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; <u>www.water.state.co.us</u>

May 1, 2023

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.

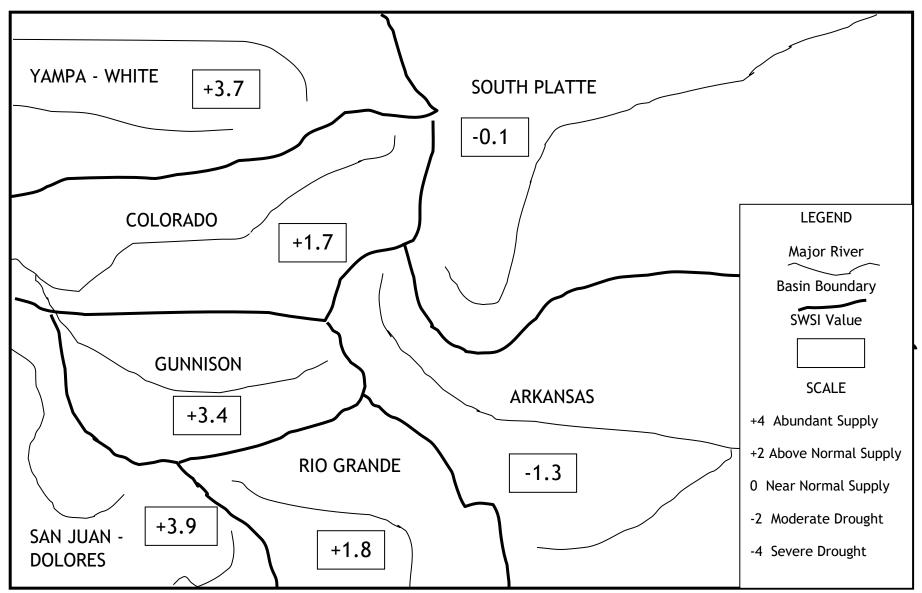
Time Period SWSI Components	
January 1 - June 1 Forecasted Runoff + Reservoir Storage	
July 1 - September 1	Previous Month's Streamflow + Reservoir Storage
October 1 - December 1	Reservoir Storage

The results of each month's analysis are summarized within this report and additional information, maps & data are available at: <u>https://dwr.colorado.gov/services/water-administration/drought-and-swsi</u>. Beginning March 1, 2022, this report no longer contains text updates about current regional conditions and water matters prepared by each DWR Division Office.

The SWSI calculation for the winter/spring season (January 1 to June 1) is based on reservoir storage at the end of last month, in this case April 30, plus the forecasted streamflow runoff volume for the runoff season (April through September in most basins). The following SWSI values were computed for each of the seven major basins for May 1, 2023. Water supply conditions as represented by water in storage and forecasted streamflow runoff, range from above well above normal in the Gunnison, San Juan-Dolores and Yampa-White Basin to below normal in the Arkansas River Basins.

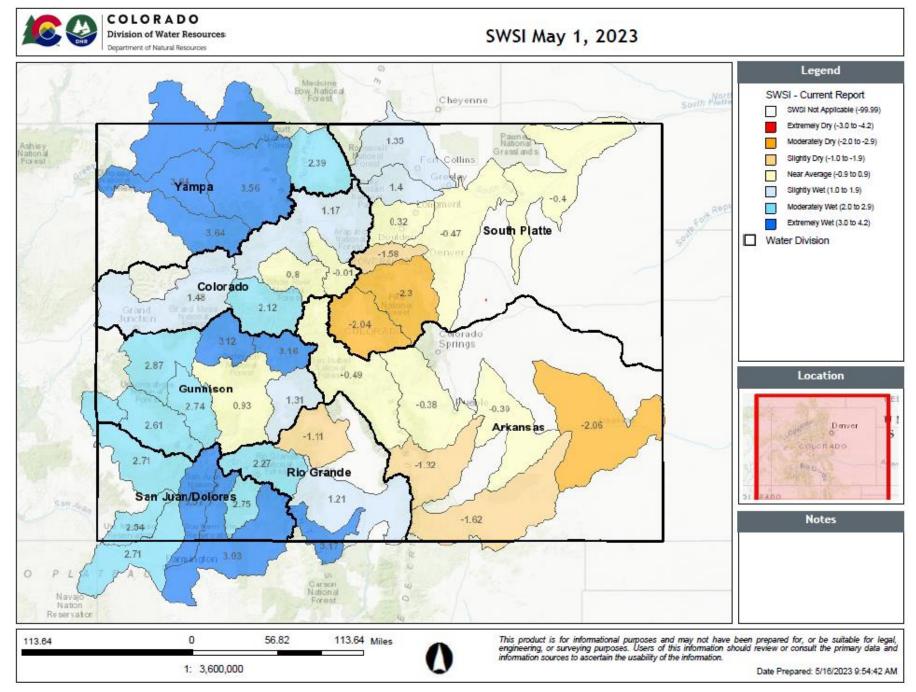
Basin	May 1 SWSI	Change from Previous Month	Change from Previous Year
Arkansas	-1.3	0.3	0.7
Colorado	1.7	0.2	2.6
Gunnison	3.4	0.7	5.4
Rio Grande	1.8	-0.4	4.3
San Juan-Dolores	3.9	1.3	6.5
South Platte	-0.1	-0.5	0.8
Yampa-White	3.7	0.0	4.3

				SWSI Scale				
-4	-3	-2	-1	0	1	2	3	4
Severe		Moderate		Near Normal		Above Normal	Ab	undant
Drought		Drought		Supply		Supply		Supply



SURFACE WATER SUPPLY INDEX FOR COLORADO BY MAJOR RIVER BASIN

SURFACE WATER SUPPLY INDEX FOR COLORADO BY HUC



Basin	HUC ID	HUC Name	swsi	Reservoir Storage NEP	Forecast Flow NEP	Total Vol (AF)
	11020006	Huerfano	-2.15	16	32	15,100
▶ 11	11020010	Purgatoire	-1.69	38	35	49,816
rka	11020005	Upper Arkansas-Lake Meredith	-0.26	6	48	333,348
Arkansas	11020001	Arkansas Headwaters	-0.50	31	55	336,969
S	11020009	Upper Arkansas-John Martin Reservoir	-1.64	12	48	411,524
	11020002	Upper Arkansas	-0.01	48	49	518,821
	14010002	Blue	-1.02	92	34	283,515
Co	14010003	Eagle	-0.27	N/A	47	285,000
Colorado	14010004	Roaring Fork	2.29	52	77	921,285
Ido	14010001	Colorado Headwaters	1.36	43	67	1,485,508
	14010005	Colorado Headwaters-Plateau	1.75	27	72	2,693,807
	14020003	Tomichi	1.07	49	63	65,673
	14030003	San Miguel	3.23	N/A	89	159,000
Gu	14020006	Uncompahgre	2.90	26	82	213,824
Gunnison	14020004	North Fork Gunnison	3.30	37	90	427,690
son	14020001	East-Taylor	3.23	32	88	449,210
	14020002	Upper Gunnison	1.06	15	77	1,459,974
	14020005	Lower Gunnison	3.42	N/A	91	2,150,000
Ri	13010004	Saguache	-0.58	N/A	43	24,000
Rio Grande	13010002	Alamosa-Trinchera	0.60	63	57	138,597
ran	13010005	Conejos	2.64	24	82	248,802
de	13010001	Rio Grande Headwaters	2.21	82	75	616,972
S	14080105	Middle San Juan	3.47	91	88	32,636
L UE	14080107	Mancos	4.04	67	98	47,152
San Juan-Dolores	14080102	Piedra	4.04	N/A	99	285,000
1-Do	14080104	Animas	3.64	12	95	655,233
olor	14030002	Upper Dolores	3.70	48	97	746,043
es	14080101	Upper San Juan	3.10	1	88	746,477
	10190004	Clear	-1.50		32	86,000
	10190001	South Platte Headwater	-1.66	55	16	178,337
Sol	10190005	St. Vrain	-0.06	64	44	207,600
South Platte	10190002	Upper South Platte	-2.74	27	14	346,639
Pla	10190007	Cache La Poudre	1.27	42	65	409,914
tte	10190006	Big Thompson	0.99	62	64	554,508
	10190003	Middle South Platte-Cherry Creek	-1.18		38	747,704
	10190012	Middle South Platte-Sterling	-1.08		38	871,992
×	10180001	North Platte Headwaters	2.05		75	255,000
aml	14050005	Upper White	3.68		94	435,000
oa-\	14050003	Little Snake	3.78		95	665,000
Yampa-White	14050001	Upper Yampa	3.66		94	998,873
te	14050002	Lower Yampa	3.72	N/A	95	1,500,000

May 1, 2023 SWSI Values by HUC and Non Exceedance Probabilities (NEP)

NEP is non exceedance probability for total reservoir storage 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 and forecasted streamflow runoff in the HUC 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 (A

4.0 (Abundant Supply)

May 1, 2023 SWSI Component Information -Reservo	ir Storage - By HUC
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HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP by Month
		CLEAR CREEK RESERVOIR	8,517	67
11020001		HOMESTAKE RESERVOIR	11,646	22
	Arkansas Headwaters	TWIN LAKES RESERVOIR	37,876	53
	neudwaters	TURQUOISE LAKE	53,930	28
		ARKANSAS RIVER AT SALIDA	225,000	55
		CUCHARAS RESERVOIR*	0	16
11020006	Huerfano	CUCHARAS RIVER AT BOYD RANCH NR LA VETA	6,800	39
		HUERFANO RIVER NEAR REDWING	8,300	31
11020010	Durgatoiro	TRINIDAD LAKE	22,816	38
11020010	Purgatoire	PURGATOIRE RIVER AT TRINIDAD	27,000	35
11020002	Upper Arkansas	PUEBLO RESERVOIR	213,821	48
11020002	оррег Агканзаз	PUEBLO RESERVOIR INFLOW	305,000	49
		CUCHARAS RIVER AT BOYD RANCH NR LA VETA	6,800	39
		HUERFANO RIVER NEAR REDWING	8,300	31
11020009	Upper Arkansas- John Martin	ADOBE CREEK RESERVOIR	26,175	18
11020009	Reservoir	PURGATOIRE RIVER AT TRINIDAD	27,000	35
		JOHN MARTIN RESERVOIR	38,249	12
		PUEBLO RESERVOIR INFLOW	305,000	49
		LAKE HENRY	4,267	5
		CUCHARAS RIVER AT BOYD RANCH NR LA VETA	6,800	39
11020005	Upper Arkansas- Lake Meredith	HUERFANO RIVER NEAR REDWING	8,300	31
	Lune meredien	MEREDITH RESERVOIR	8,981	8
		PUEBLO RESERVOIR INFLOW	305,000	49
14010002	Blue	GREEN MOUNTAIN RESERVOIR	73,515	92
14010002	Diue	BLUE RIVER INFLOW TO GREEN MOUNTAIN RES	210,000	34
		WOLFORD MOUNTAIN RESERVOIR	39,560	50
14010001	Colorado Headwaters	WILLIAMS FORK RESERVOIR	45,948	10
	rieduwalers	COLORADO RIVER NEAR DOTSERO	1,400,000	67
14010005	Colorado	VEGA RESERVOIR	13,807	27
14010005	Headwaters-Plateau	COLORADO RIVER NEAR CAMEO	2,680,000	72
14010003	Eagle	EAGLE RIVER BELOW GYPSUM	285,000	47
14010004	Roaring Fork	RUEDI RESERVOIR	66,285	52
1-01000-	Roaring Fork	ROARING FORK AT GLENWOOD SPRINGS	855,000	77
		TAYLOR PARK RESERVOIR	61,210	32
14020001	East-Taylor	TAYLOR R INF TO TAYLOR PARK RESERVOIR	113,000	73
		EAST RIVER AT ALMONT	275,000	94
14020005	Lower Gunnison	GUNNISON RIVER NR GRAND JUNCTION	2,150,000	91
14020004	North Fork	PAONIA RESERVOIR	2,690	37
17020004	Gunnison	NORTH FORK GUNNISON R NR SOMERSET	425,000	90
14030003	San Miguel	SAN MIGUEL RIVER NEAR PLACERVILLE	159,000	89

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP by Month
14020003	Tomichi	VOUGA RESERVOIR NEAR DOYLEVILLE	673	49
14020003	TOILICIII	TOMICHI CREEK AT GUNNISON, CO	65,000	63
14020006	Uncompohero	RIDGEWAY RESERVOIR	54,824	26
14020000	Uncompahgre	UNCOMPAHGRE RIVER AT COLONA	159,000	82
		SILVER JACK RESERVOIR	1,760	1
		FRUITLAND RESERVOIR	4,911	42
		CRAWFORD RESERVOIR	8,614	27
14020002	Upper Gunnison	MORROW POINT RESERVOIR	110,276	36
		LAKE FORK AT GATEVIEW, CO	126,000	60
		BLUE MESA RESERVOIR	358,413	18
		GUNNISON R INF TO BLUE MESA RESERVOIR	850,000	79
		MOUNTAIN HOME	4,964	67
		TERRACE RESERVOIR	9,333	65
		TRINCHERA CK	10,100	52
13010002	Alamosa-	UTE CREEK	10,300	49
	Trinchera	SANGRE DE CRISTO	10,800	56
		CULEBRA CREEK AT SAN LUIS	13,100	34
		ALAMOSA CREEK ABOVE TERRACE RESERVOIR	80,000	76
	_ .	PLATORO RESERVOIR	13,802	24
13010005	Conejos	CONEJOS RIVER NEAR MOGOTE	235,000	82
		SANTA MARIA RESERVOIR	8,502	47
	Rio Grande	CONTINENTAL RESERVOIR	13,901	93
13010001	Headwaters	RIO GRANDE RESERVOIR	29,569	86
		RIO GRANDE NEAR DEL NORTE	565,000	75
13010004	Saguache	SAGUACHE CREEK NEAR SAGUACHE, CO	24,000	43
		LEMON RESERVOIR	13,233	12
14080104	Animas	FLORIDA RIVER INFLOW TO LEMON RESERVOIR	67,000	80
		ANIMAS RIVER AT DURANGO	575,000	97
		JACKSON GULCH RESERVOIR	8,152	67
14080107	Mancos	MANCOS RIVER NEAR MANCOS	39,000	98
		LONG HOLLOW RESERVOIR	1,636	91
14080105	Middle San Juan	LA PLATA RIVER AT HESPERUS	31,000	88
14080102	Piedra	PIEDRA RIVER NEAR ARBOLES	285,000	99
		GROUNDHOG RESERVOIR	5,312	4
14030002	Upper Dolores	MCPHEE RESERVOIR	325,731	57
		DOLORES RIVER BELOW MCPHEE RESERVOIR	415,000	97
		VALLECITO RESERVOIR	36,477	1
14080101	Upper San Juan	LOS PINOS RIVER NEAR BAYFIELD	220,000	79
		SAN JUAN RIVER NEAR CARRACAS	490,000	93
		LAKE LOVELAND RESERVOIR	4,700	12
		MARIANO RESERVOIR	5,045	70
		WILLOW CREEK RESERVOIR	6,702	84
		LONE TREE RESERVOIR	8,124	43
10190006	Big Thompson	BOYD LAKE	21,570	18
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	90,000	64
			103,191	55
		LAKE GRANBY	315,176	68

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP by Month
		CHAMBERS LAKE	3,670	51
		BLACK HOLLOW RESERVOIR	4,544	99
		HALLIGAN RESERVOIR	6,428	84
		CACHE LA POUDRE	8,129	25
10190007	Cache La Poudre	FOSSIL CREEK RESERVOIR	9,592	55
		WINDSOR RESERVOIR	13,835	36
		COBB LAKE	14,760	50
		HORSETOOTH RESERVOIR	113,956	26
		CACHE LA POUDRE R AT CANYON MOUTH	235,000	65
10190004	Clear Creek	CLEAR CREEK AT GOLDEN	86,000	32
		HORSECREEK RESERVOIR	5,000	2
		MILTON RESERVOIR	22,618	93
		BARR LAKE	27,399	25
		SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	31,000	40
	Middle South	STANDLEY RESERVOIR	39,687	68
10190003	Platte-Cherry	BOULDER CREEK NEAR ORODELL	47,000	42
	Creek	SAINT VRAIN CREEK AT LYONS	78,000	44
		CLEAR CREEK AT GOLDEN	86,000	32
		SOUTH PLATTE RIVER AT SOUTH PLATTE	86,000	14
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	90,000	64
		CACHE LA POUDRE R AT CANYON MOUTH	235,000	65
		JULESBURG RESERVOIR	17,203	6
		PREWITT RESERVOIR	24,250	66
		JACKSON LAKE RESERVOIR	25,476	29
		EMPIRE RESERVOIR	30,668	24
		SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	31,000	40
		BOULDER CREEK NEAR ORODELL	47,000	42
10190012	Middle South Platte-Sterling	RIVERSIDE RESERVOIR	53,238	43
	r tatte-sterting	POINT OF ROCKS RESERVOIR	68,157	41
		SAINT VRAIN CREEK AT LYONS	78,000	44
		CLEAR CREEK AT GOLDEN	86,000	32
		SOUTH PLATTE RIVER AT SOUTH PLATTE	86,000	14
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	90,000	64
		CACHE LA POUDRE R AT CANYON MOUTH	235,000	65
		ANTERO RESERVOIR	20,406	99
10100001	South Platte	SPINNEY MOUNTAIN RESERVOIR	28,719	45
10190001	Headwater	ELEVENMILE CANYON RESV INFLOW	30,000	16
		ELEVENMILE CANYON RESERVOIR	99,212	31
		TERRY RESERVOIR	5,261	39
		MARSHALL RESERVOIR	7,300	28
		UNION RESERVOIR	8,899	14
40400005	Ct. Martin	BUTTONROCK (RALPH PRICE) RESERVOIR	12,943	47
10190005	St. Vrain	GROSS RESERVOIR	17,197	87
		SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	31,000	40
		BOULDER CREEK NEAR ORODELL	47,000	42
		SAINT VRAIN CREEK AT LYONS	78,000	44

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP by Month
		CHEESMAN LAKE	65,702	33
10190002	Upper South Platte	SOUTH PLATTE RIVER AT SOUTH PLATTE	86,000	14
	i tatte	DILLON RESERVOIR	194,937	25
14050003	Little Snake	LITTLE SNAKE RIVER NEAR LILY	665,000	95
14050002	Lower Yampa	YAMPA RIVER NEAR MAYBELL	1,500,000	95
10180001	North Platte Headwaters	NORTH PLATTE R NR NORTHGATE	255,000	75
14050005	Upper White	WHITE RIVER NEAR MEEKER	435,000	94
		YAMCOLO RESERVOIR	6,417	20
		STAGECOACH RESERVOIR NR OAK CREEK	32,456	65
14050001	Upper Yampa	ELKHEAD CREEK ABOVE LONG GULCH	110,000	94
		YAMPA RIVER AT STEAMBOAT SPRINGS	345,000	89
		ELK RIVER NEAR MILNER, CO	505,000	94

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

50 (Normal)

*No longer exists

Water Volume NEP Color Scale:

0 (Well Below Normal)

100 (Well Above Normal)

SOUTH PLATTE BASIN

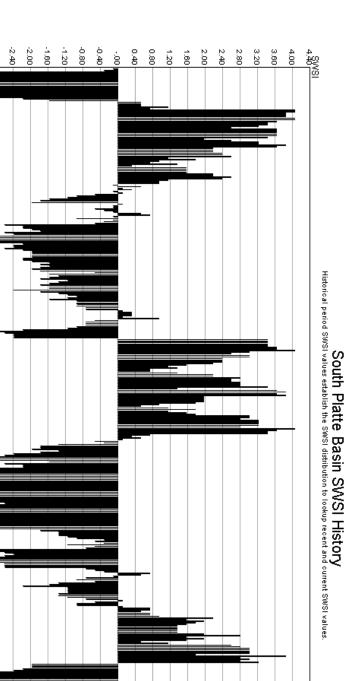
The SWSI value for the month was -0.1.

South Platte-DataComposite-SWSI

-4.40

3.20 3.60 -2.80

.4



Historical Period

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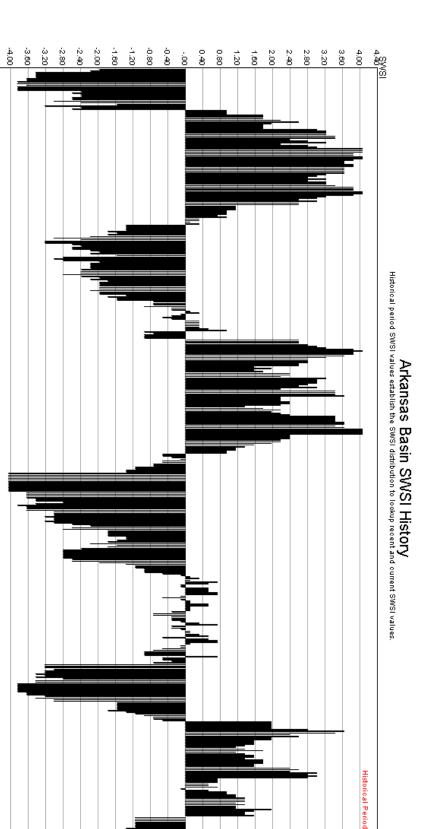
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ARKANSAS BASIN

The SWSI value for the month was -1.3.

Arkansas-DataComposite-SWSI

.4.40



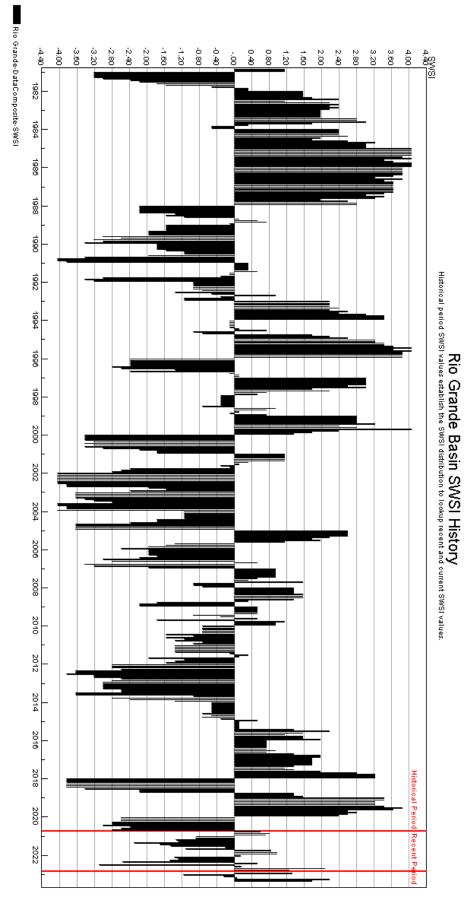
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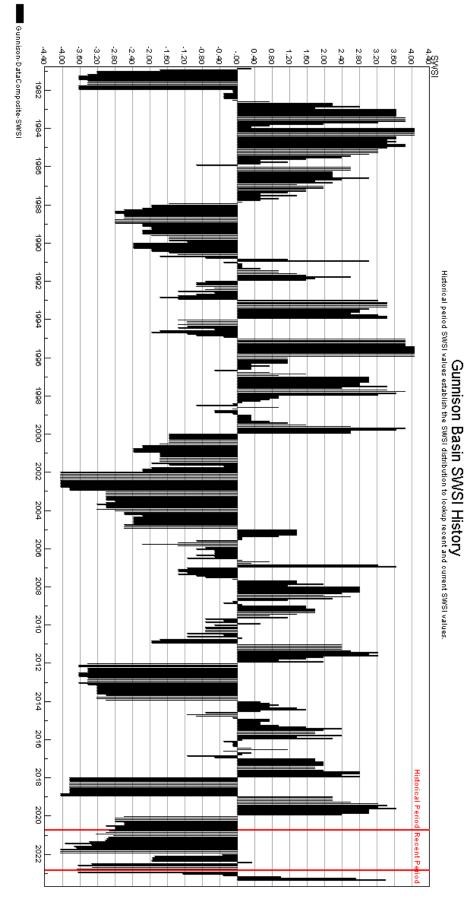
RIO GRANDE BASIN

The SWSI value for the month was +1.8.



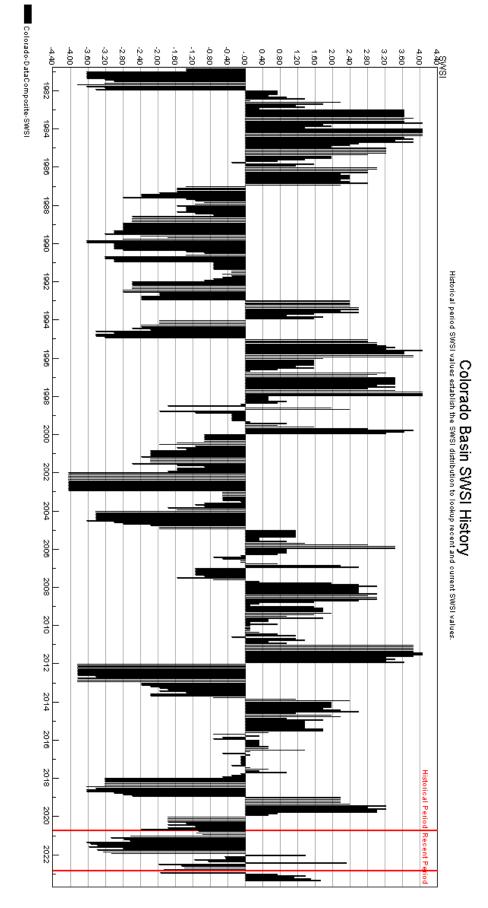
GUNNISON BASIN

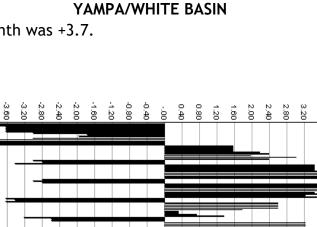
The SWSI value for the month was +3.4.



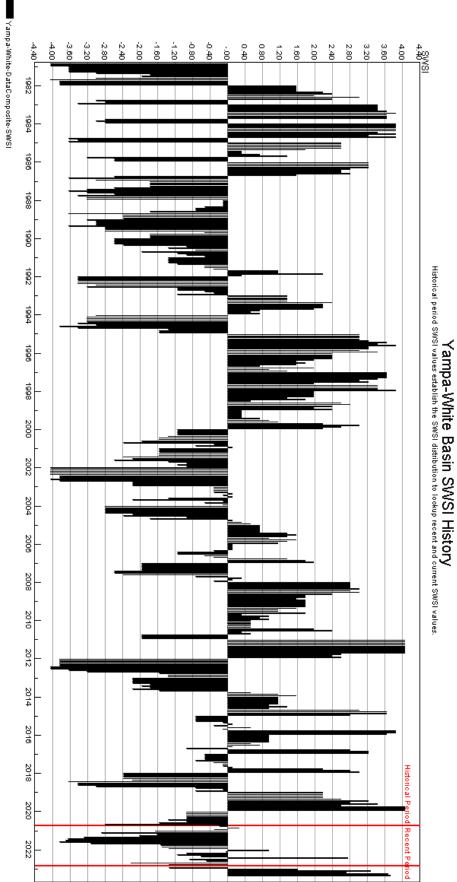
COLORADO BASIN

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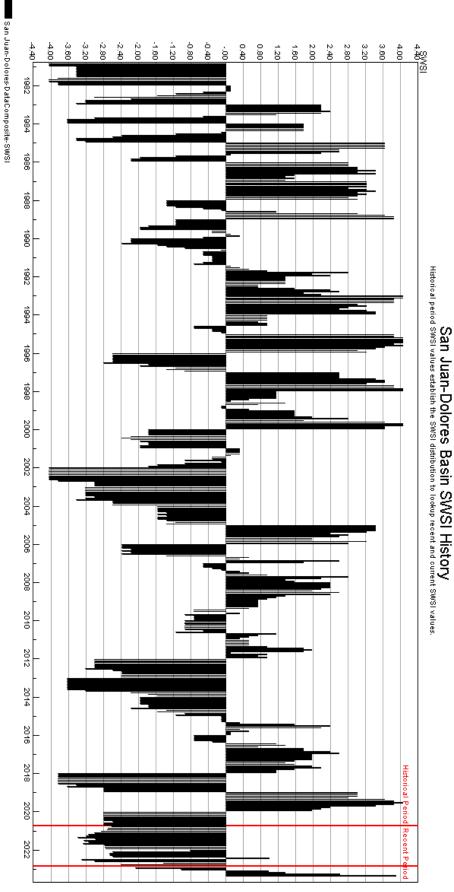


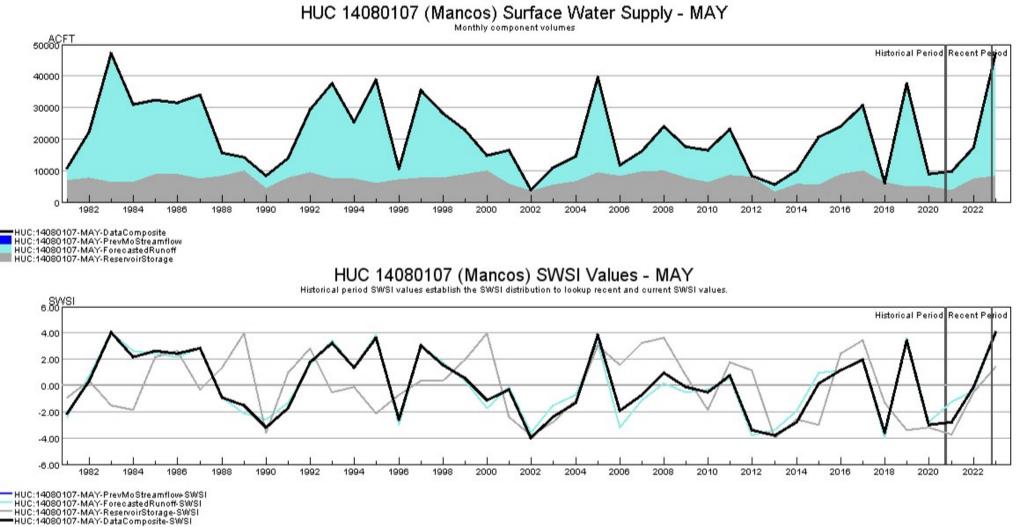
The SWSI value for the month was +3.7.

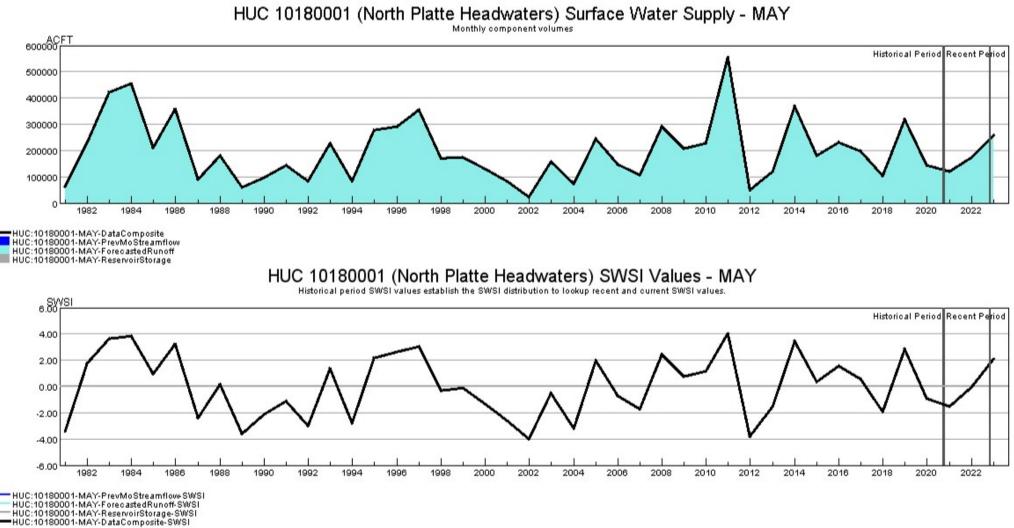


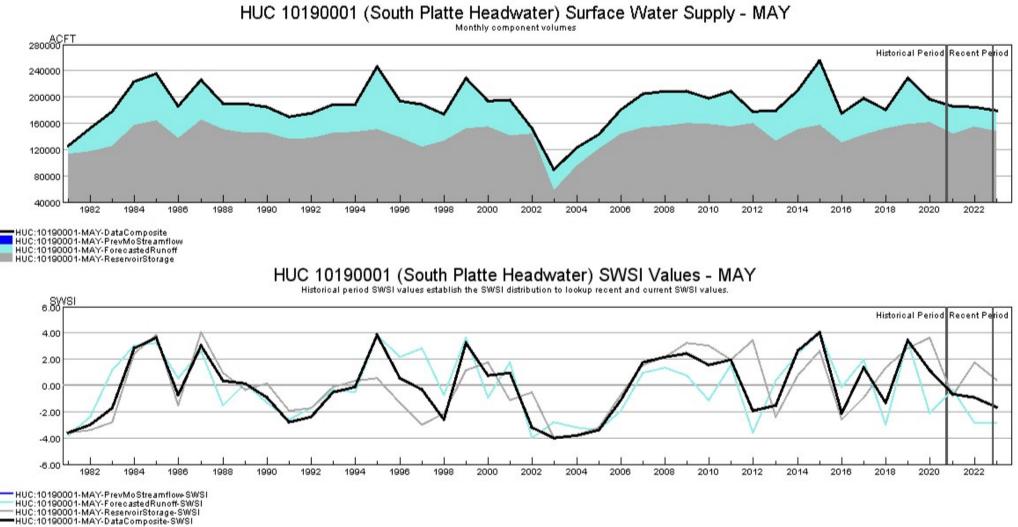
May-23

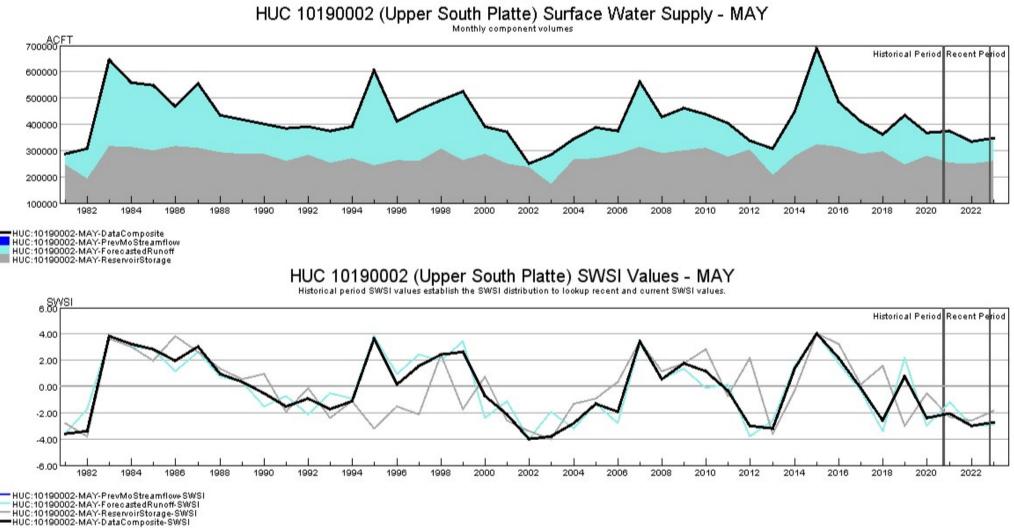
The SWSI value for the month was +3.9.

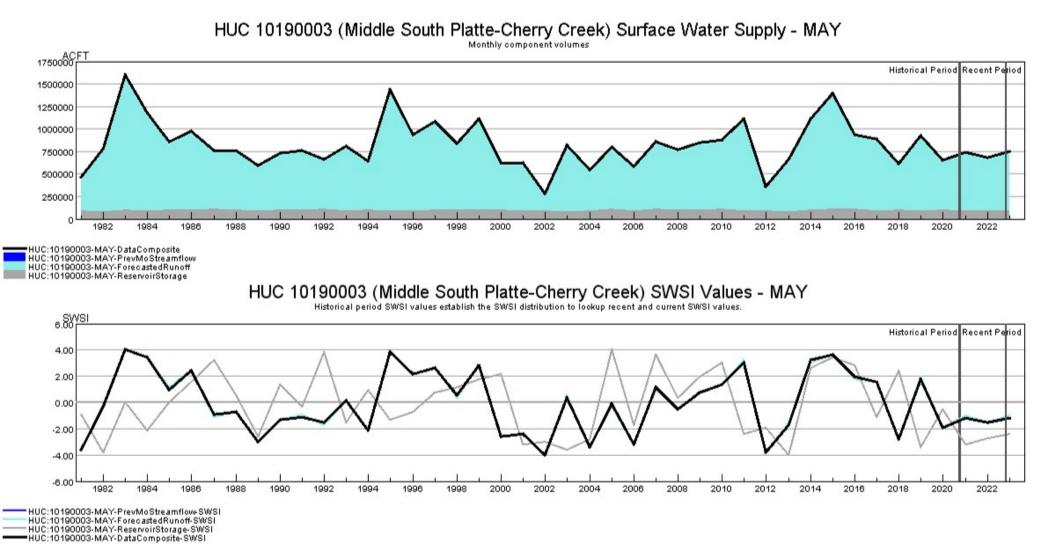


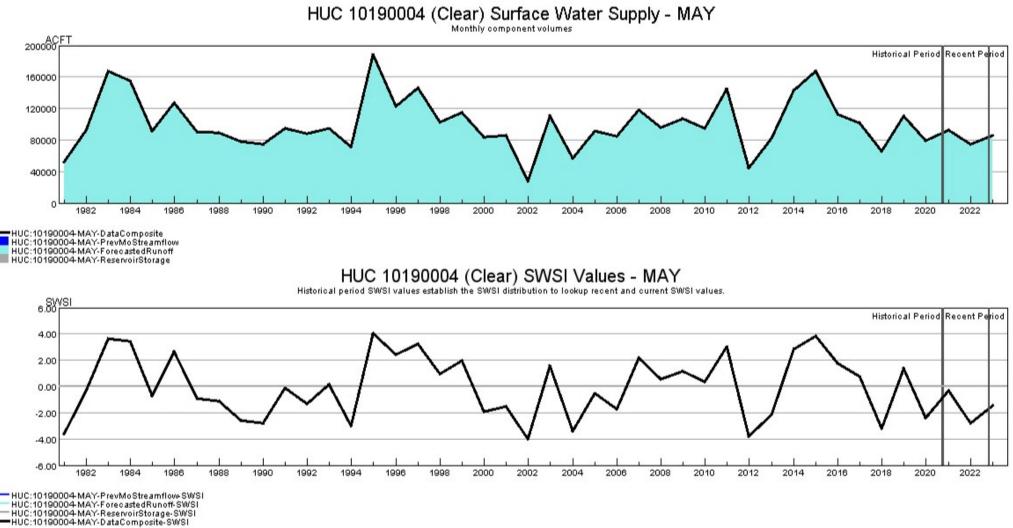


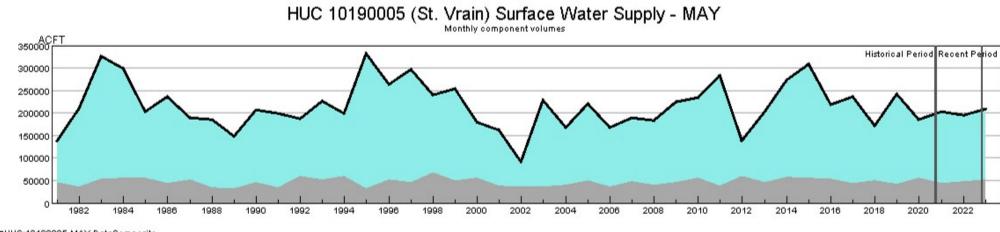








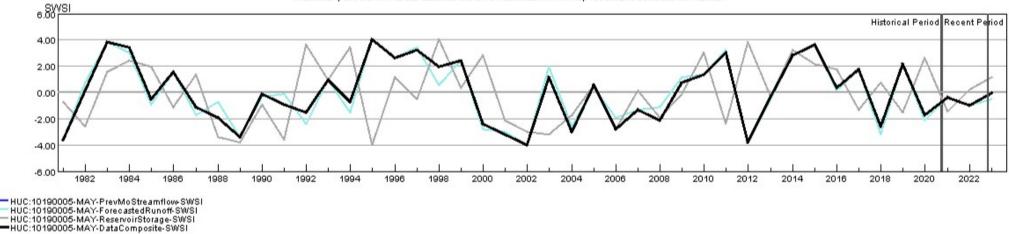


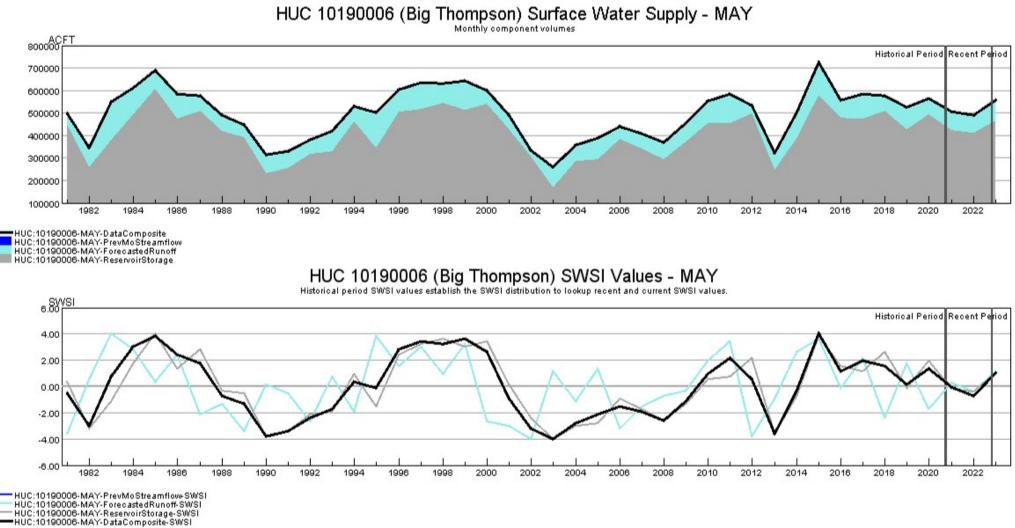


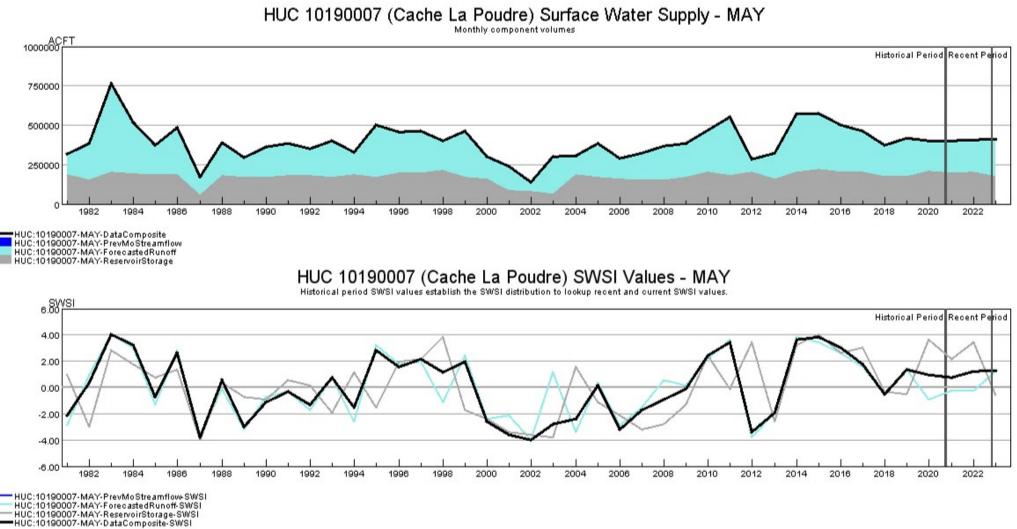
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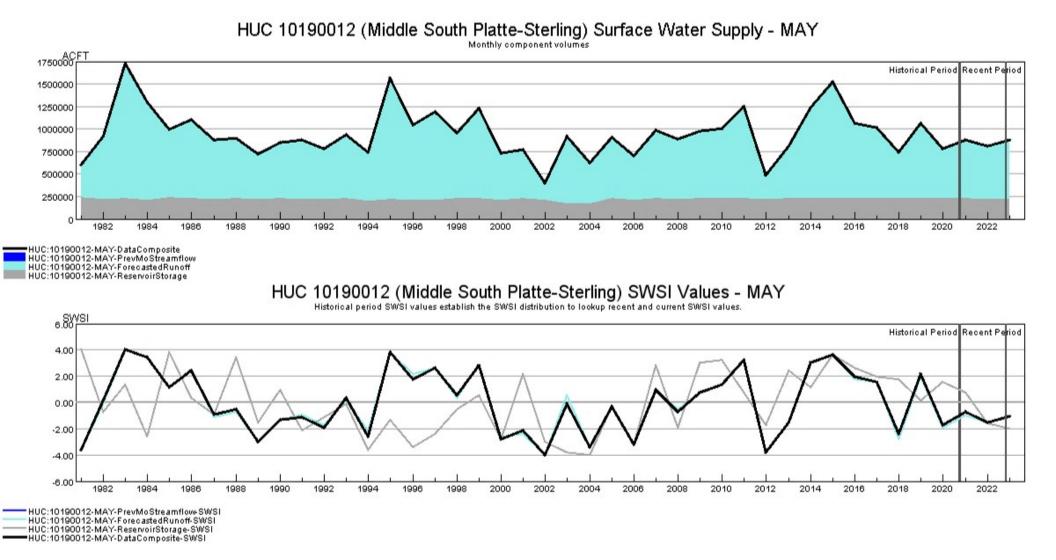
HUC 10190005 (St. Vrain) SWSI Values - MAY Historical period SWSI values establish the SWSI distribution to lookup recent and current SWSI values.

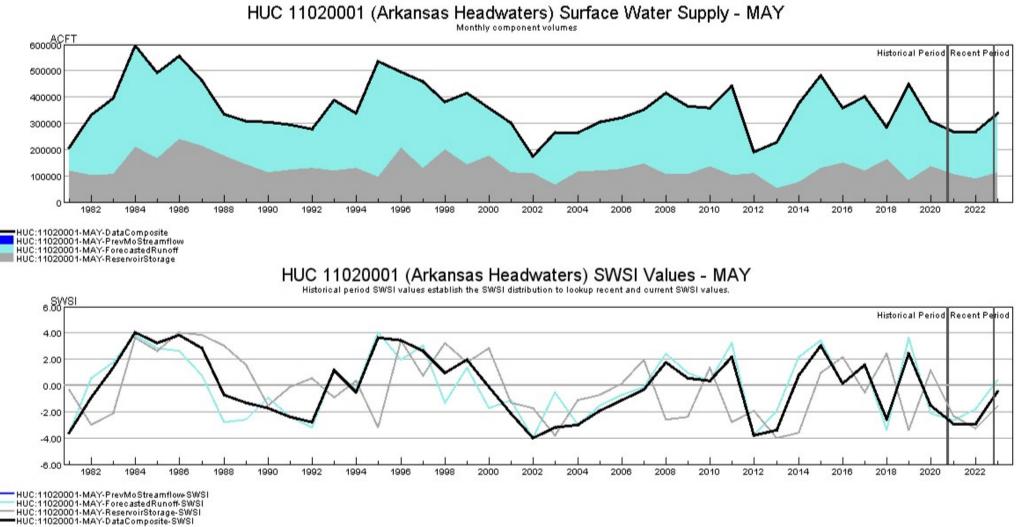


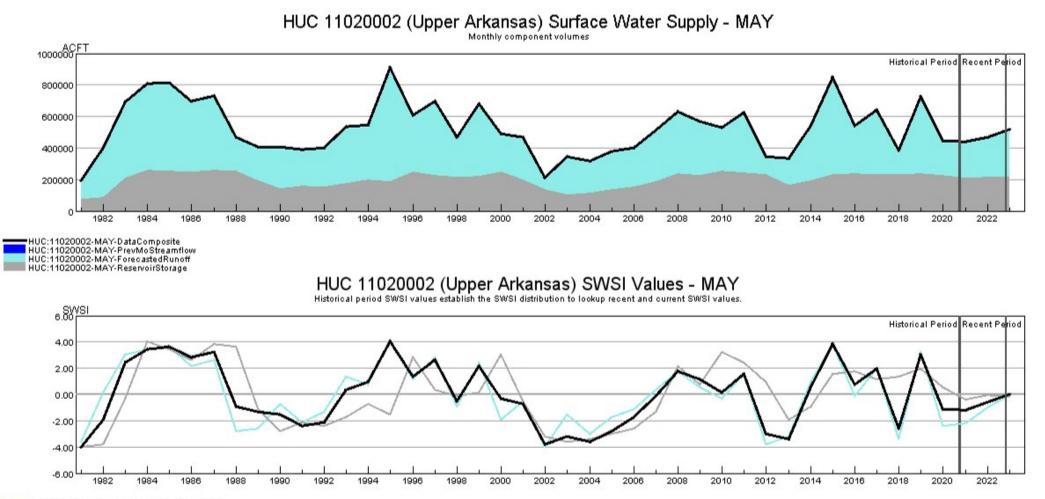




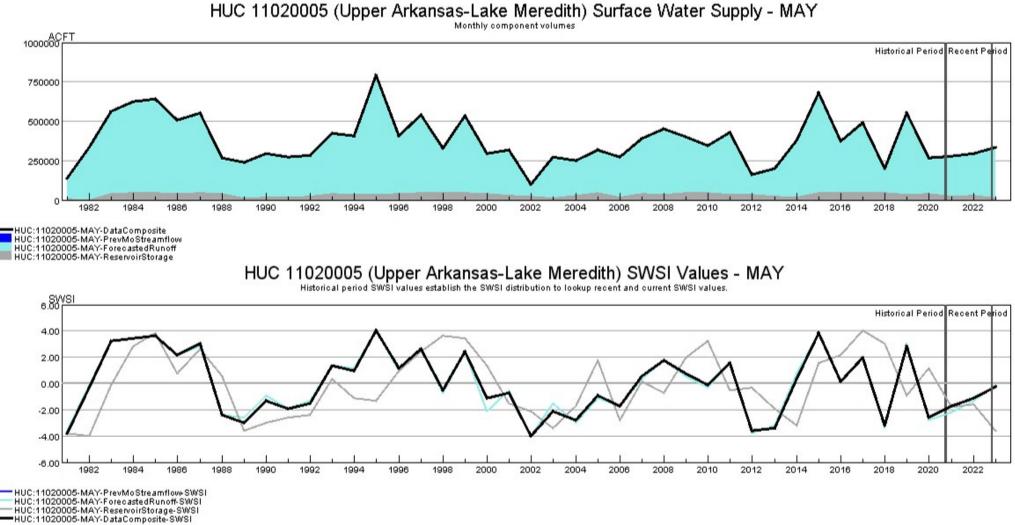


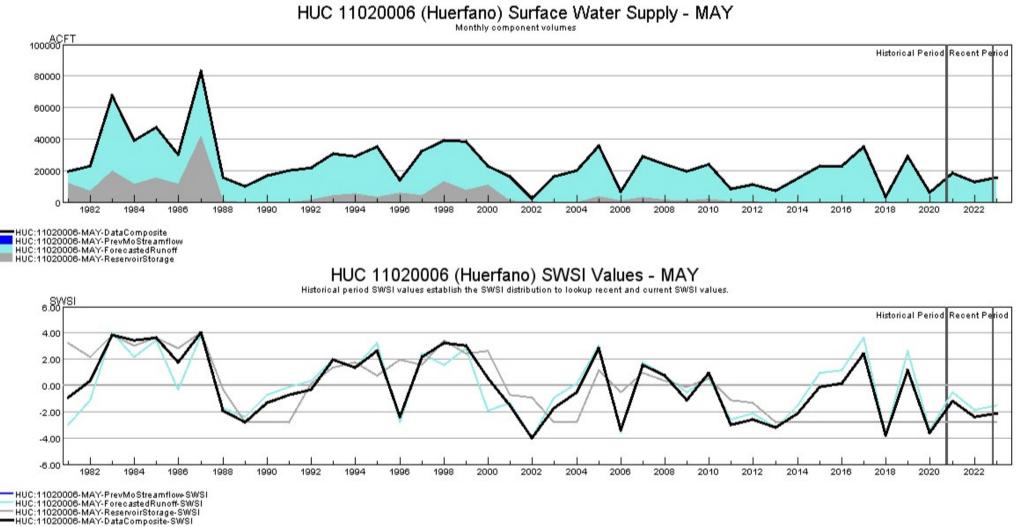


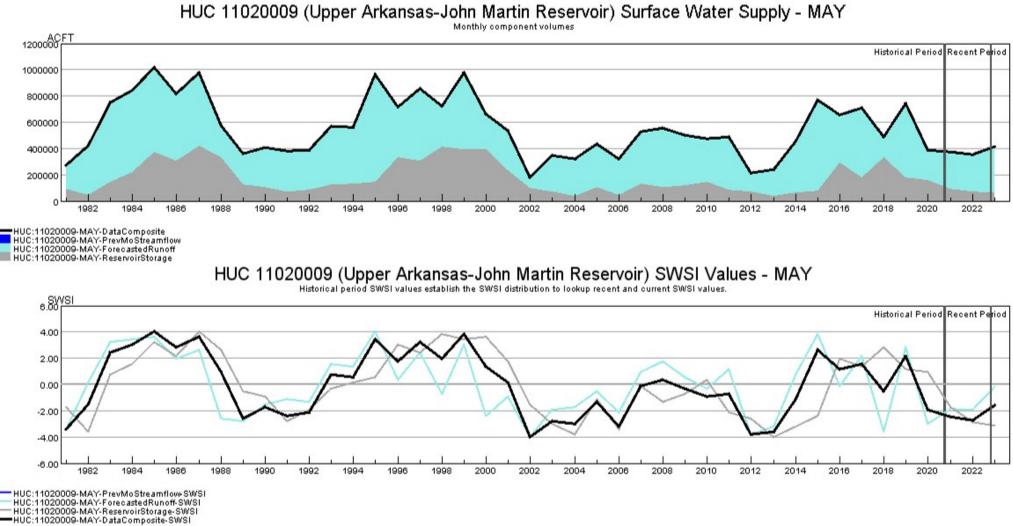


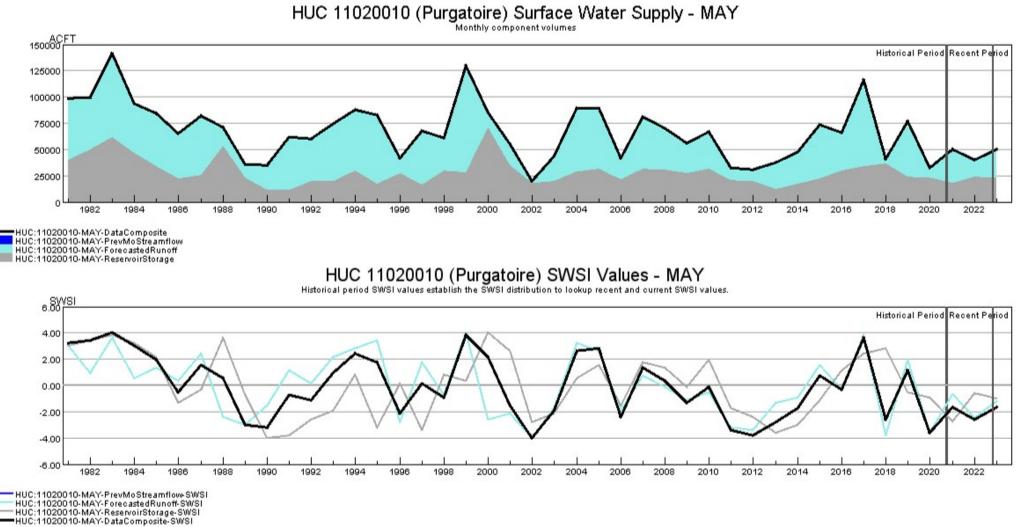


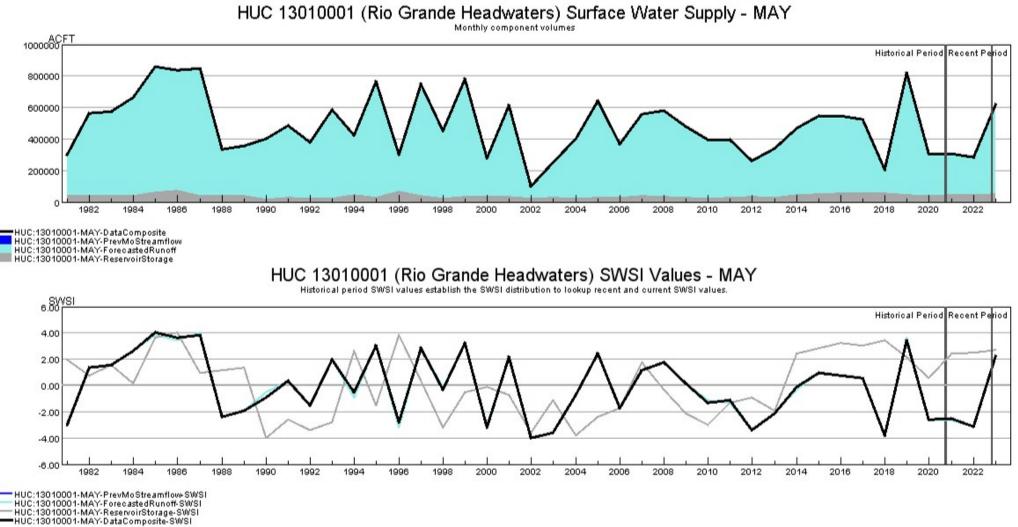
HUC:11020002-MAY-PrevMoStreamflow-SWSI HUC:11020002-MAY-ForecastedRunoff-SWSI HUC:11020002-MAY-ReservoirStorage-SWSI HUC:11020002-MAY-DataComposite-SWSI

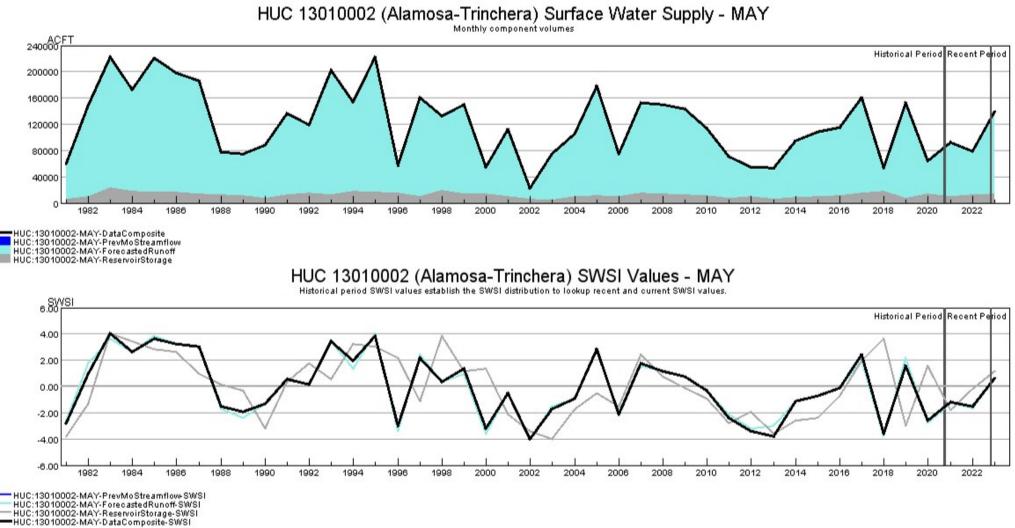


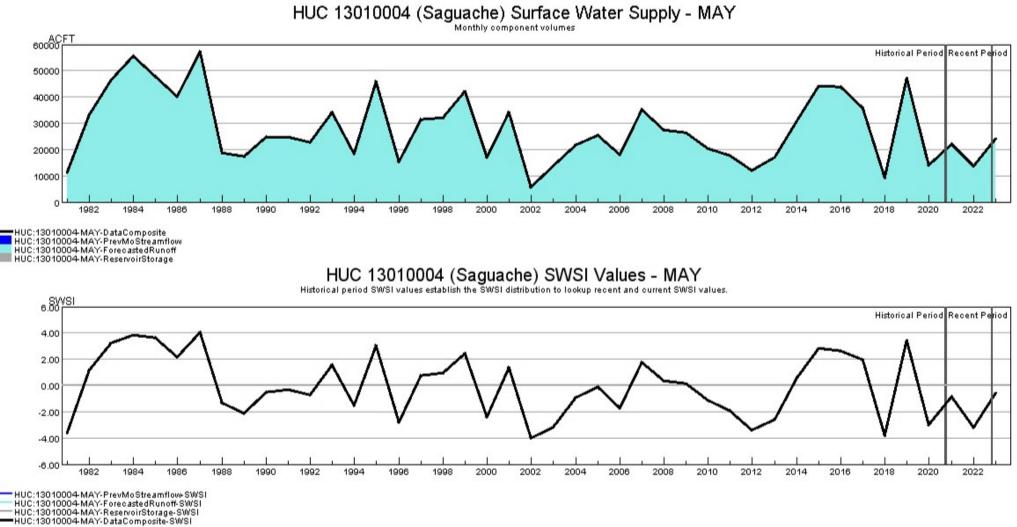


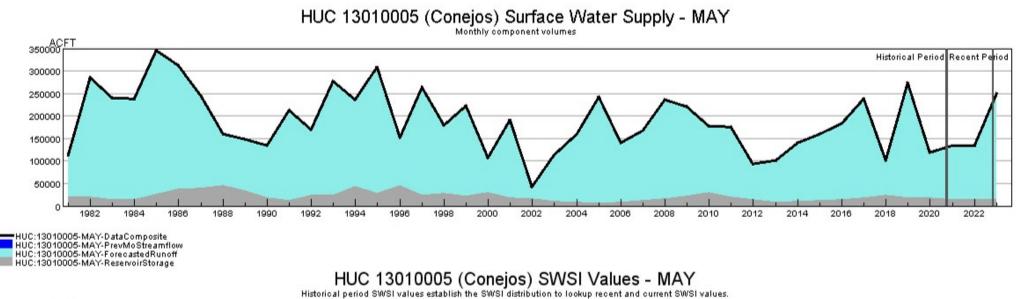


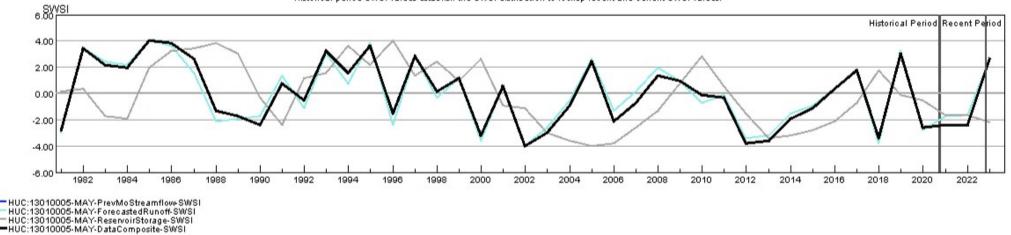


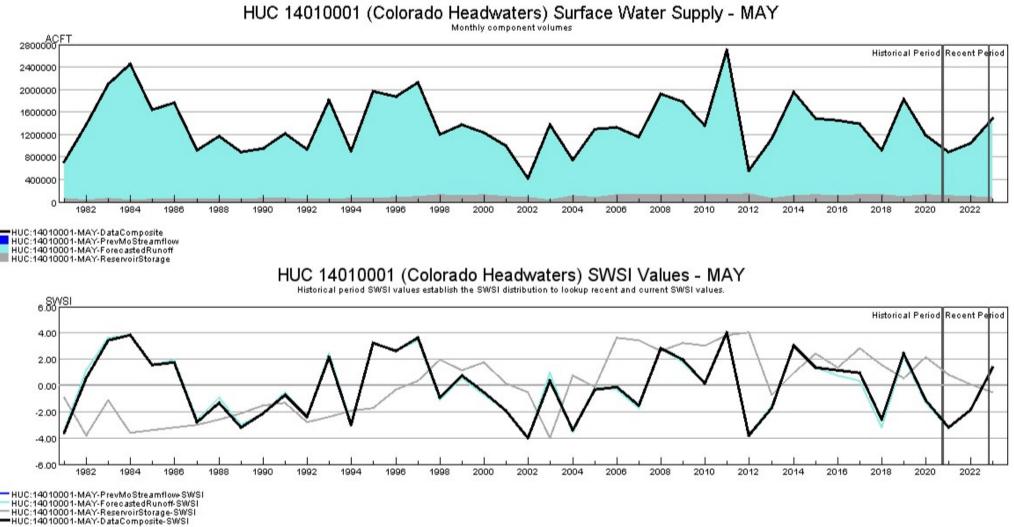


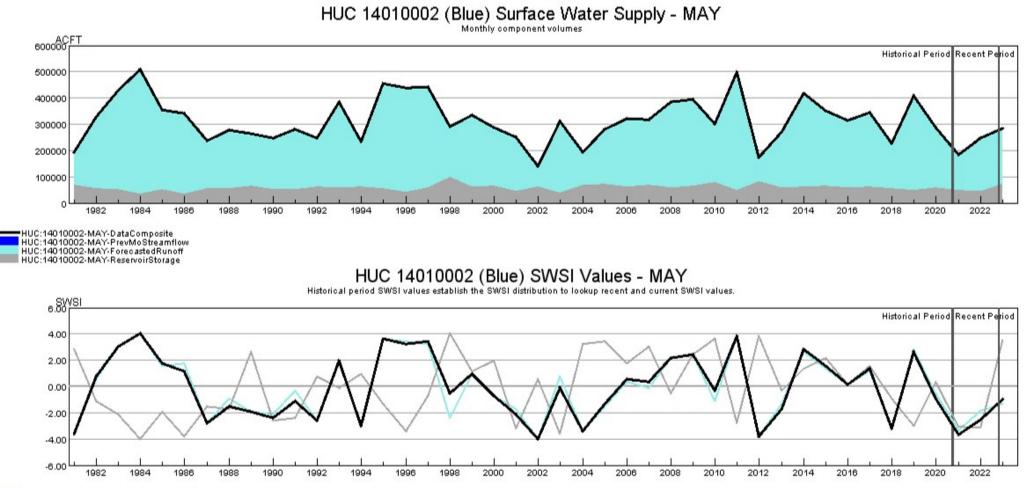




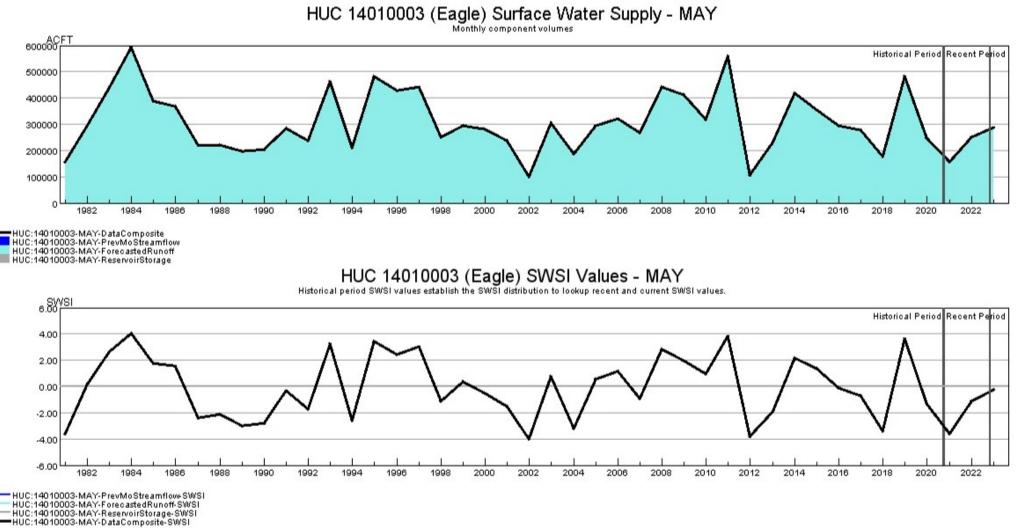


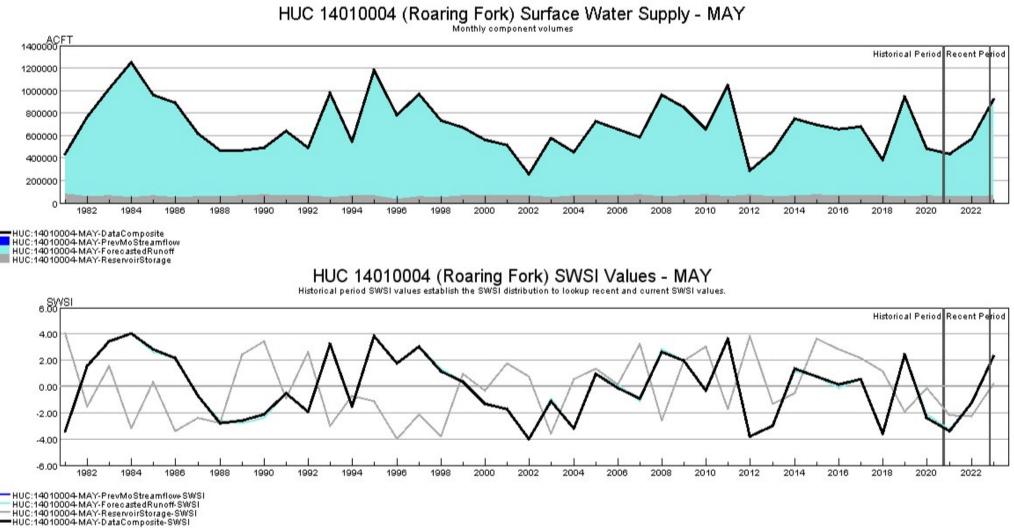


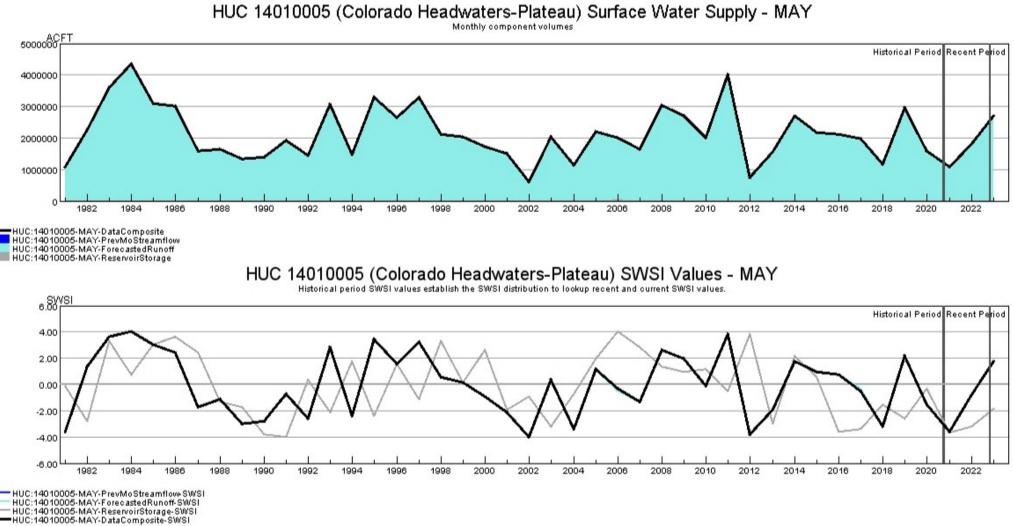


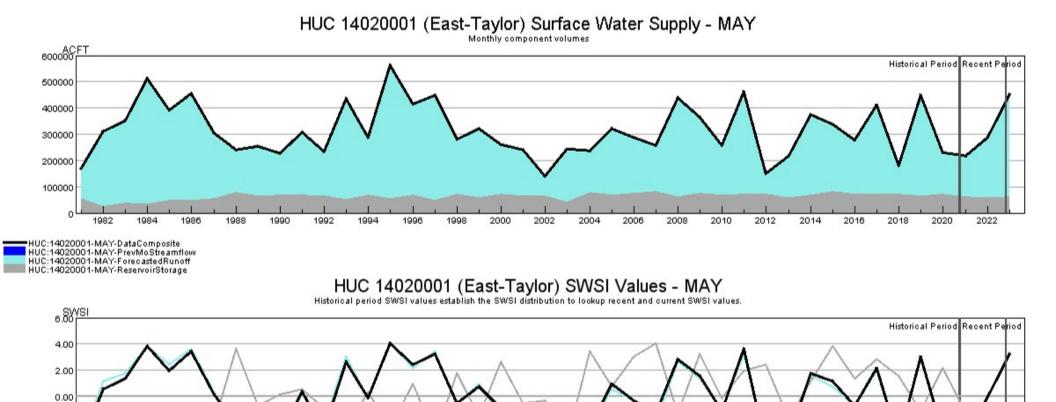


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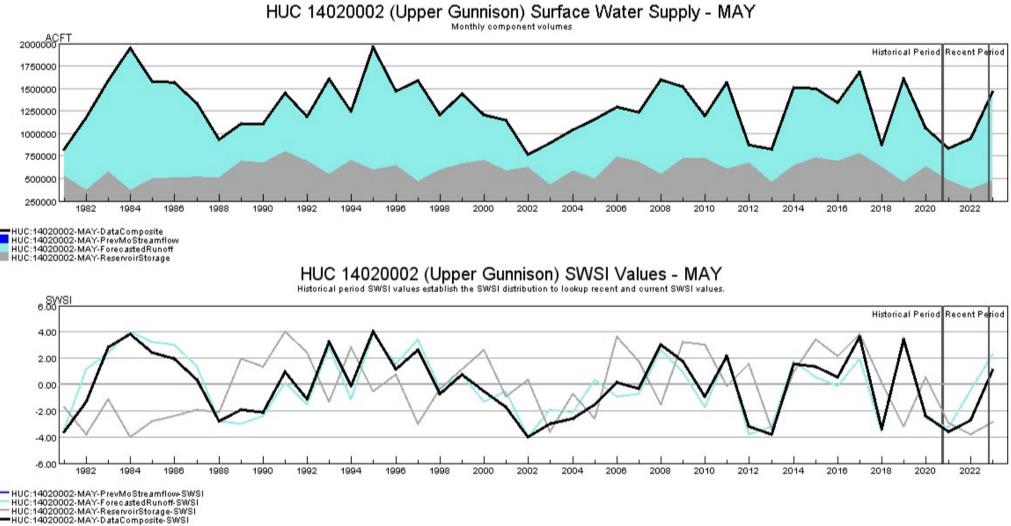


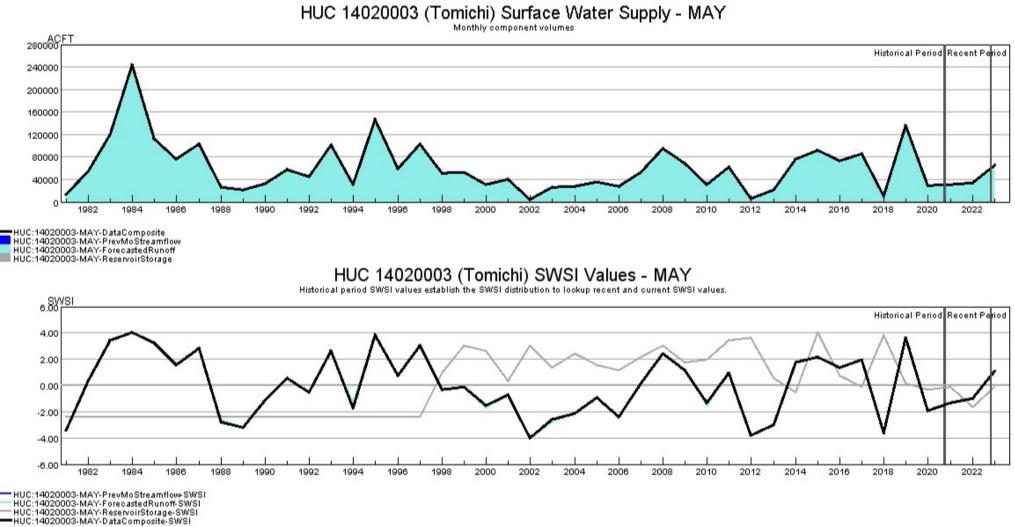


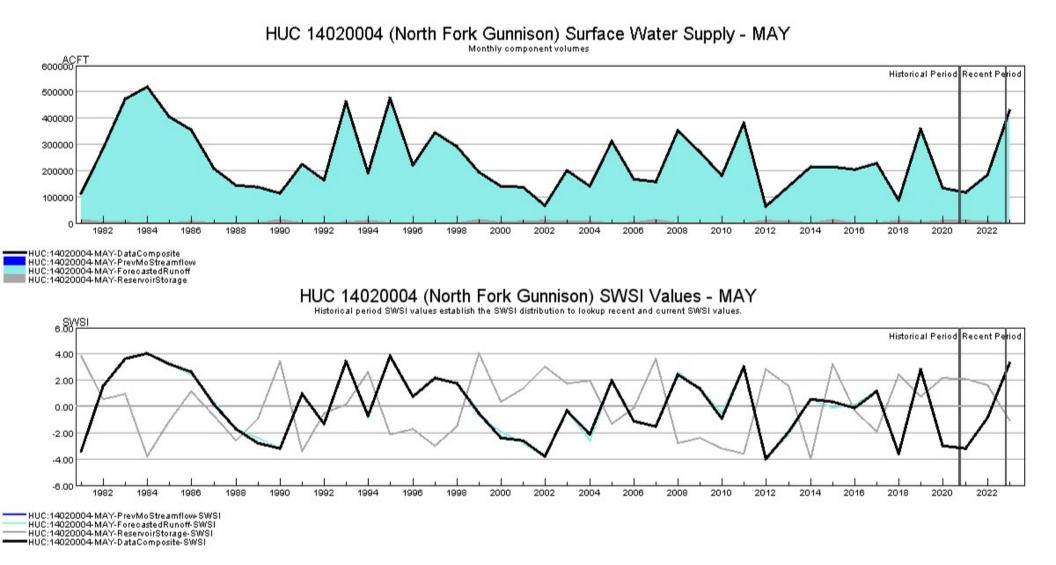


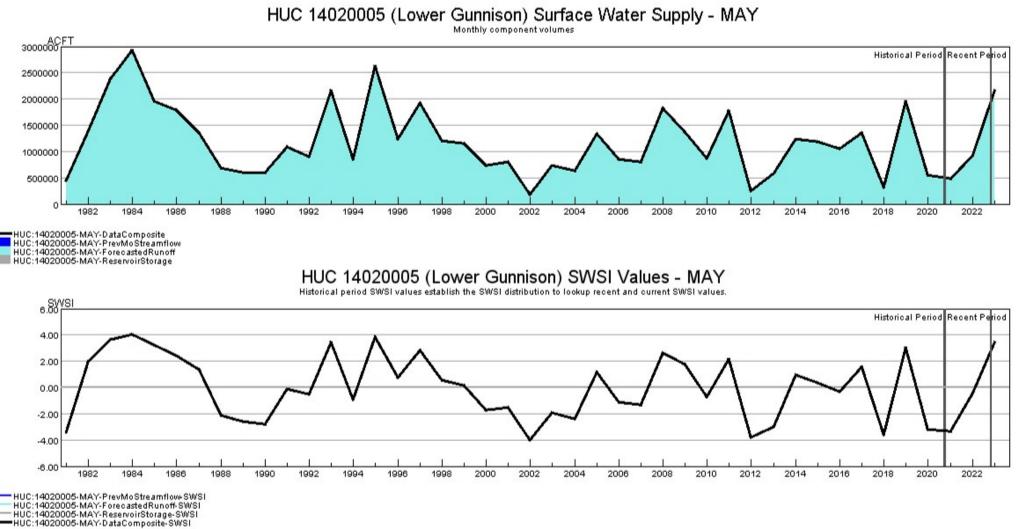
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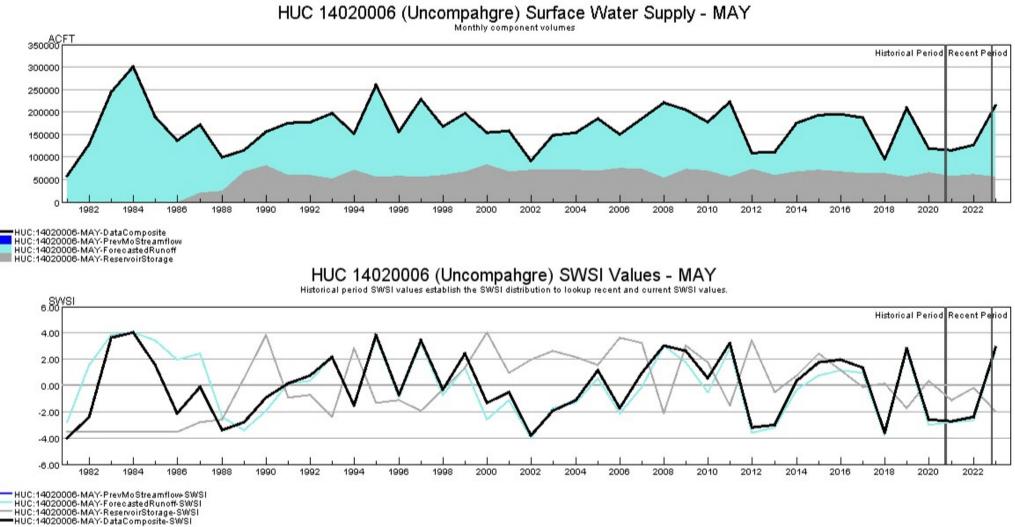
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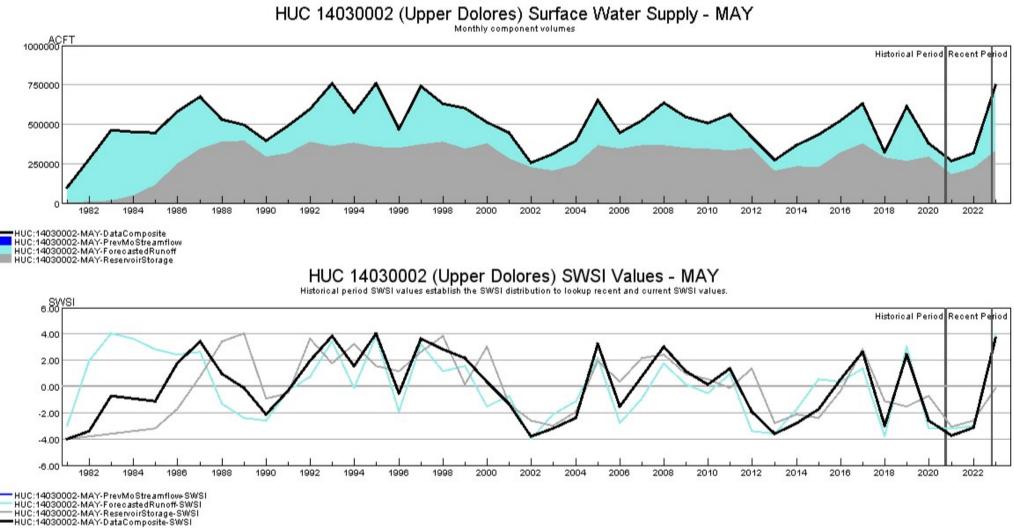


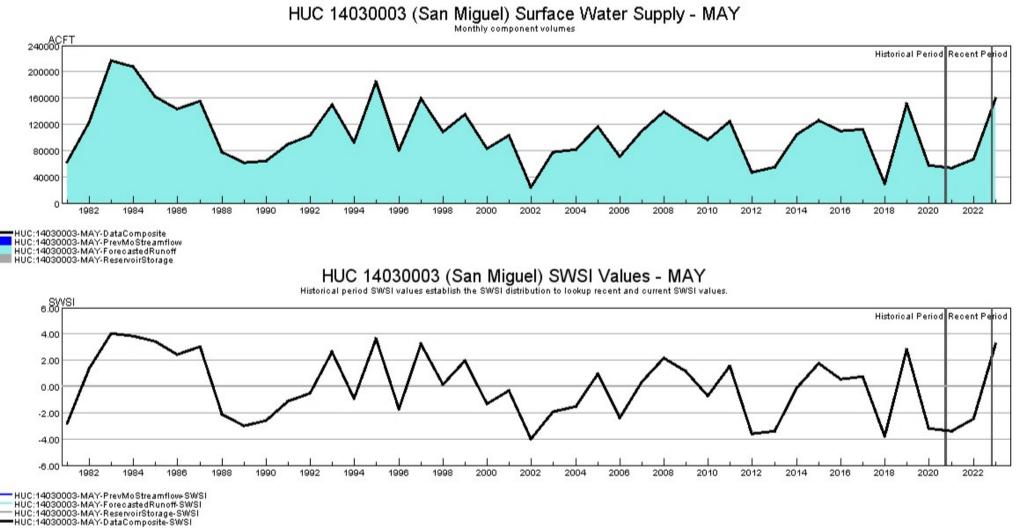


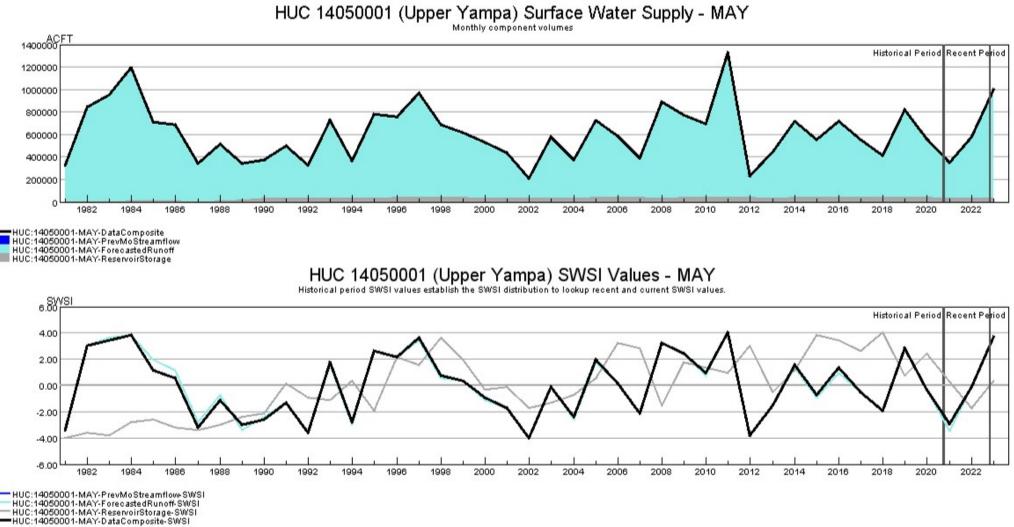


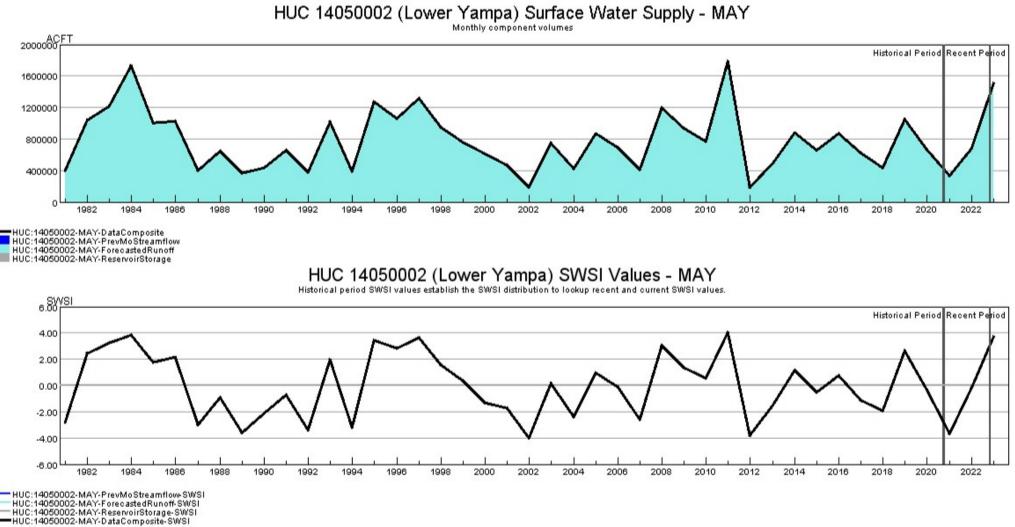


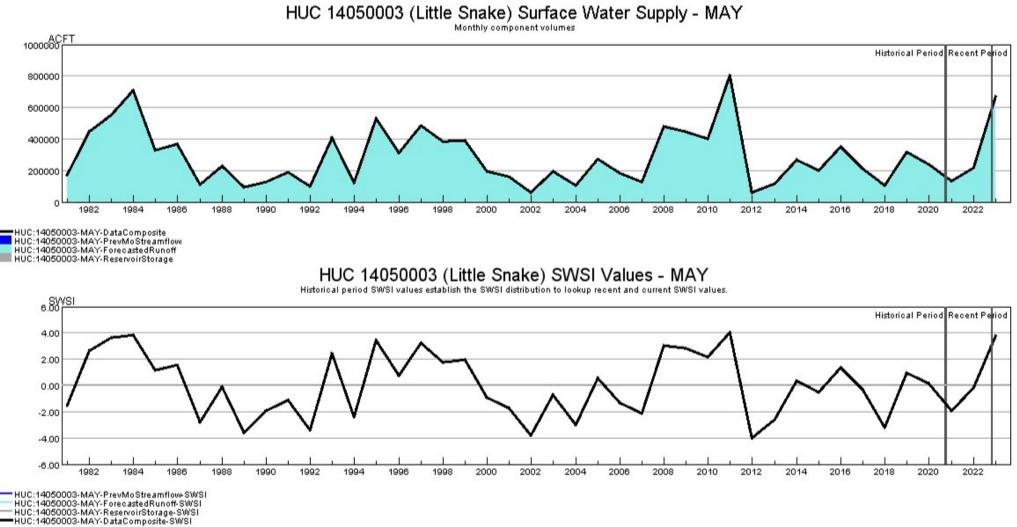


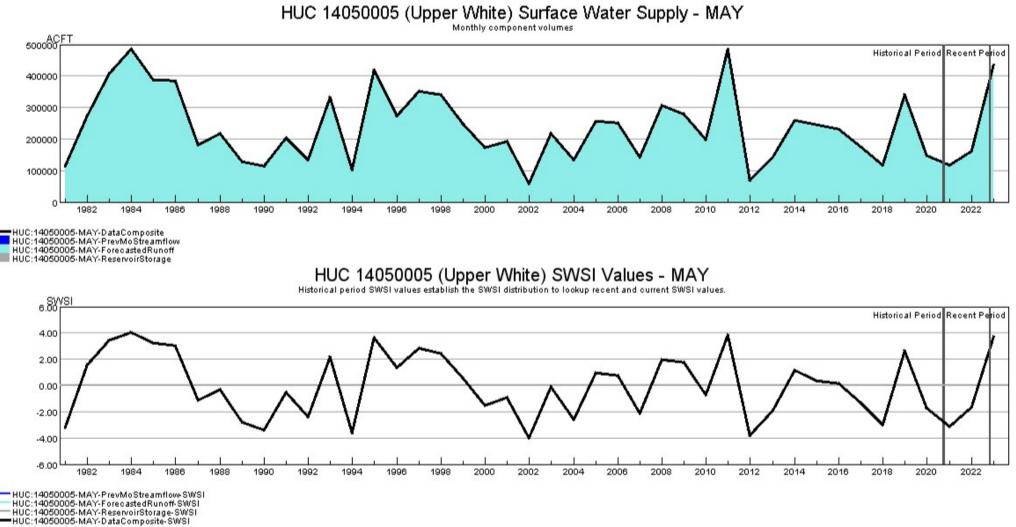


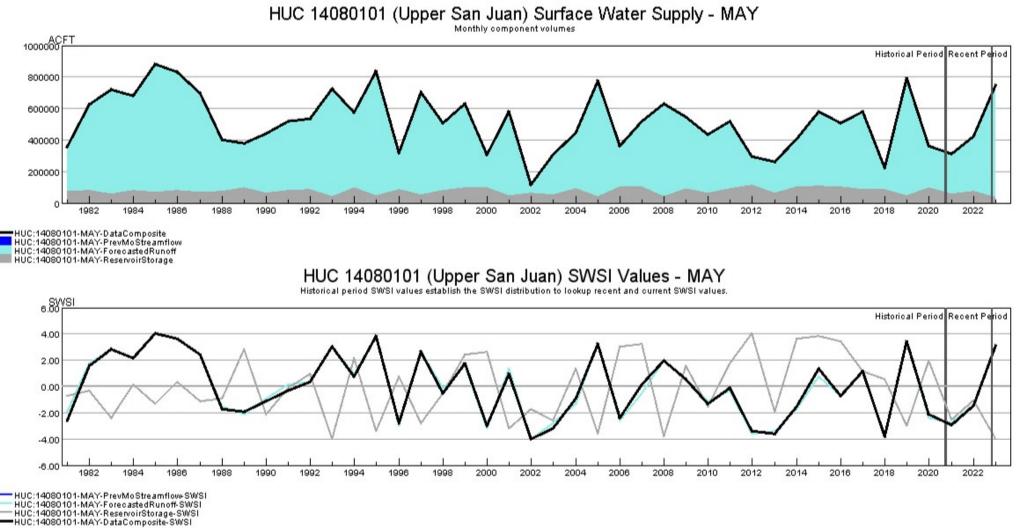


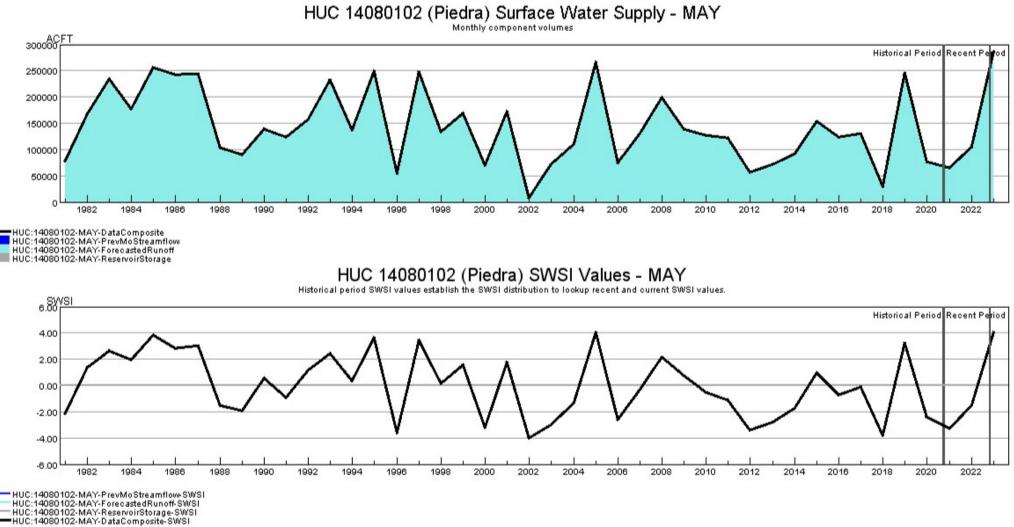


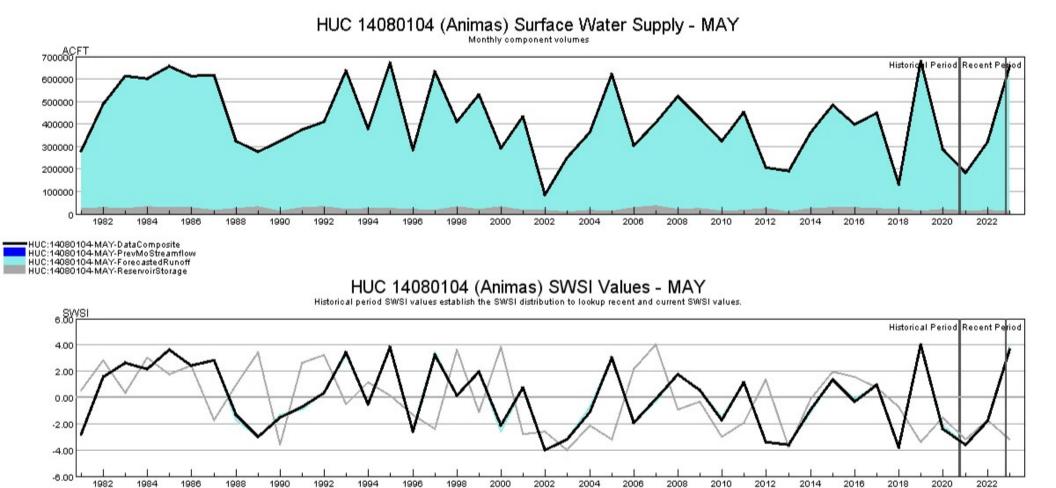












HUC:14080104-MAY-PrevMoStreamflow-SWSI HUC:14080104-MAY-Freewostedminowsws HUC:14080104-MAY-ForeastedRunoff-SWSI HUC:14080104-MAY-ReservoirStorage-SWSI HUC:14080104-MAY-DataComposite-SWSI

