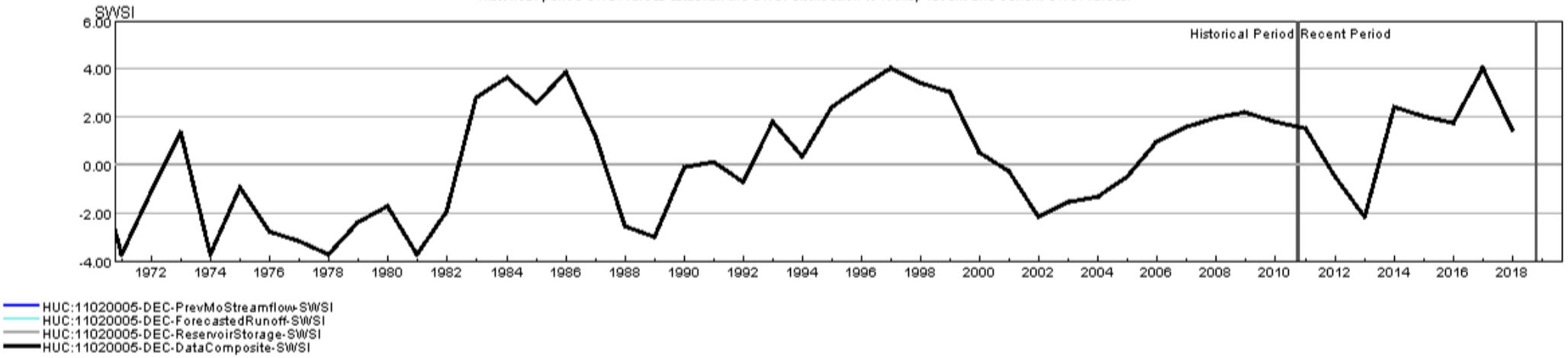
HUC 11020005 (Upper Arkansas-Lake Meredith) Surface Water Supply - DEC

Monthly component volumes



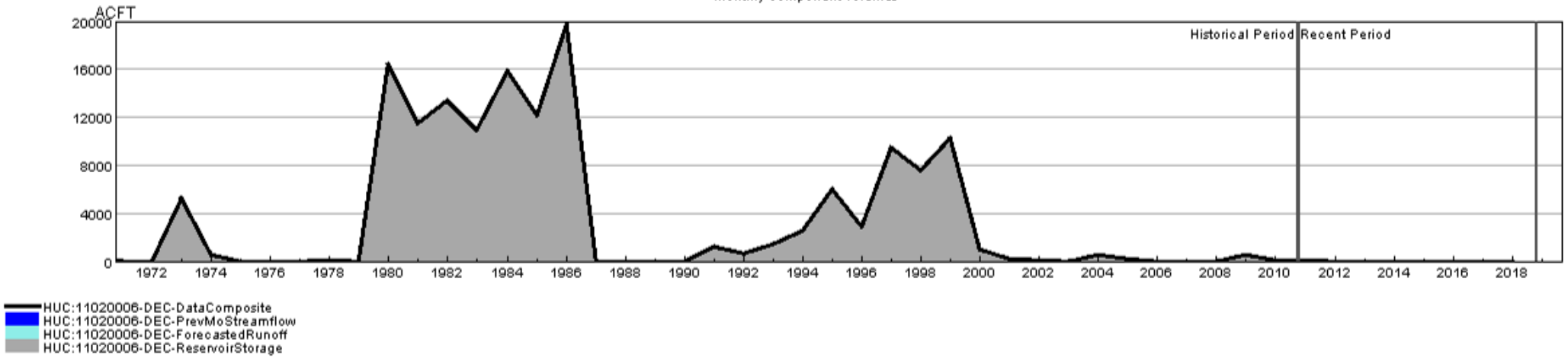
HUC 11020005 (Upper Arkansas-Lake Meredith) SWSI Values - DEC

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



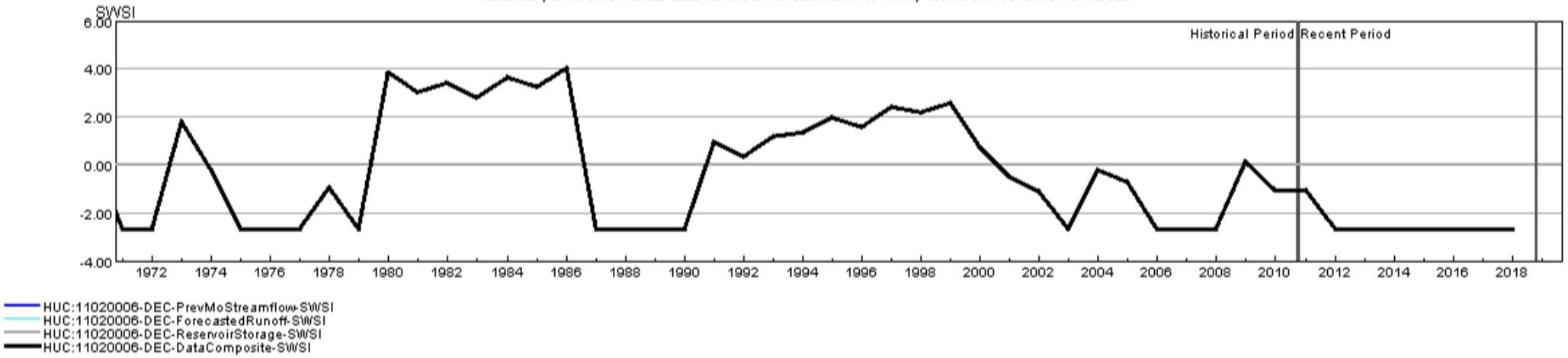
HUC 11020006 (Huerfano) Surface Water Supply - DEC

Monthly component volumes



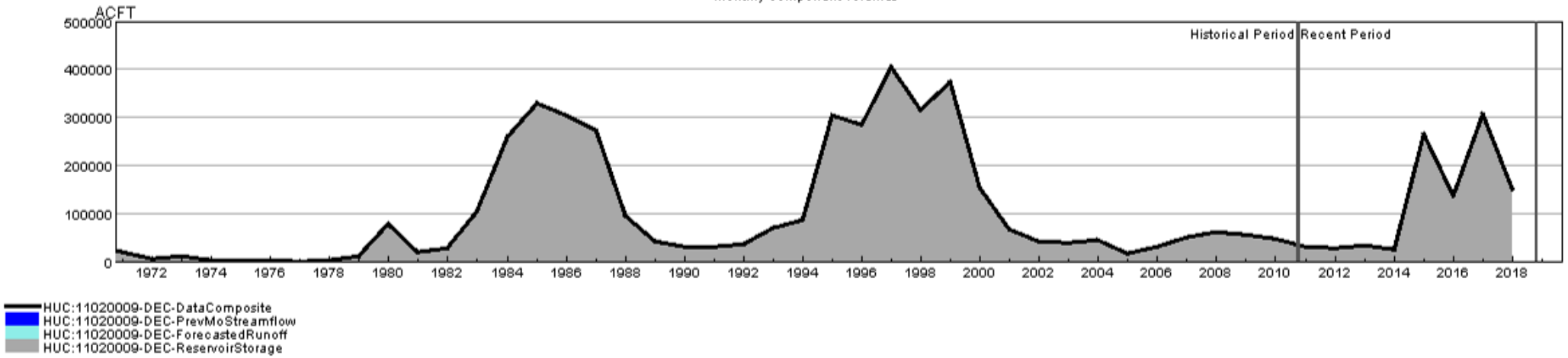
HUC 11020006 (Huerfano) SWSI Values - DEC

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



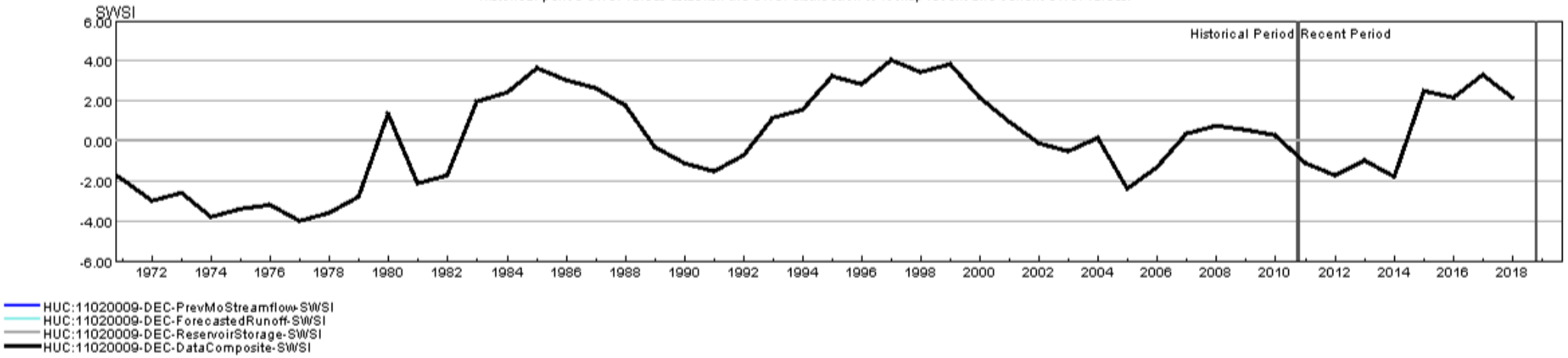
HUC 11020009 (Upper Arkansas-John Martin Reservoir) Surface Water Supply - DEC

Monthly component volumes



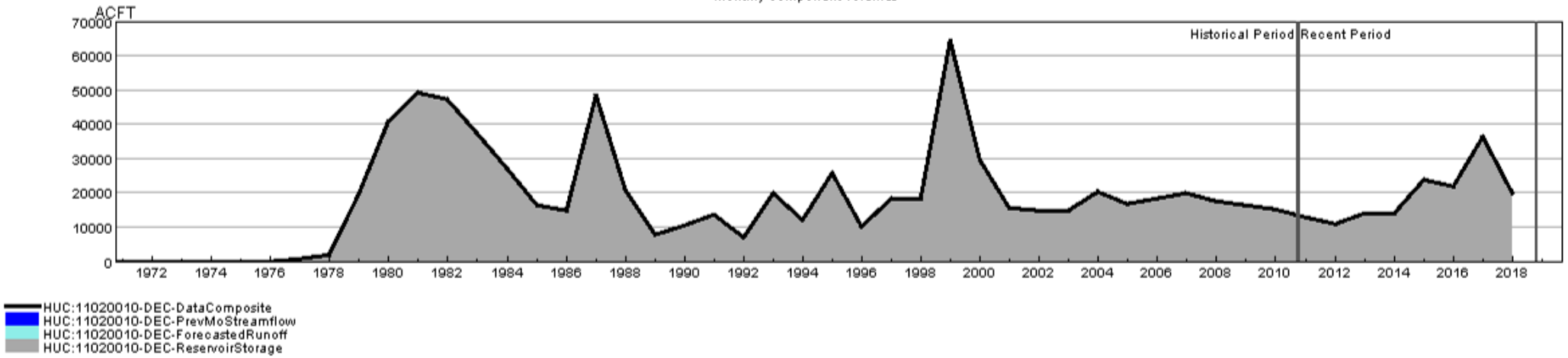
HUC 11020009 (Upper Arkansas-John Martin Reservoir) SWSI Values - DEC

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



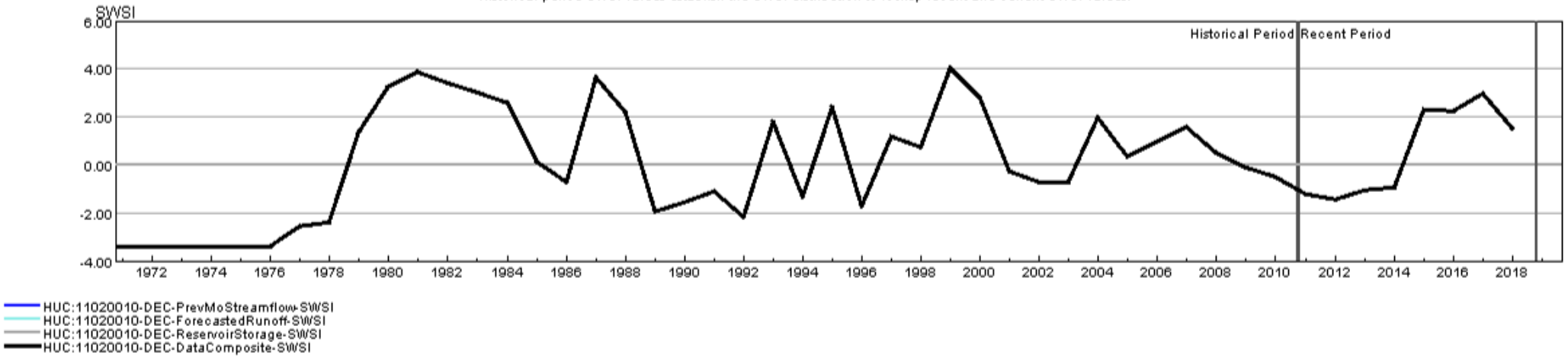
HUC 11020010 (Purgatoire) Surface Water Supply - DEC

Monthly component volumes



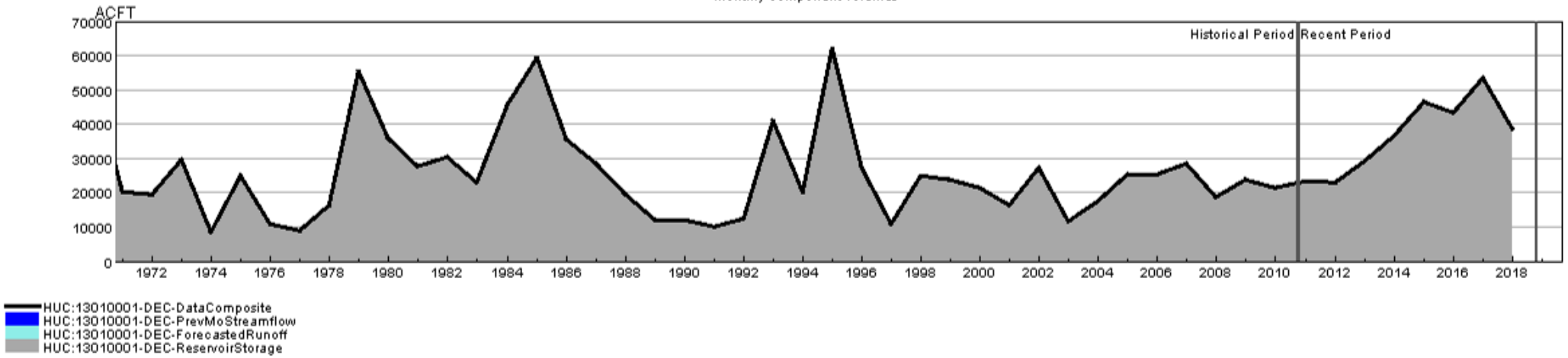
HUC 11020010 (Purgatoire) SWSI Values - DEC

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



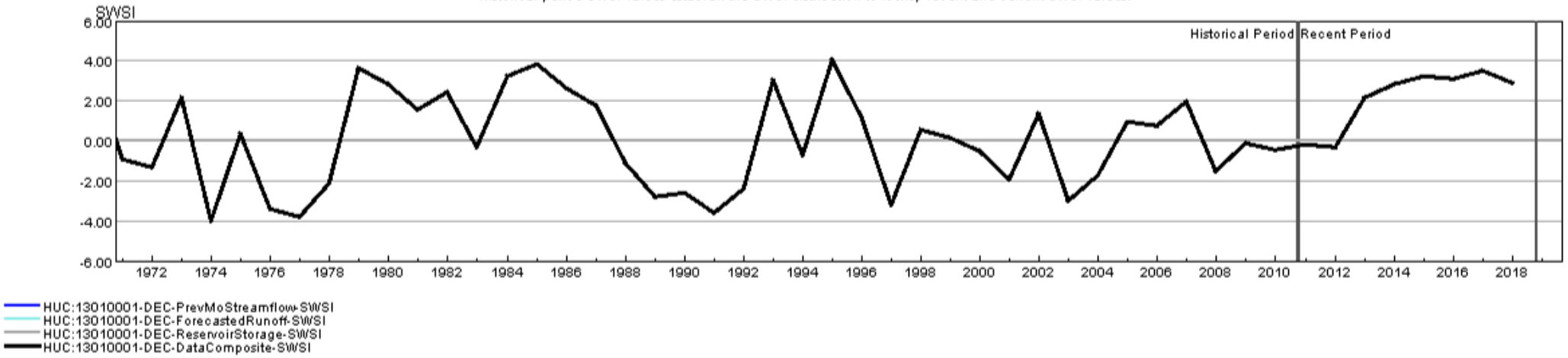
HUC 13010001 (Rio Grande Headwaters) Surface Water Supply - DEC

Monthly component volumes



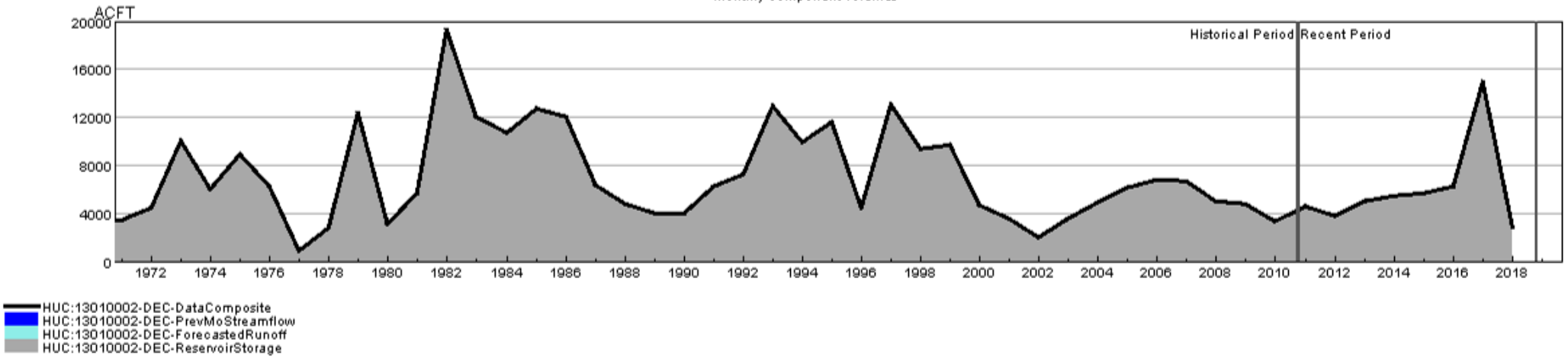
HUC 13010001 (Rio Grande Headwaters) SWSI Values - DEC

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



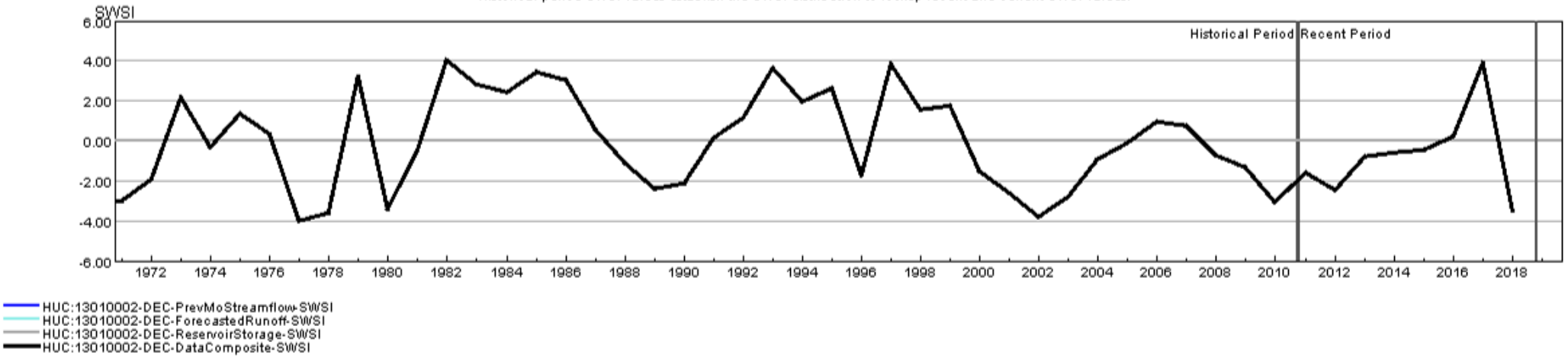
HUC 13010002 (Alamosa-Trinchera) Surface Water Supply - DEC

Monthly component volumes



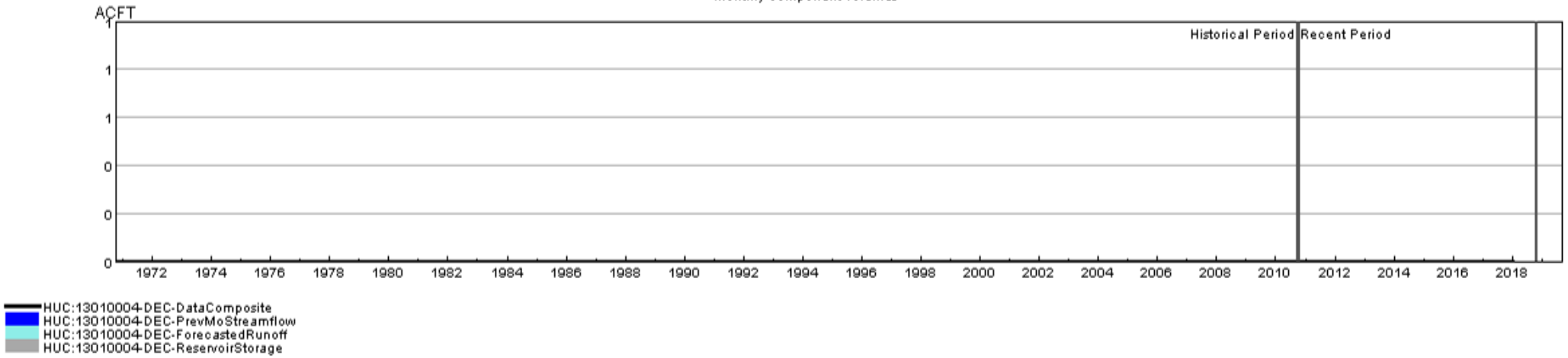
HUC 13010002 (Alamosa-Trinchera) SWSI Values - DEC

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



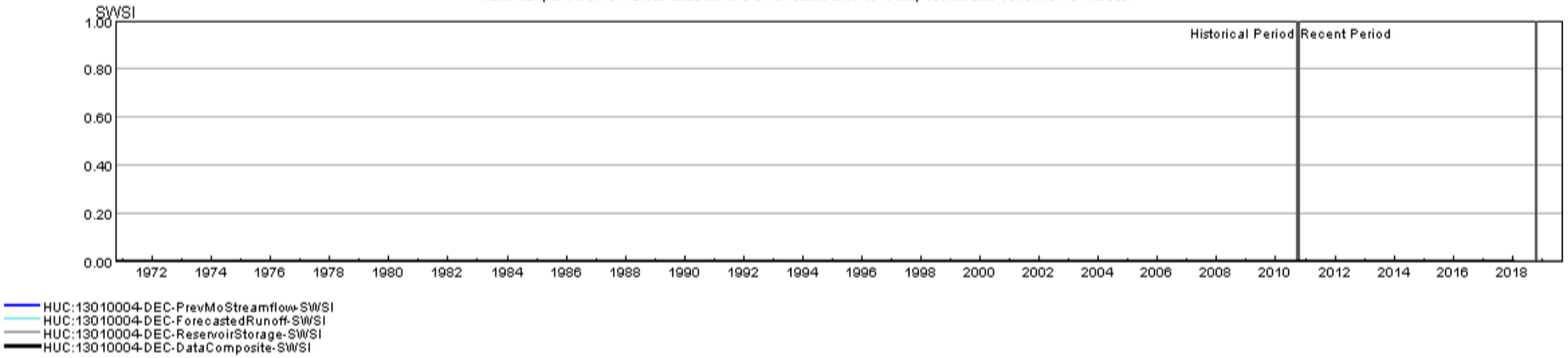
HUC 13010004 (Saguache) Surface Water Supply - DEC

Monthly component volumes



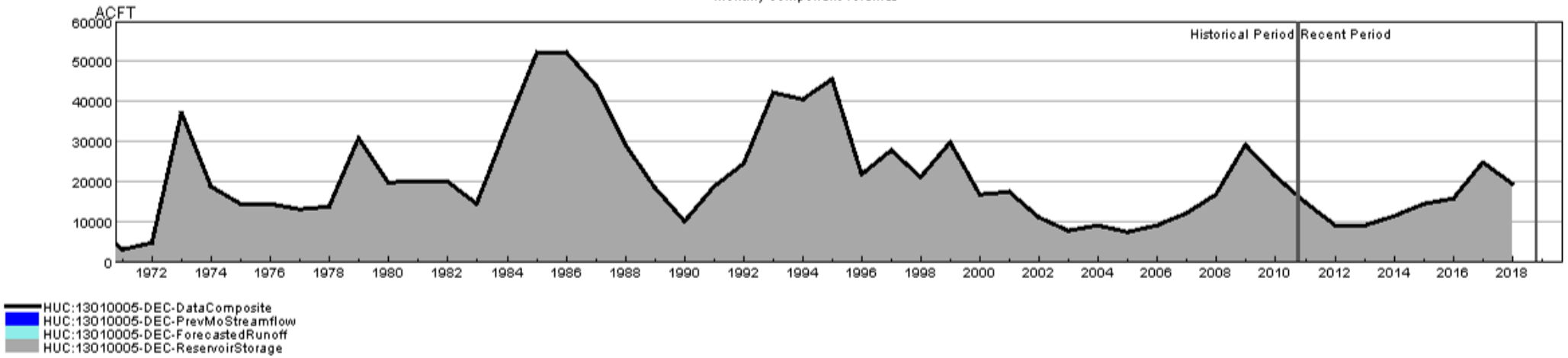
HUC 13010004 (Saguache) SWSI Values - DEC

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



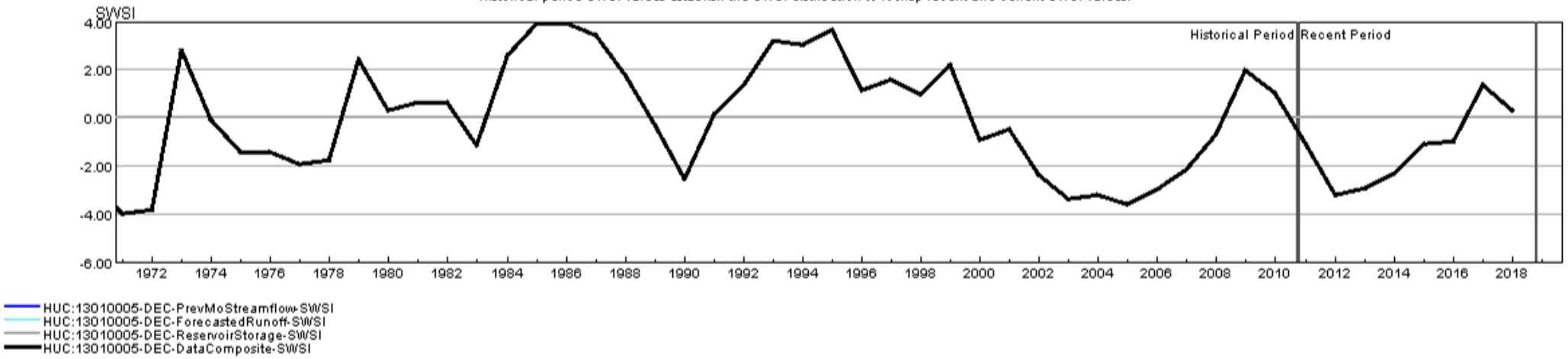
HUC 13010005 (Conejos) Surface Water Supply - DEC

Monthly component volumes



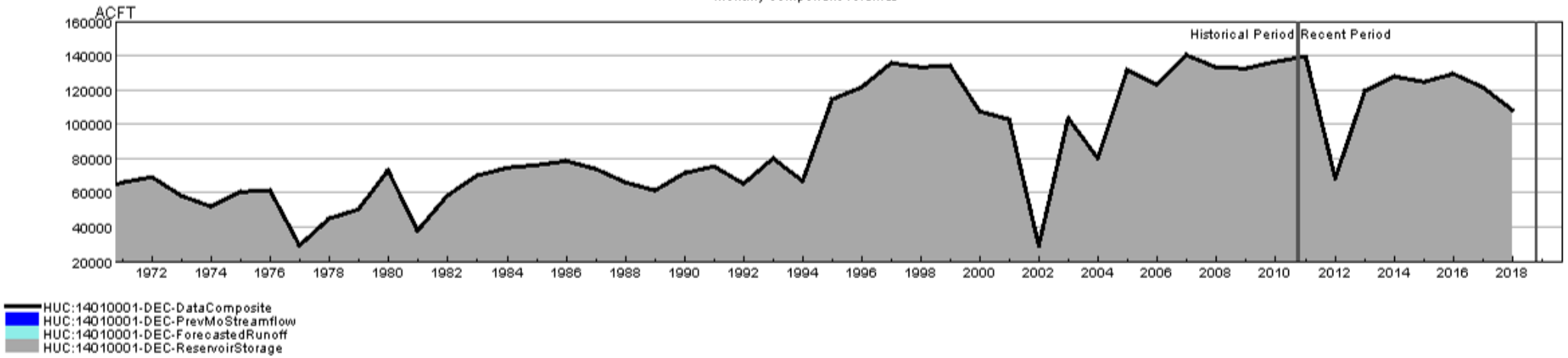
HUC 13010005 (Conejos) SWSI Values - DEC

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



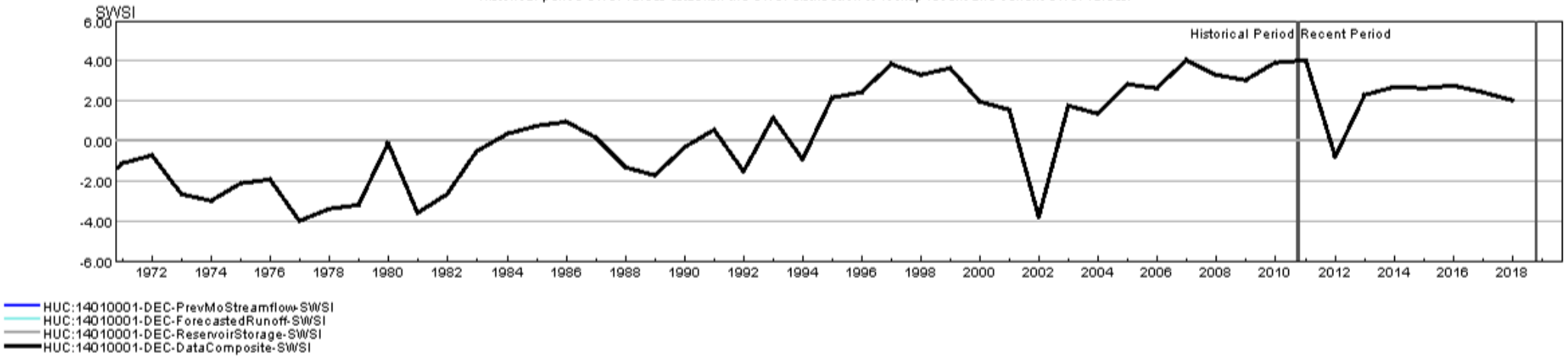
HUC 14010001 (Colorado Headwaters) Surface Water Supply - DEC

Monthly component volumes



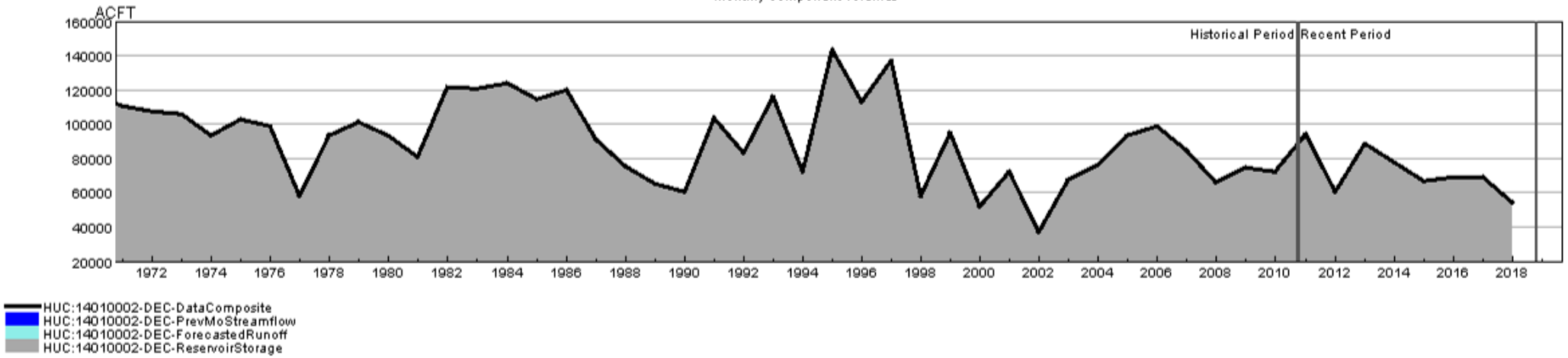
HUC 14010001 (Colorado Headwaters) SWSI Values - DEC

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



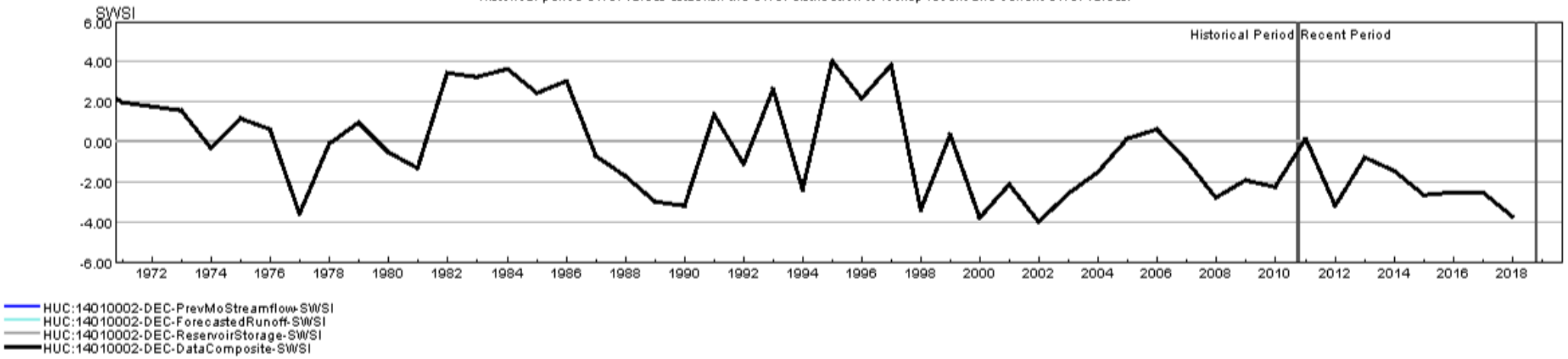
HUC 14010002 (Blue) Surface Water Supply - DEC

Monthly component volumes



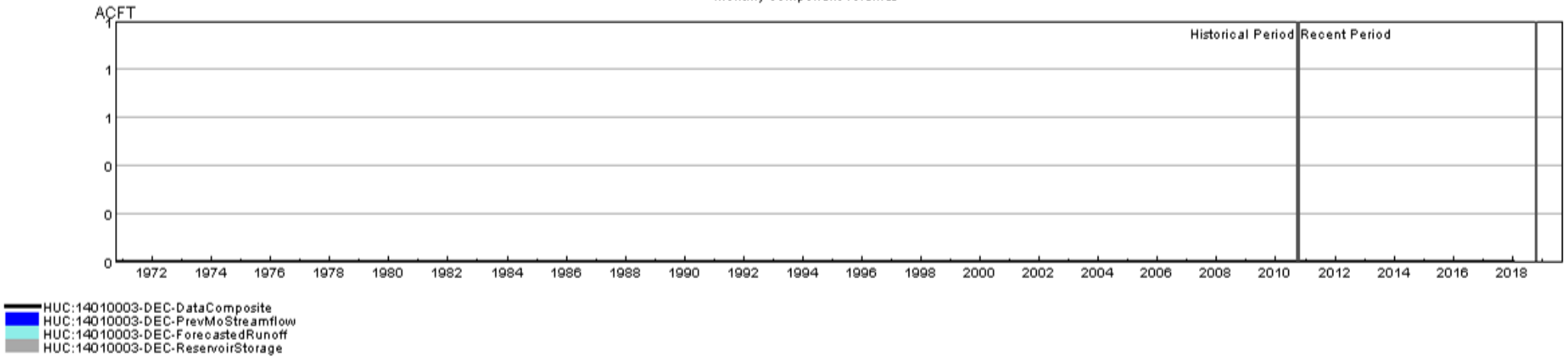
HUC 14010002 (Blue) SWSI Values - DEC

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



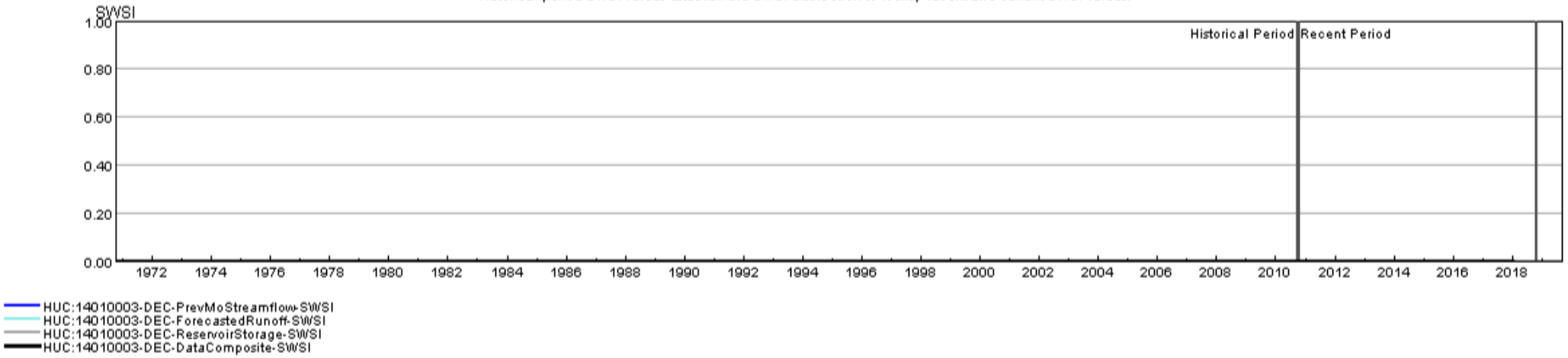
HUC 14010003 (Eagle) Surface Water Supply - DEC

Monthly component volumes



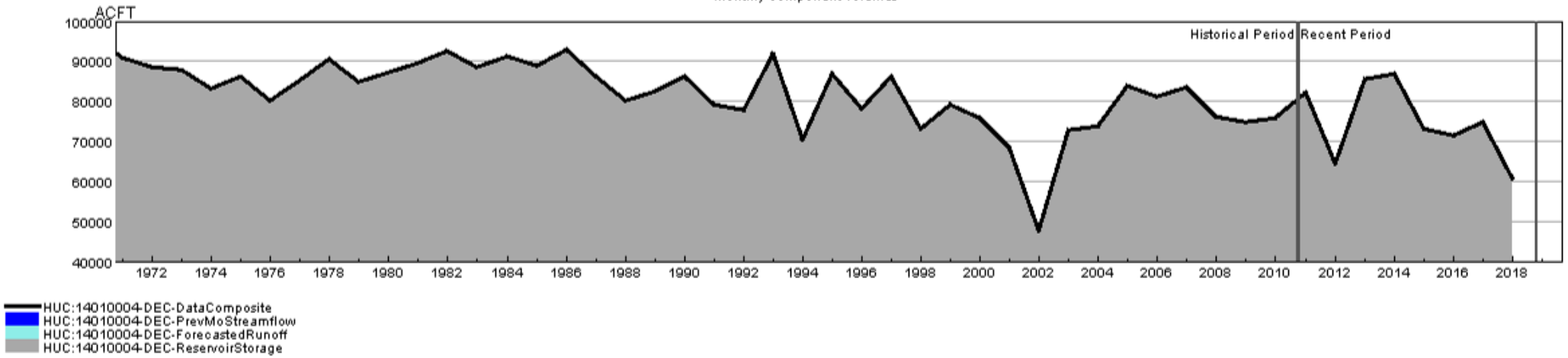
HUC 14010003 (Eagle) SWSI Values - DEC

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



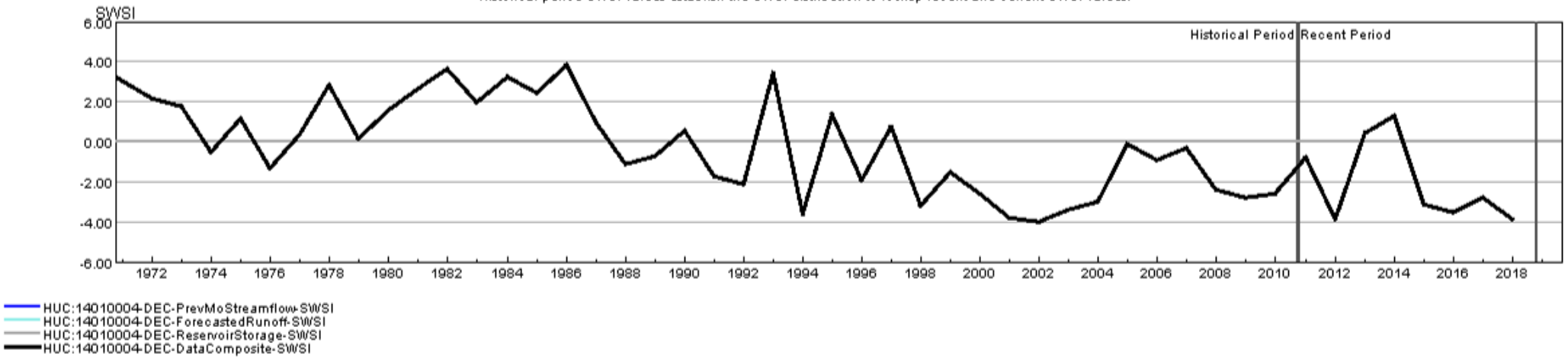
HUC 14010004 (Roaring Fork) Surface Water Supply - DEC

Monthly component volumes



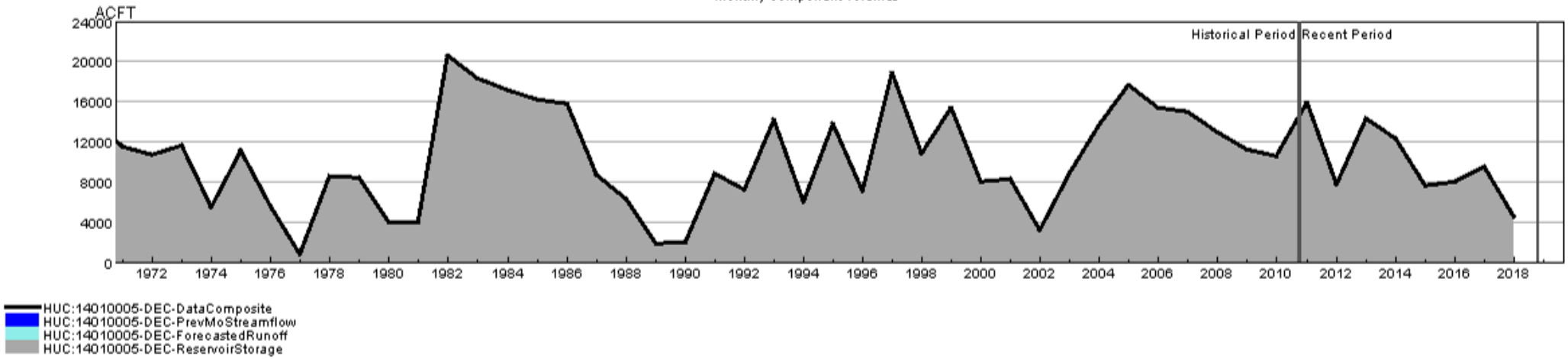
HUC 14010004 (Roaring Fork) SWSI Values - DEC

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



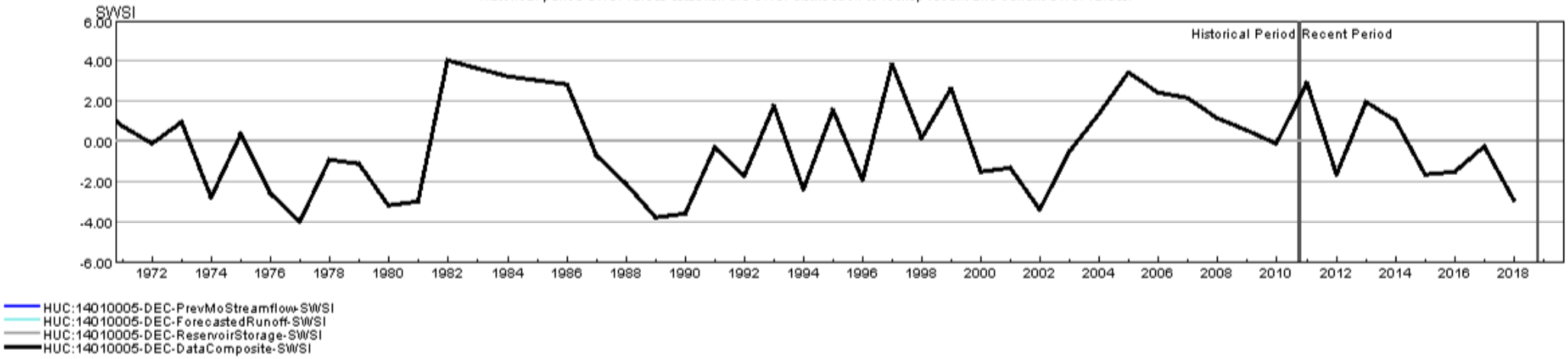
HUC 14010005 (Colorado Headwaters-Plateau) Surface Water Supply - DEC

Monthly component volumes



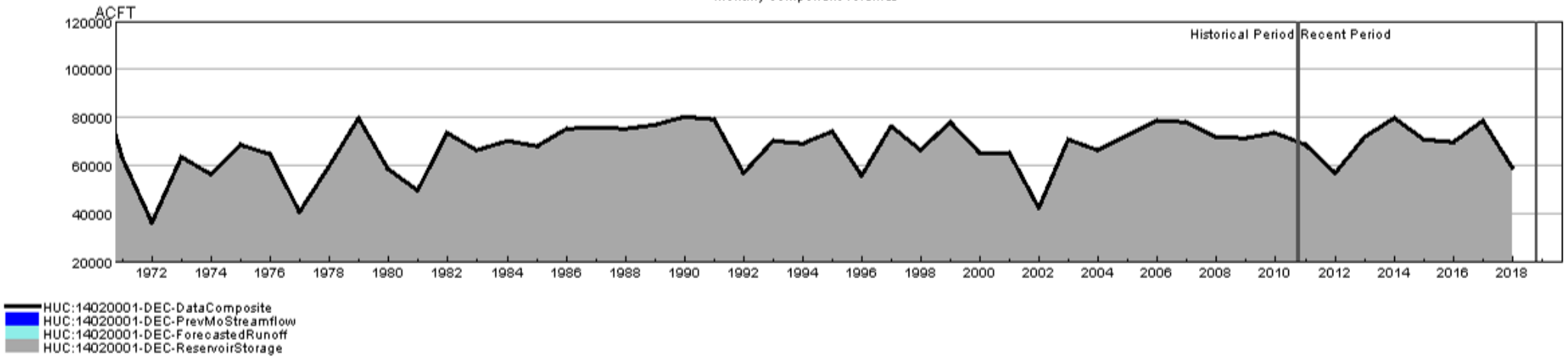
HUC 14010005 (Colorado Headwaters-Plateau) SWSI Values - DEC

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



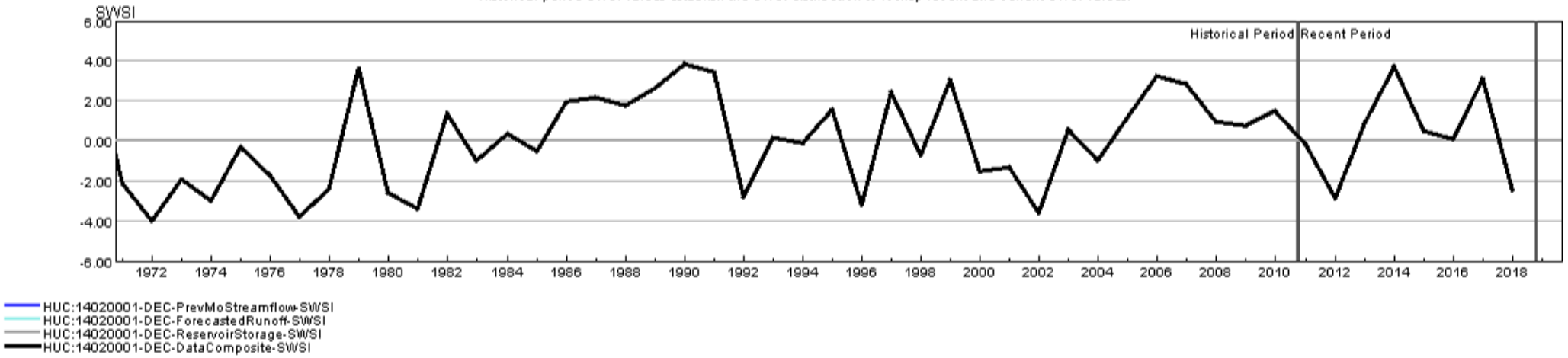
HUC 14020001 (East-Taylor) Surface Water Supply - DEC

Monthly component volumes



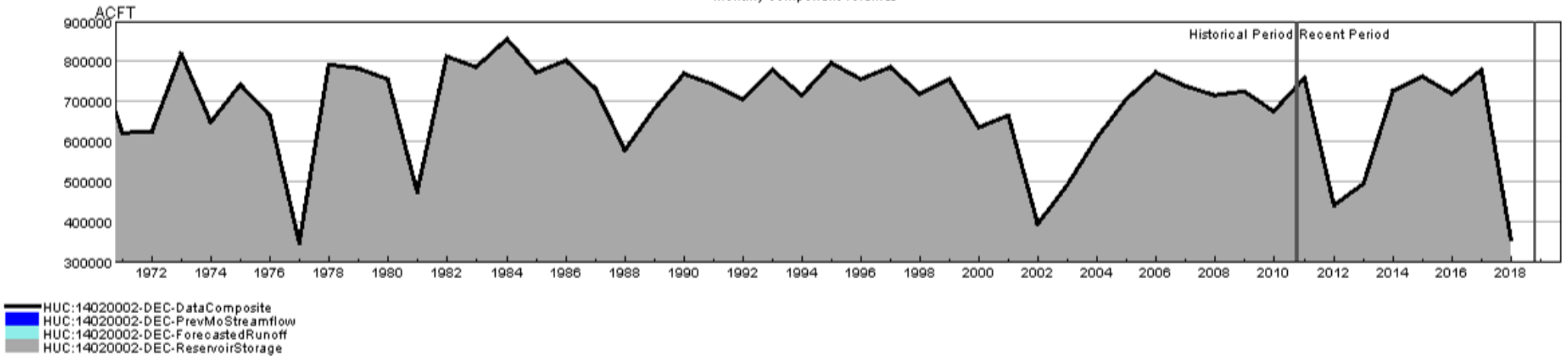
HUC 14020001 (East-Taylor) SWSI Values - DEC

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



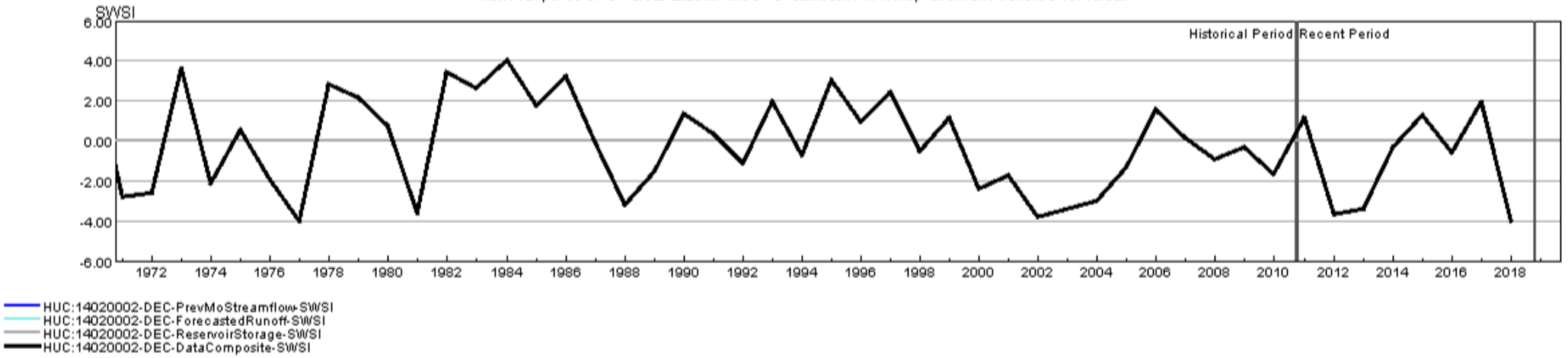
HUC 14020002 (Upper Gunnison) Surface Water Supply - DEC

Monthly component volumes



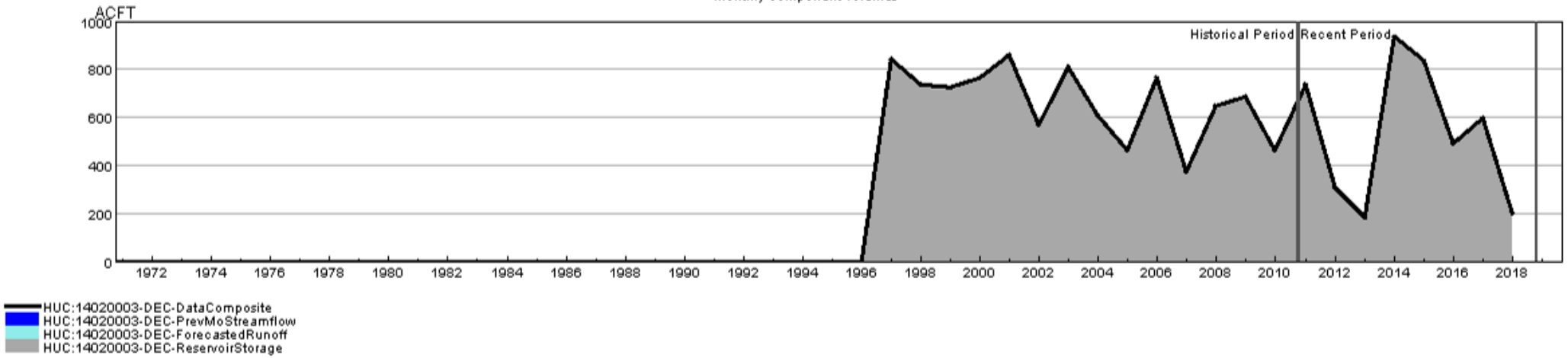
HUC 14020002 (Upper Gunnison) SWSI Values - DEC

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



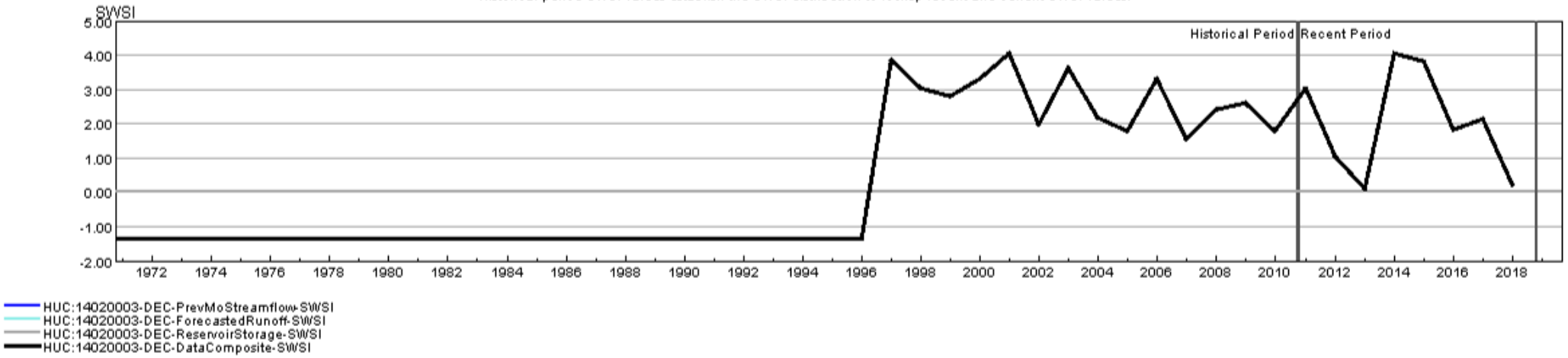
HUC 14020003 (Tomichi) Surface Water Supply - DEC

Monthly component volumes



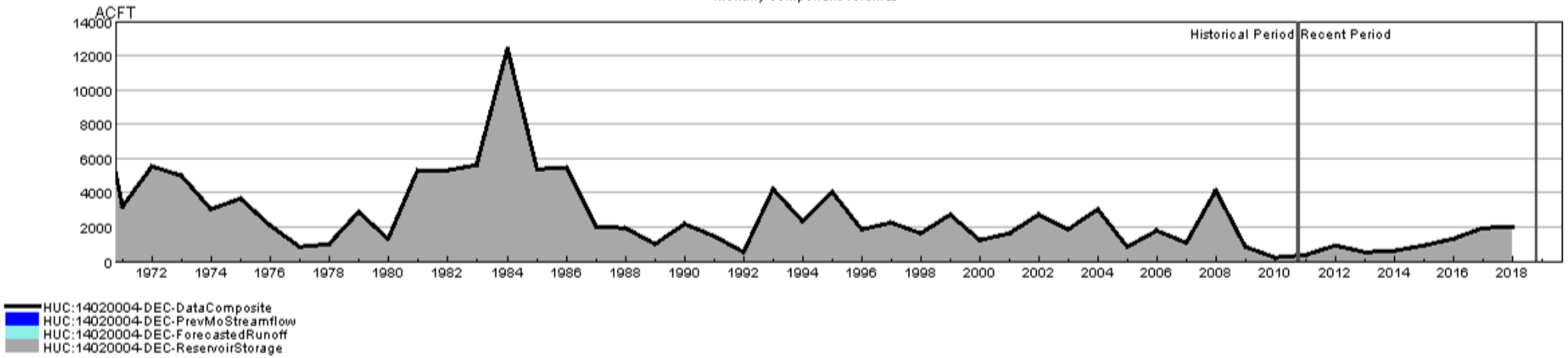
HUC 14020003 (Tomichi) SWSI Values - DEC

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



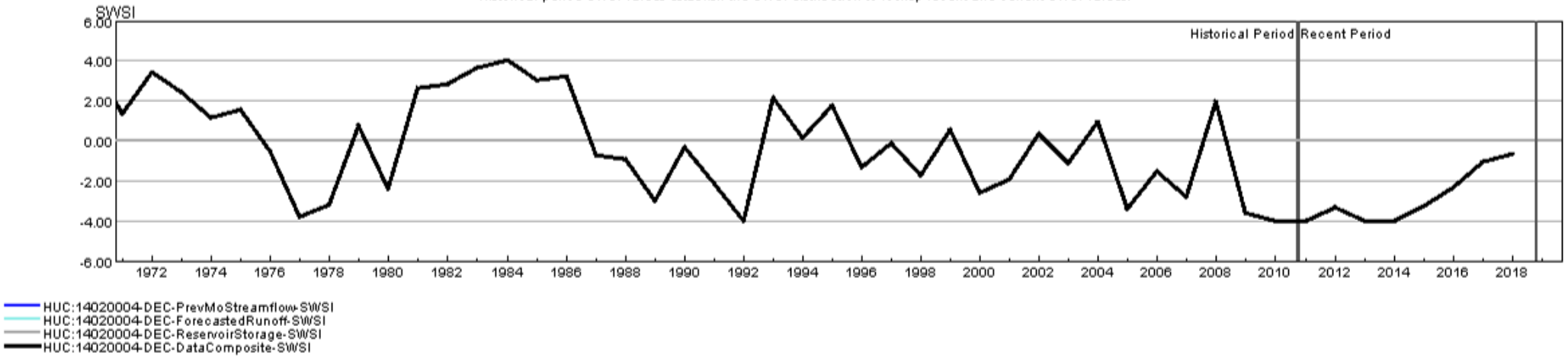
HUC 14020004 (North Fork Gunnison) Surface Water Supply - DEC

Monthly component volumes



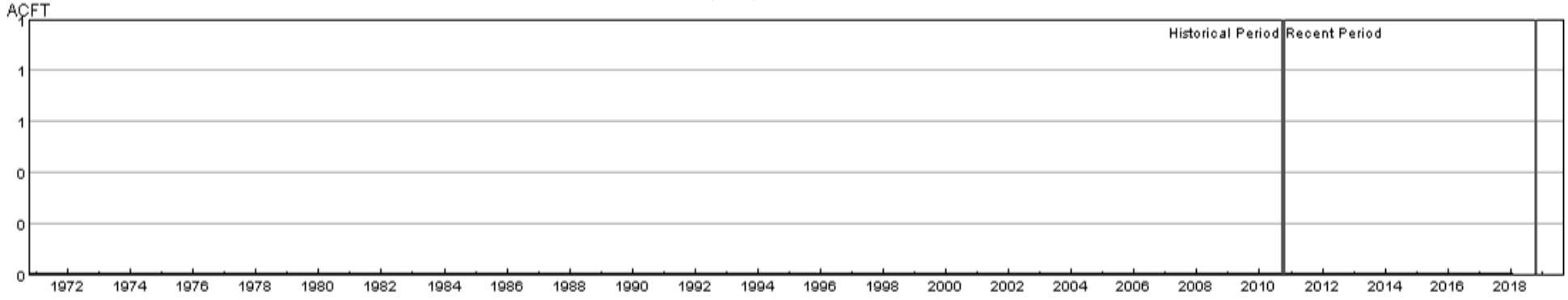
HUC 14020004 (North Fork Gunnison) SWSI Values - DEC

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



HUC 14020005 (Lower Gunnison) Surface Water Supply - DEC

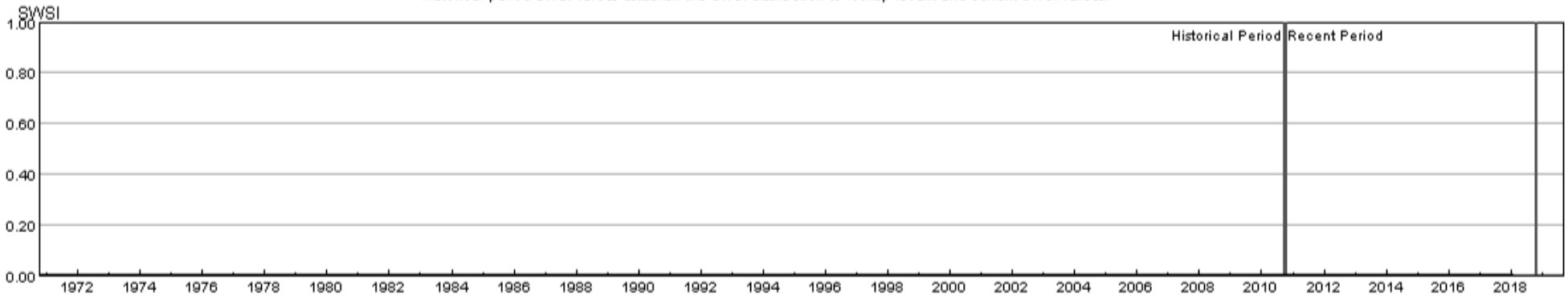
Monthly component volumes



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

HUC 14020005 (Lower Gunnison) SWSI Values - DEC

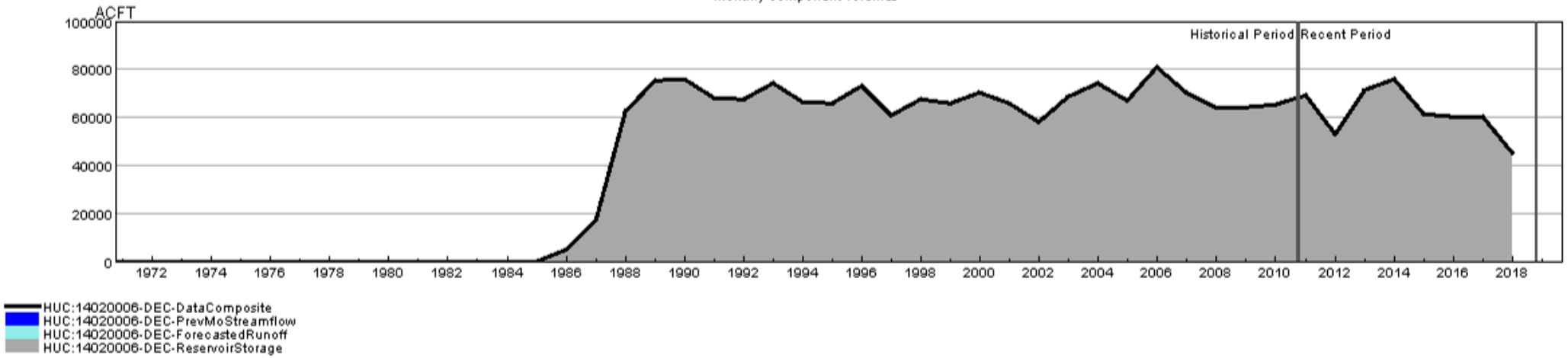
Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



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

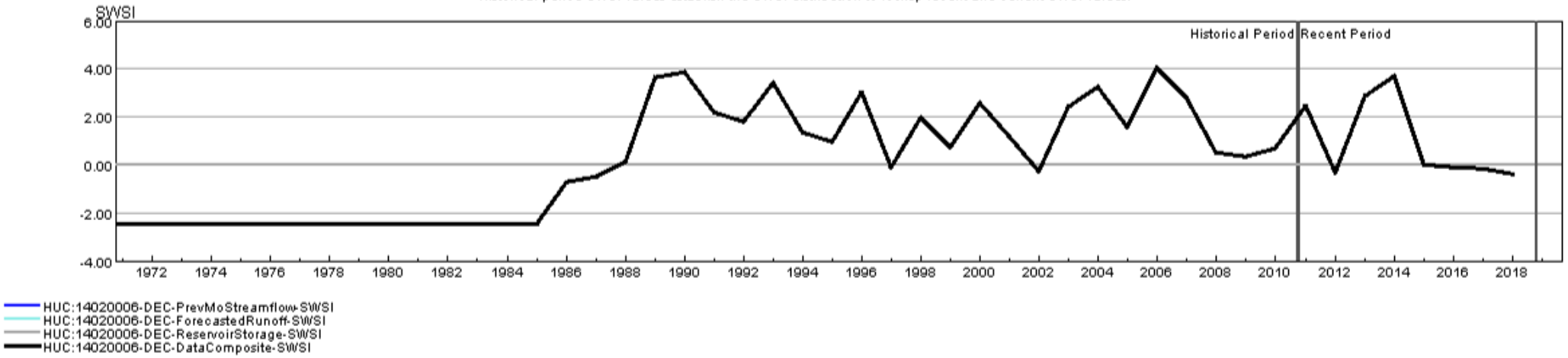
HUC 14020006 (Uncompahgre) Surface Water Supply - DEC

Monthly component volumes



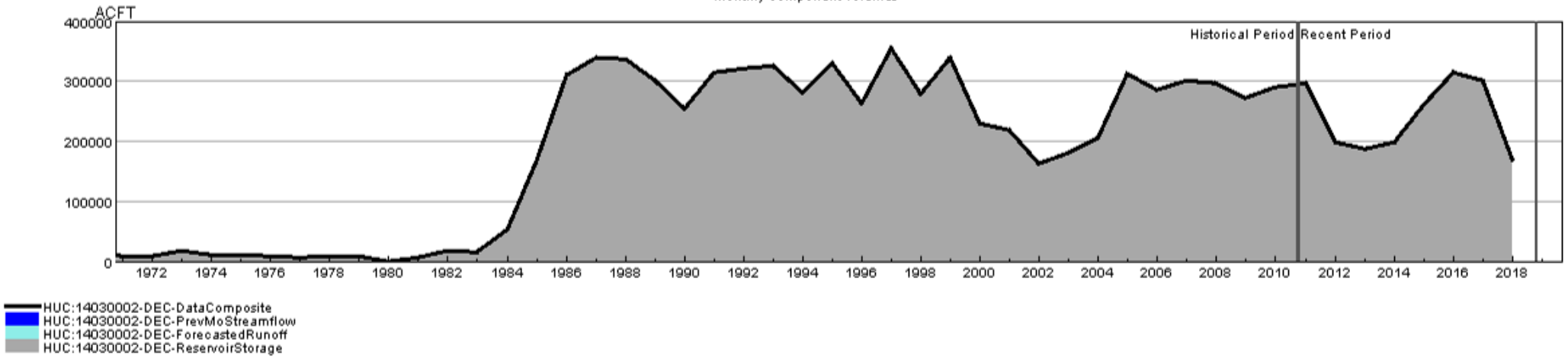
HUC 14020006 (Uncompahgre) SWSI Values - DEC

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



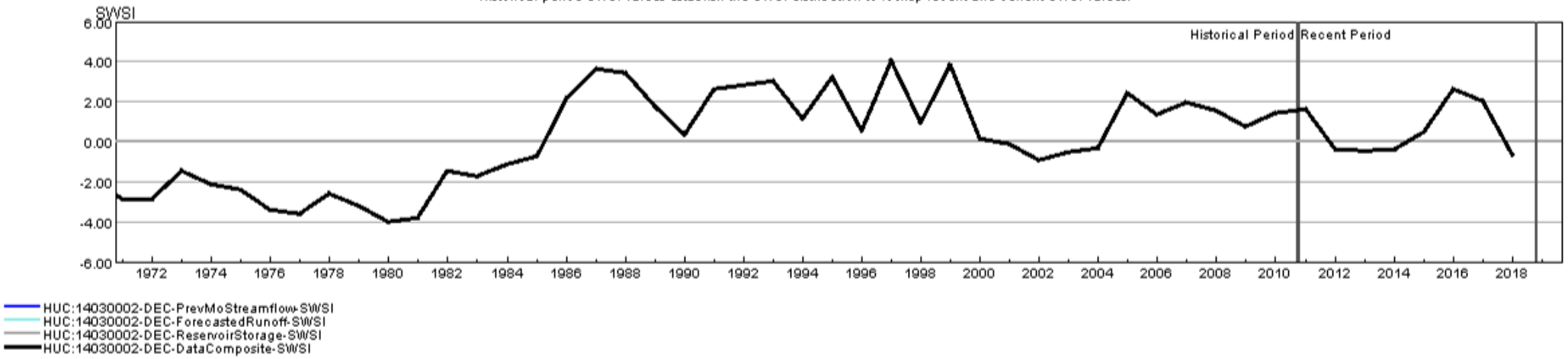
HUC 14030002 (Upper Dolores) Surface Water Supply - DEC

Monthly component volumes



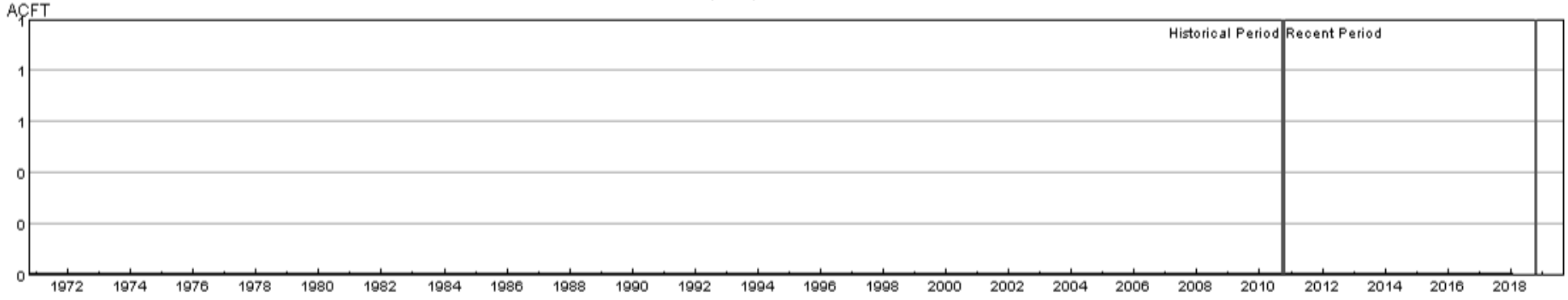
HUC 14030002 (Upper Dolores) SWSI Values - DEC

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



HUC 14030003 (San Miguel) Surface Water Supply - DEC

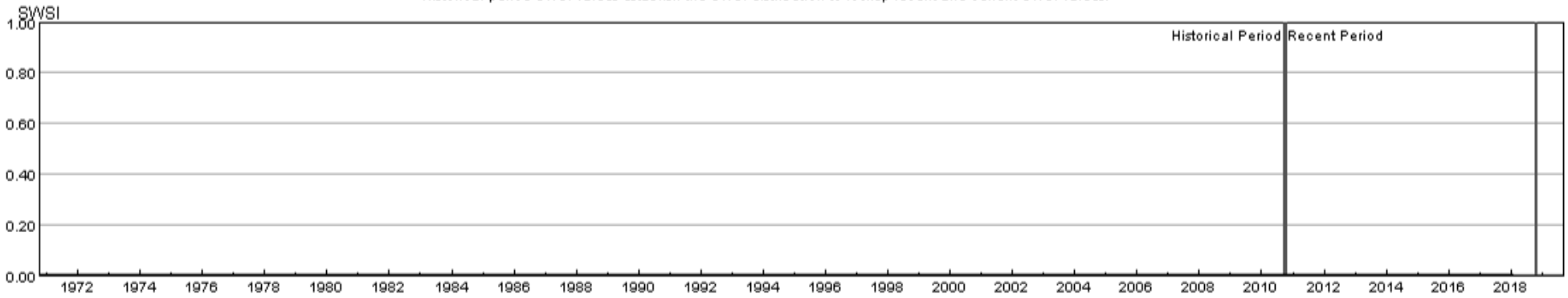
Monthly component volumes



HUC:14030003-DEC-DataComposite
HUC:14030003-DEC-PrevMoStreamflow
HUC:14030003-DEC-ForecastedRunoff
HUC:14030003-DEC-ReservoirStorage

HUC 14030003 (San Miguel) SWSI Values - DEC

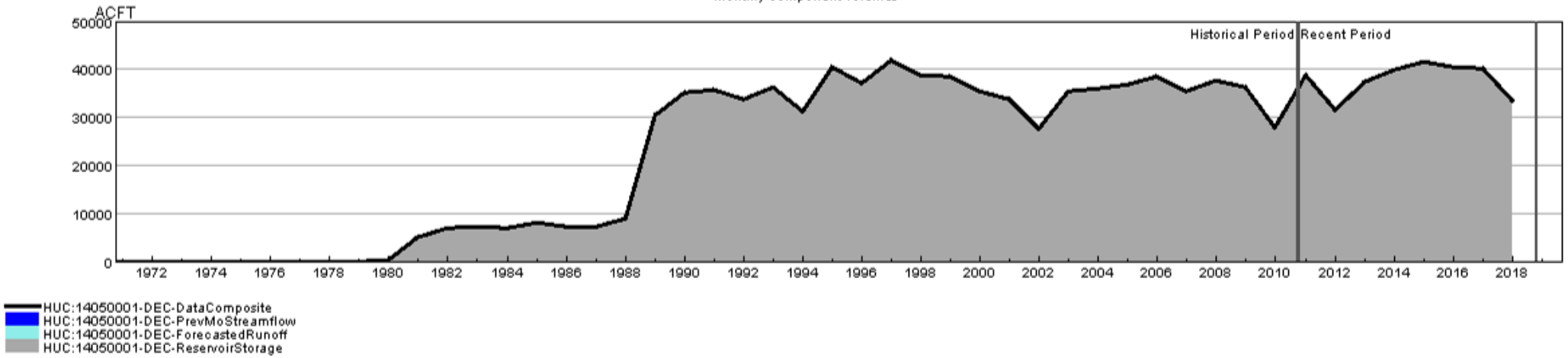
Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



HUC:14030003-DEC-PrevMoStreamflow-SWSI
HUC:14030003-DEC-ForecastedRunoff-SWSI
HUC:14030003-DEC-ReservoirStorage-SWSI
HUC:14030003-DEC-DataComposite-SWSI

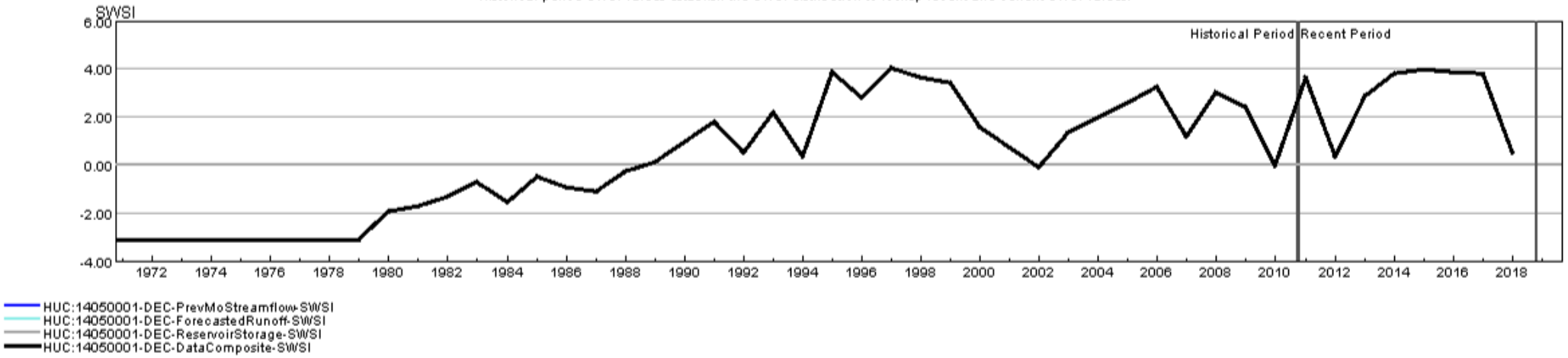
HUC 14050001 (Upper Yampa) Surface Water Supply - DEC

Monthly component volumes



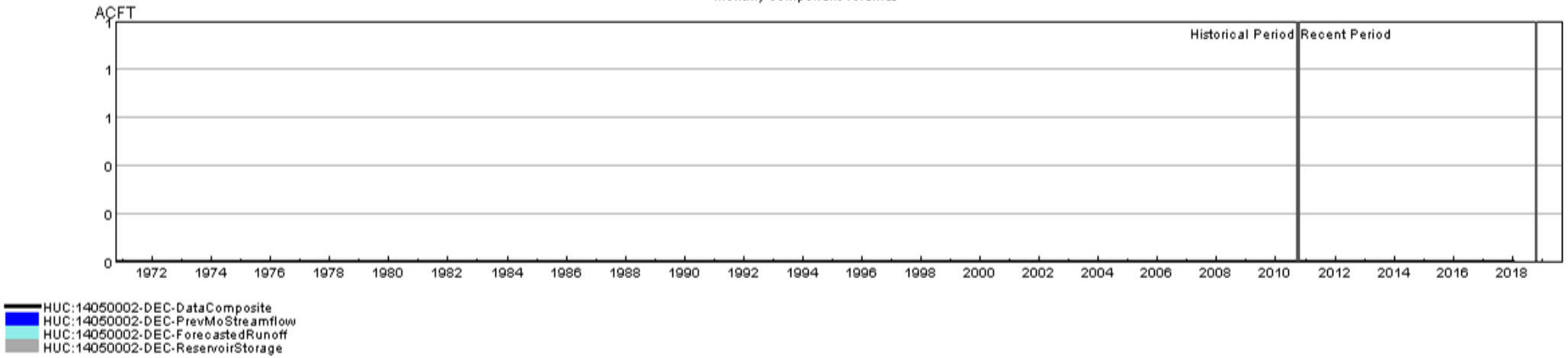
HUC 14050001 (Upper Yampa) SWSI Values - DEC

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



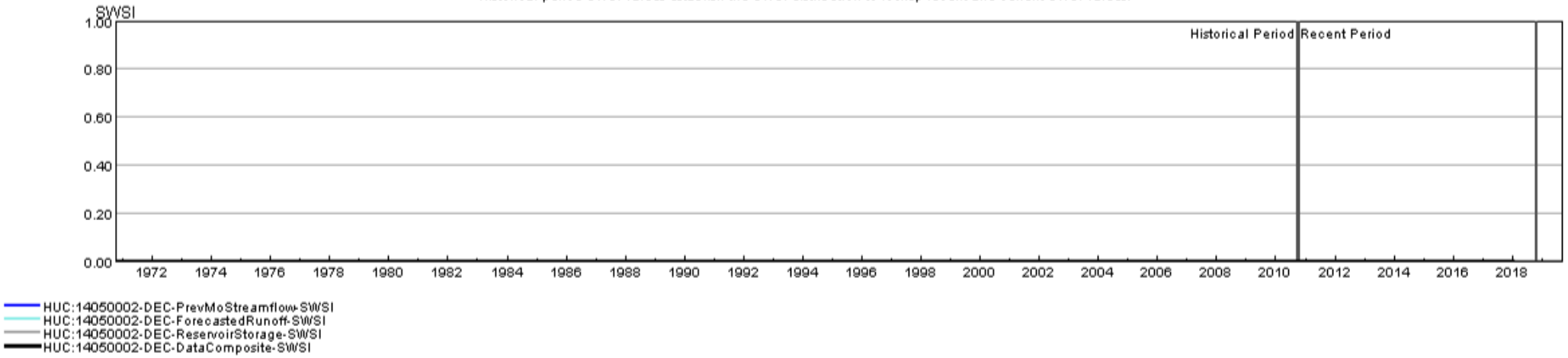
HUC 14050002 (Lower Yampa) Surface Water Supply - DEC

Monthly component volumes



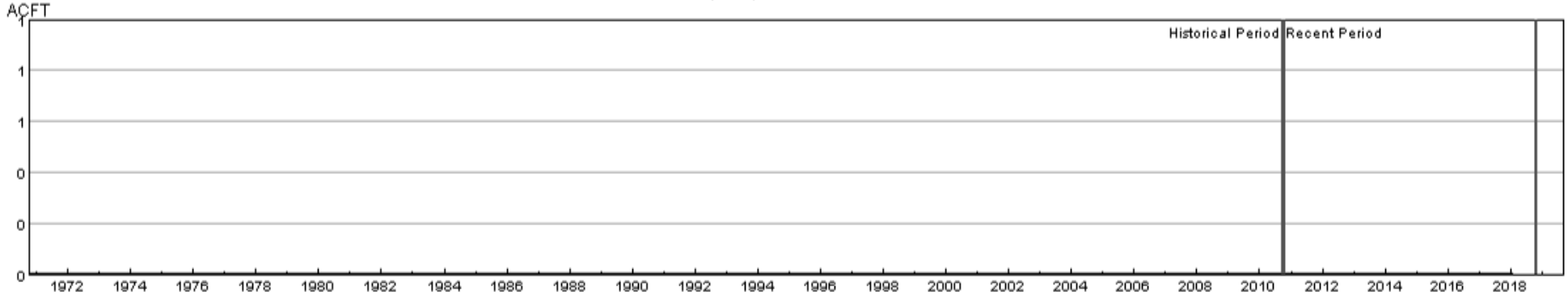
HUC 14050002 (Lower Yampa) SWSI Values - DEC

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



HUC 14050003 (Little Snake) Surface Water Supply - DEC

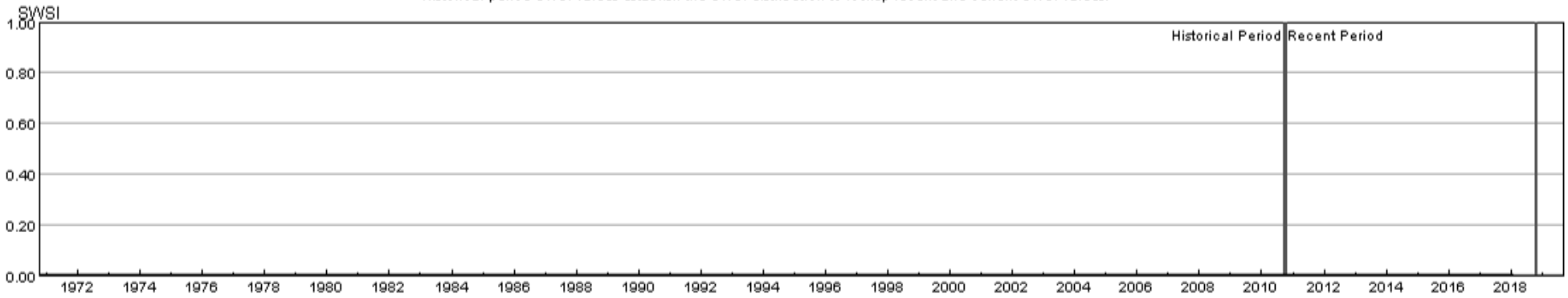
Monthly component volumes



HUC:14050003-DEC-DataComposite
HUC:14050003-DEC-PrevMoStreamflow
HUC:14050003-DEC-ForecastedRunoff
HUC:14050003-DEC-ReservoirStorage

HUC 14050003 (Little Snake) SWSI Values - DEC

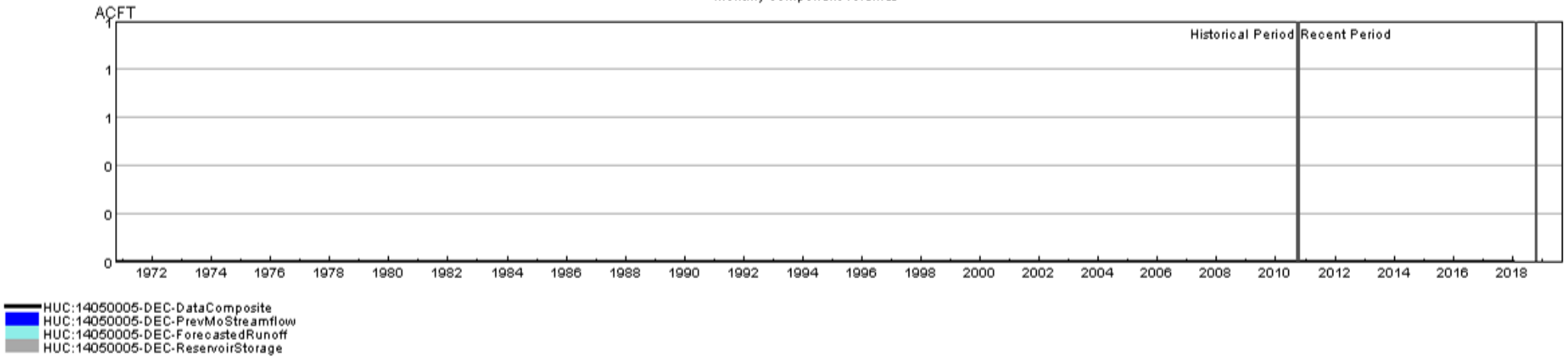
Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



HUC:14050003-DEC-PrevMoStreamflow-SWSI
HUC:14050003-DEC-ForecastedRunoff-SWSI
HUC:14050003-DEC-ReservoirStorage-SWSI
HUC:14050003-DEC-DataComposite-SWSI

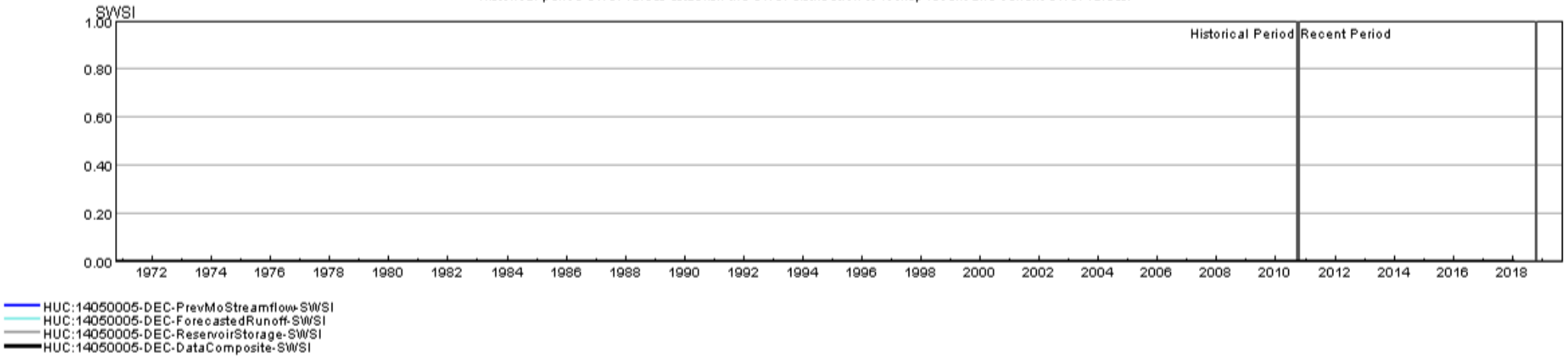
HUC 14050005 (Upper White) Surface Water Supply - DEC

Monthly component volumes



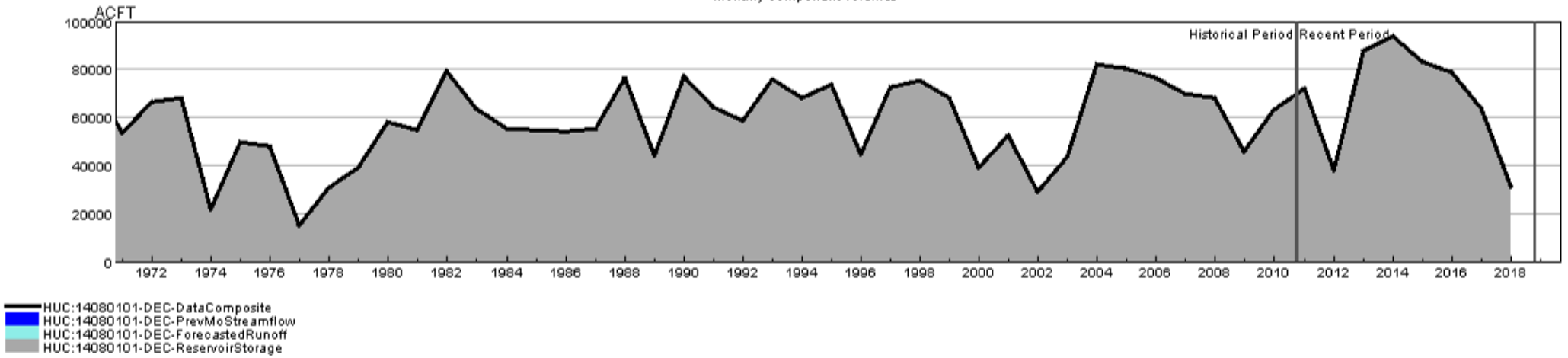
HUC 14050005 (Upper White) SWSI Values - DEC

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



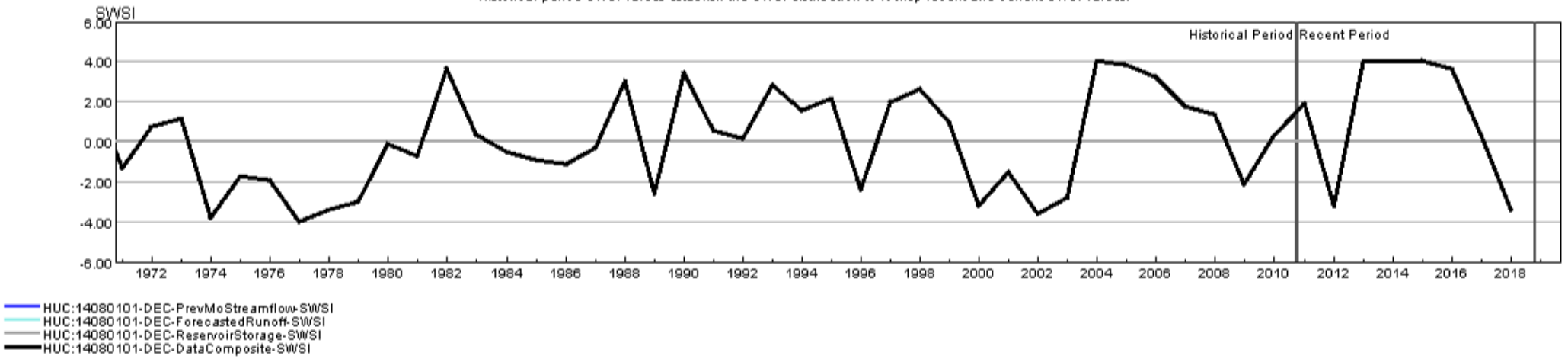
HUC 14080101 (Upper San Juan) Surface Water Supply - DEC

Monthly component volumes



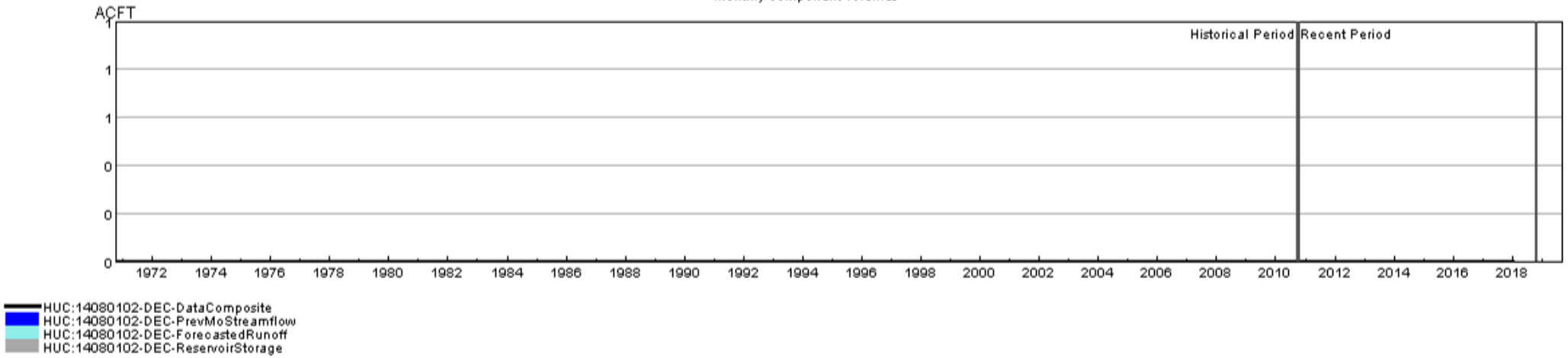
HUC 14080101 (Upper San Juan) SWSI Values - DEC

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



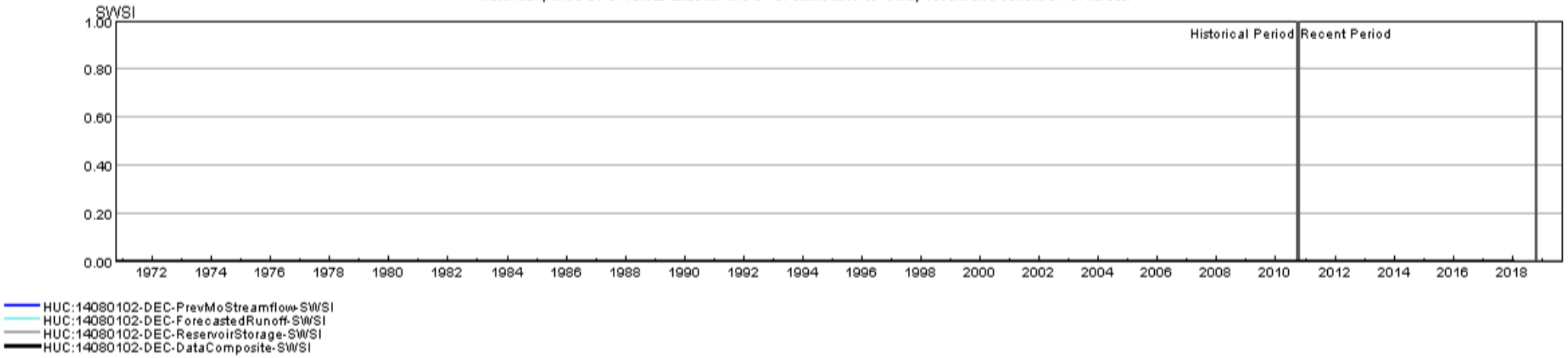
HUC 14080102 (Piedra) Surface Water Supply - DEC

Monthly component volumes



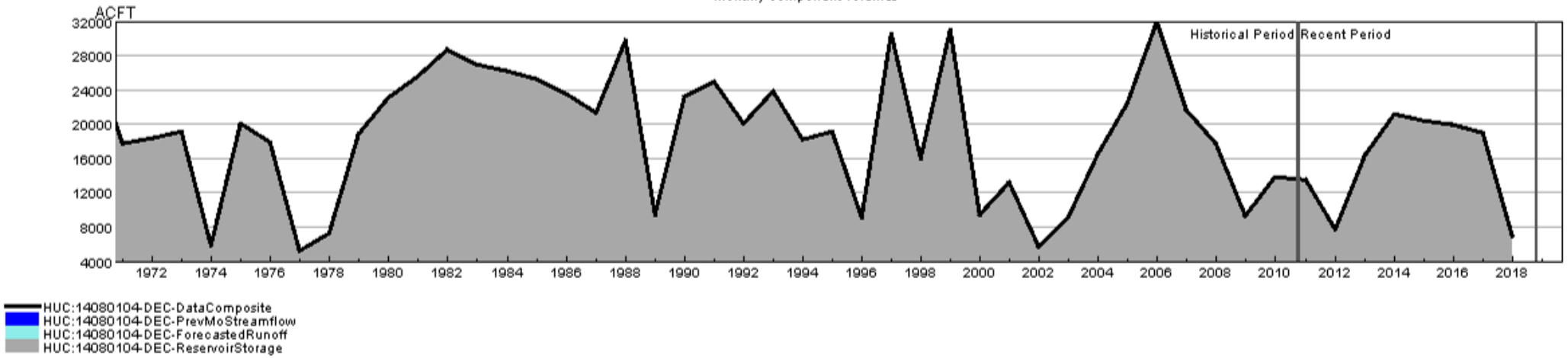
HUC 14080102 (Piedra) SWSI Values - DEC

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



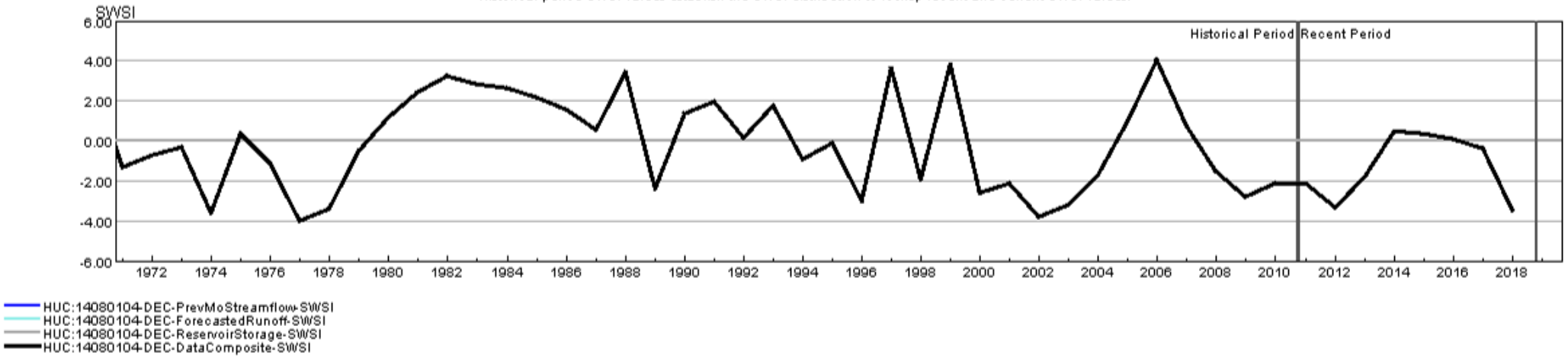
HUC 14080104 (Animas) Surface Water Supply - DEC

Monthly component volumes



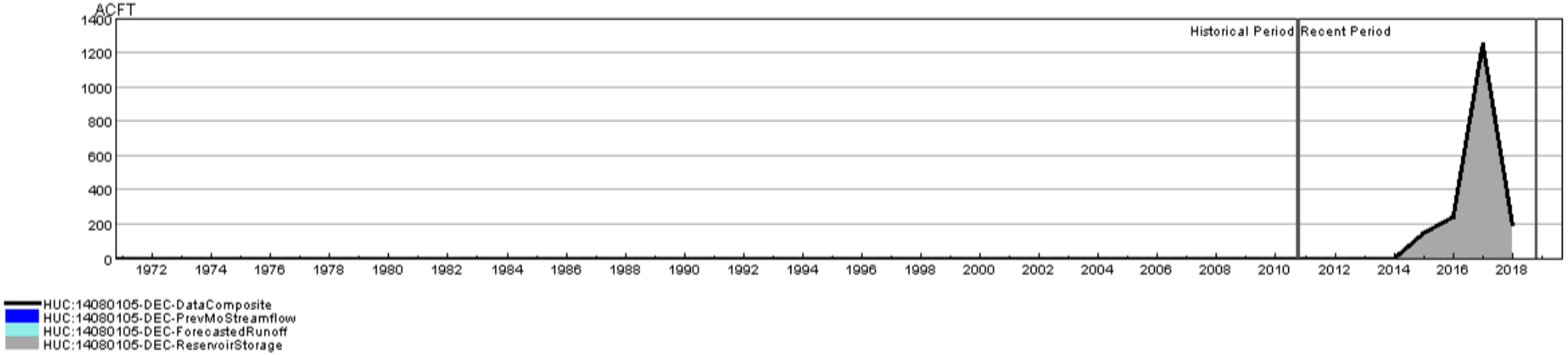
HUC 14080104 (Animas) SWSI Values - DEC

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



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

Monthly component volumes



HUC 14080105 (Middle San Juan) SWSI Values - DEC

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