COLORADO
WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
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August 1, 2021

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 1980 and 2020.

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: https://dwr.colorado.gov/services/water-administration/drought-and-swsi. This report also contains updates about current regional conditions and water matters prepared by each DWR Division Office.

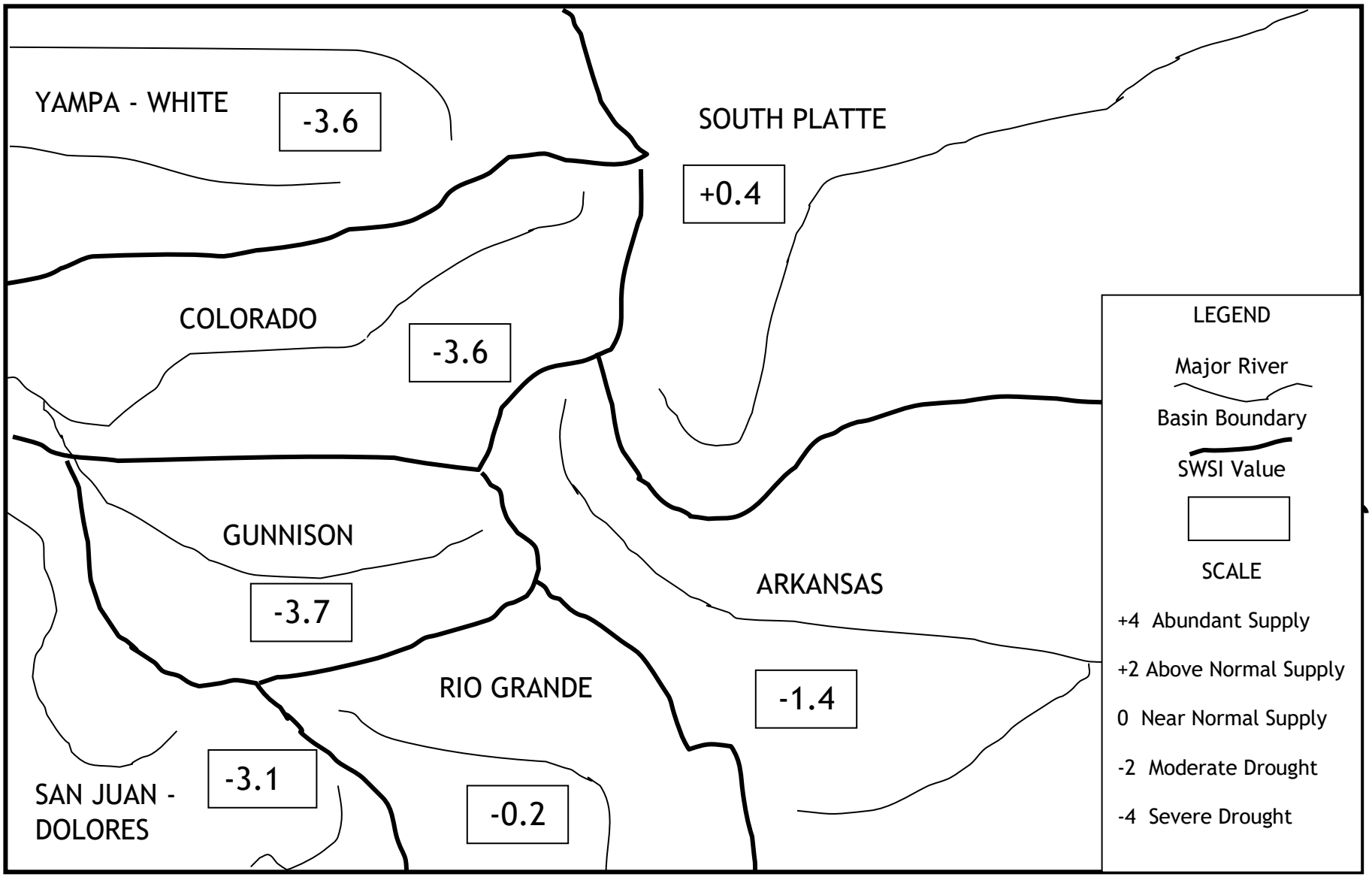
The SWSI calculation for the summer season (July 1 – September 1) is based on reservoir storage at the end of last month, in this case July 31, plus the previous month's streamflow. The following SWSI values were computed for each of the seven major basins for August 1, 2021. Water supply conditions as represented by water in storage and previous month's streamflow, range from normal in the South Platte Basin to well below normal in the Colorado, San Juan-Dolores, Yampa-White and Gunnison River Basins.

Basin	August1 SWSI	Change from Previous Month	Change from Previous Year
Arkansas	-1.4	-0.1	0.0
Colorado	-3.6	-0.2	-1.8
Gunnison	-3.7	-0.4	-0.9
Rio Grande	-0.2	1.3	2.4
San Juan-Dolores	-3.1	0.1	-0.3
South Platte	0.4	-0.3	0.3
Yampa-White	-3.6	0.1	-2.0

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

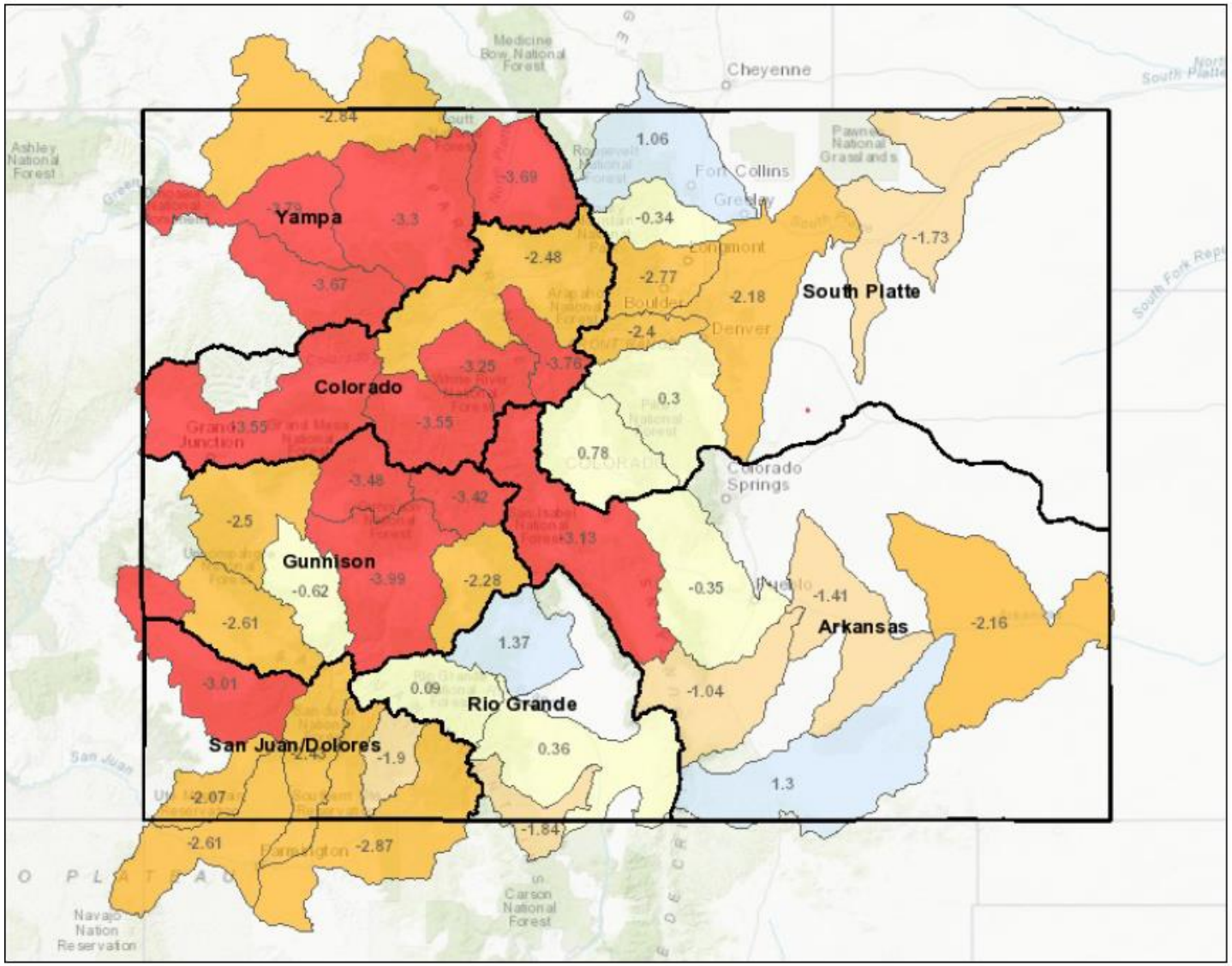


August 1, 2021

SURFACE WATER SUPPLY INDEX FOR COLORADO BY HUC

COLORADO
Division of Water Resources
Department of Natural Resources

SWSI August 1, 2021 Map



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: 3/16/2022 3:44:19 PM

August 1, 2021 SWSI Values by HUC and Non Exceedance Probabilities (NEP)

Basin	HUC ID	HUC Name	SWSI	Reservoir Storage NEP	Previous Months Streamflow NEP	Total Vol (AF)
Arkansas	11020006	Huerfano	-1.05	18	60	4,414
	11020010	Purgatoire	1.31	70	51	35,272
	11020005	Upper Arkansas-Lake Meredith	-1.42	35	33	82,885
	11020009	Upper Arkansas-John Martin Reservoir	-2.17	33	32	110,943
	11020001	Arkansas Headwaters	-3.13	13	34	217,320
	11020002	Upper Arkansas	-0.35	49	32	248,755
Colorado	14010003	Eagle	-3.26	N/A	11	21,330
	14010002	Blue	-3.77	4	12	122,827
	14010004	Roaring Fork	-3.55	3	8	129,884
	14010005	Colorado Headwaters-Plateau	-3.55	4	8	165,318
	14010001	Colorado Headwaters	-2.49	55	10	254,526
Gunnison	14020003	Tomichi	-2.29	28	28	5,260
	14020004	North Fork Gunnison	-3.49	8	7	12,030
	14030003	San Miguel	-2.61	N/A	19	12,288
	14020005	Lower Gunnison	-2.51	N/A	20	79,798
	14020006	Uncompahgre	-0.62	58	25	87,852
	14020001	East-Taylor	-3.42	8	12	93,202
	14020002	Upper Gunnison	-3.99	1	22	515,298
Rio Grande	13010004	Saguache	1.38	N/A	67	4,880
	13010002	Alamosa-Trinchera	0.36	63	52	22,837
	13010005	Conejos	-1.84	23	33	30,488
	13010001	Rio Grande Headwaters	0.10	70	32	70,357
San Juan-Dolores	14080105	Middle San Juan	-2.61	73	17	831
	14080107	Mancos	-2.08	11	72	6,777
	14080102	Piedra	-1.91	N/A	27	7,411
	14080104	Animas	-2.44	11	26	48,020
	14080101	Upper San Juan	-2.88	12	31	97,030
	14030002	Upper Dolores	-3.01	15	32	187,368
South Platte	10190004	Clear	-2.40	N/A	21	18,762
	10190005	St. Vrain	-2.78	62	6	89,558
	10190001	South Platte Headwater	0.78	77	39	177,971
	10190003	Middle South Platte-Cherry Creek	-2.18	47	17	193,990
	10190007	Cache La Poudre	1.06	76	35	223,422
	10190012	Middle South Platte-Sterling	-1.74	47	17	246,510
	10190002	Upper South Platte	0.31	83	32	360,292
	10190006	Big Thompson	-0.35	49	4	549,050
Yampa-White	14050003	Little Snake	-2.84	N/A	16	1,249
	14050002	Lower Yampa	-3.79	N/A	4	7,062
	10180001	North Platte Headwaters	-3.69	N/A	6	10,867
	14050005	Upper White	-3.68	N/A	6	13,866
	14050001	Upper Yampa	-3.31	31	4	45,131

NEP is non exceedance probability 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 1980-2020. 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, 2021 SWSI Component Information – Previous Month's Streamflow & Reservoir Storage - By HUC

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP by Month
11020001	Arkansas Headwaters	CLEAR CREEK RESERVOIR	5,931	15
		HOMESTAKE RESERVOIR	31,268	24
		ARKANSAS RIVER AT SALIDA	37,653	34
		TWIN LAKES RESERVOIR	41,544	17
		TURQUOISE LAKE	100,924	16
11020006	Huerfano	CUCHARAS RESERVOIR	0	18
		CUCHARAS RIVER AT BOYD RANCH NR LA VETA	2,178	82
		HUERFANO RIVER NEAR REDWING	2,236	46
11020010	Purgatoire	PURGATOIRE RIVER AT TRINIDAD	6,146	51
		TRINIDAD LAKE	29,126	70
11020002	Upper Arkansas	PUEBLO RESERVOIR INFLOW	56,869	32
		PUEBLO RESERVOIR	191,886	49
11020009	Upper Arkansas-John Martin Reservoir	CUCHARAS RIVER AT BOYD RANCH NR LA VETA	2,178	82
		HUERFANO RIVER NEAR REDWING	2,236	46
		PURGATOIRE RIVER AT TRINIDAD	6,146	51
		ADOBE CREEK RESERVOIR	18,890	28
		JOHN MARTIN RESERVOIR	24,624	29
		PUEBLO RESERVOIR INFLOW	56,869	32
11020005	Upper Arkansas-Lake Meredith	CUCHARAS RIVER AT BOYD RANCH NR LA VETA	2,178	82
		HUERFANO RIVER NEAR REDWING	2,236	46
		LAKE HENRY	6,583	59
		MEREDITH RESERVOIR	15,019	34
		PUEBLO RESERVOIR INFLOW	56,869	32
14010002	Blue	BLUE RIVER INFLOW TO GREEN MOUNTAIN RES	31,037	12
		GREEN MOUNTAIN RESERVOIR	91,790	4
14010001	Colorado Headwaters	WOLFORD MOUNTAIN RESERVOIR	62,990	67
		WILLIAMS FORK RESERVOIR	84,200	16
		COLORADO RIVER NEAR DOTSERO	107,336	10
14010005	Colorado Headwaters-Plateau	VEGA RESERVOIR	7,583	4
		COLORADO RIVER NEAR CAMEO	157,735	8
14010003	Eagle	EAGLE RIVER BELOW GYPSUM	21,330	11
14010004	Roaring Fork	ROARING FORK AT GLENWOOD SPRINGS	48,737	8
		RUEDI RESERVOIR	81,147	3
14020001	East-Taylor	EAST RIVER AT ALMONT	9,826	8
		TAYLOR R INF TO TAYLOR PARK RESERVOIR	10,957	33
		TAYLOR PARK RESERVOIR	72,419	8
14020005	Lower Gunnison	GUNNISON RIVER NR GRAND JUNCTION	79,798	20
14020004	North Fork Gunnison	PAONIA RESERVOIR	5,598	8
		NORTH FORK GUNNISON R NR SOMERSET	6,432	7
14030003	San Miguel	SAN MIGUEL RIVER NEAR PLACERVILLE	12,288	19
14020003	Tomichi	VOUGA RESERVOIR NEAR DOYLEVILLE	100	28
		TOMICHI CREEK AT GUNNISON, CO	5,160	28

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP by Month
14020006	Uncompahgre	UNCOMPAHGRE RIVER AT COLONA	12,621	25
		RIDGEWAY RESERVOIR	75,231	58
14020002	Upper Gunnison	FRUITLAND RESERVOIR	439	37
		CRAWFORD RESERVOIR	2,487	4
		SILVER JACK RESERVOIR	9,093	22
		LAKE FORK AT GATEVIEW, CO	16,370	33
		GUNNISON RIVER NEAR GUNNISON, CO	25,505	14
		MORROW POINT RESERVOIR	111,038	10
		BLUE MESA RESERVOIR	350,366	1
13010002	Alamosa-Trinchera	UTE CREEK	1,328	42
		SANGRE DE CRISTO	1,410	78
		TRINCHERA CK	1,462	59
		CULEBRA CREEK AT SAN LUIS	2,495	72
		ALAMOSA CREEK ABOVE TERRACE RESERVOIR	4,589	38
		TERRACE RESERVOIR	5,186	52
		MOUNTAIN HOME	6,367	69
13010005	Conejos	CONEJOS RIVER NEAR MOGOTE	12,346	33
		PLATORO RESERVOIR	18,142	23
13010001	Rio Grande Headwaters	CONTINENTAL RESERVOIR	7,765	75
		SANTA MARIA RESERVOIR	11,962	72
		RIO GRANDE RESERVOIR	14,738	70
		RIO GRANDE NEAR DEL NORTE	35,892	32
13010004	Saguache	SAGUACHE CREEK NEAR SAGUACHE, CO	4,880	67
14080104	Animas	FLORIDA RIVER INFLOW TO LEMON RESERVOIR	4,533	47
		LEMON RESERVOIR	11,581	11
		ANIMAS RIVER AT DURANGO	31,906	25
14080107	Mancos	MANCOS RIVER NEAR MANCOS	2,919	72
		JACKSON GULCH RESERVOIR	3,858	11
14080105	Middle San Juan	LONG HOLLOW RESERVOIR	140	73
		LA PLATA RIVER AT HESPERUS	691	17
14080102	Piedra	PIEDRA RIVER NEAR ARBOLES	7,411	27
14030002	Upper Dolores	GROUNDHOG RESERVOIR	4,100	5
		DOLORES RIVER BELOW MCPHEE RESERVOIR	11,526	32
		MCPHEE RESERVOIR	171,742	16
14080101	Upper San Juan	SAN JUAN RIVER NEAR CARRACAS	15,032	21
		LOS PINOS RIVER NEAR BAYFIELD	18,797	36
		VALLECITO RESERVOIR	63,201	12
10190006	Big Thompson	MARIANO RESERVOIR	3,498	61
		WILLOW CREEK RESERVOIR	5,625	1
		LONE TREE RESERVOIR	6,568	78
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	10,700	4
		LAKE LOVELAND RESERVOIR	11,401	99
		BOYD LAKE	41,176	75
		CARTER LAKE	92,428	75
		LAKE GRANBY	377,654	40

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP by Month
10190007	Cache La Poudre	BLACK HOLLOW RESERVOIR	2,700	15
		HALLIGAN RESERVOIR	5,700	74
		CHAMBERS LAKE	6,700	68
		CACHE LA POUDRE	7,800	59
		FOSSIL CREEK RESERVOIR	8,900	77
		WINDSOR RESERVOIR	9,500	43
		COBB LAKE	21,000	89
		CACHE LA POUDRE R AT CANYON MOUTH	27,900	35
		HORSETOOTH RESERVOIR	133,222	78
10190004	Clear Creek	CLEAR CREEK AT GOLDEN	18,762	21
10190003	Middle South Platte-Cherry Creek	SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	3,928	18
		BOULDER CREEK NEAR ORODELL	4,300	4
		HORSECREEK RESERVOIR	8,500	40
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	10,700	4
		SAINT VRAIN CREEK AT LYONS	11,000	10
		MILTON RESERVOIR	16,535	78
		CLEAR CREEK AT GOLDEN	18,762	21
		BARR LAKE	19,322	46
		CACHE LA POUDRE R AT CANYON MOUTH	27,900	35
		SOUTH PLATTE RIVER AT SOUTH PLATTE	31,343	32
		STANDLEY RESERVOIR	41,700	48
10190012	Middle South Platte-Sterling	SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	3,928	18
		BOULDER CREEK NEAR ORODELL	4,300	4
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	10,700	4
		SAINT VRAIN CREEK AT LYONS	11,000	10
		JULESBURG RESERVOIR	14,785	65
		PREWITT RESERVOIR	16,200	42
		CLEAR CREEK AT GOLDEN	18,762	21
		EMPIRE RESERVOIR	20,659	57
		JACKSON LAKE RESERVOIR	20,898	52
		CACHE LA POUDRE R AT CANYON MOUTH	27,900	35
		RIVERSIDE RESERVOIR	28,835	32
		SOUTH PLATTE RIVER AT SOUTH PLATTE	31,343	32
		POINT OF ROCKS RESERVOIR	37,200	45
10190001	South Platte Headwater	ELEVENMILE CANYON RESV INFLOW	11,071	39
		ANTERO RESERVOIR	20,100	87
		SPINNEY MOUNTAIN RESERVOIR	46,900	62
		ELEVENMILE CANYON RESERVOIR	99,900	39
10190005	St. Vrain	SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	3,928	18
		BOULDER CREEK NEAR ORODELL	4,300	4
		TERRY RESERVOIR	6,800	65
		MARSHALL RESERVOIR	8,000	51
		SAINT VRAIN CREEK AT LYONS	11,000	10
		UNION RESERVOIR	12,279	68
		BUTTONROCK (RALPH PRICE) RESERVOIR	16,251	70
		GROSS RESERVOIR	27,000	26

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP by Month
10190002	Upper South Platte	SOUTH PLATTE RIVER AT SOUTH PLATTE	31,343	32
		CHEESMAN LAKE	78,349	52
		DILLON RESERVOIR	250,600	87
14050003	Little Snake	LITTLE SNAKE RIVER NEAR LILY	1,249	16
14050002	Lower Yampa	YAMPA RIVER NEAR MAYBELL	7,062	4
10180001	North Platte Headwaters	NORTH PLATTE R NR NORTHGATE	10,867	6
14050005	Upper White	WHITE RIVER NEAR MEEKER	13,866	6
14050001	Upper Yampa	ELKHEAD CREEK ABOVE LONG GULCH	57	5
		YAMCOLO RESERVOIR	2,356	8
		YAMPA RIVER AT STEAMBOAT SPRINGS	3,241	6
		ELK RIVER NEAR MILNER, CO	6,977	3
		STAGECOACH RESERVOIR NR OAK CREEK	32,500	36

NEP is non exceedance probability for volume of the component compared to this month during the historical period 1980-2020.

*No longer exists

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

3

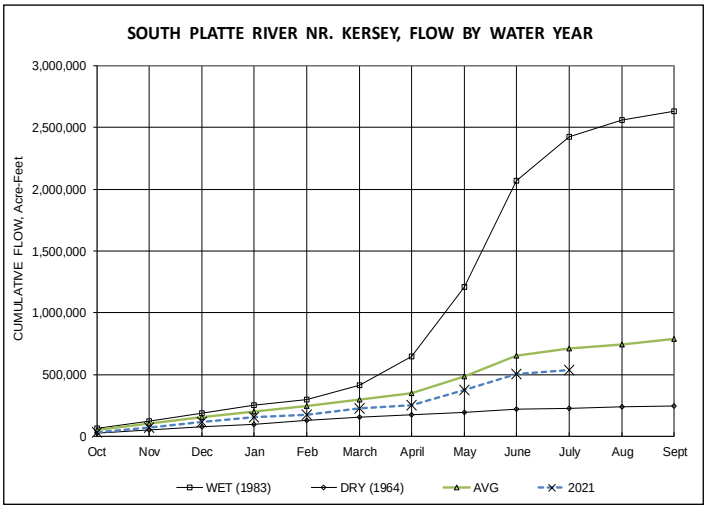
Basinwide Conditions Assessment

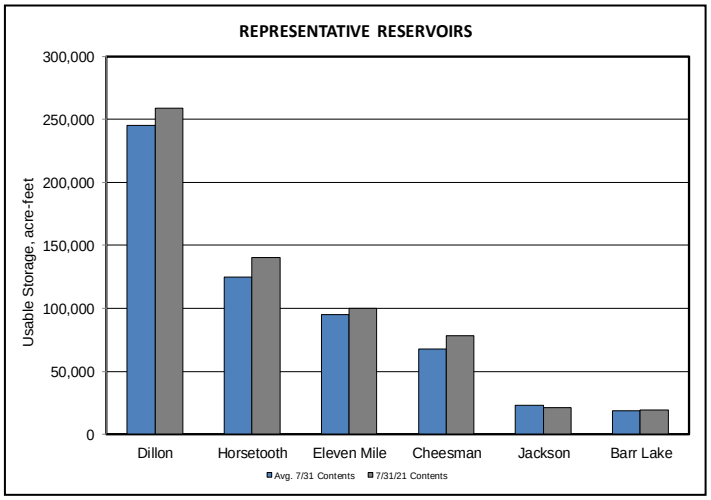
The SWSI value for the month was +0.4.

The pattern of above average temperatures and below average precipitation continued during the months of June and July throughout the entire South Platte and Republican River basins. Precipitation throughout the basin was below average ranging from near 75% of average on much of the eastern plains to 50-60% of average in the foothills and mountainous areas throughout the South Platte Basin during the month of July (NOAA Climate.gov 1981-2010 comparison). Temperatures were warmer than average for the month of July as reported by NOAA with the entire basin ranging between 2 and 5-degrees Fahrenheit above average temperatures compared to the 1981-2010 time period.

Below average precipitation and above average temperatures throughout the South Platte and Republican River basins during the months of June and July resulted in limited areas of drought conditions at the end of July 2021. The USDA U.S. Drought Monitor indicates a drought rating of D0 (Abnormally Dry) in the westerly most portions of the mountainous areas near the Continental Divide, as well as portions of the easterly plains located in portions of Yuma, Weld, Logan, Morgan, Sedgwick and Phillips Counties. The remainder of the basin remains without any designation of drought conditions at the end of the month of July.

The below average precipitation and warmer than average temperatures throughout the basin during the months of June resulted in a rapid mountain snowpack melt out during the month of June. The continued trend of above average temperatures and below average precipitation during the month of July, resulted in below average streamflows during the last half of the month of June throughout the month of July. Several large rain producing storms occurred throughout much of the basin in early July and early August that provided intermittent increased water supply and resulting stream diversions, but were short lived in duration. The resulting streamflows at the Kersey stream gage downstream of the City of Greeley for the month of July with average daily flows of approximately 510 cfs, 73% of the historic mean value of 699 cfs. The average daily flow at the Julesburg gage for the month of July was 76.8 cfs, only 24% of the historic mean value of 3256 cfs.



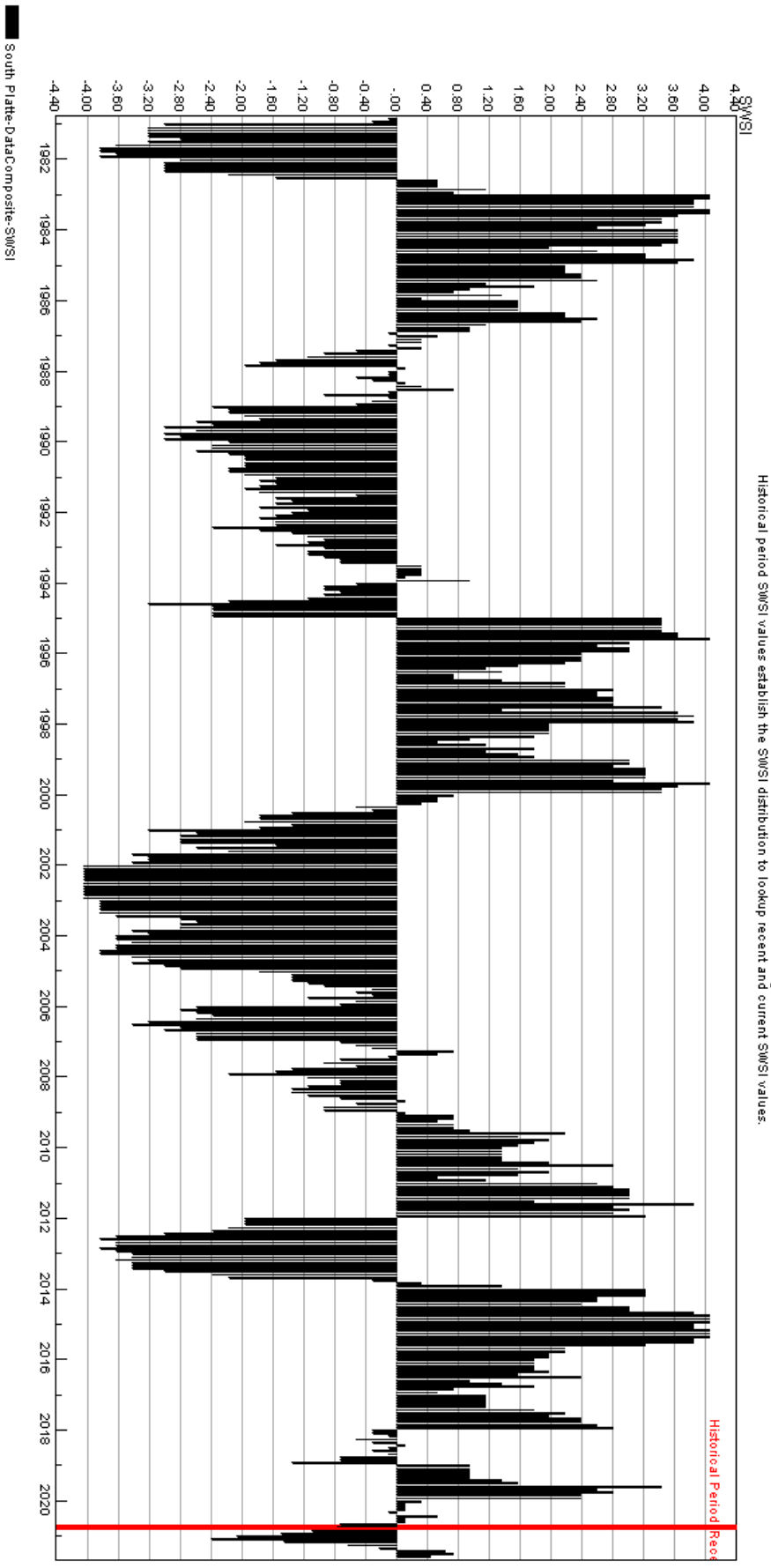


With the snowmelt done in June, above average temperatures and below average precipitation and streamflows, the calls on the South Platte River and tributaries continued to go more senior as demand for water by water users increased during the month of July. The beginning of July through July 8th included a call at the Burlington Canal or a bypass of the Burlington Canal 1909 water right moving downstream from the Lower Platte and Beaver Ditch to the Harmony No. 1 Ditch located near Crook, Colorado. As the flows in the basin continued to drop and demand increase, the calls went more senior with the South Platte River Compact Call being placed on July 5th and remaining on during the entirety of the month of July with a priority date of June 14, 1897 impacting water district 64 from the Washington County westerly line to the state line. Much of the remainder of the month of July was controlled by a call at the Western Ditch located near the Town of Platteville with a bypass priority dates 1886 to 1881 from July 13th through July 18th controlling the upper portions of the South Platte River Basin. The lower portion of the river was controlled by calling water rights or bypassing water rights at the Sterling #1 Canal located near the Town of Sterling or the Harmony Number 1 Canal located near the Town of Crook with water right priorities circa 1897 going more senior toward the end of the month to 1888 Bijou bypass to the Sterling Number 1. Many tributaries maintained good flows curtailing to the downstream South Platte calls during the early

portion of July, however with the above trends most tributaries had internal calls senior to the South Platte River downstream calls by mid to late July. With the continued weather conditions and resulting high demand of water exceeding the available supplies, it is anticipated that the calls will continue to be more senior throughout the basin and the need for reservoir releases to increase during the months of August through September.

Reservoir storage levels throughout the South Platte River mainstem ended the month of July above the historical average at the 6 SWSI Representative Reservoirs (Dillon, Horsetooth, Eleven Mile, Cheeseman, Jackson, and Barr Lake) at 617,164 acre-feet volume, which is 108% of the long term average (1961-current). Additionally, 32 indexed reservoirs throughout the Division 1 basin ended the month of July at 113% of the long-term average with a storage volume of 922,927 acre-feet representing 81% of total full capacity for the reservoirs. This is above the long term average of 72% of total full capacity for the end of July storage in the 32 indexed reservoirs throughout Division 1. With the above average temperatures and below average precipitation and native streamflows, the demand by water users for reservoir water releases increased during the month of July into August.

The temperature and precipitation outlook into August, September, and October prepared by the National Weather Service, in northeastern Colorado indicates a 40-50% probability of above average temperatures and a 33-40% probability of below average precipitation throughout the South Platte River Basin and Republican River Basin.



Basinwide Conditions Assessment

The SWSI value for the month was -1.4.

Outlook

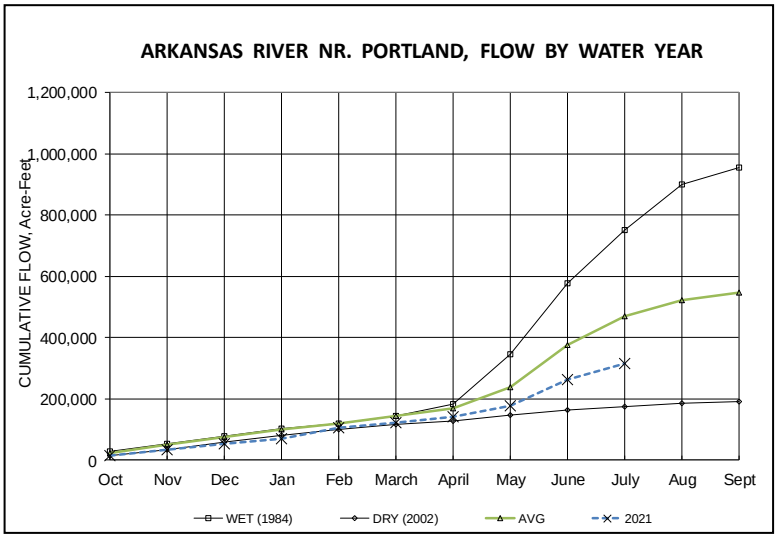
July 2021 started with the Ft Lyon Canal call of 3/1/1887. The call varied throughout the month depending on availability and even went as senior as the 12/3/1884 Catlin Canal right. The month ended with both the Ft Lyon Canal 3/1/1887 pass thru to Amity canal call and an authorized diversion to the Oxford Canal to ease flood flows downstream.

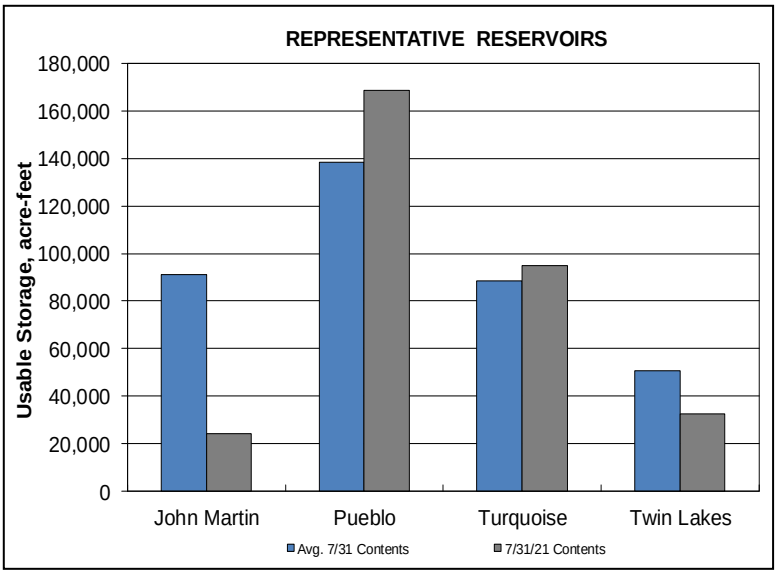
Administrative Concerns

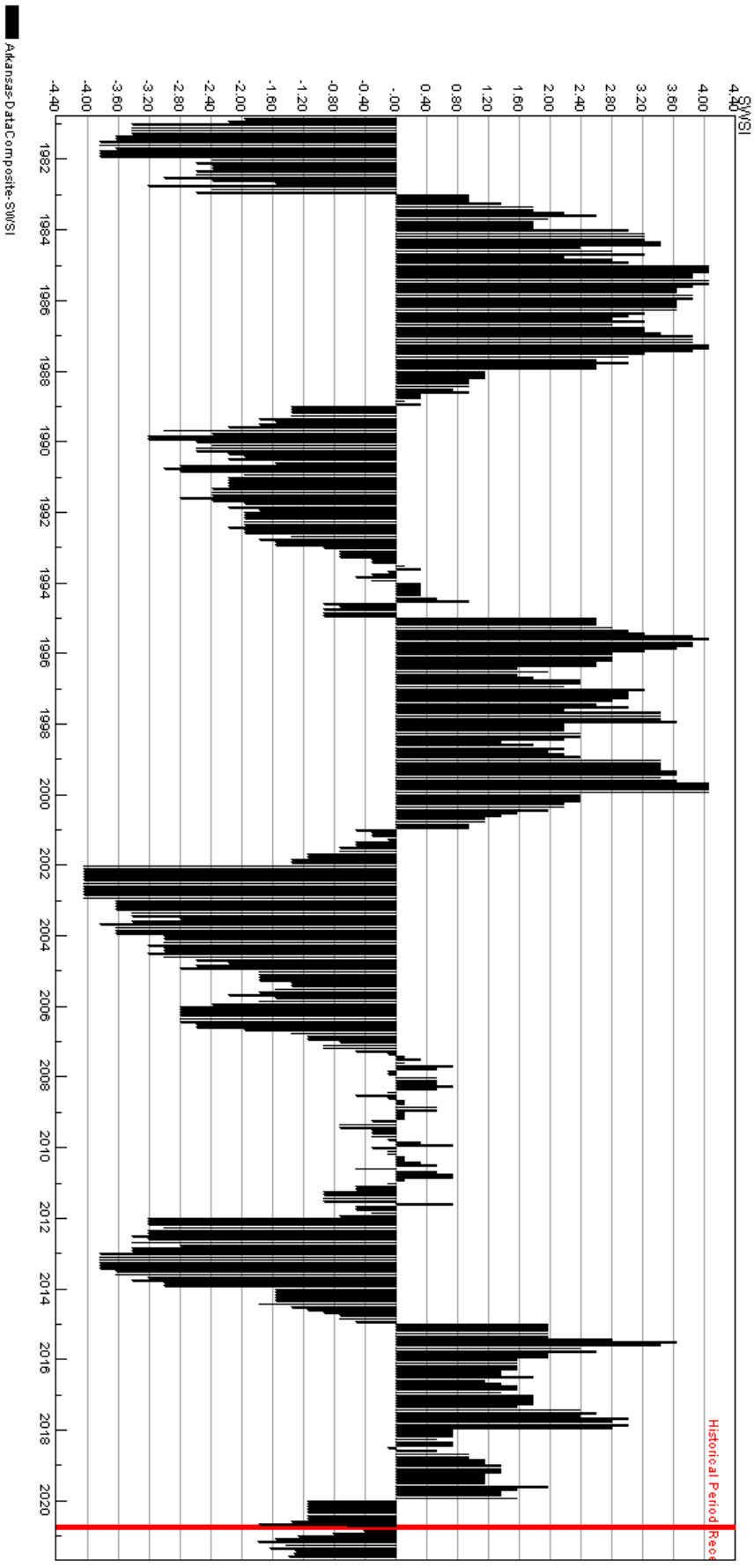
DWR staff continued working on the Pond Management Program, working with landowners to understand the prior appropriation system and to work towards solutions for their ponds. Similar to previous years, the well associations made releases to ensure compliance with their Rule 14 plan obligations. Of particular note, in July, CWPDA and AGUAs boards voted to combine the associations into a new entity, The Arkansas Groundwater and Reservoir Association (AGRA). This action will dissolve both former entities combining members, resources and assets, and the new combined association will submit their Rule 14 Plan as a single plan in 2022.

The State of Kansas ran their Section II account water and their Downstream Offset water the entire month.

Continued best management practices by the Division and the other agencies and organizations in the Arkansas basin will be critical for managing the water supply through the end of summer.






Arkansas Basin SWSI History
Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.
SWSI
4.40
4.00
3.60
3.20
2.80
2.40
2.00
1.60
1.20
0.80
0.40
.00
-0.40
-0.80
-1.20
-1.60
-2.00
-2.40
-2.80
-3.20
-3.60
-4.00
-4.40
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
Historical Period
Arkansas-DataComposite-SWSI

Basinwide Conditions Assessment

The SWSI value for the month was -0.2.

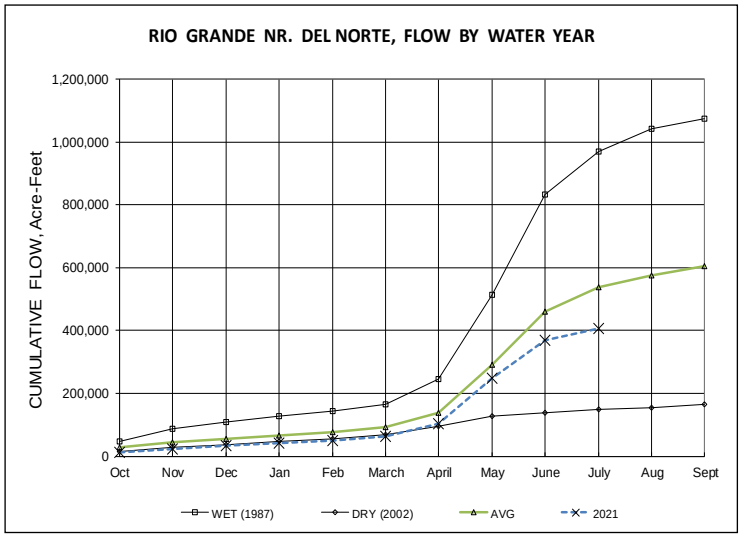
Flow at the gaging station Rio Grande near Del Norte averaged 592 cfs (47% of normal). The Conejos River near Mogote had a mean flow of 250 cfs (56% of normal). Most stream flow levels in the basin's rivers and creeks fell off drastically during June and the first portion of July as a result of the high temperatures and lack of remaining snowpack. Bolstered by rainstorms in the second half of the month, streamflow rebounded to near average levels.

The exceptions were Trinchera and Rito Alto Creeks, located in the Sangre de Cristo range on the east side of the San Luis Valley. These medium-sized drainages produced above slightly above average flow the entire irrigation season. These basins must have benefitted from the May snowstorm more than other basins.

Precipitation in Alamosa was a welcome 1.14 inches during July, 0.10 inch above normal. Annual precipitation in Alamosa remains slightly above average for the year to date.

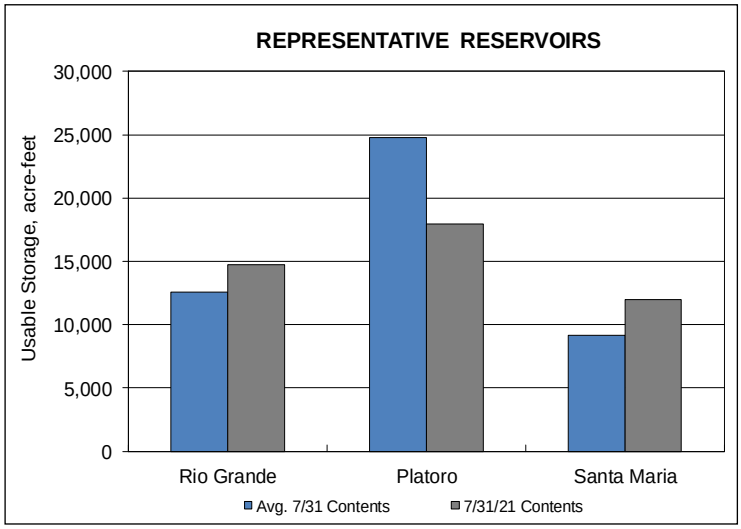
Outlook

The most recent National Weather Service forecasts call for below normal precipitation and above normal temperatures during August for the San Luis Valley. The outlook gets a little better as summer turns to fall and on to winter. The chance for normal winter precipitation improved with the latest forecasts.



Administrative/Management Concerns

The unexpected volume of streamflow at the upper index gaging stations on the Rio Grande and Conejos systems forced water administrators to increase the amount of water curtailed from diversion to meet Compact delivery requirements during July. This is a 180 degree change from most years where July through September streamflows decline below forecasted levels and the curtailment percentages are reduced.

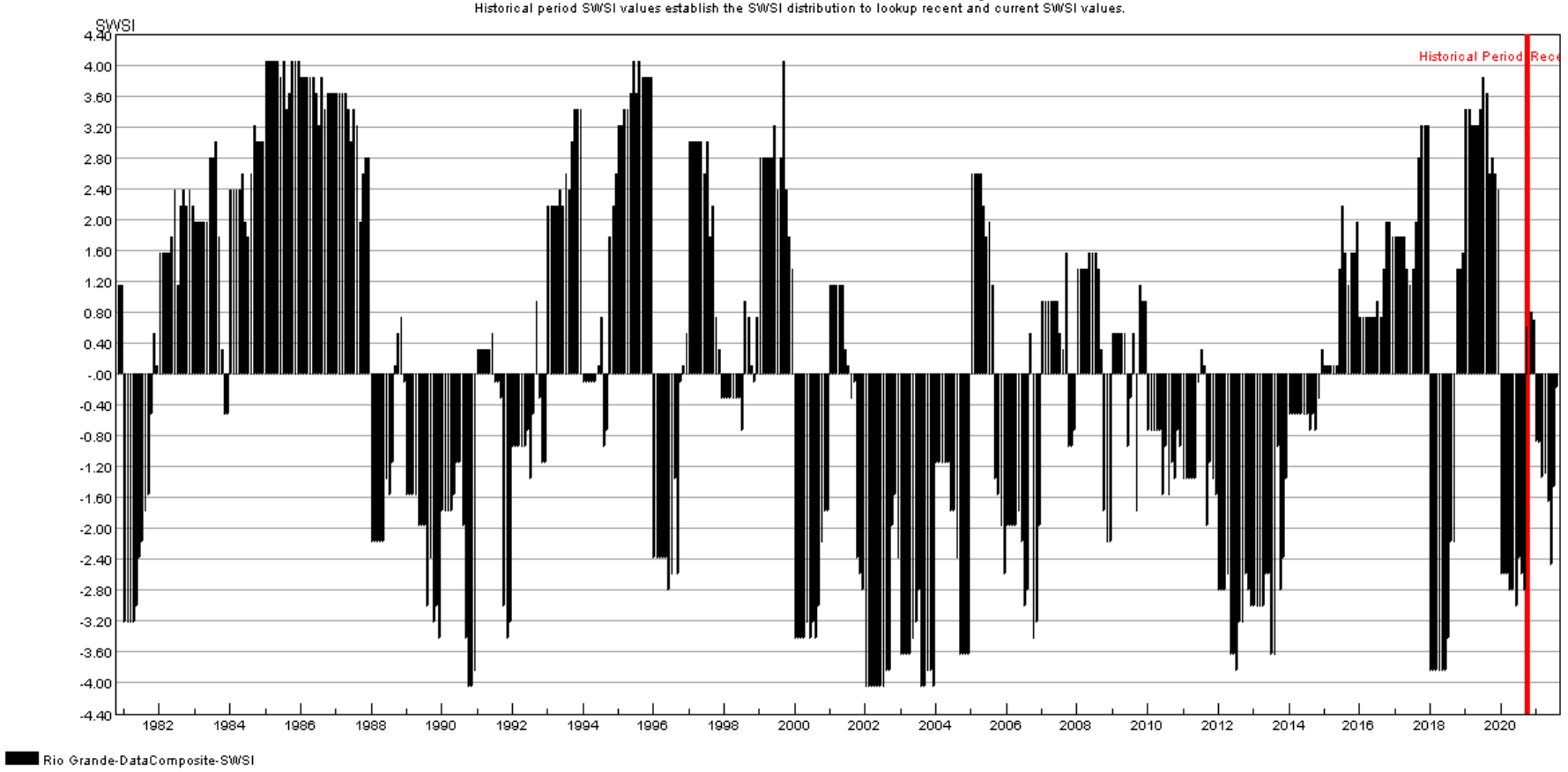


Public Use Impacts

Rainfall around the San Luis Valley has been very erratic this summer. However, a monsoonal pattern moved into the region in mid-July, bringing much-needed precipitation and a slight increase in streamflow. Irrigators are now relying heavily on well water and reservoir releases.

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 -3.7.

Basin Wide Conditions Outlook

The much awaited summer monsoon season finally arrived near the end of June and by July the monsoonal flow was in full swing with the entire Gunnison River basin, including the San Miguel River basin, receiving 150 - 300 percent of normal rainfall. Temperatures dropped from the triple digit mark at the end of June to the mid-80s for much of July. As a result, flows in all main tributaries were boosted to normal and above normal levels for the entire month of July.

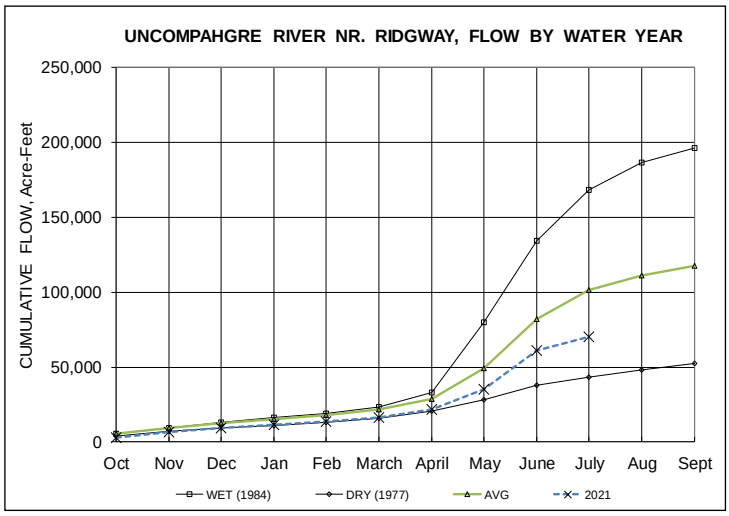
Outlook

National Climate Prediction Center forecasts for the September to November period continue to predict lower than average precipitation combined with much above average temperatures, despite the persistent monsoonal moisture coming from Mexico.

Administrative/Management Concerns

The Uncompahgre Valley Water Users (UVWUA) project was able to increase their deliveries from 80% to 100% delivery on July 22nd, when the call was removed from the river due to excess water in the system due to the high streamflows at Dallas Creek, Cow Creek and the Uncompahgre River. Demand by water users remained high for the irrigation of primarily corn, beans and hay. As a result, diversions at the Gunnison Tunnel remained above 1,050 cfs for the entire month. Beginning on July 4th the Gunnison Tunnel began using Taylor Park storage to satisfy the demand. Consecutive rain events in July brought up the inflows into Blue Mesa to a level that satisfied the Gunnison Tunnel demand by July 25th and the Uncompahgre Valley Water Users only used 4,105 acre-feet of Taylor Park storage in July.

Inflows to Ridgway Reservoir remained below releases needed to satisfy UVWUA diversions at their seven main canals at the beginning of July and by July 9 the UVWUA placed a call on the river at the M&D Canal. The call deepend on July 12th. However, monsoons brought heavy rain in the Cow Creek, Dallas Creek and Uncompahgre River basins and the call was removed on July 22nd. To date, the UVWUA has been able to preserve all of their storage credits in Ridgway Reservoir this season.

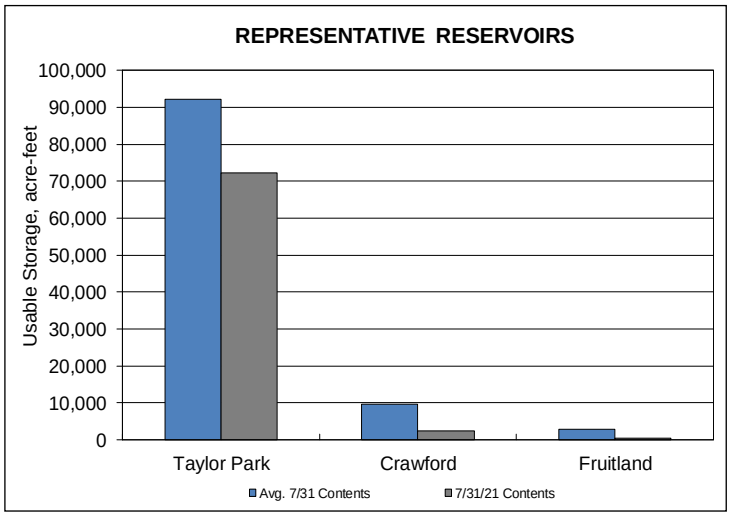


Storage orders and resulting releases from Grand Mesa Reservoirs were extremely high during July due to the high temperatures that produced elevated irrigation demand. Due to the dry soil moisture conditions going into the winter, the base flows in the streams on the Grand Mesa are at record lows with calls being administered to levels never seen before. Consequently the storage in the reservoirs is being used very quickly and hopefully, more summer rains will help out the orchardists and the vineyards that must have water to keep their trees and vines alive.

Overland Reservoir used the last of their storage by the middle of July. In addition, the canal was finally shut down by the end of July due to no available natural stream flow in the many tributaries that the OVerland Canal intercepts along its 26-mile course to the west.

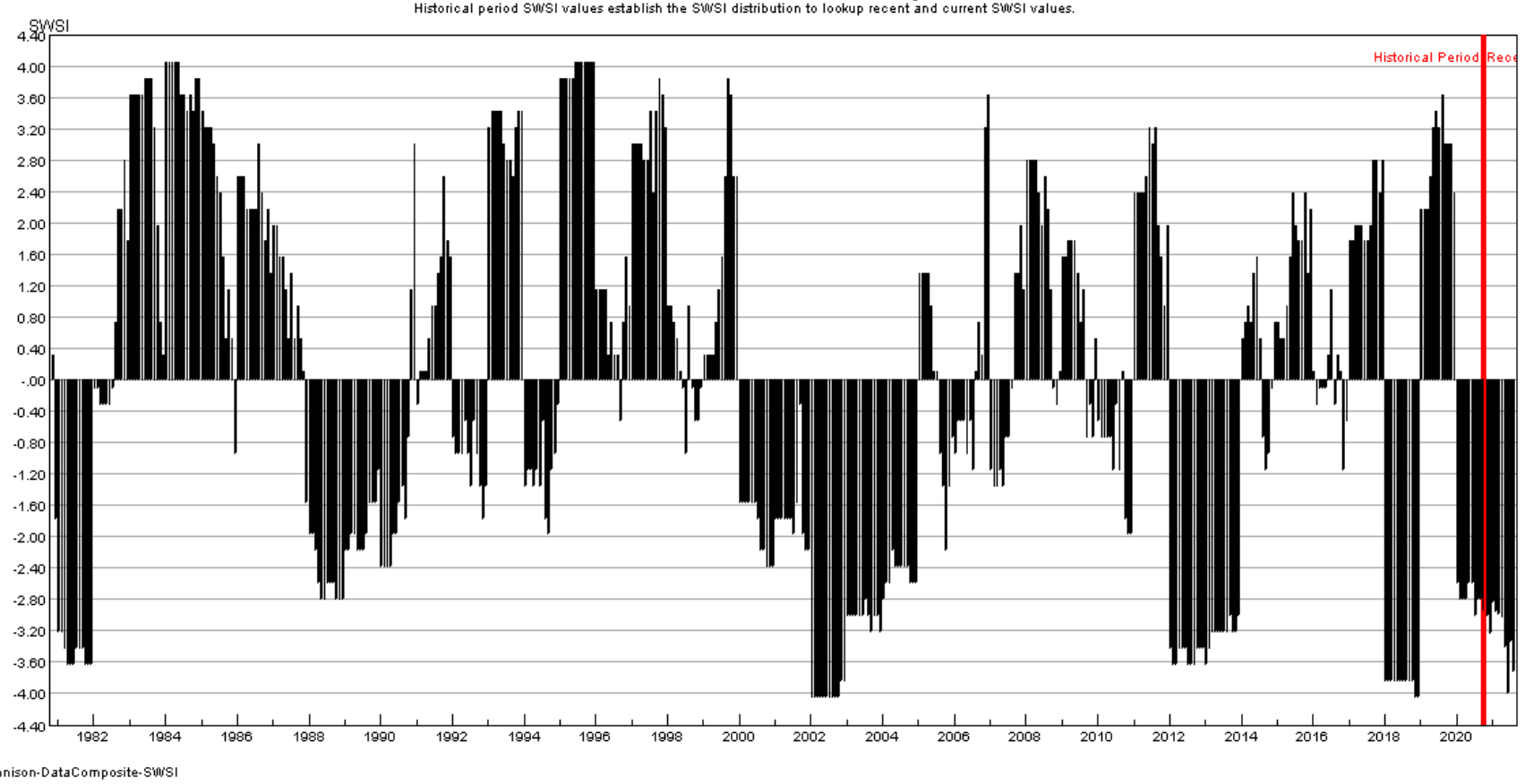
Public Use Impacts

The Bureau of Reclamation approved a project at Ridgway Reservoir to install a fish screen at the reservoir's spillway, which is a glory hole type spillway. The purpose of the project is to prevent small mouth bass and other non-native species from being released accidentally into the river during a spill event. Such predatory fish species have a deleterious effect on the Upper Colorado Endangered Fish Recovery Program and this project will mitigate the potential for that to occur through the reservoir.



Gunnison Basin SWSI History

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



Basinwide Conditions Assessment

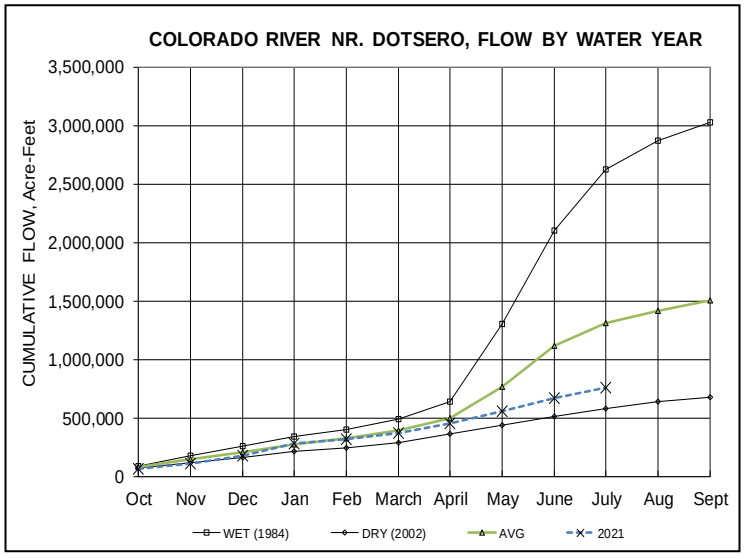
The SWSI value for the month was -3.6.

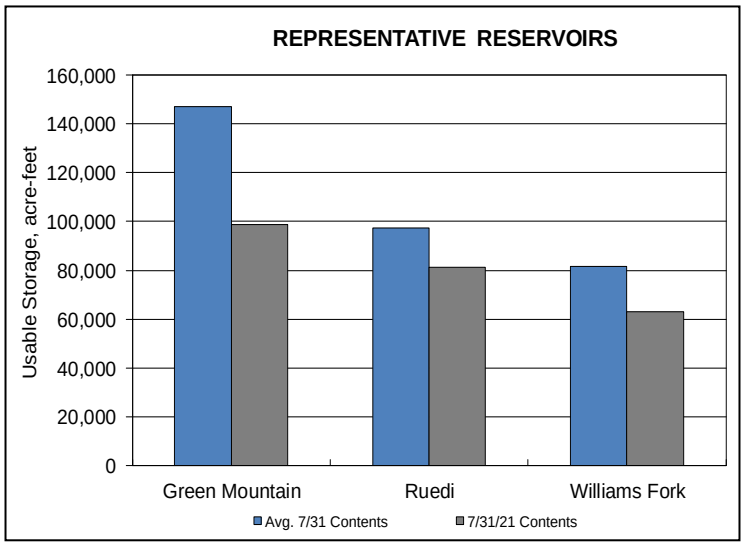
Outlook

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

Administrative/Management Concerns

The call on the Colorado River mainstem is the Cameo Grand Valley Canal (WDID 7200645) with a swing right of the Grand Valley Project (WDID 4200646). Entities are also operating the Shoshone Outage Protocol Agreement. Grand Valley Irrigation diversions (Government Highline/Orchard Mesa Irrigation, Grand Valley Irrigation canals) continue at or near full capacity. Wolford is temporarily releasing fish recovery water along with contract water. Green Mountain is releasing inflow, storage for contracts, Silt Project replacement, HUP irrigation direct delivery and Historic User Pool replacement water.



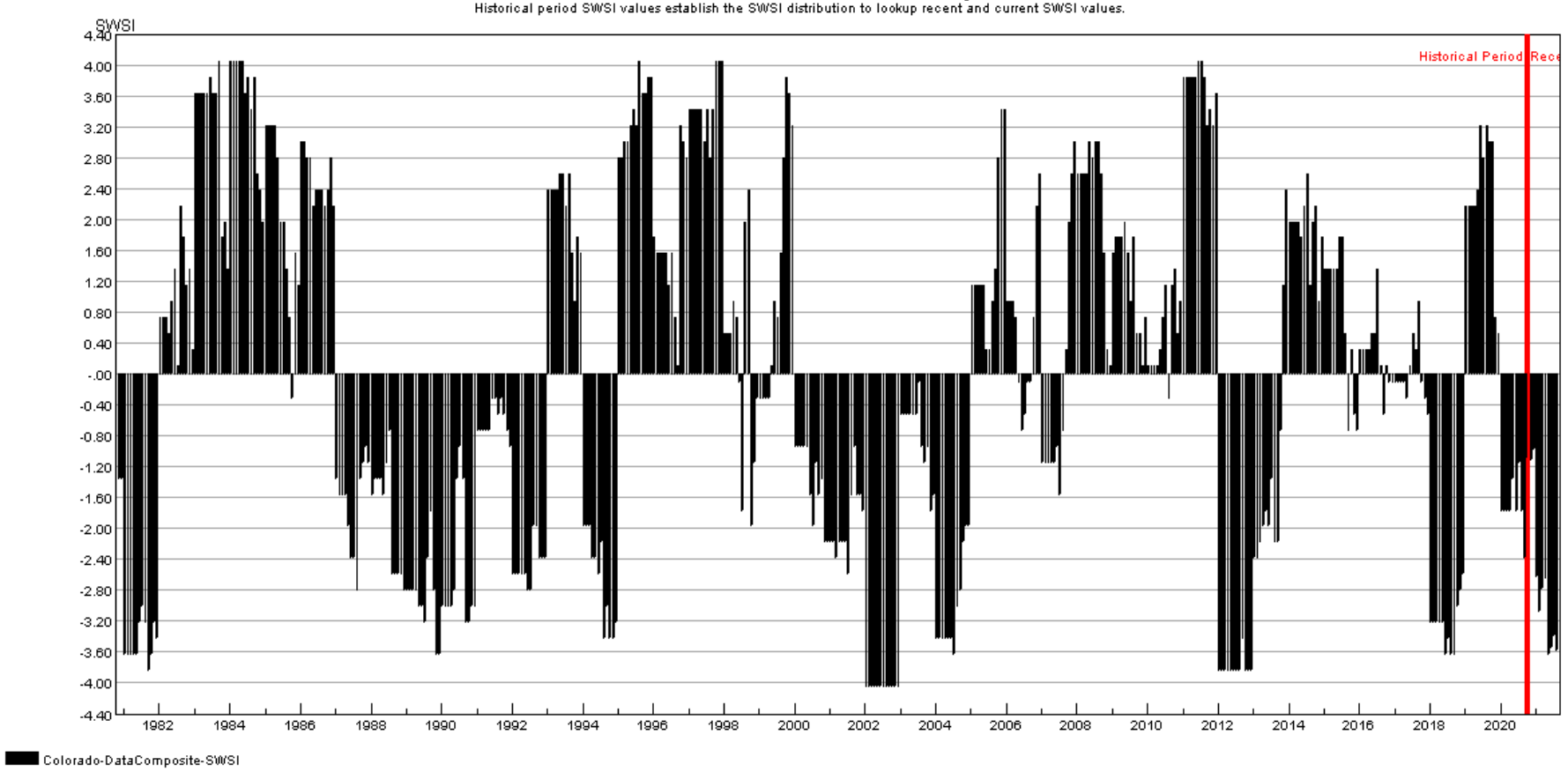


Public Use Impacts

The Colorado River through Glenwood Canyon has been dammed up by mud and rock slides from Blue Gulch. Changes to the river may not be known for years. The channel has changed in several places which has the potential to damage the roadway. There is also concern that mud may be smothering food and breeding spots for fish and the excess silt could inhibit oxygenation.

Colorado Basin SWSI History

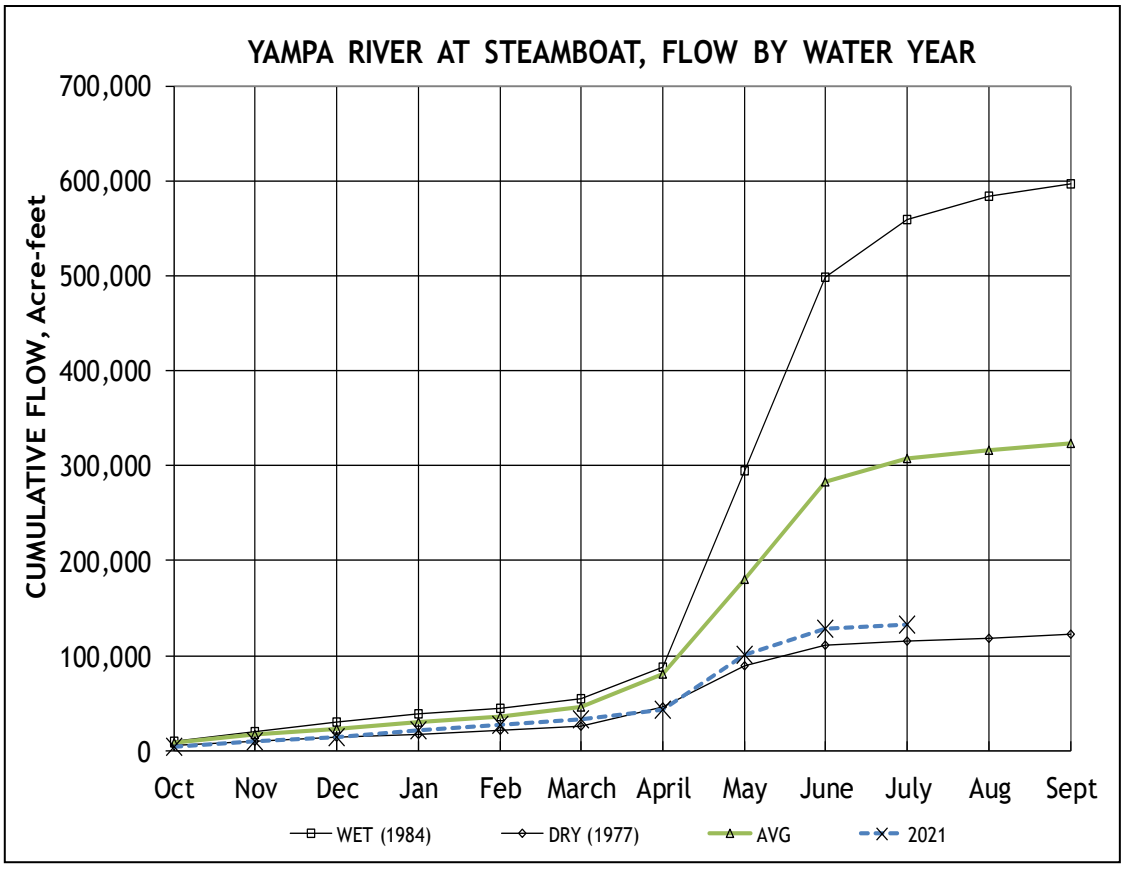
Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.



Basinwide Conditions Assessment

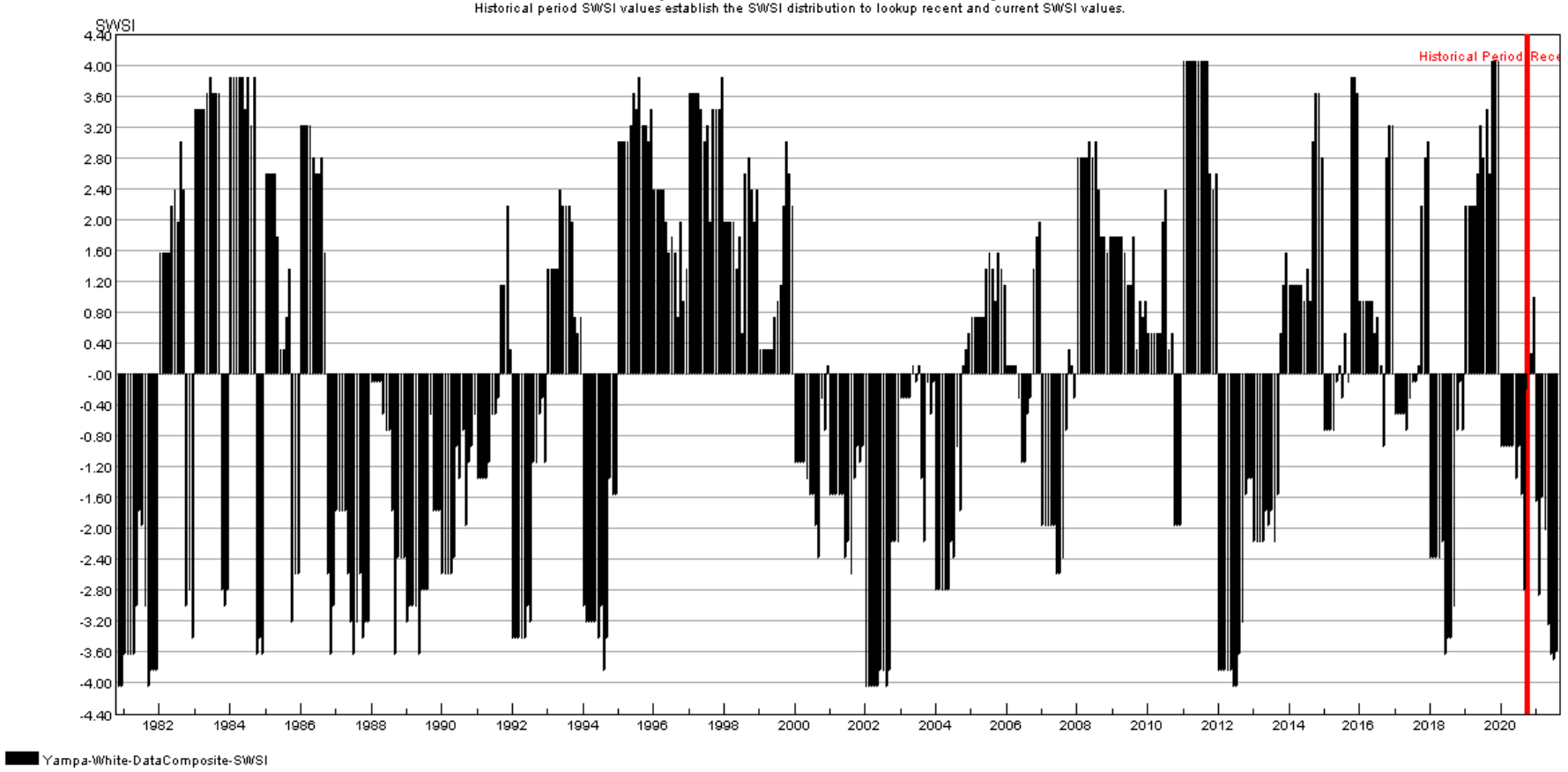
The SWSI value for the month was -3.6.

No Yampa/White River Basin Report is available for August 1, 2021



Yampa-White Basin SWSI History

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



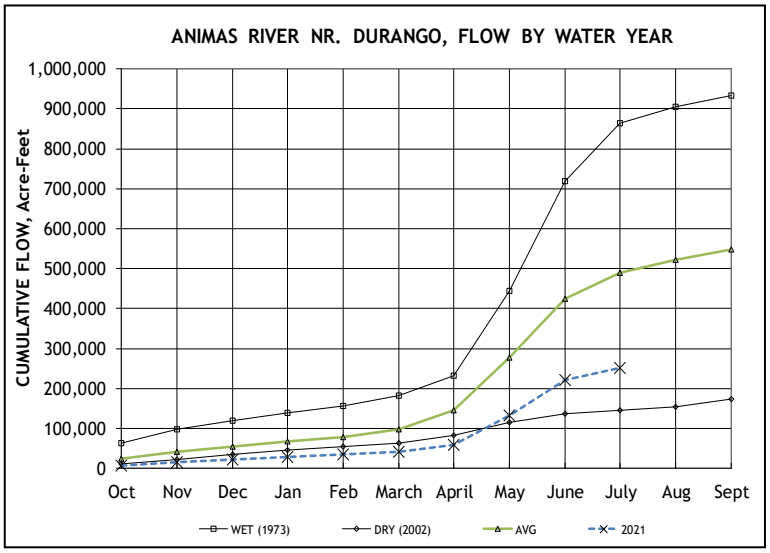
Basinwide Conditions Assessment

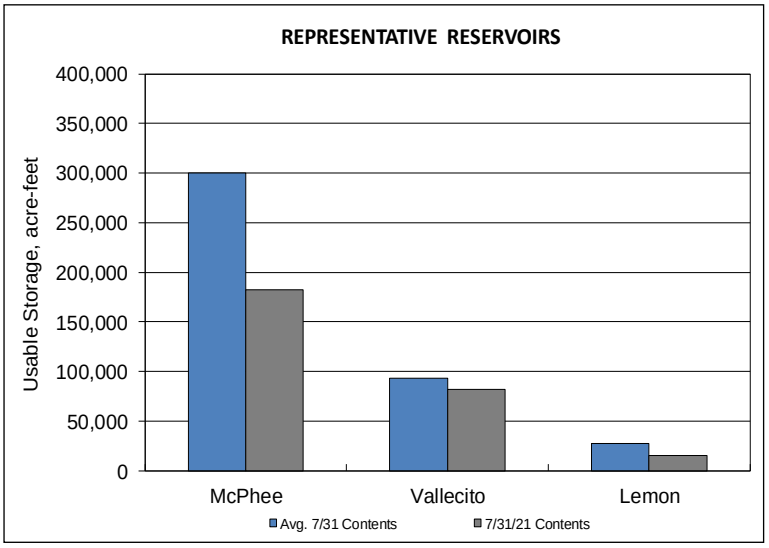
The SWSI value for the month was -3.1.

Flows at the Animas River at Durango averaged 518 cfs (45% of average). The flow at the Dolores River at Dolores averaged 168 cfs (44% of average). The La Plata River at Hesperus averaged 11.2 cfs (32% of average). Precipitation in Durango was 3.55 inches for the month, 195% of the 30-year average of 1.82 inches. Precipitation to date in Durango for the water year is 11.71 inches, 78% of the 30-year average of 15.04 inches. The average high and low temperatures for the month of July in Durango were 90º and 55º. In comparison, the 30-year average high and low for the month is 86º and 54º. At the end of the month Vallecito Reservoir contained 64,030 acre-feet compared to its average content of 89,658 acre-feet (71% of average). McPhee Reservoir was up to 171,768 acre-feet compared to its average content of 306,704 (56% of average), while Lemon Reservoir was up to 11,920 acre-feet as compared to its average content of 26,646 acre-feet (45% of average).

Outlook

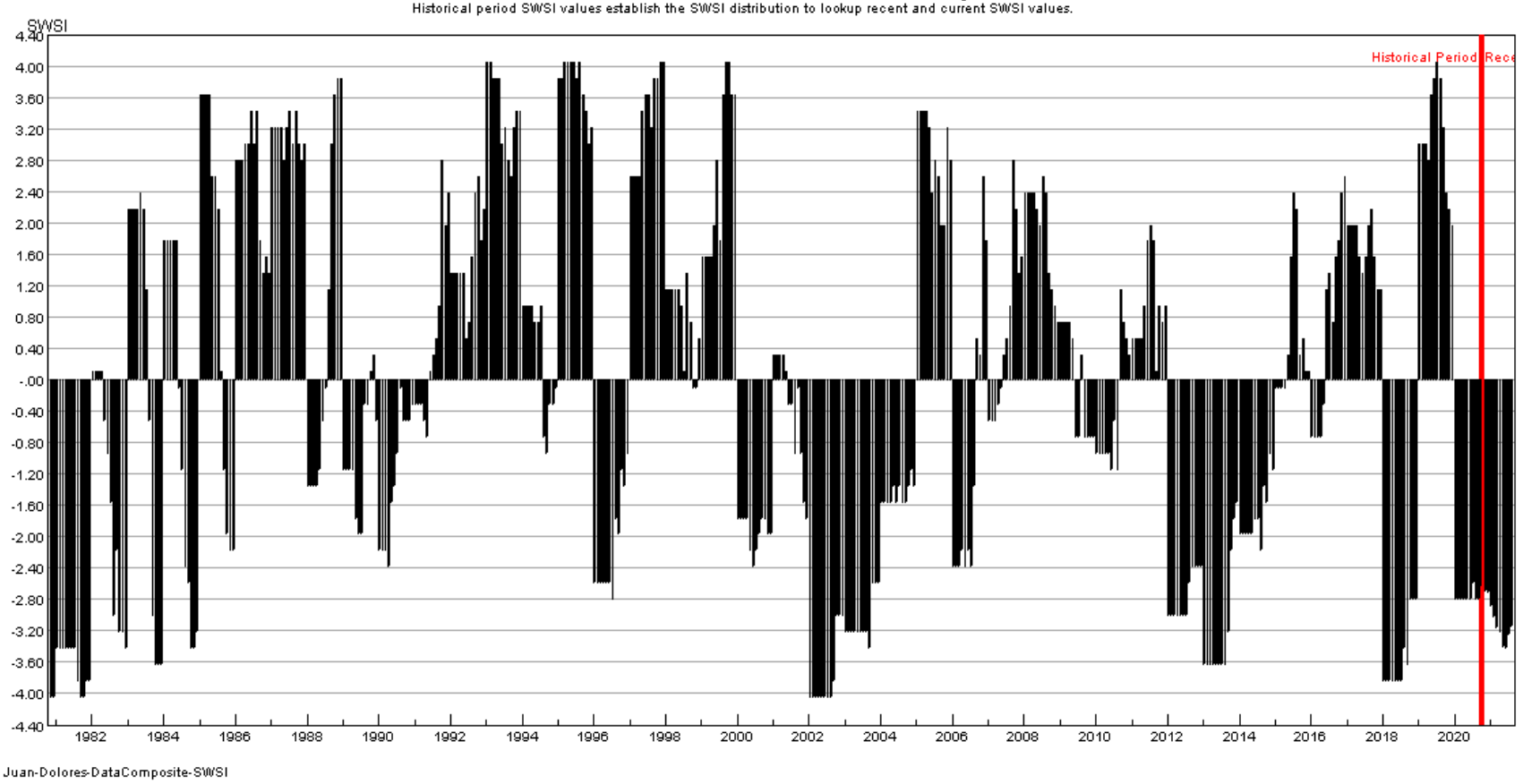
Precipitation (3.55 inches) was well above average for July in Durango. There were 7 years out of 126 years of record where there was more precipitation than this year. Precipitation in Durango was well above average but the precipitation within the basin was not widespread. The flows in the rivers did slightly better this month when compared to last month. The flows remain below average for the month. There were 87 out of 110 years of record where there was more flow at the Animas River at Durango gage than this year. There were 91 out of 111 years of record where the total flow past the Dolores stream gauge was more than this year. There were 94 out of 104 years of record where the total flow past the La Plata River at Hesperus gauge was more than this year. All of the reservoirs within the basin are well below average for this time of year. Mcphee Reservoir has not been this low since 2002. Only 3 years had a lower content than this year 1985, 1986 and 2002. Storage in 1985 and 1986 was just beginning after the construction was completed at the reservoir. 2002 was a very dry year. To compare several low content years, content at the end of July in 2002 was 158,233 acre-feet. Content at the end of July in 2013 was 173,277 acre-feet.





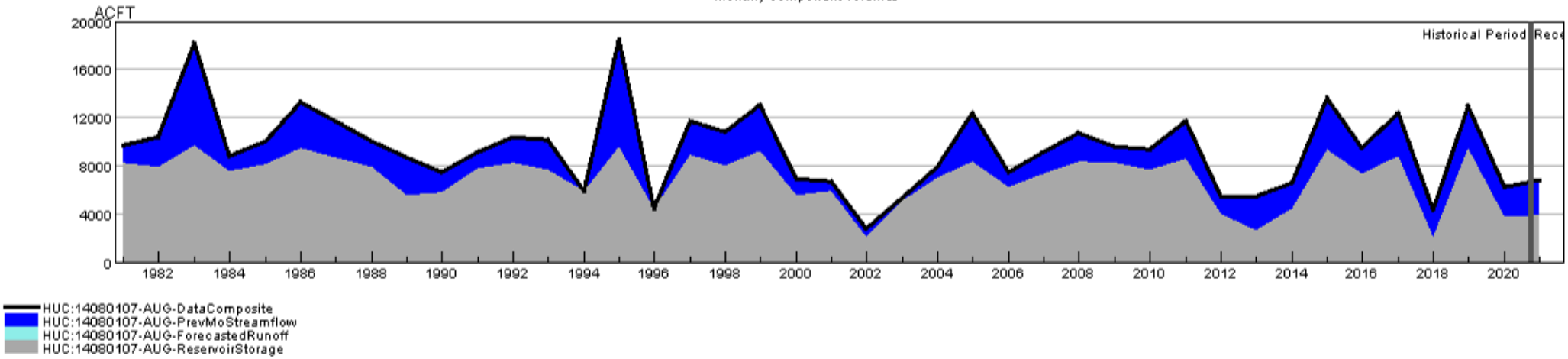
San Juan-Dolores Basin SWSI History

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



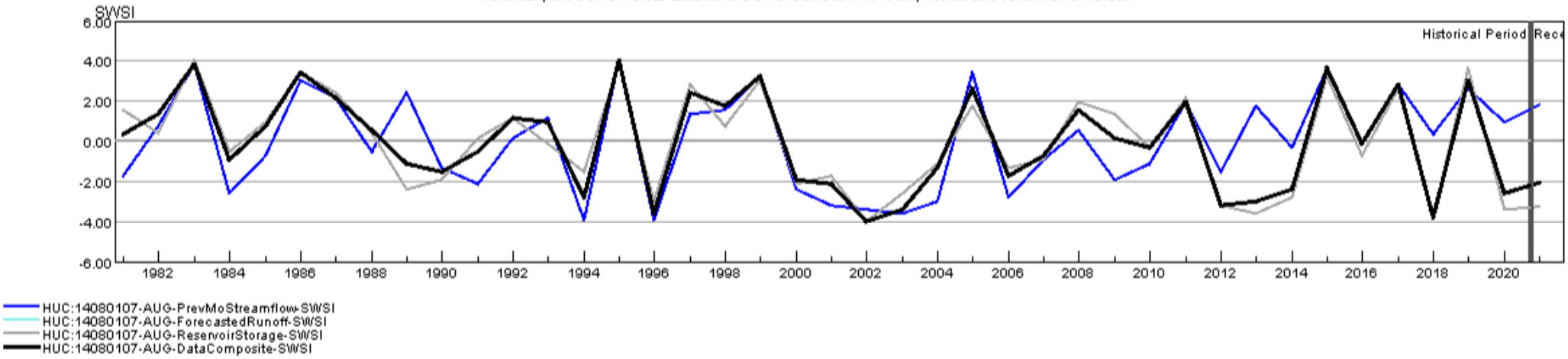
HUC 14080107 (Mancos) Surface Water Supply - AUG

Monthly component volumes



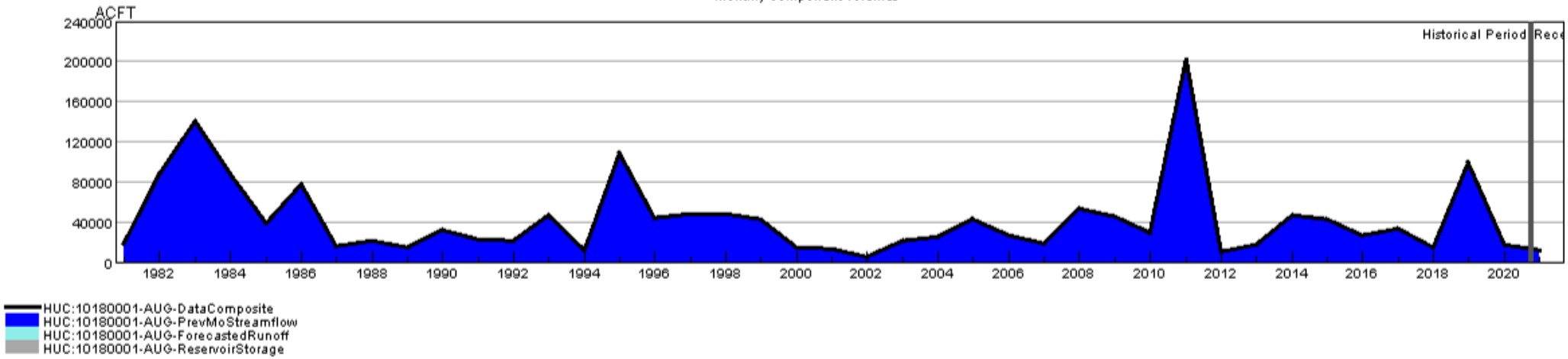
HUC 14080107 (Mancos) SWSI Values - AUG

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



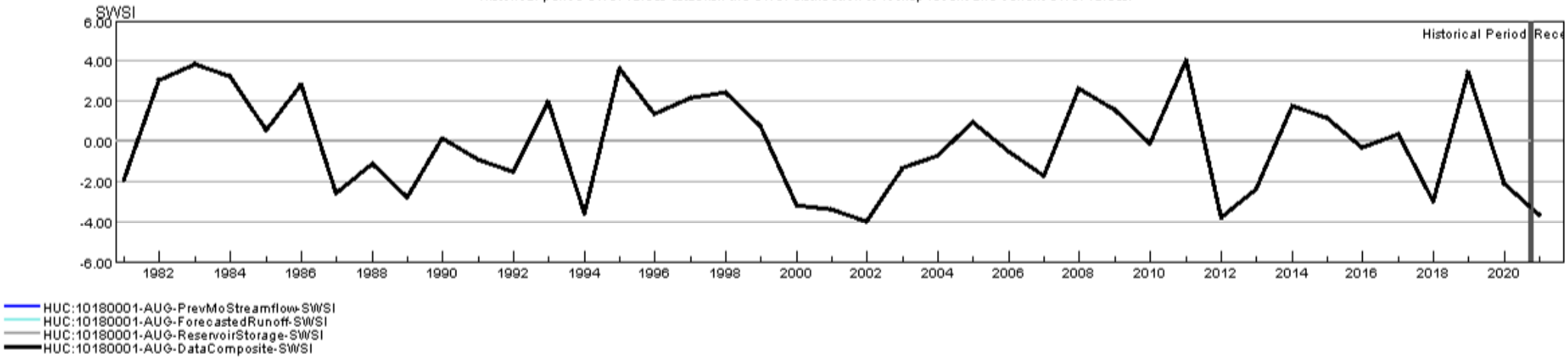
HUC 10180001 (North Platte Headwaters) Surface Water Supply - AUG

Monthly component volumes



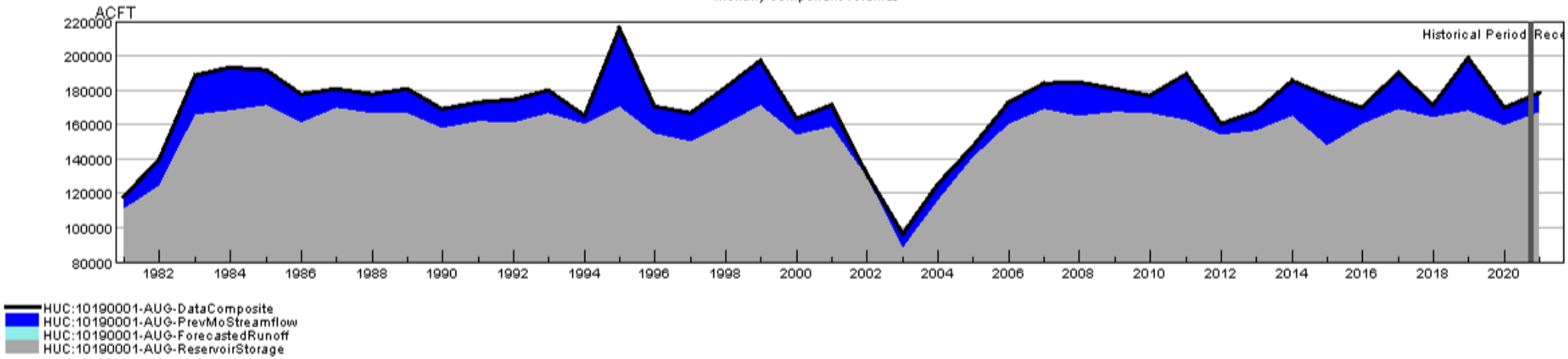
HUC 10180001 (North Platte Headwaters) SWSI Values - AUG

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



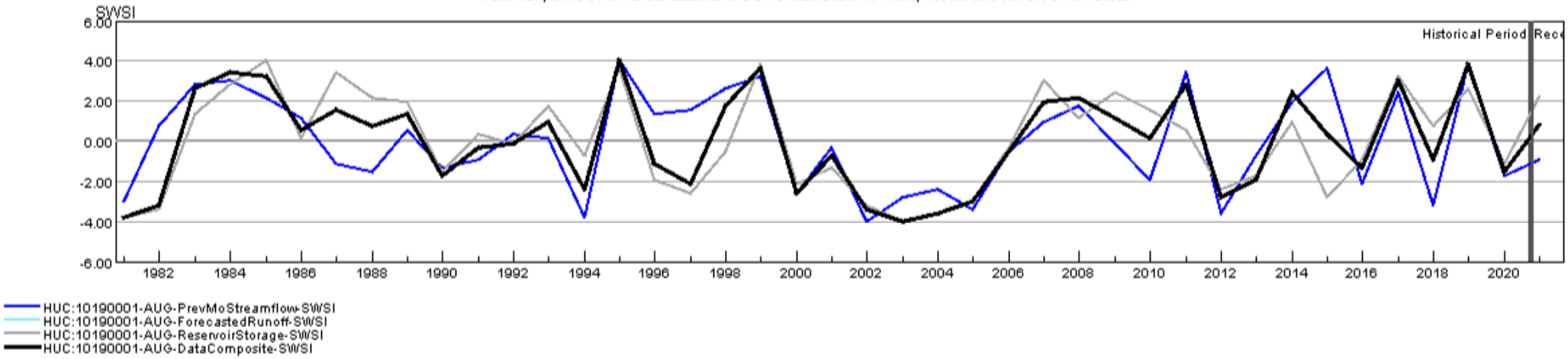
HUC 10190001 (South Platte Headwater) Surface Water Supply - AUG

Monthly component volumes



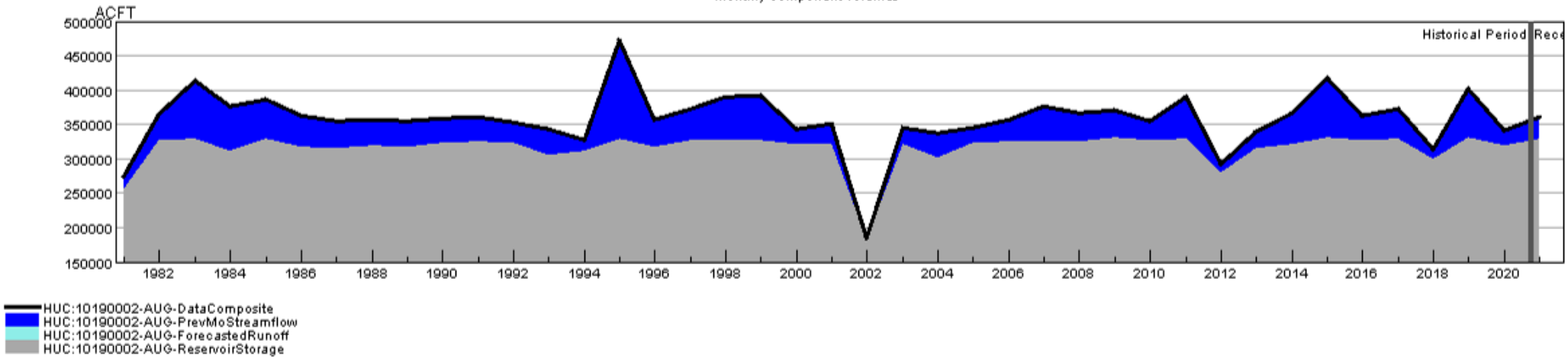
HUC 10190001 (South Platte Headwater) SWSI Values - AUG

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



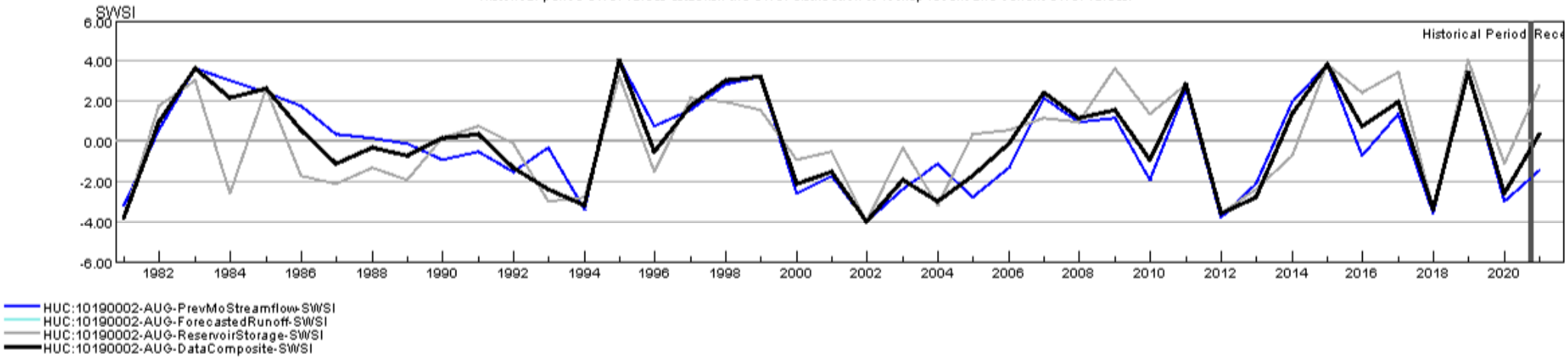
HUC 10190002 (Upper South Platte) Surface Water Supply - AUG

Monthly component volumes



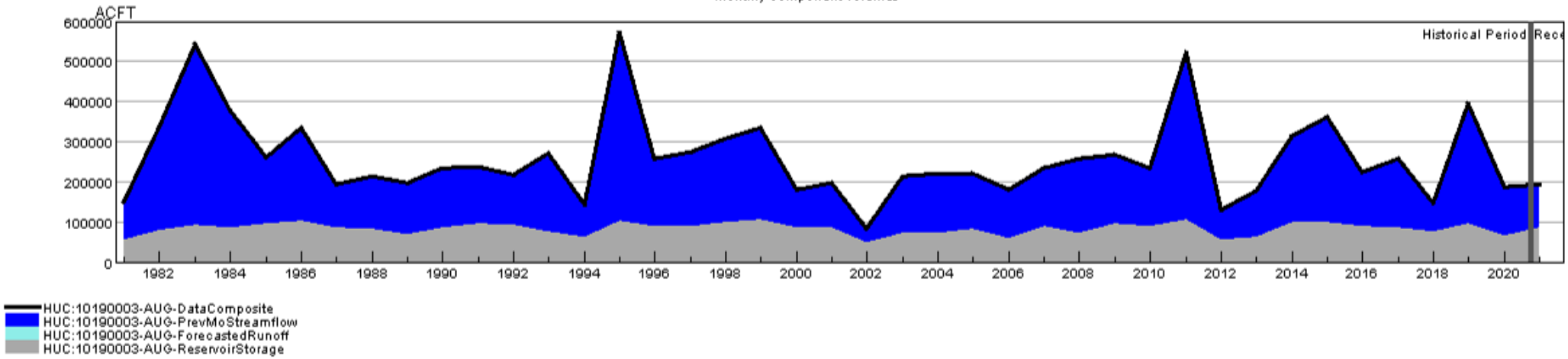
HUC 10190002 (Upper South Platte) SWSI Values - AUG

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

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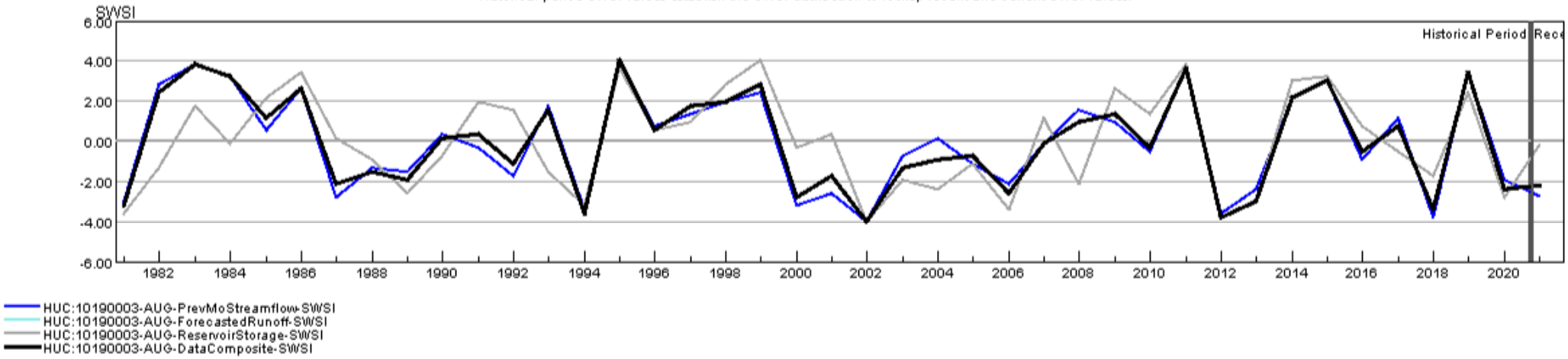
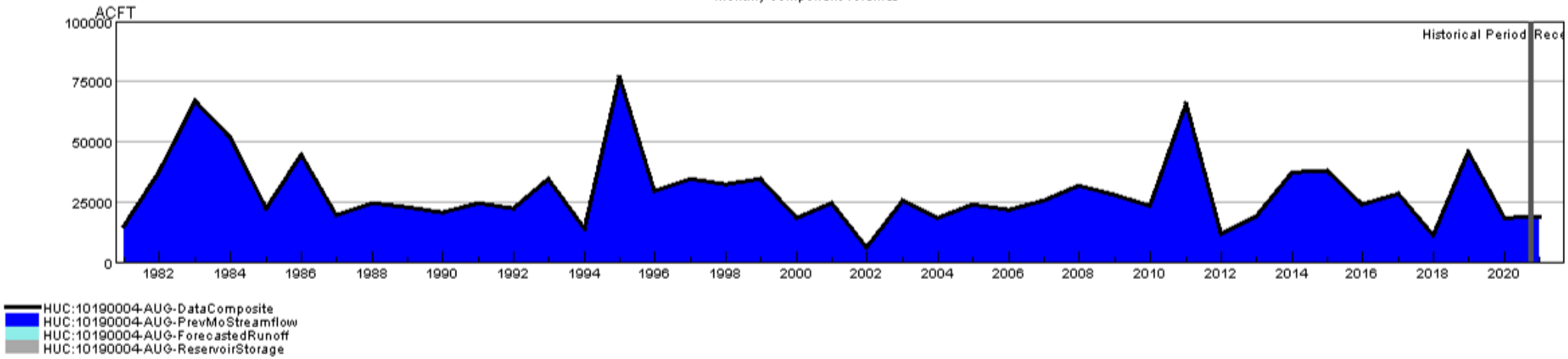


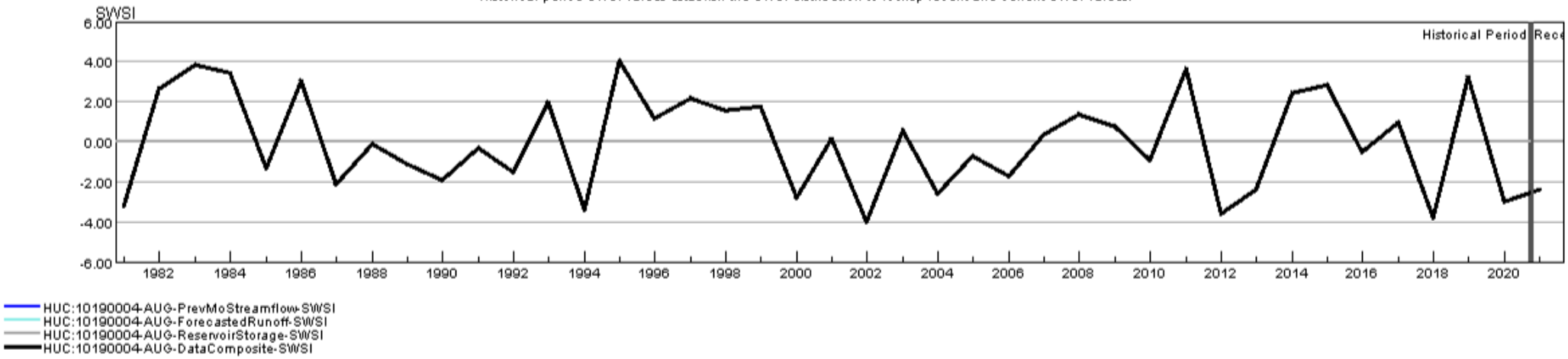
HUC 10190004 (Clear) Surface Water Supply - AUG

Monthly component volumes



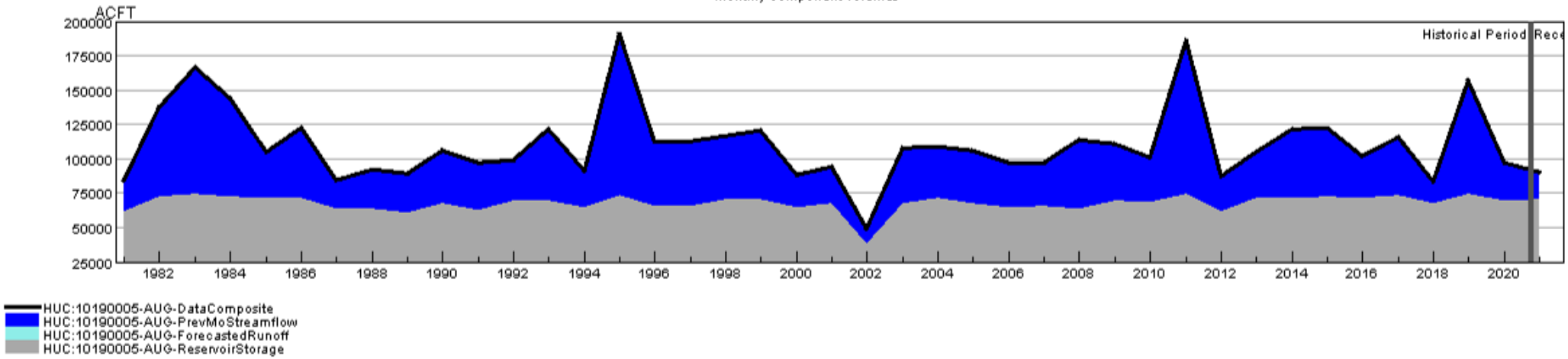
HUC 10190004 (Clear) SWSI Values - AUG

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



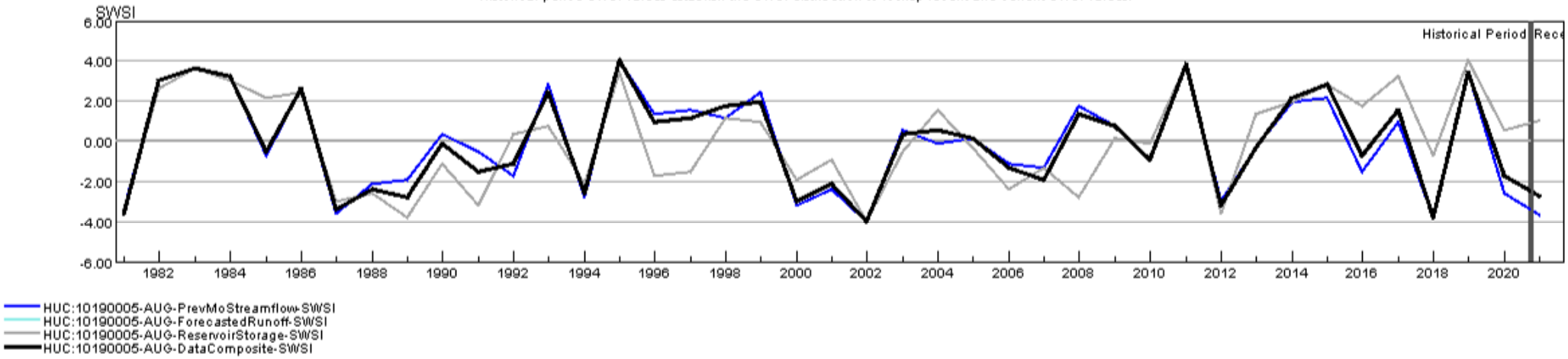
HUC 10190005 (St. Vrain) Surface Water Supply - AUG

Monthly component volumes



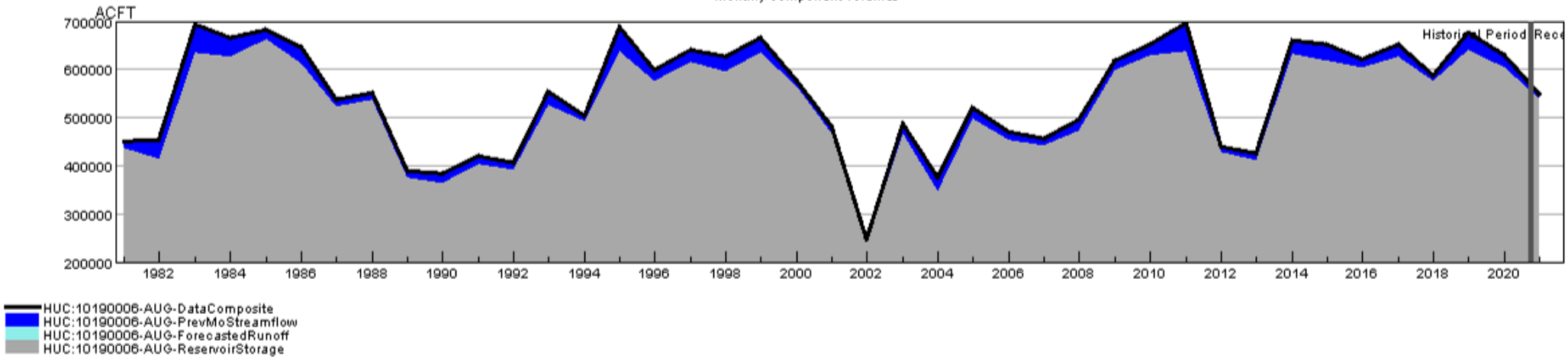
HUC 10190005 (St. Vrain) SWSI Values - AUG

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



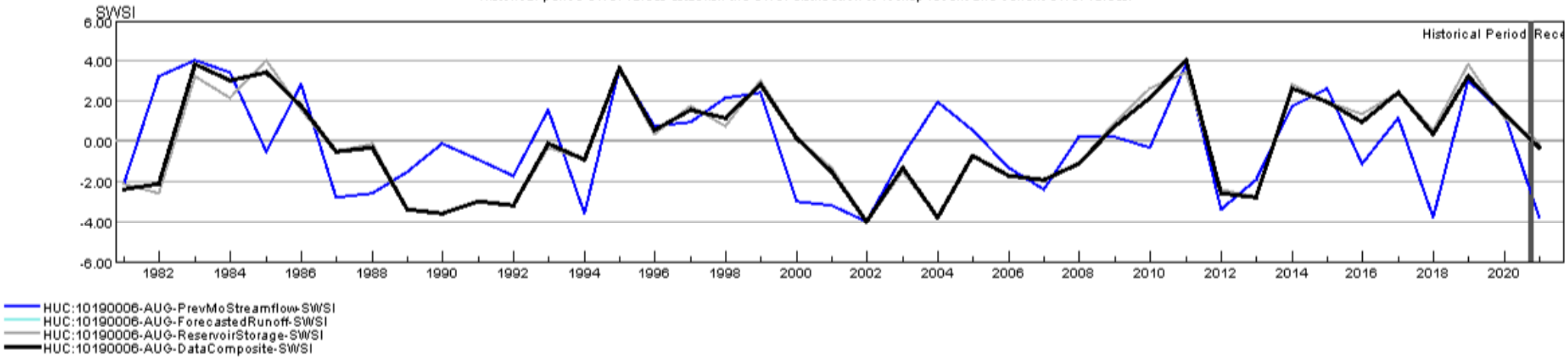
HUC 10190006 (Big Thompson) Surface Water Supply - AUG

Monthly component volumes



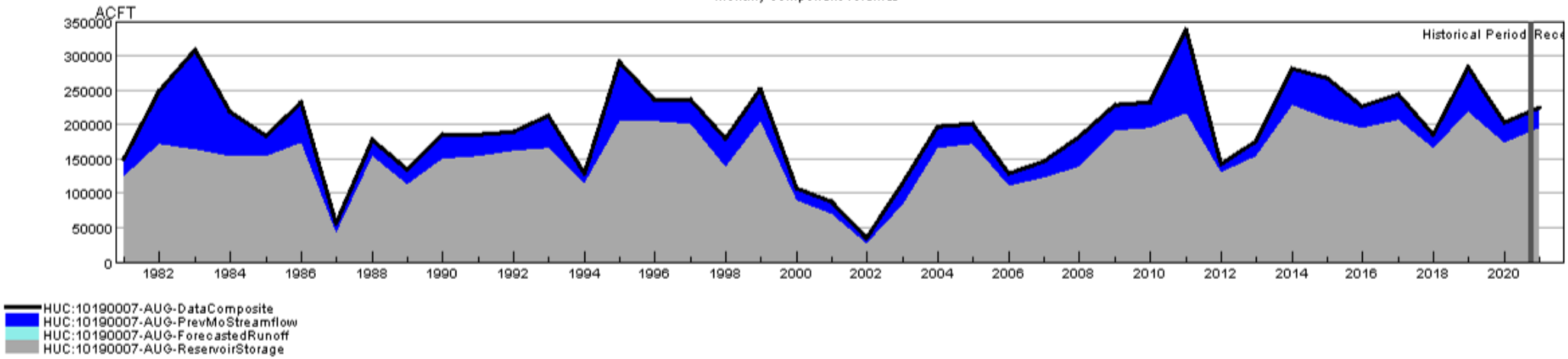
HUC 10190006 (Big Thompson) SWSI Values - AUG

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



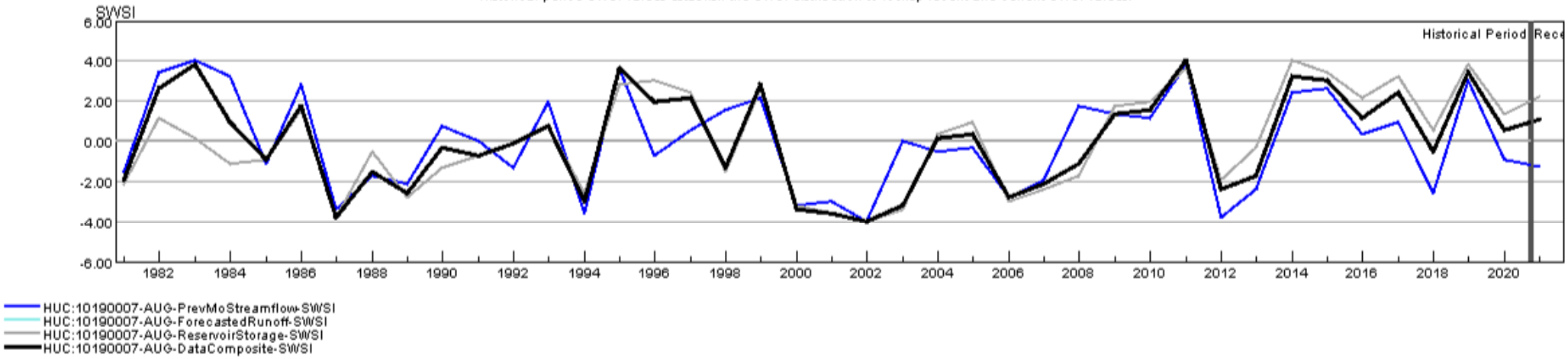
HUC 10190007 (Cache La Poudre) Surface Water Supply - AUG

Monthly component volumes



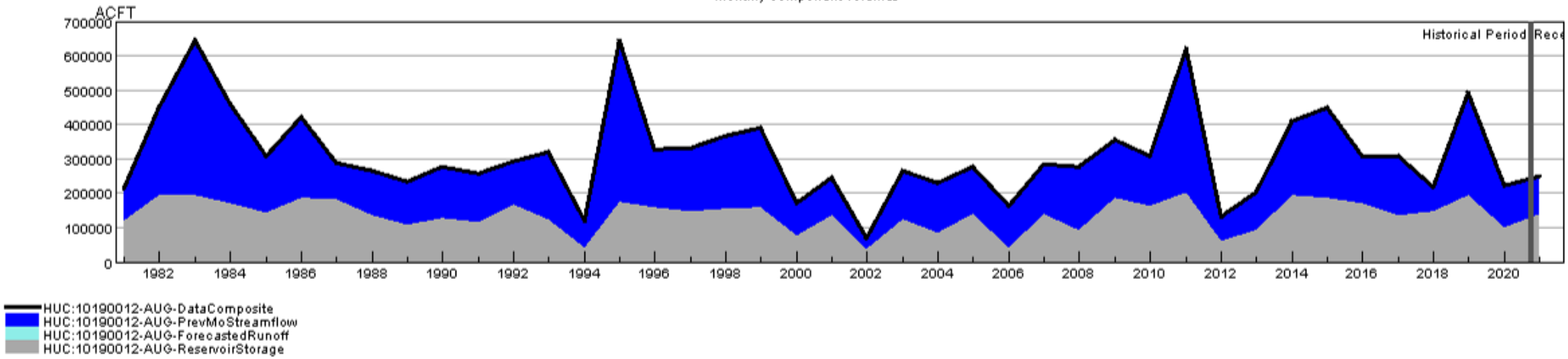
HUC 10190007 (Cache La Poudre) SWSI Values - AUG

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



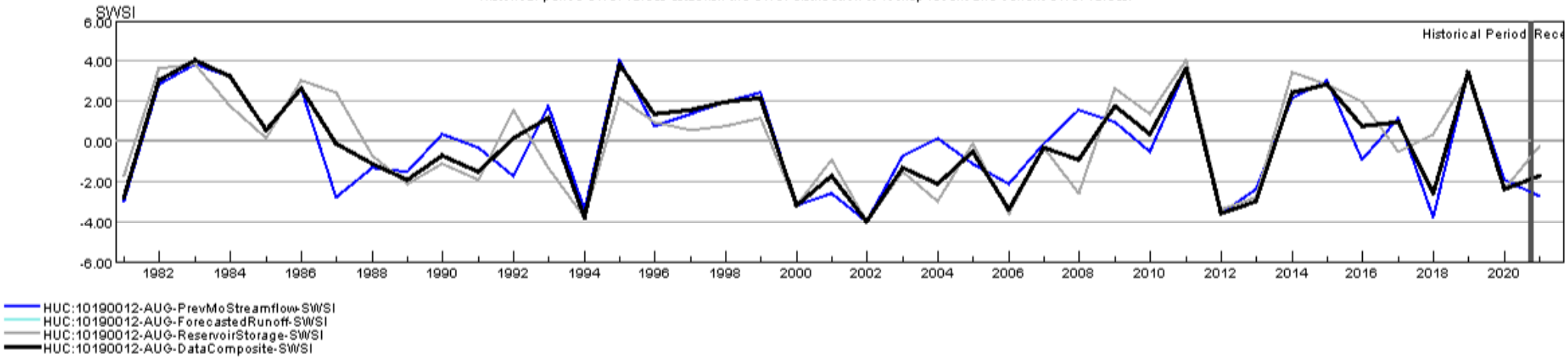
HUC 10190012 (Middle South Platte-Sterling) Surface Water Supply - AUG

Monthly component volumes



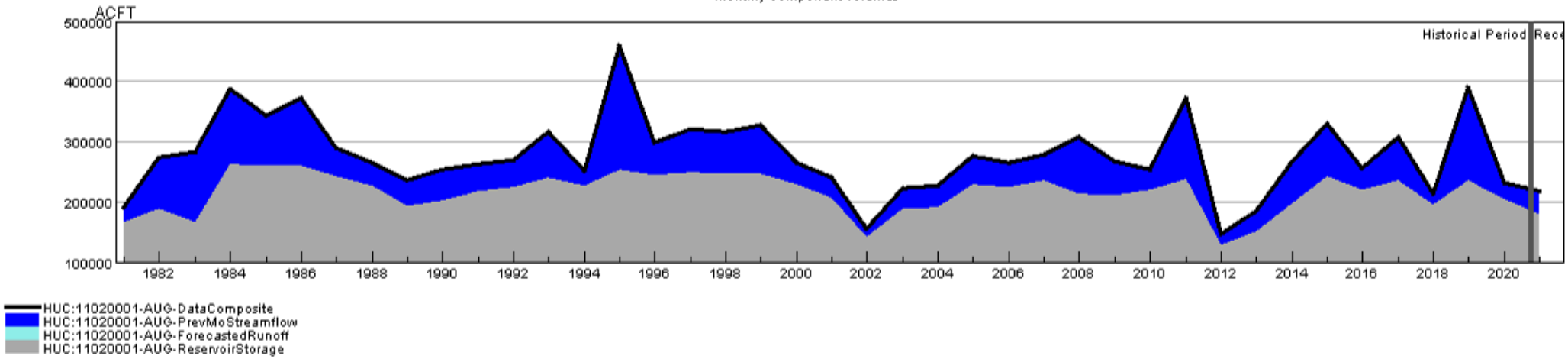
HUC 10190012 (Middle South Platte-Sterling) SWSI Values - AUG

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



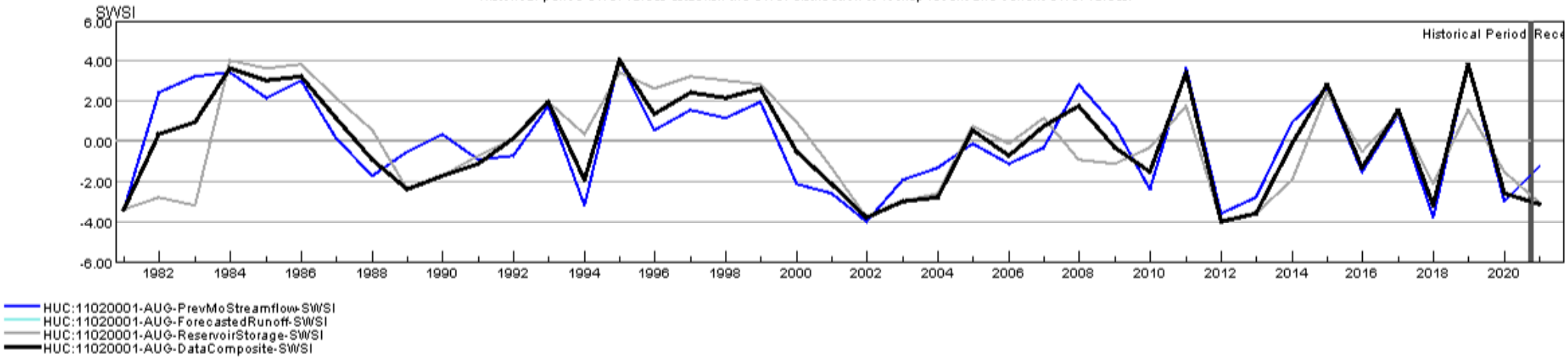
HUC 11020001 (Arkansas Headwaters) Surface Water Supply - AUG

Monthly component volumes



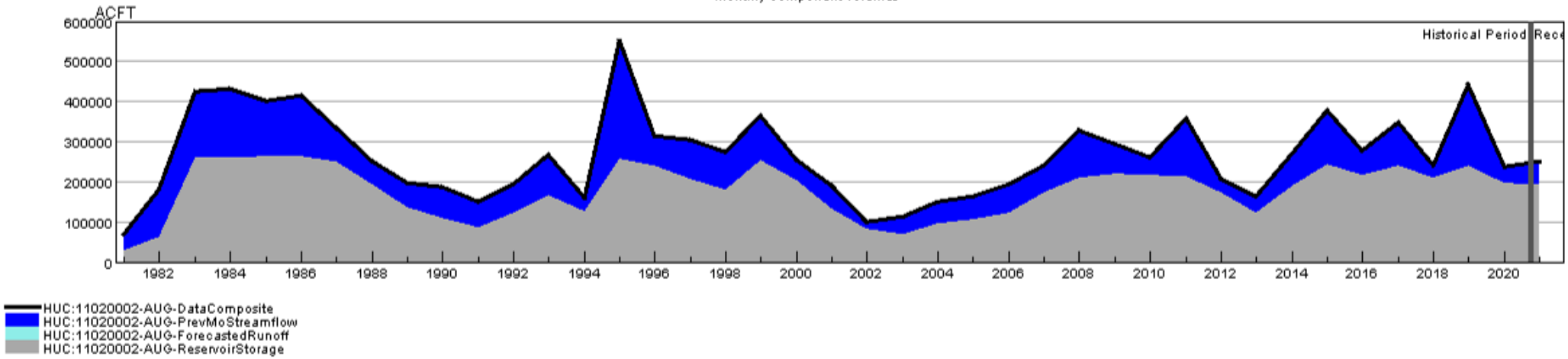
HUC 11020001 (Arkansas Headwaters) SWSI Values - AUG

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



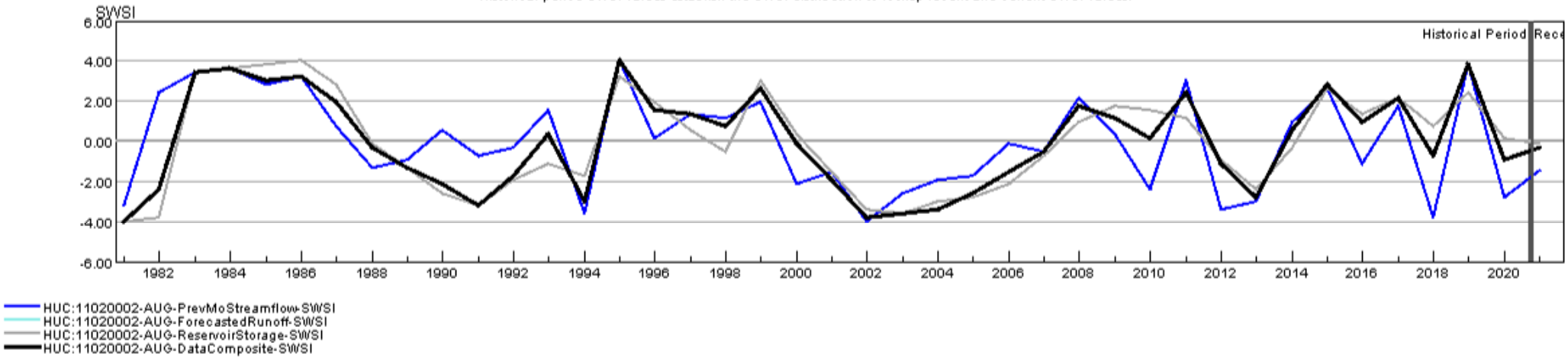
HUC 11020002 (Upper Arkansas) Surface Water Supply - AUG

Monthly component volumes



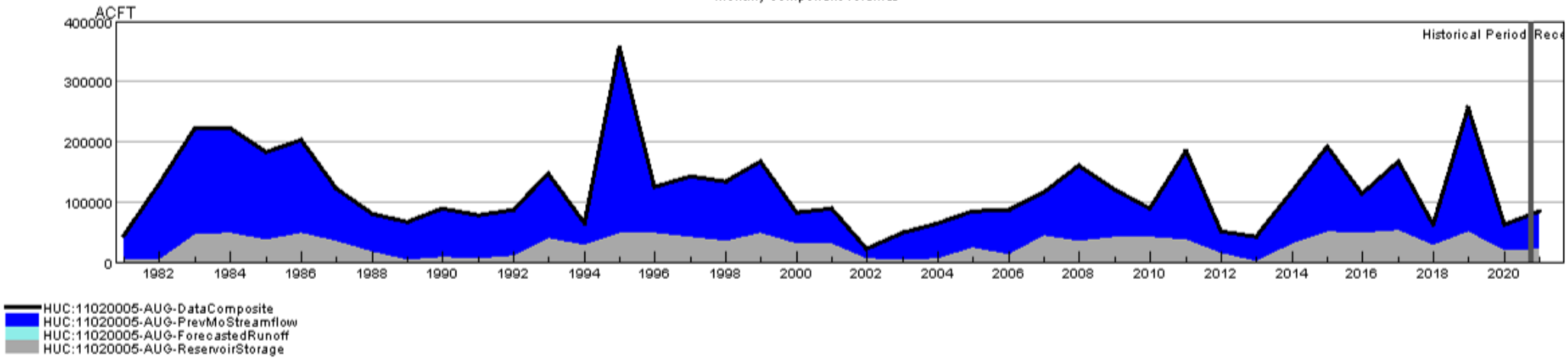
HUC 11020002 (Upper Arkansas) SWSI Values - AUG

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



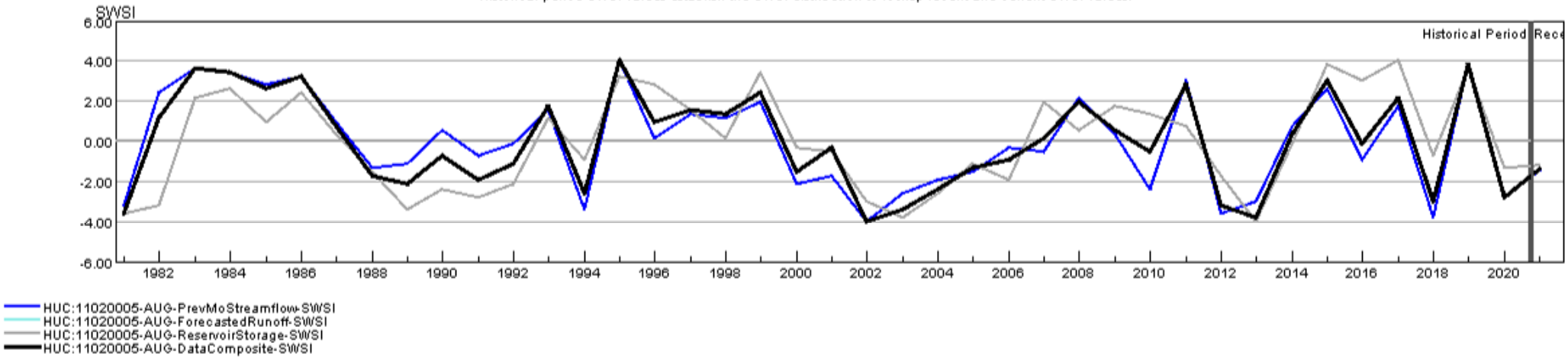
HUC 11020005 (Upper Arkansas-Lake Meredith) Surface Water Supply - AUG

Monthly component volumes



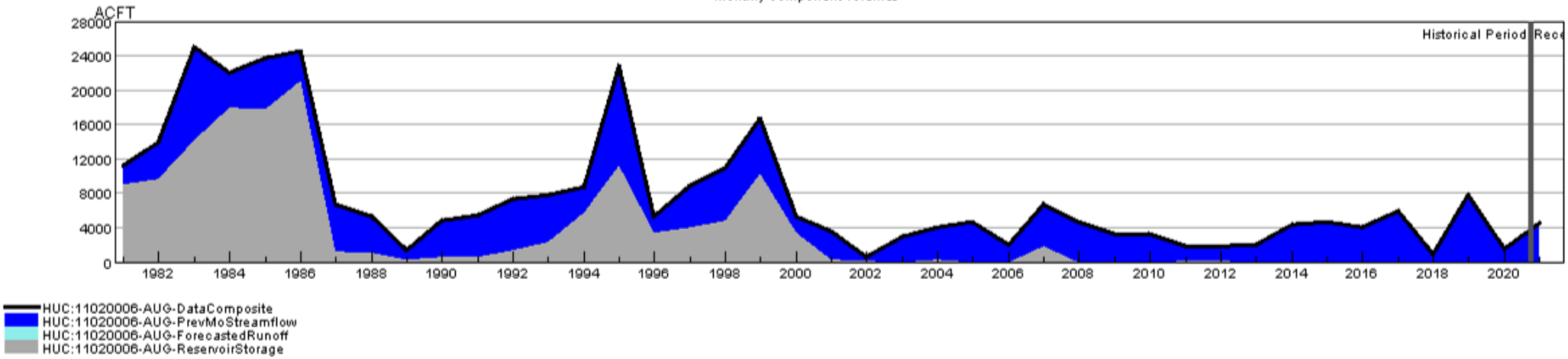
HUC 11020005 (Upper Arkansas-Lake Meredith) SWSI Values - AUG

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



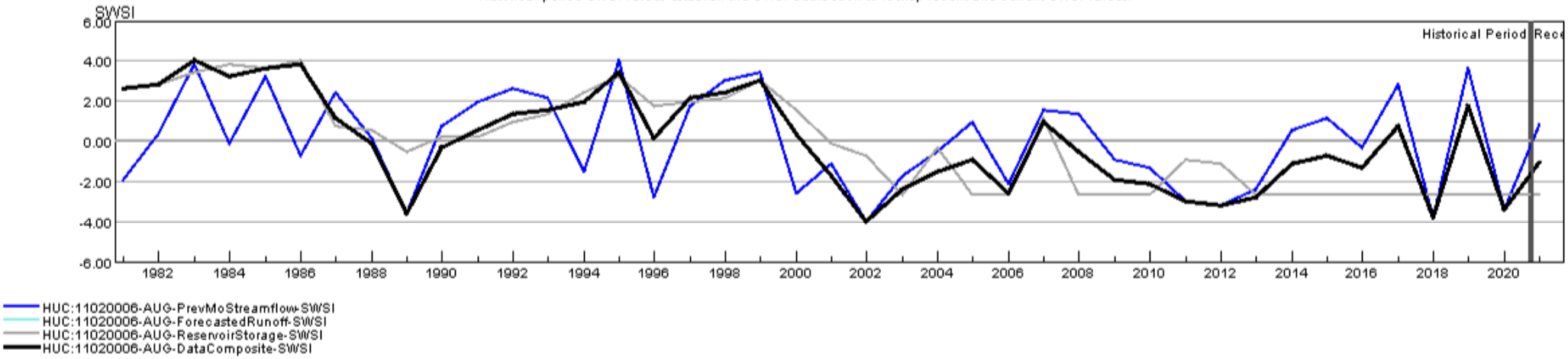
HUC 11020006 (Huerfano) Surface Water Supply - AUG

Monthly component volumes



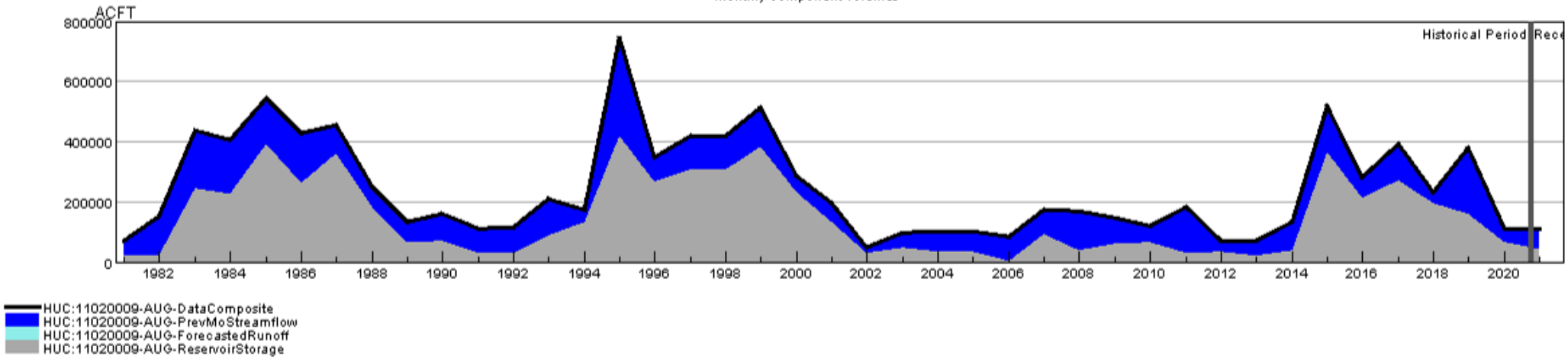
HUC 11020006 (Huerfano) SWSI Values - AUG

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



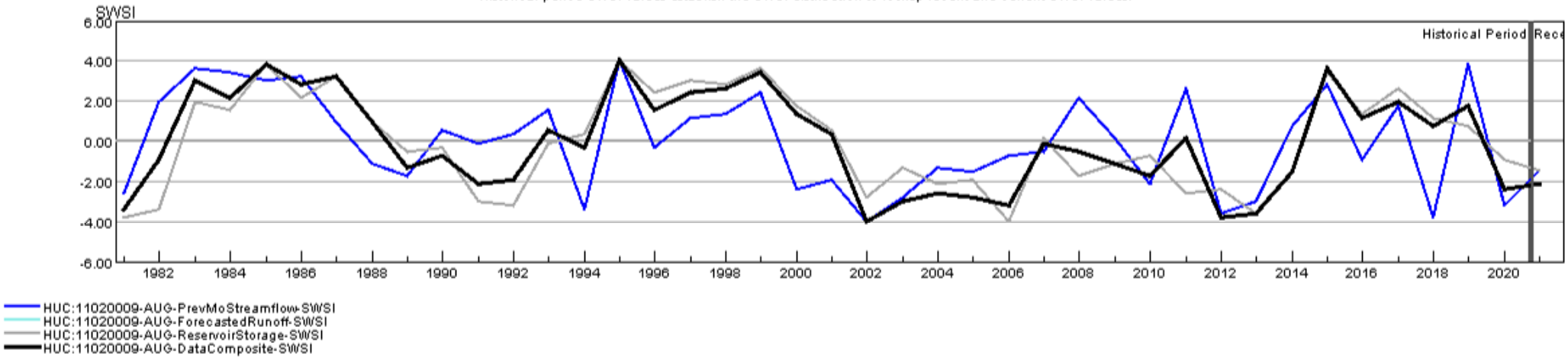
HUC 11020009 (Upper Arkansas-John Martin Reservoir) Surface Water Supply - AUG

Monthly component volumes



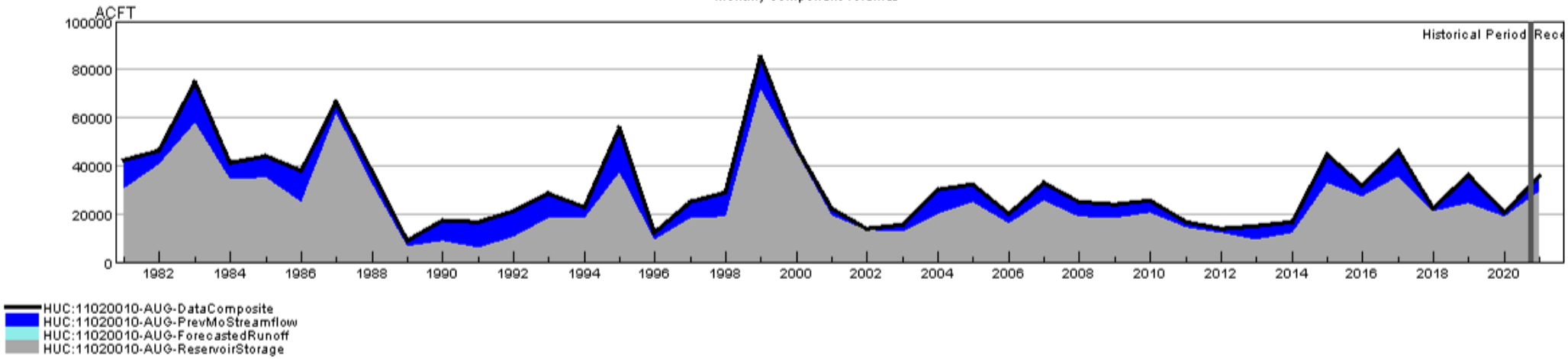
HUC 11020009 (Upper Arkansas-John Martin Reservoir) SWSI Values - AUG

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



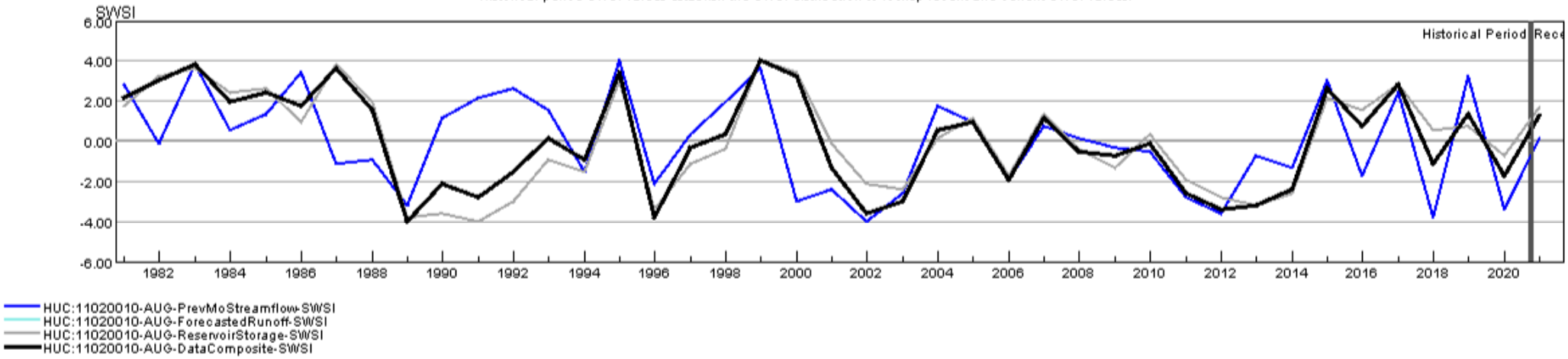
HUC 11020010 (Purgatoire) Surface Water Supply - AUG

Monthly component volumes



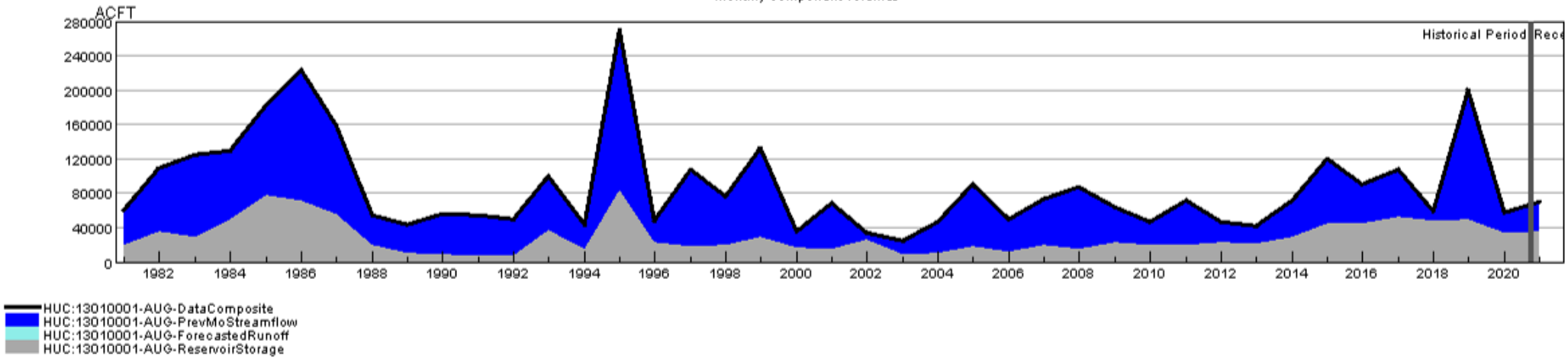
HUC 11020010 (Purgatoire) SWSI Values - AUG

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



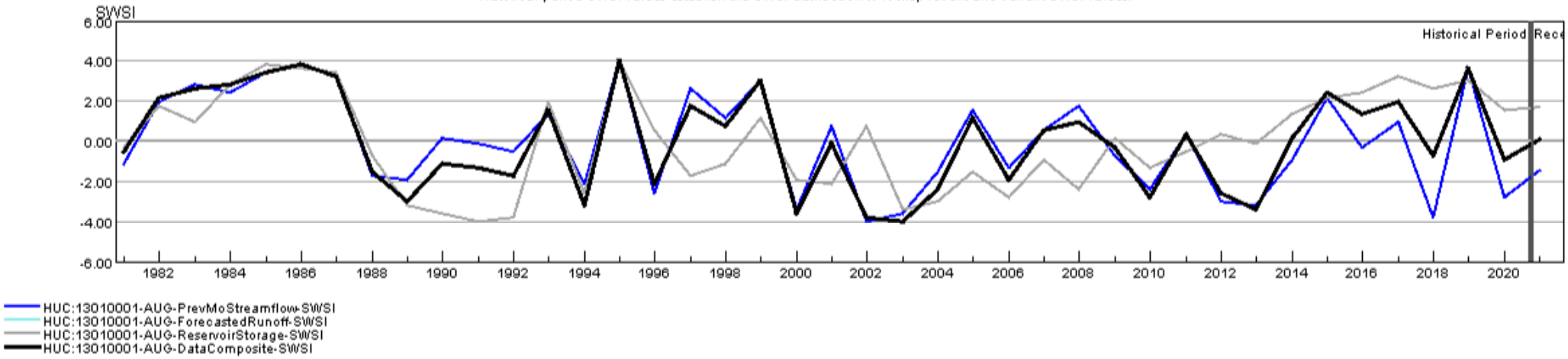
HUC 13010001 (Rio Grande Headwaters) Surface Water Supply - AUG

Monthly component volumes



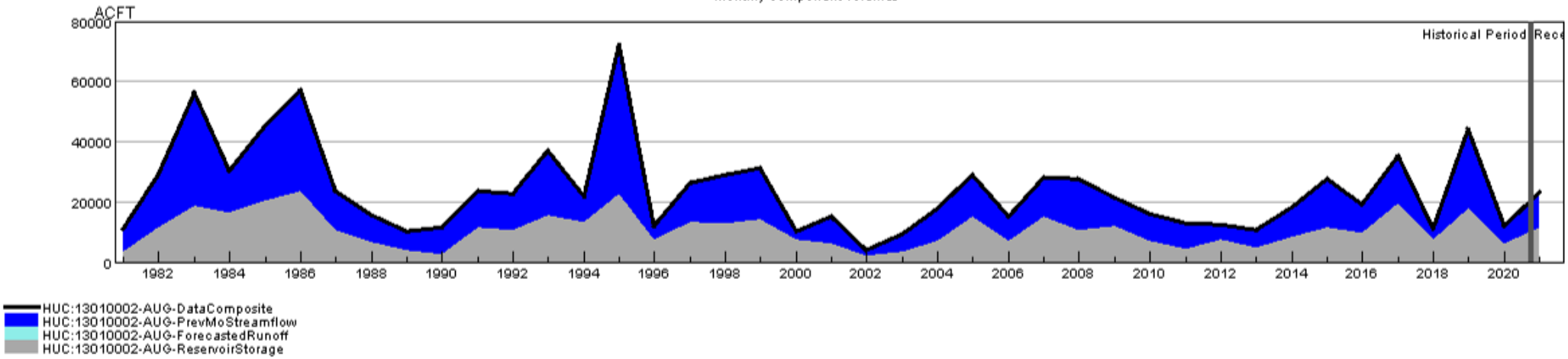
HUC 13010001 (Rio Grande Headwaters) SWSI Values - AUG

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



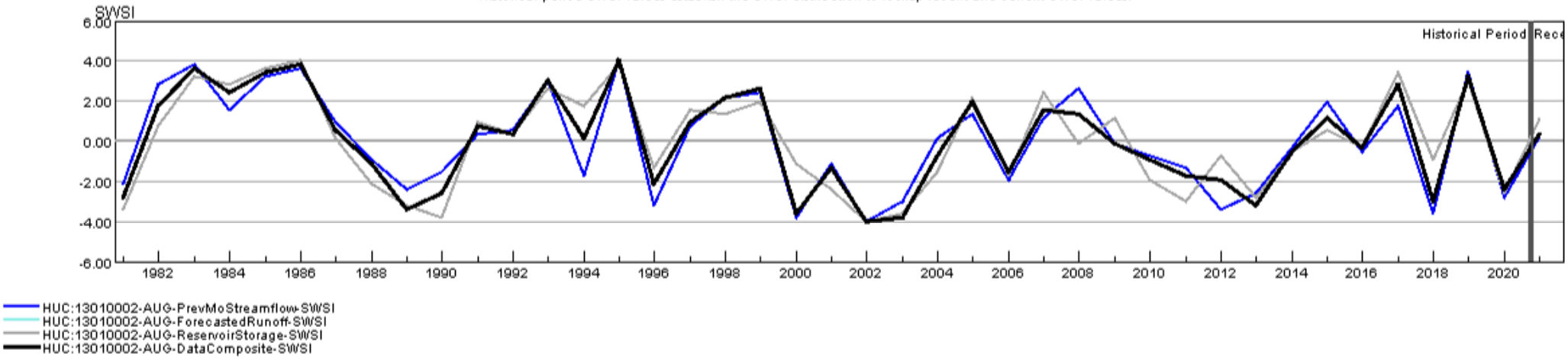
HUC 13010002 (Alamosa-Trinchera) Surface Water Supply - AUG

Monthly component volumes



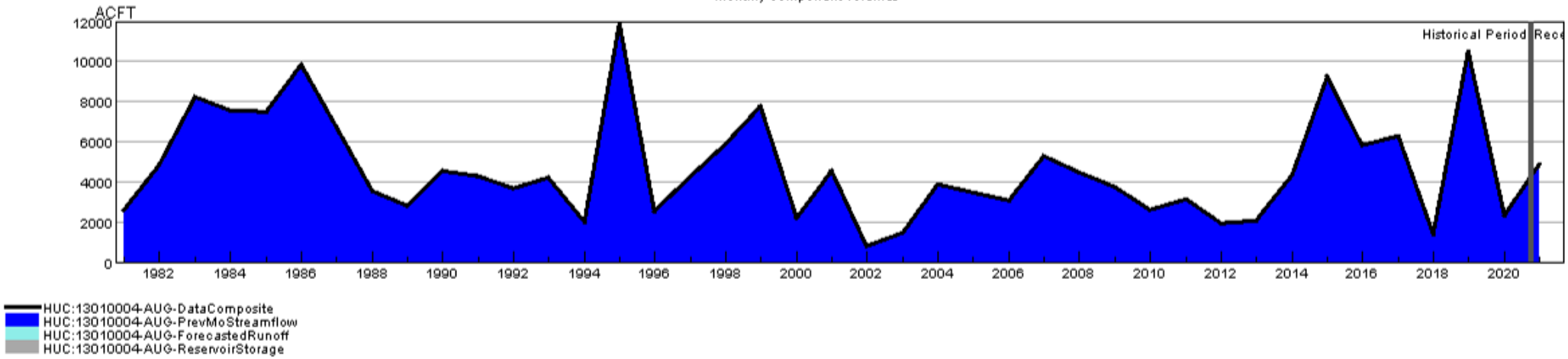
HUC 13010002 (Alamosa-Trinchera) SWSI Values - AUG

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



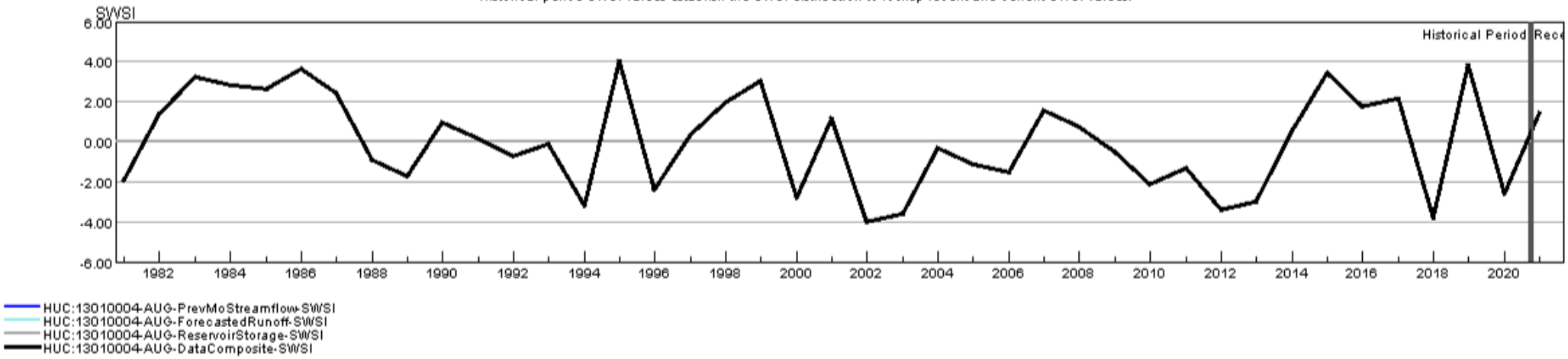
HUC 13010004 (Saguache) Surface Water Supply - AUG

Monthly component volumes



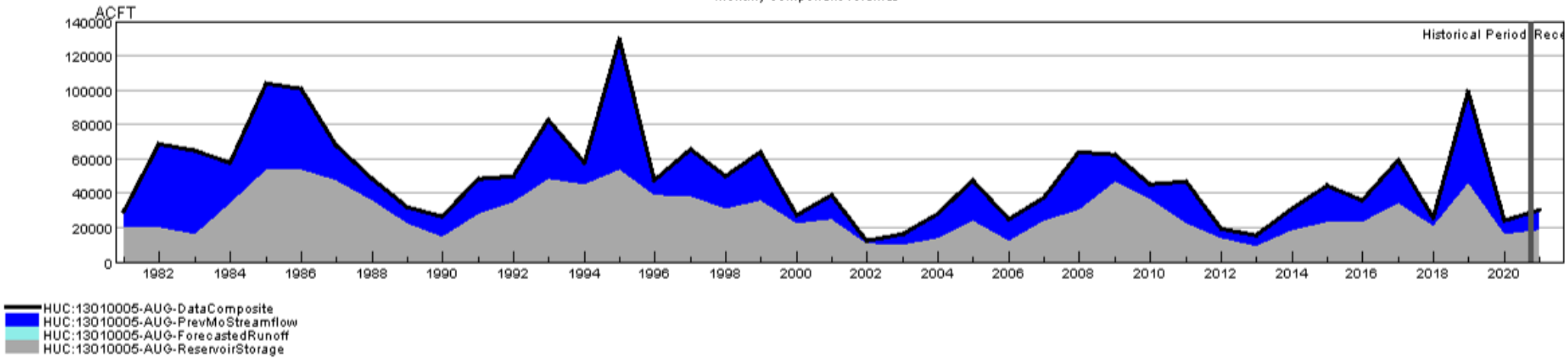
HUC 13010004 (Saguache) SWSI Values - AUG

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



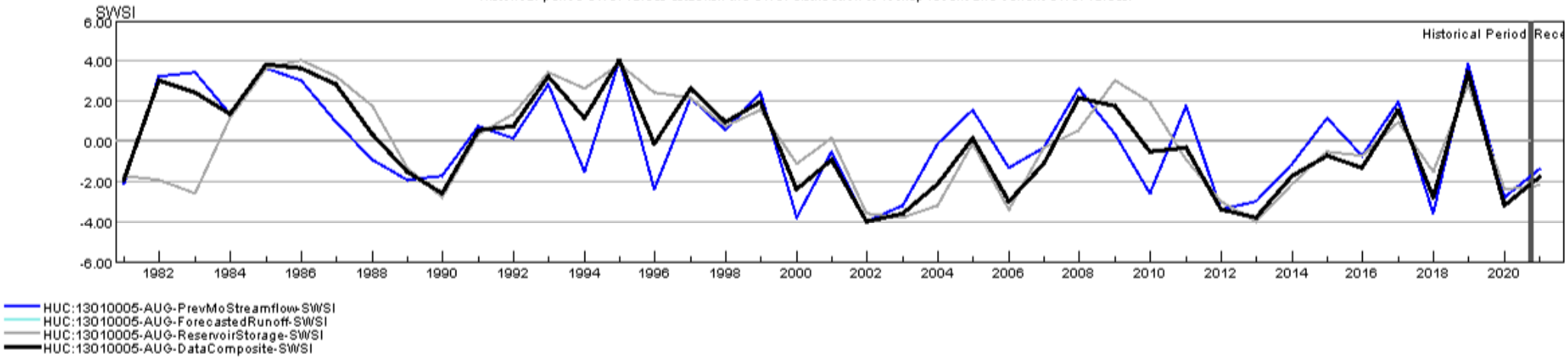
HUC 13010005 (Conejos) Surface Water Supply - AUG

Monthly component volumes



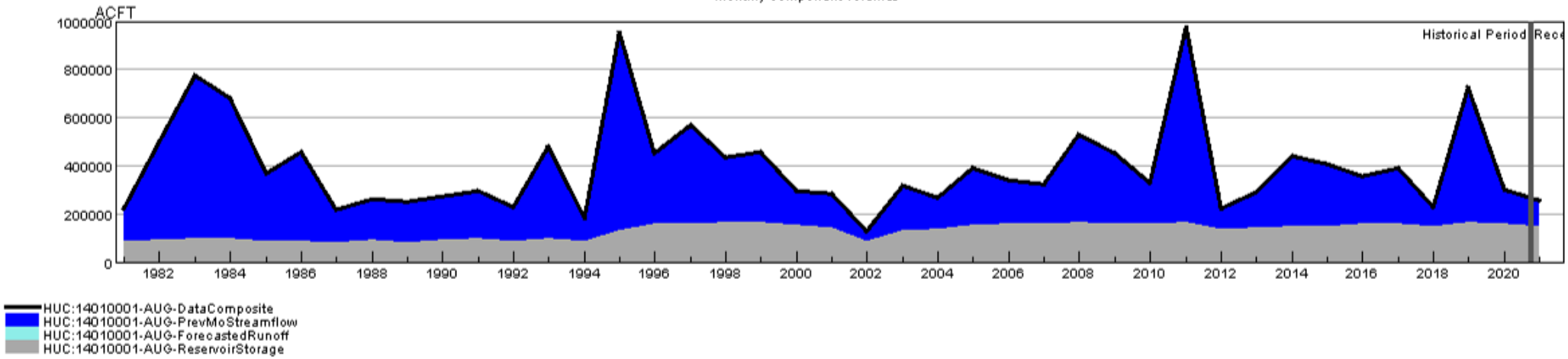
HUC 13010005 (Conejos) SWSI Values - AUG

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



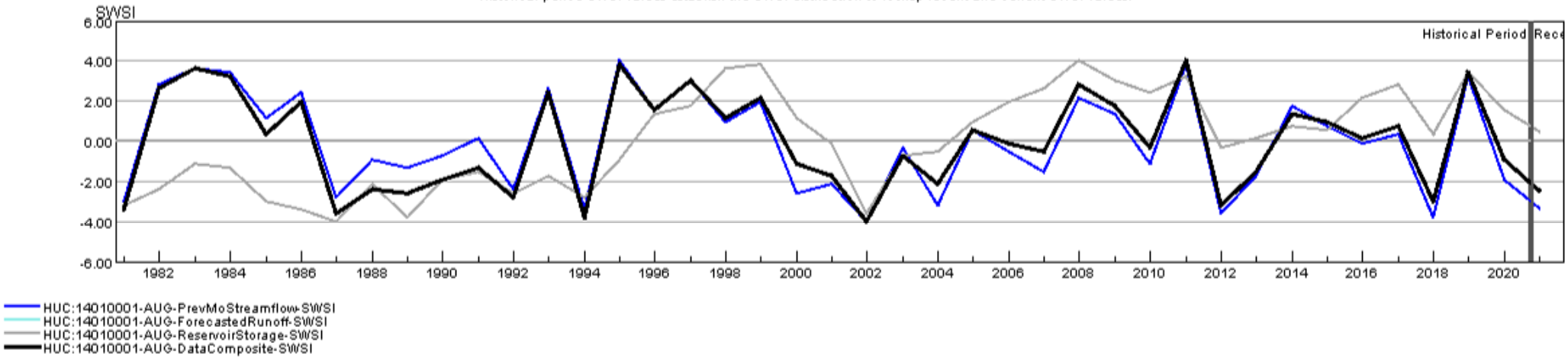
HUC 14010001 (Colorado Headwaters) Surface Water Supply - AUG

Monthly component volumes



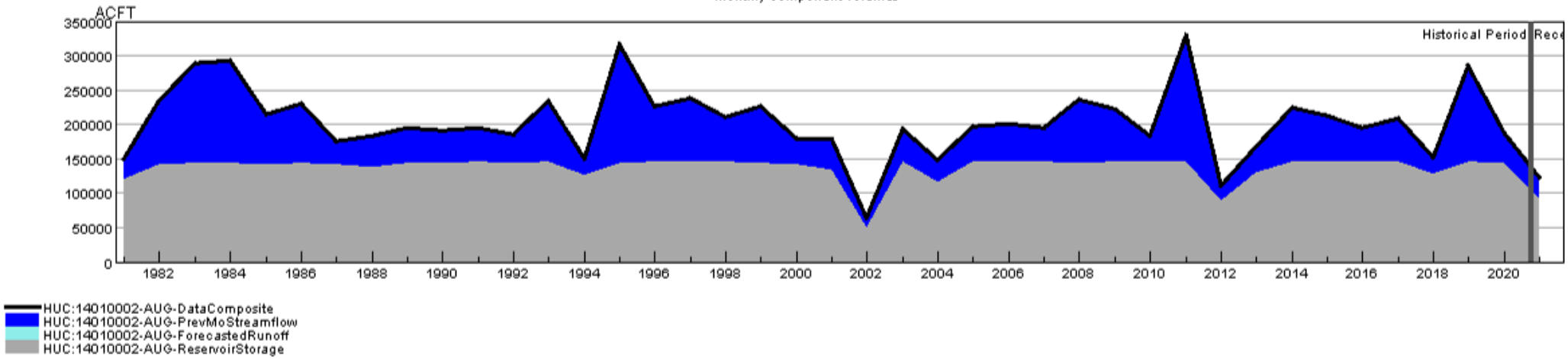
HUC 14010001 (Colorado Headwaters) SWSI Values - AUG

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



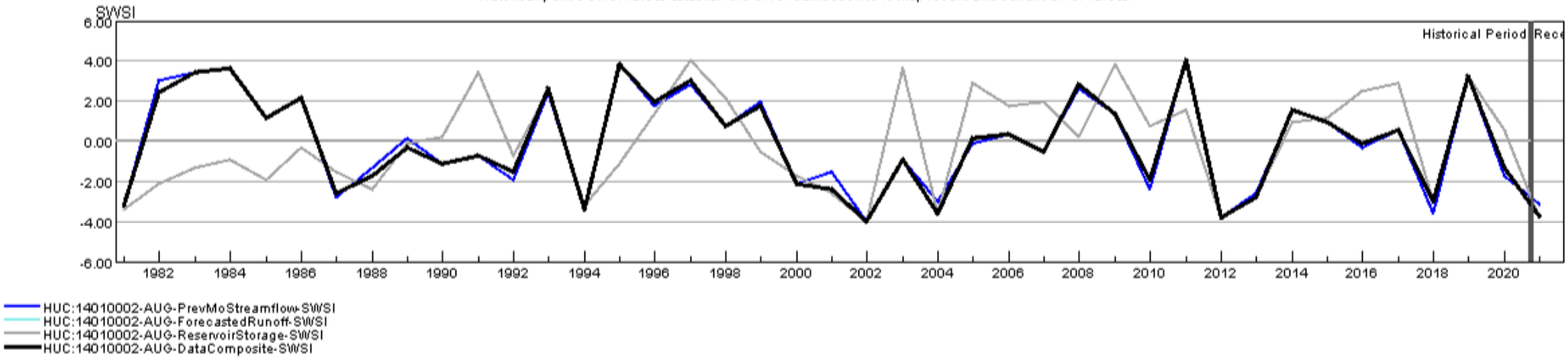
HUC 14010002 (Blue) Surface Water Supply - AUG

Monthly component volumes



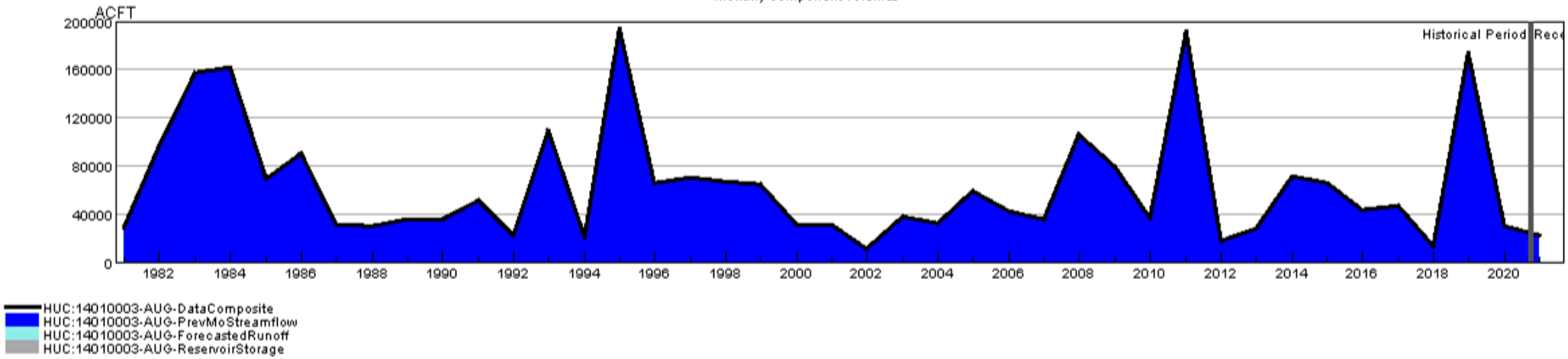
HUC 14010002 (Blue) SWSI Values - AUG

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



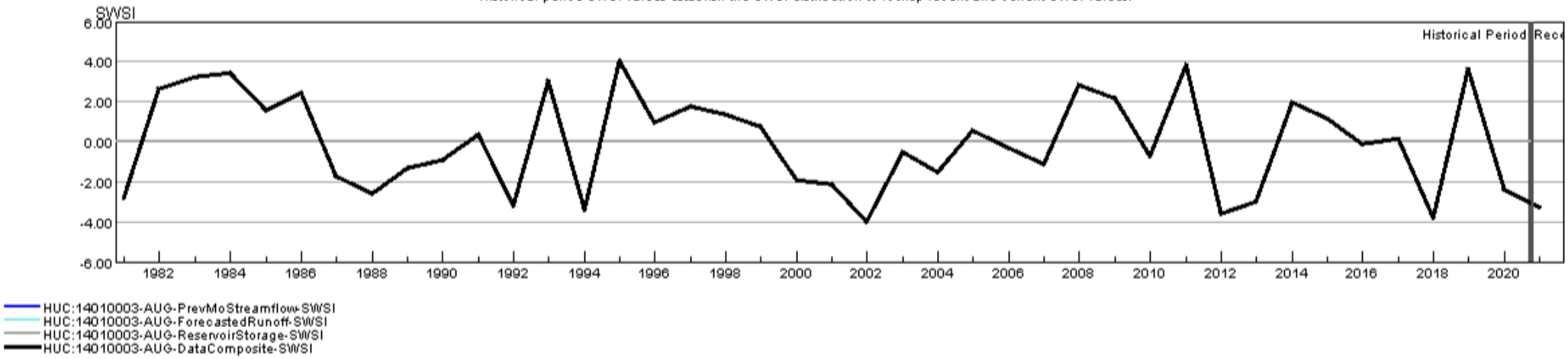
HUC 14010003 (Eagle) Surface Water Supply - AUG

Monthly component volumes



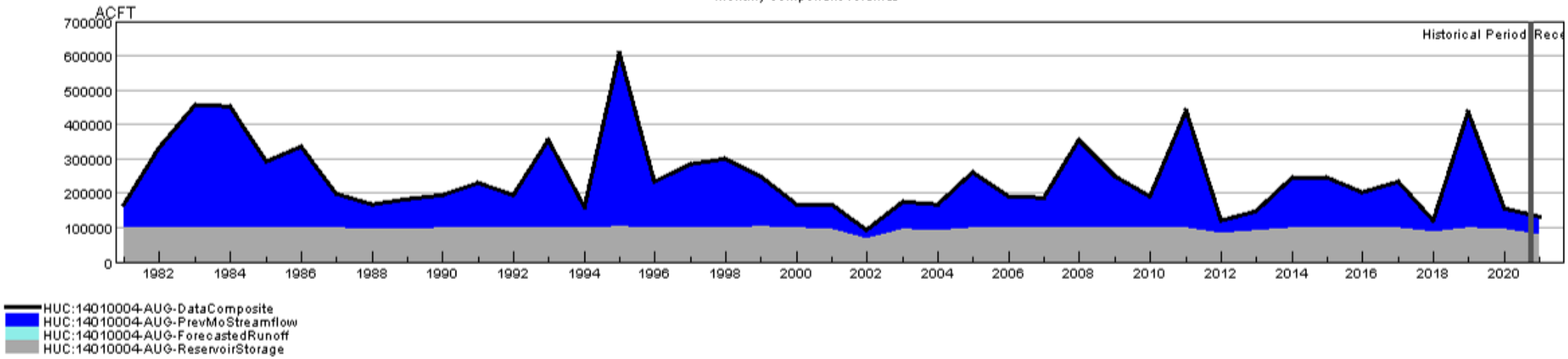
HUC 14010003 (Eagle) SWSI Values - AUG

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



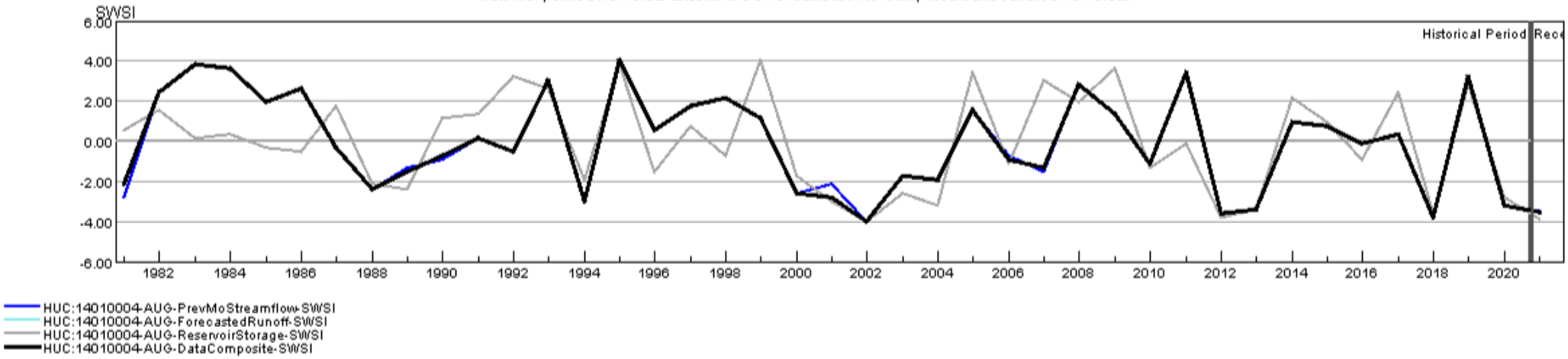
HUC 14010004 (Roaring Fork) Surface Water Supply - AUG

Monthly component volumes



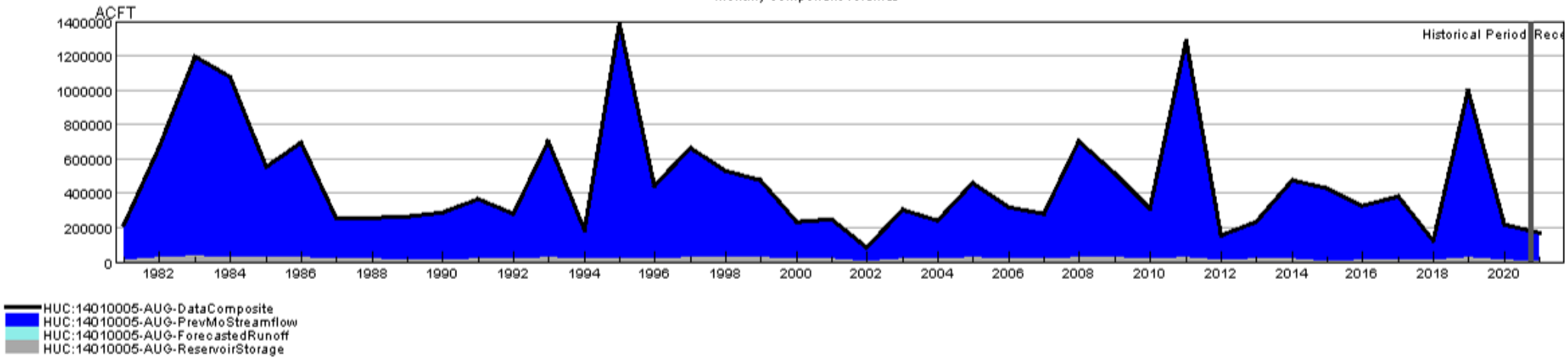
HUC 14010004 (Roaring Fork) SWSI Values - AUG

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



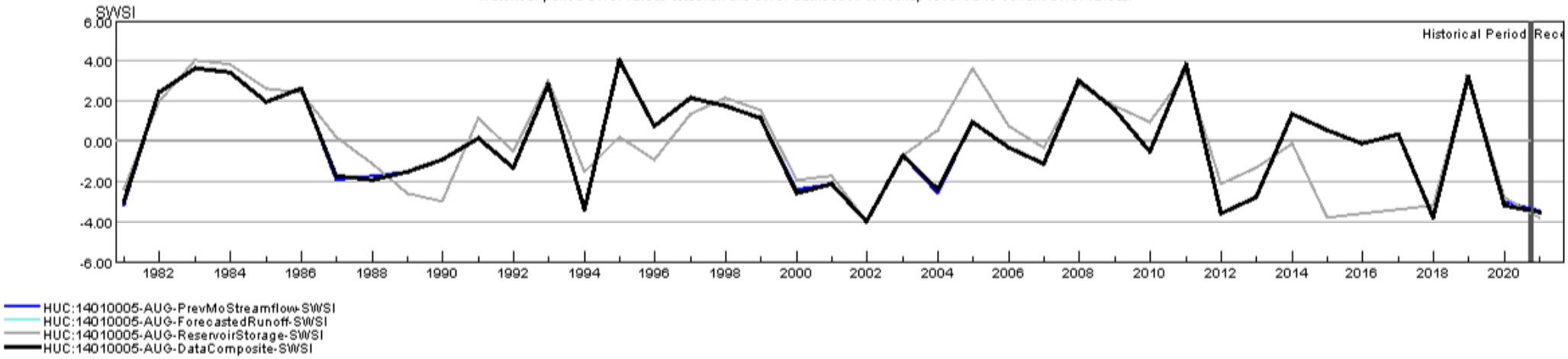
HUC 14010005 (Colorado Headwaters-Plateau) Surface Water Supply - AUG

Monthly component volumes



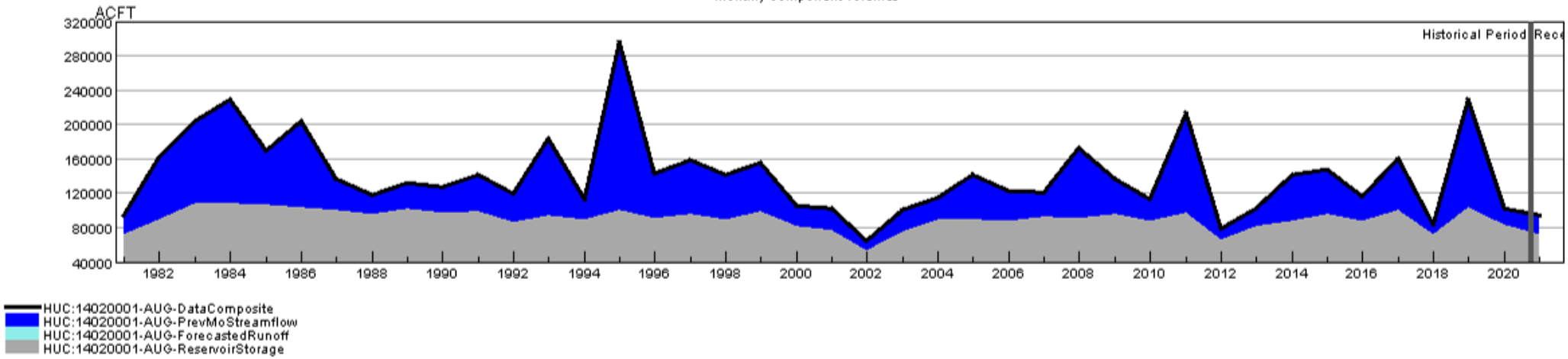
HUC 14010005 (Colorado Headwaters-Plateau) SWSI Values - AUG

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



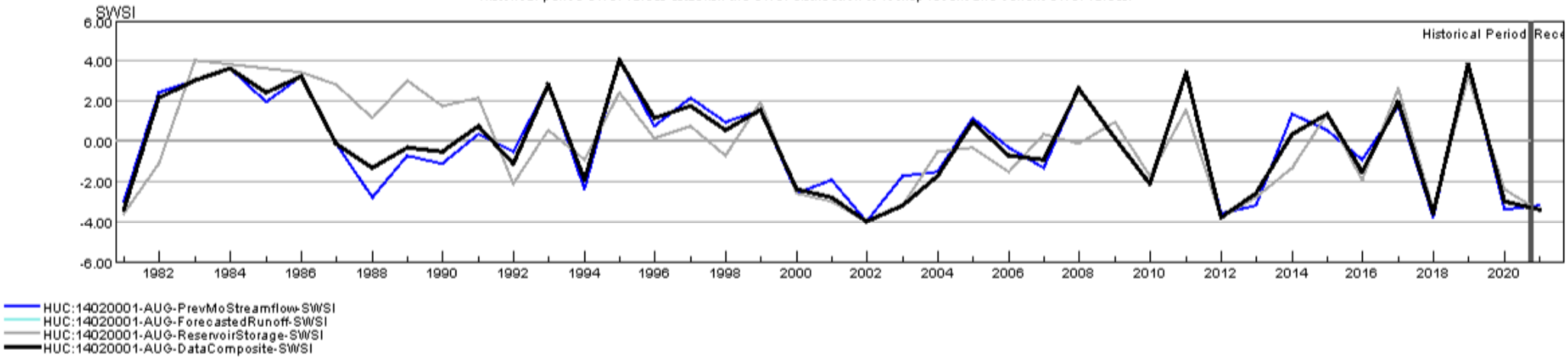
HUC 14020001 (East-Taylor) Surface Water Supply - AUG

Monthly component volumes



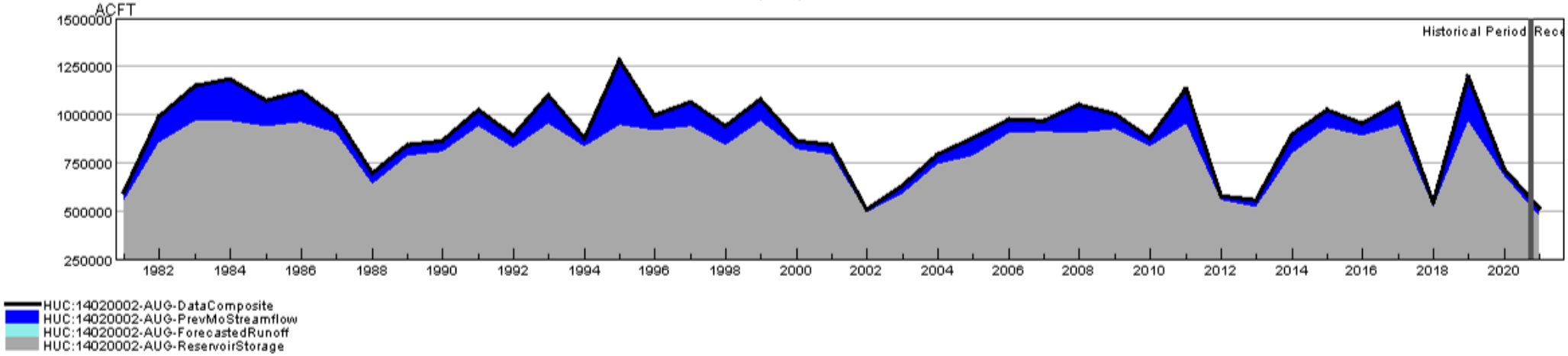
HUC 14020001 (East-Taylor) SWSI Values - AUG

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



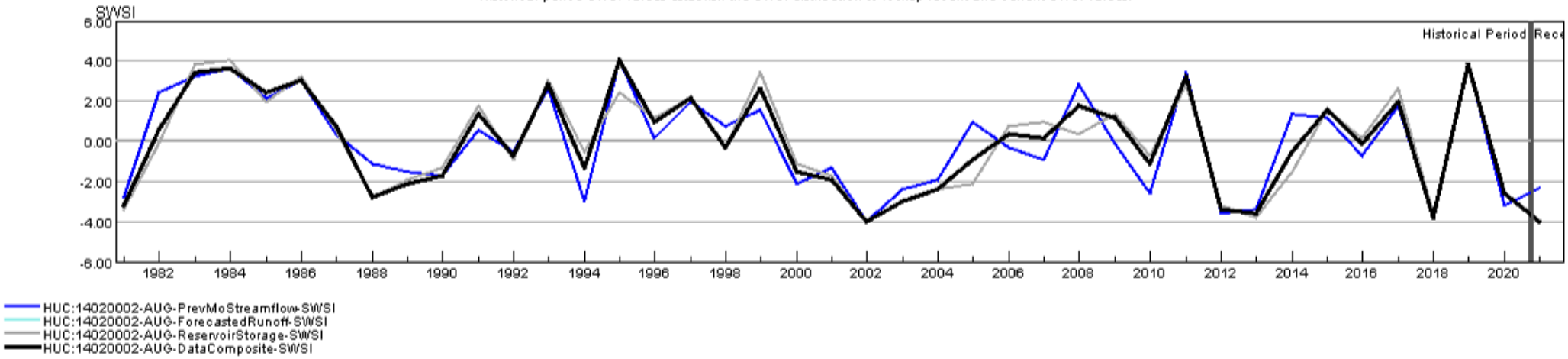
HUC 14020002 (Upper Gunnison) Surface Water Supply - AUG

Monthly component volumes



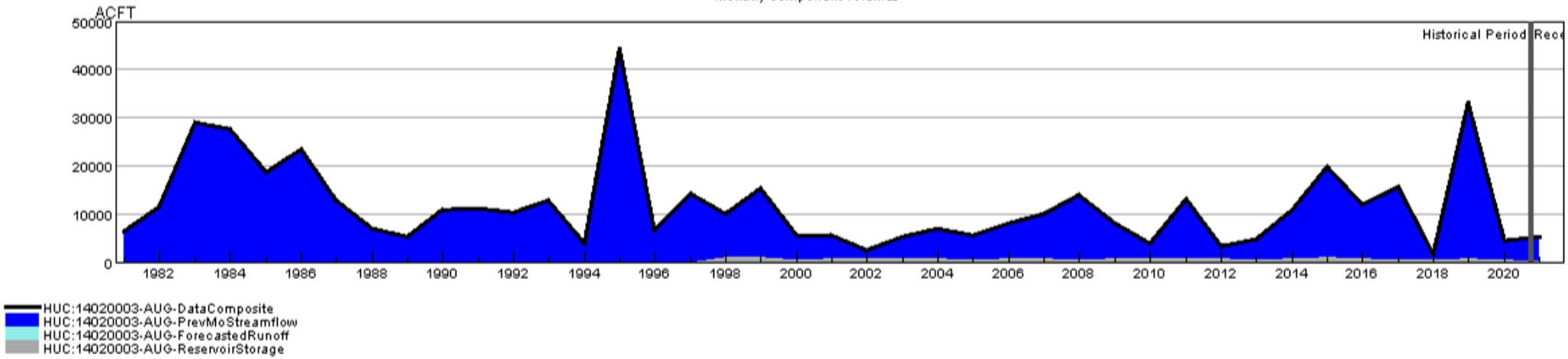
HUC 14020002 (Upper Gunnison) SWSI Values - AUG

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



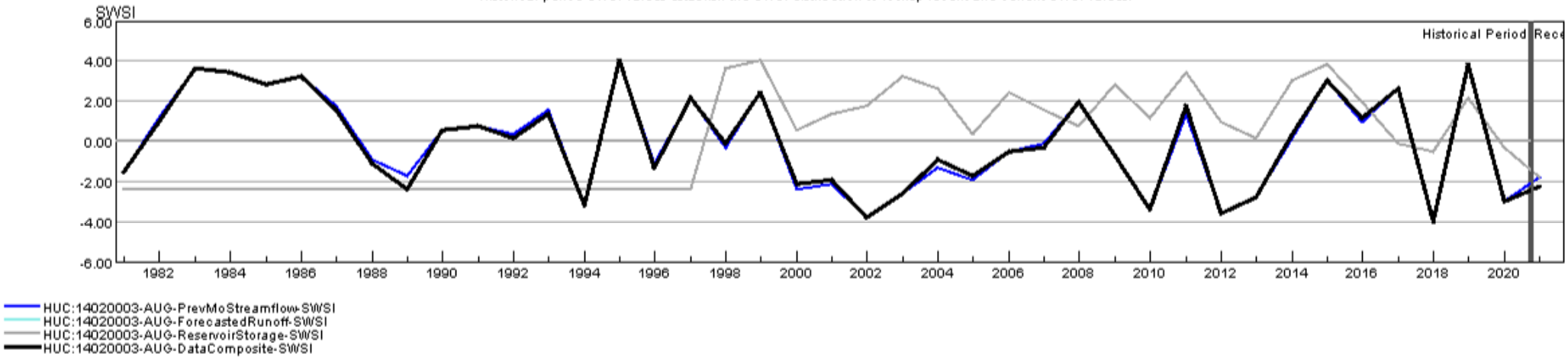
HUC 14020003 (Tomichi) Surface Water Supply - AUG

Monthly component volumes



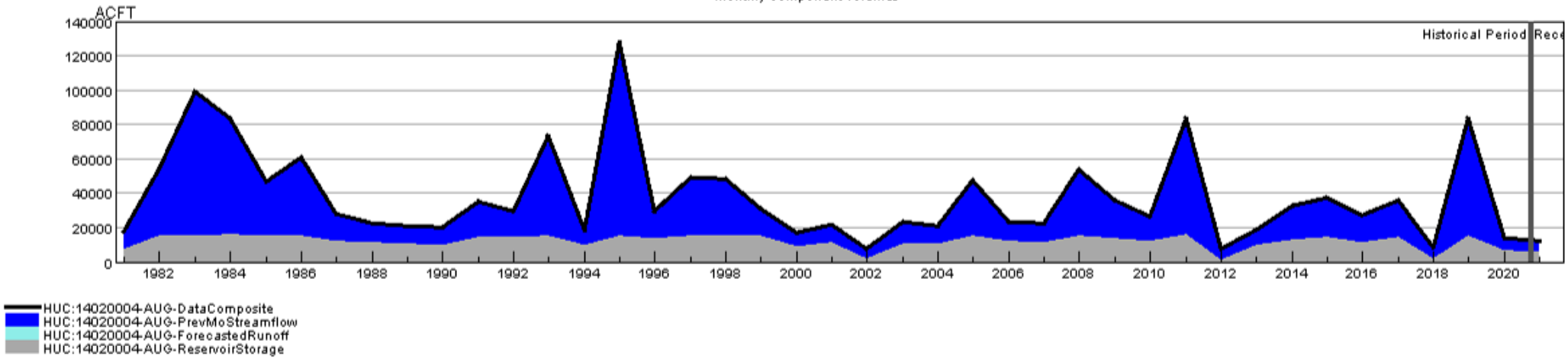
HUC 14020003 (Tomichi) SWSI Values - AUG

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



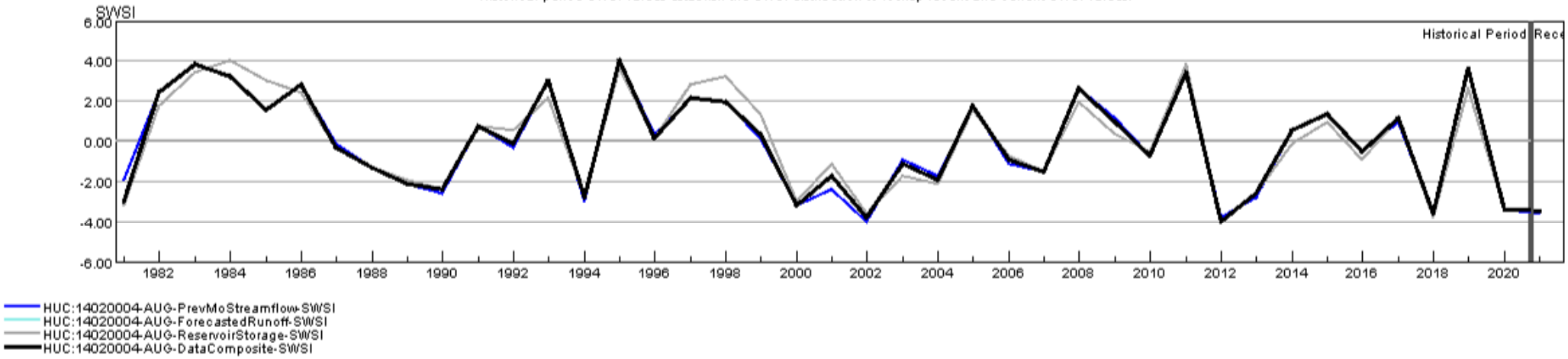
HUC 14020004 (North Fork Gunnison) Surface Water Supply - AUG

Monthly component volumes



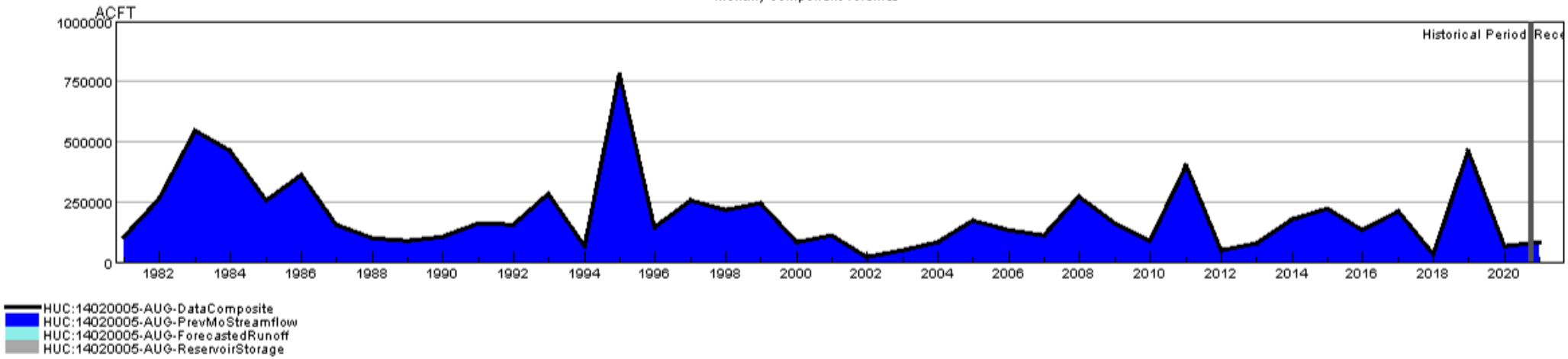
HUC 14020004 (North Fork Gunnison) SWSI Values - AUG

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



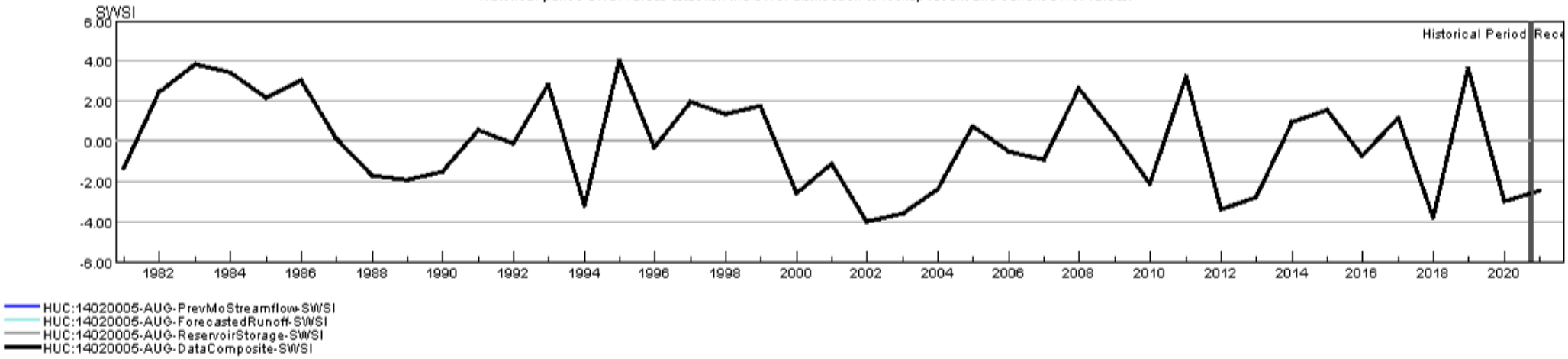
HUC 14020005 (Lower Gunnison) Surface Water Supply - AUG

Monthly component volumes



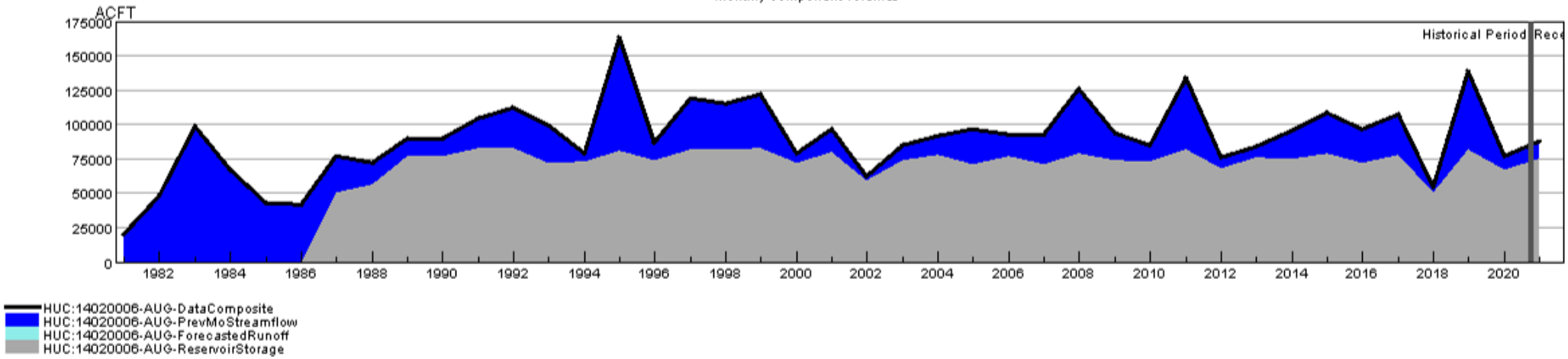
HUC 14020005 (Lower Gunnison) SWSI Values - AUG

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



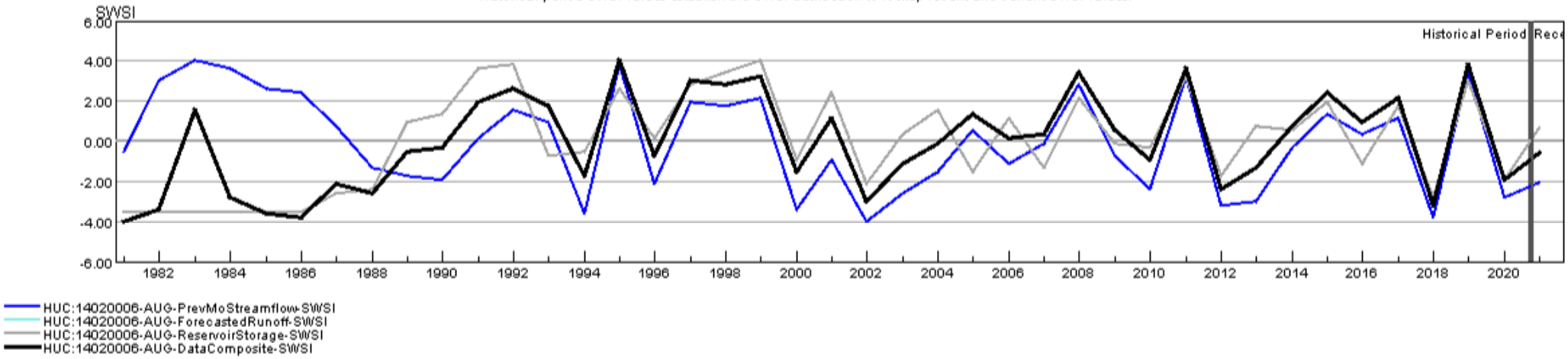
HUC 14020006 (Uncompahgre) Surface Water Supply - AUG

Monthly component volumes



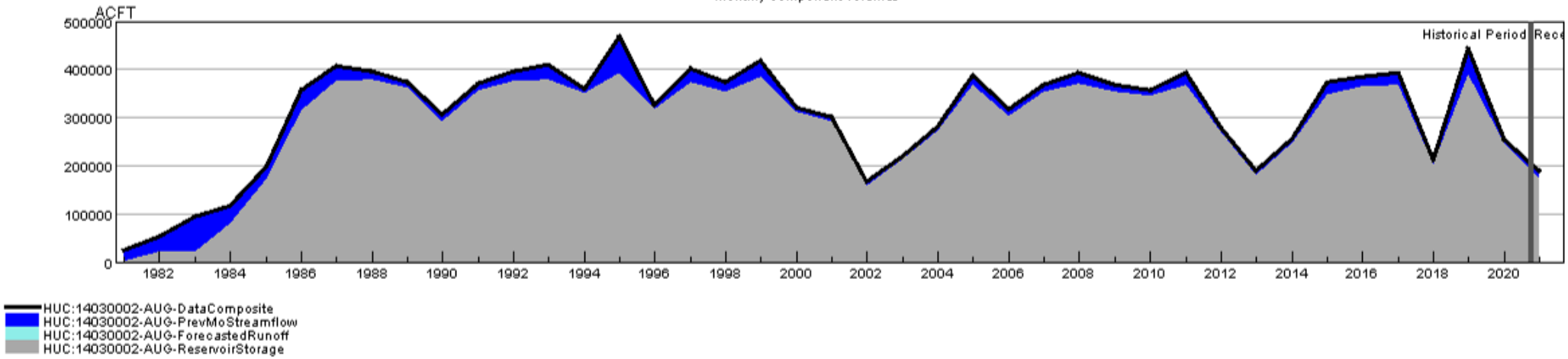
HUC 14020006 (Uncompahgre) SWSI Values - AUG

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



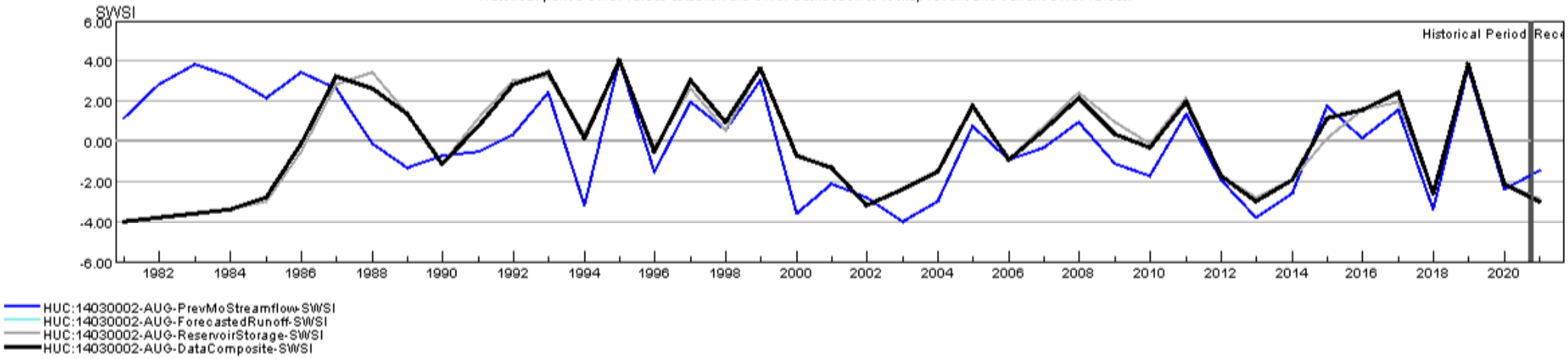
HUC 14030002 (Upper Dolores) Surface Water Supply - AUG

Monthly component volumes



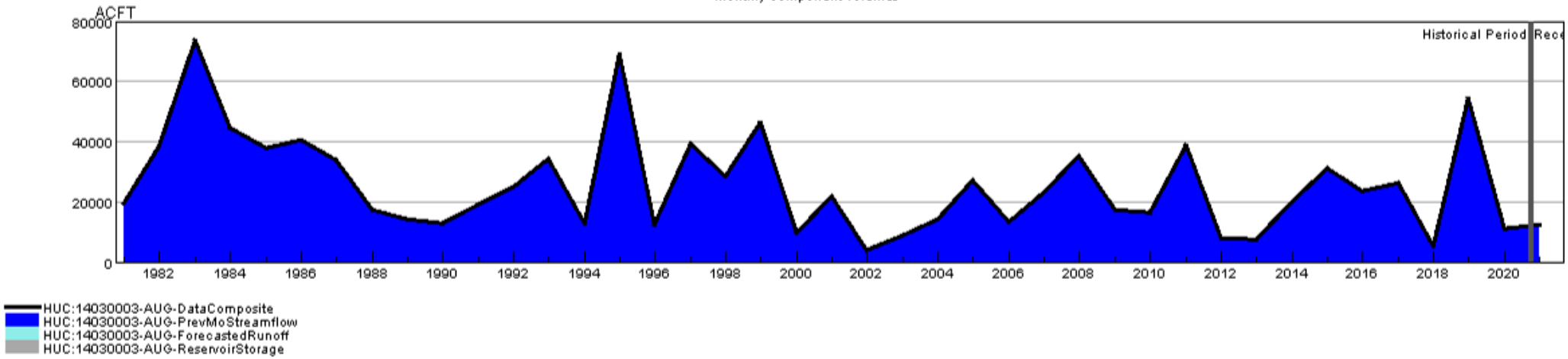
HUC 14030002 (Upper Dolores) SWSI Values - AUG

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



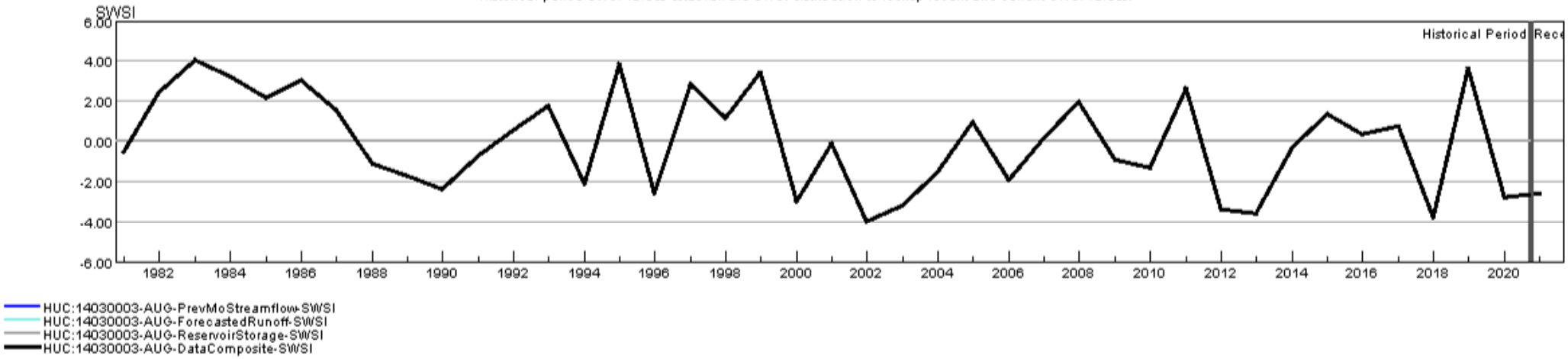
HUC 14030003 (San Miguel) Surface Water Supply - AUG

Monthly component volumes



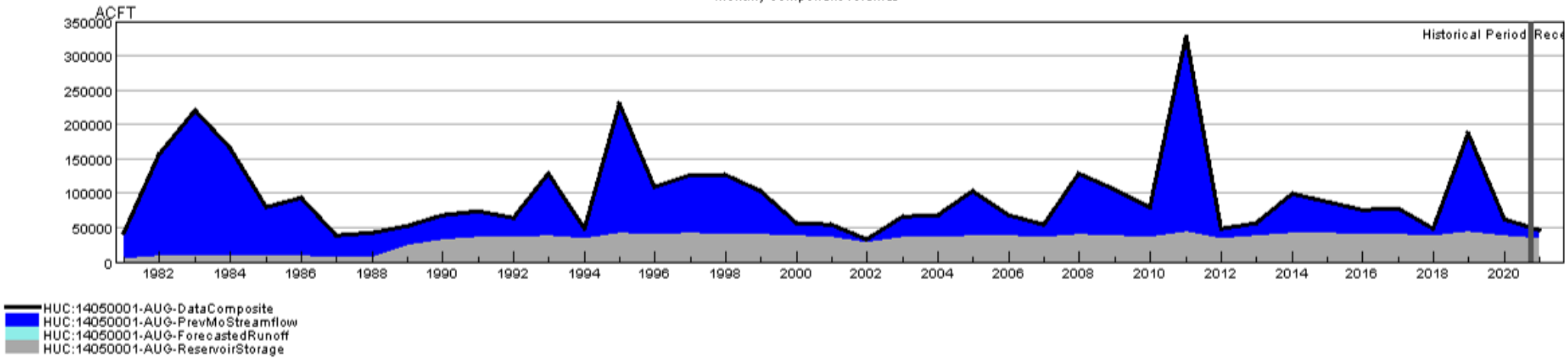
HUC 14030003 (San Miguel) SWSI Values - AUG

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



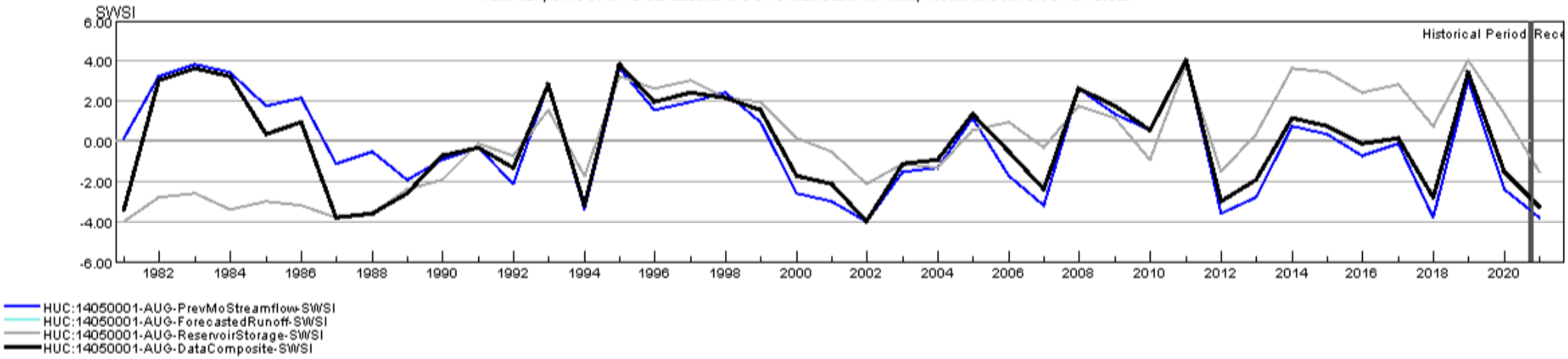
HUC 14050001 (Upper Yampa) Surface Water Supply - AUG

Monthly component volumes



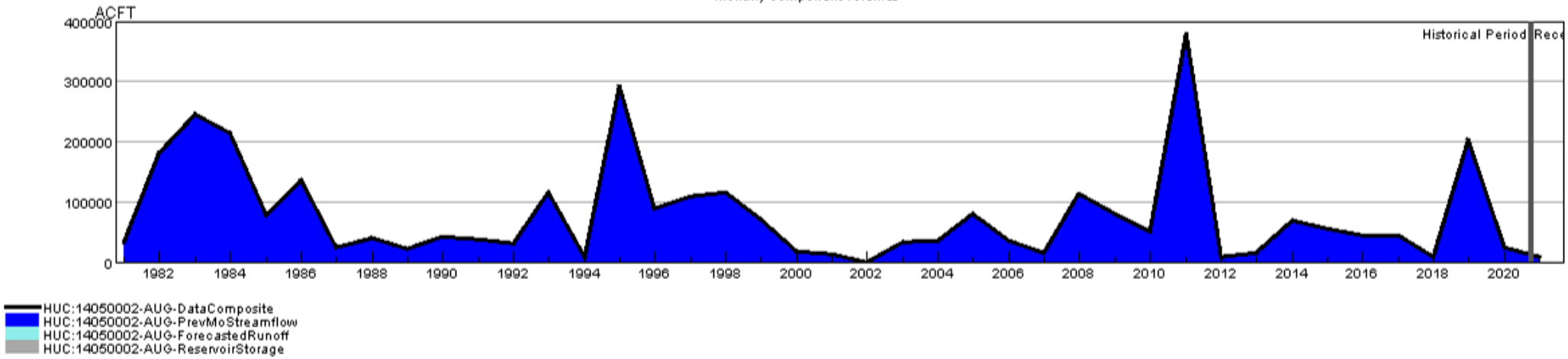
HUC 14050001 (Upper Yampa) SWSI Values - AUG

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



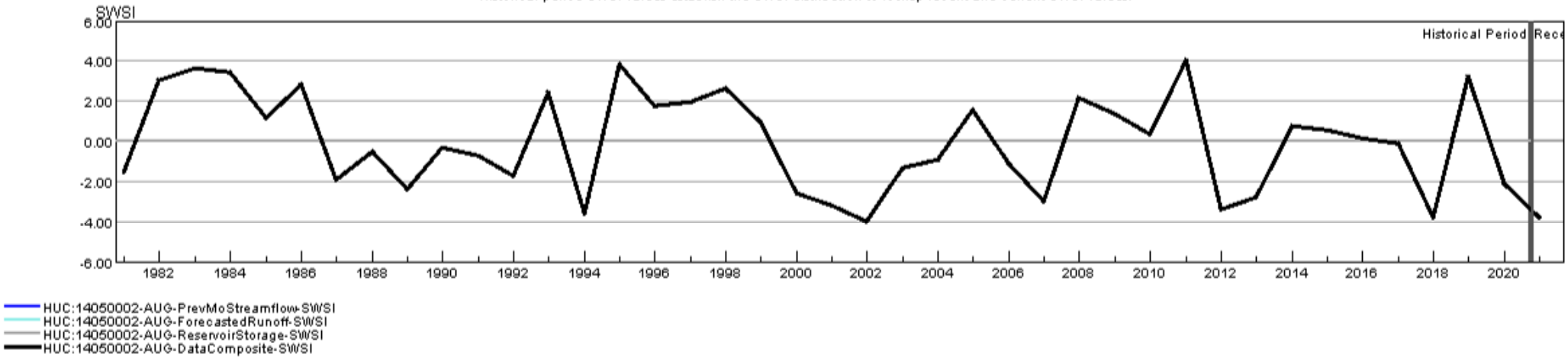
HUC 14050002 (Lower Yampa) Surface Water Supply - AUG

Monthly component volumes



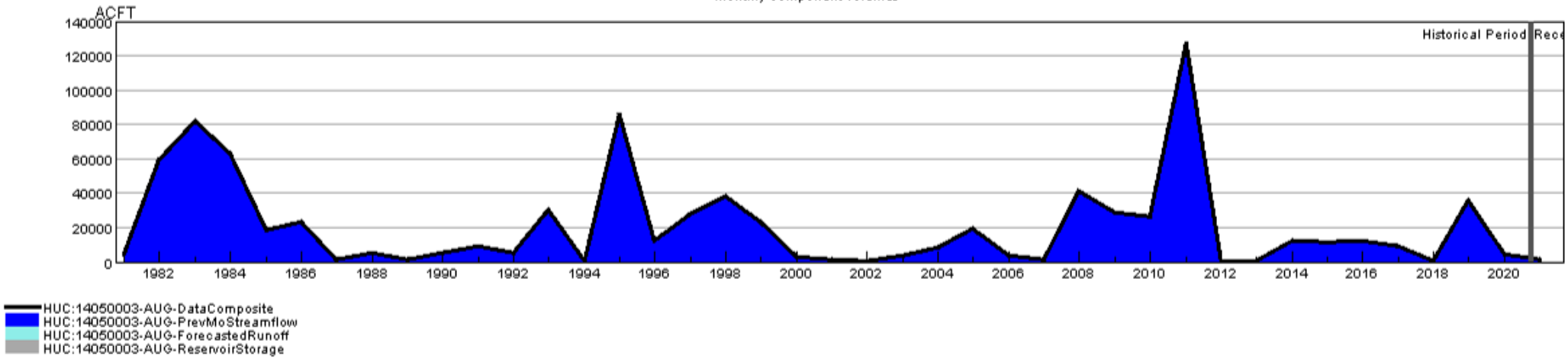
HUC 14050002 (Lower Yampa) SWSI Values - AUG

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



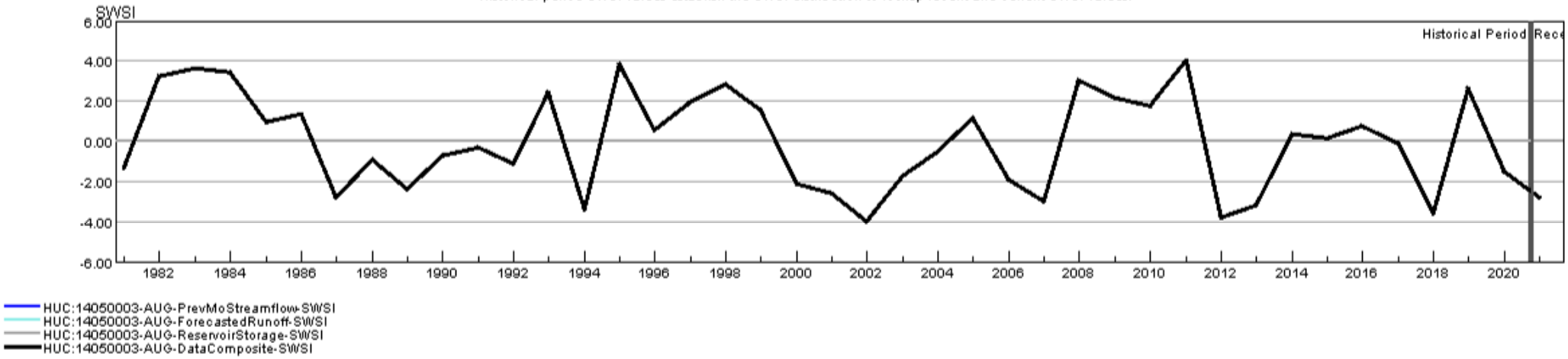
HUC 14050003 (Little Snake) Surface Water Supply - AUG

Monthly component volumes



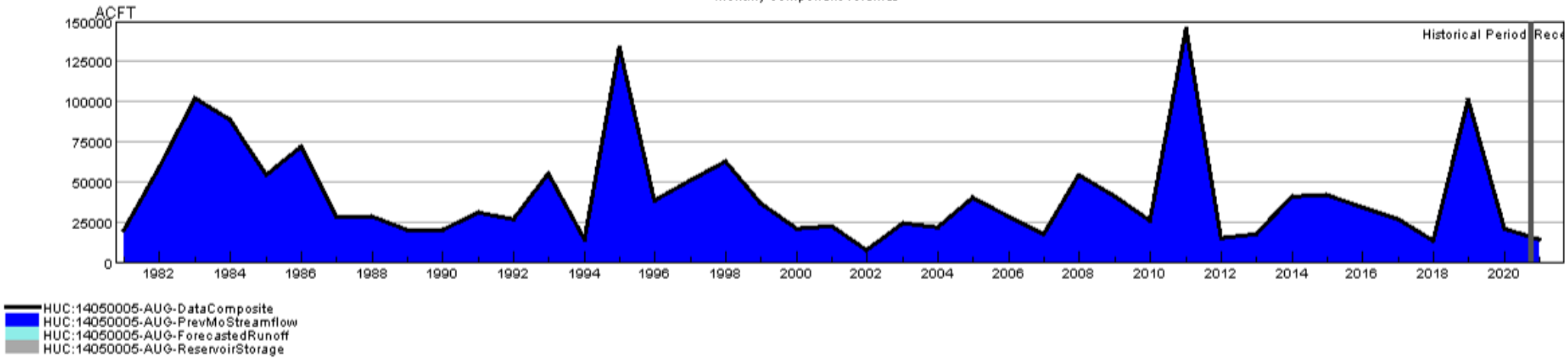
HUC 14050003 (Little Snake) SWSI Values - AUG

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



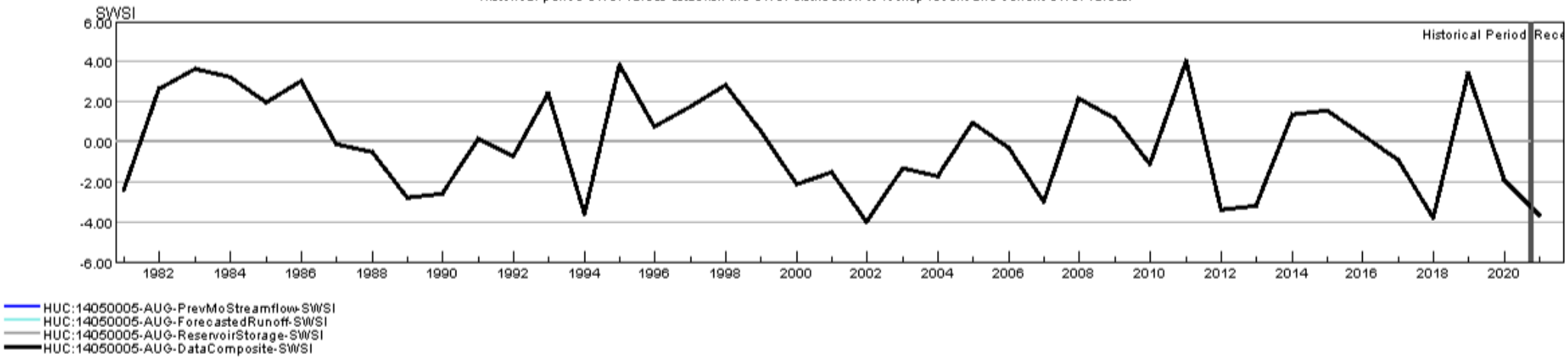
HUC 14050005 (Upper White) Surface Water Supply - AUG

Monthly component volumes



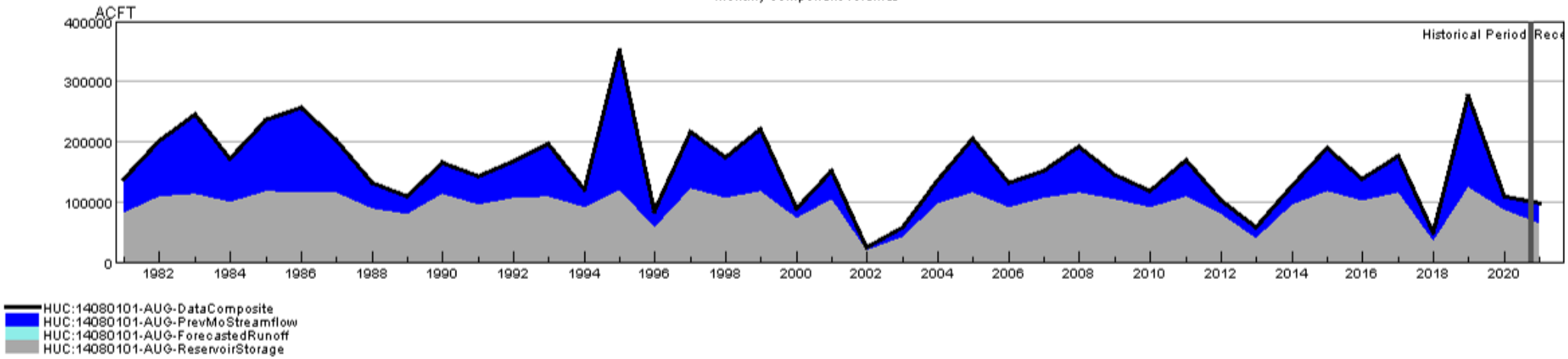
HUC 14050005 (Upper White) SWSI Values - AUG

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



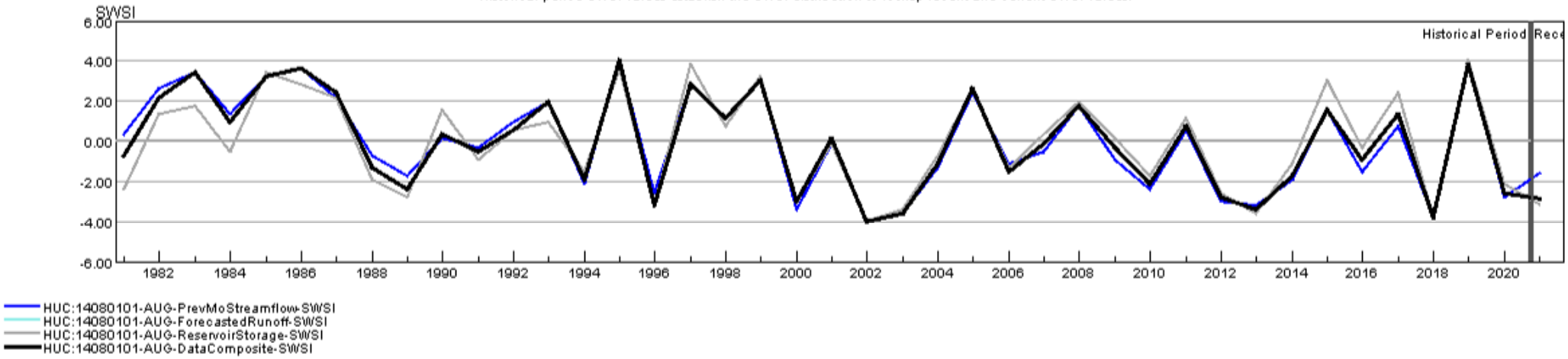
HUC 14080101 (Upper San Juan) Surface Water Supply - AUG

Monthly component volumes



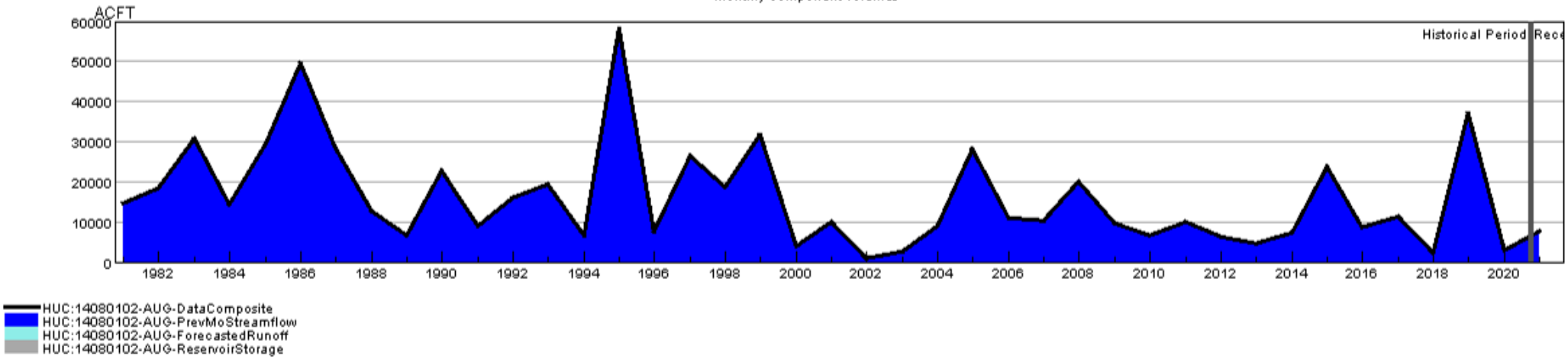
HUC 14080101 (Upper San Juan) SWSI Values - AUG

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



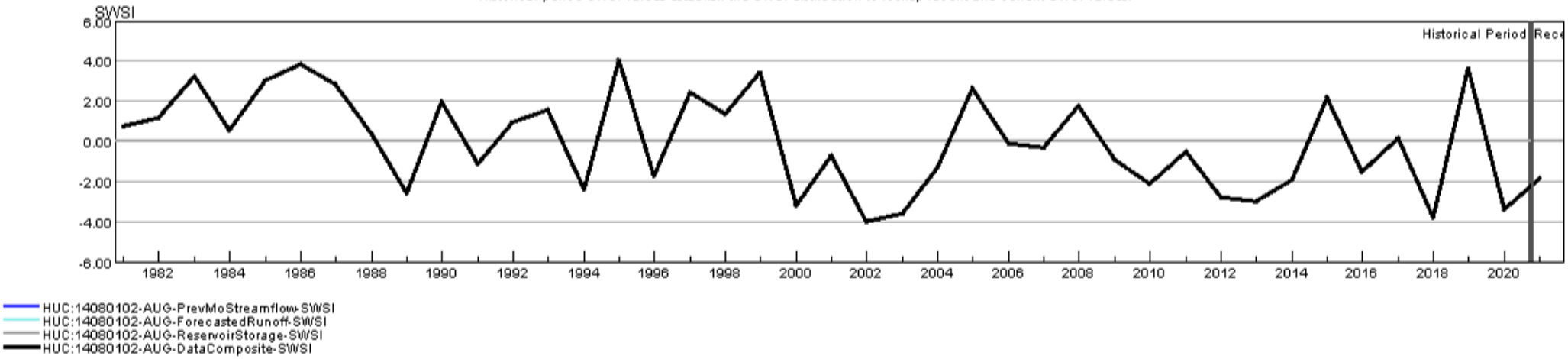
HUC 14080102 (Piedra) Surface Water Supply - AUG

Monthly component volumes



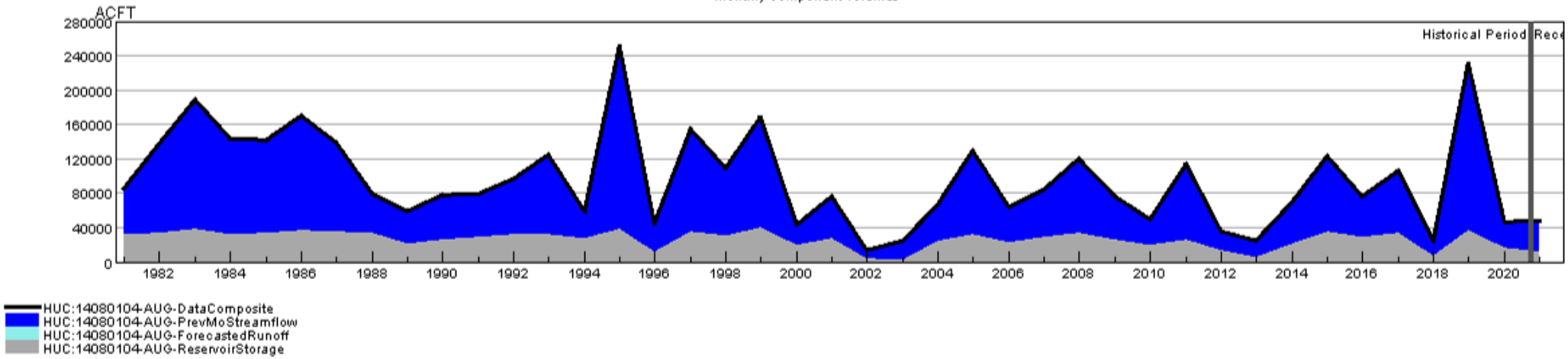
HUC 14080102 (Piedra) SWSI Values - AUG

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



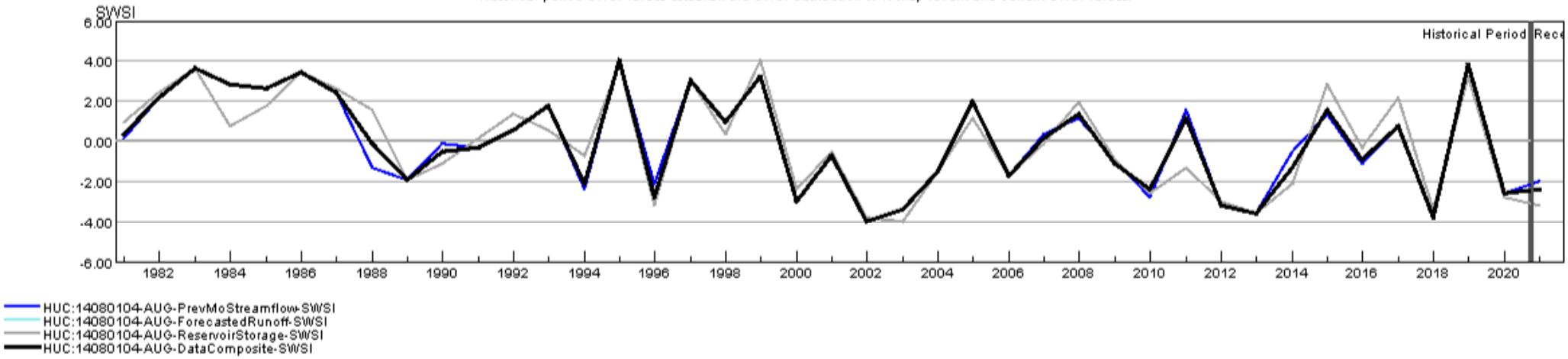
HUC 14080104 (Animas) Surface Water Supply - AUG

Monthly component volumes



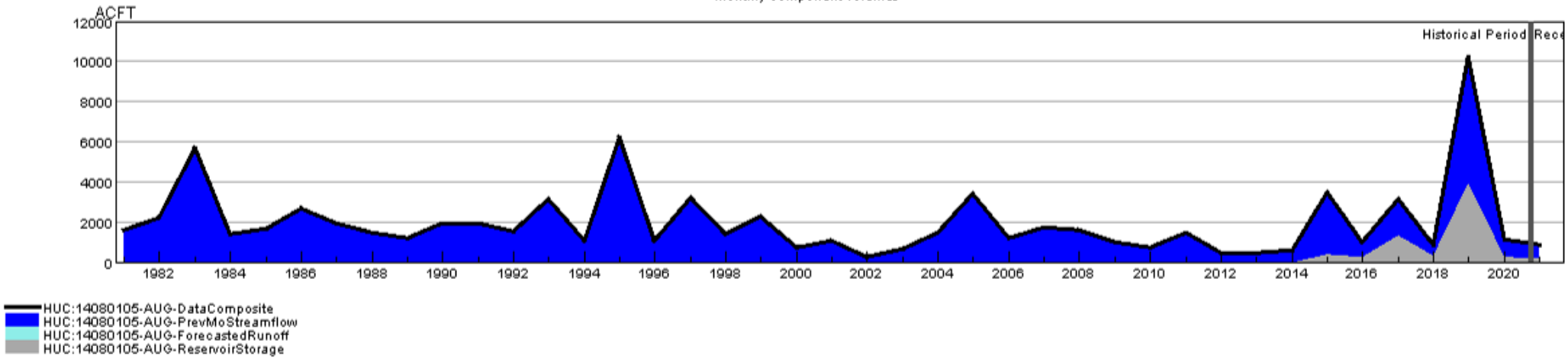
HUC 14080104 (Animas) SWSI Values - AUG

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.