# 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>

March 1, 2020

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: <u>http://water.state.co.us/DWRDocs/Reports/Pages/SWSIReport.aspx</u>. This report also contains 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 February 29, 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 March 1, 2020. Water supply conditions are normal to above normal in all but the Gunnison, Rio Grande and San Juan-Dolores basins. Storage varies statewide, from above average to below average, and snowpack is average, resulting in streamflow forecasts that are normal to below normal in every basin.

Basin	March 1 SWSI	Change from Previous Month	Change from Previous Year
Arkansas	1.4	-0.2	-0.1
Colorado	0.4	1.0	-0.1
Gunnison	-1.6	-1.1	-1.5
Rio Grande	-1.8	-0.7	-2.4
San Juan-Dolores	-1.6	-0.9	-2.2
South Platte	1.6	0.3	1.3
Yampa-White	0.0	0.5	0.3

				SWSI Scale				
-4	-3	-2	-1	0	1	2	3	4
Severe Drought		Moderate Drought		Near Normal Supply		Above Normal Supply	Ab	undant 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	-1.24	67	44	20,200
⊳	11020010	Purgatoire	0.34	81	46	65,760
\rka	11020005	Upper Arkansas-Lake Meredith	0.59	84	55	400,648
Insa	11020001	Arkansas Headwaters	1.14	14	61	403,702
St	11020009	Upper Arkansas-John Martin Reservoir	0.62	70	55	554,905
	11020002	Upper Arkansas	1.71	67	55	597,200
	14010003	Eagle	1.01	90	62	360,000
Co	14010002	Blue	2.09	55	73	390,320
lora	14010004	Roaring Fork	-1.17	N/A	36	660,900
opt	14010001	Colorado Headwaters	1.26	77	62	1,675,710
	14010005	Colorado Headwaters-Plateau	0.13	63	52	2,324,577
	14020003	Tomichi	0.48	82	55	65,340
	14030003	San Miguel	-2.30	74	22	87,000
Gu	14020006	Uncompahgre	-0.19	66	38	170,963
nni	14020004	North Fork Gunnison	-2.57	76	19	185,037
son	14020001	East-Taylor	-1.54	N/A	27	288,827
	14020005	Lower Gunnison	-1.67	62	30	1,000,000
	14020002	Upper Gunnison	-0.83	N/A	34	1,269,208
Ri	13010004	Saguache	0.38	84	55	30,000
G	13010002	Alamosa-Trinchera	-1.15	77	35	109,462
ran	13010005	Conejos	-2.53	N/A	25	148,204
de	13010001	Rio Grande Headwaters	-2.06	48	24	386,718
Sa	14080105	Middle San Juan	-0.21	74	29	19,647
n Ju	14080107	Mancos	-2.66	99	21	21,700
Jan	14080102	Piedra	-2.10	N/A	25	125,000
-Do	14080104	Animas	-2.32	30	23	350,428
lore	14080101	Upper San Juan	-2.01	50	25	449,898
es	14030002	Upper Dolores	-0.30	31	25	492,654
	10190004	Clear	1.43	94	67	116,000
	10190001	South Platte Headwater	2.88	53	75	221,400
Sol	10190005	St. Vrain	0.26	35	58	236,478
Jth	10190007	Cache La Poudre	1.81	N/A	61	441,570
Pla	10190002	Upper South Platte	1.60	57	68	473,521
tte	10190006	Big Thompson	1.56	71	57	581,240
	10190003	Middle South Platte-Cherry Creek	1.14	96	63	922,700
	10190012	Middle South Platte-Sterling	1.58	94	63	1,051,011
۲a	14050005	Upper White	-1.35	N/A	34	230,000
qmr	10180001	North Platte Headwaters	1.10	99	63	280,000
ıa-V	14050003	Little Snake	-0.14	N/A	48	360,000
Vhit	14050001	Upper Yampa	-0.11	N/A	46	766,813
te	14050002	Lower Yampa	0.10	N/A	51	1,030,000

March 1, 2020 SWSI Values by HUC and Non Exceedance Probabilities (NEP)

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)

March 1,	2020 SWSI	Component	Information -	Streamflow	Forecast &	<b>Reservoir Stor</b>	rage - B	v HUC

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
		CLEAR CREEK RESERVOIR	8,035	57
		HOMESTAKE RESERVOIR	41,267	76
11020001	Arkansas Headwaters	TWIN LAKES RESERVOIR	49,700	80
		TURQUOISE LAKE	54,700	19
		ARKANSAS RIVER AT SALIDA	250,000	61
		CUCHARAS RESERVOIR*	0	14
11020006	Huerfano	HUERFANO RIVER NEAR REDWING	10,000	33
		CUCHARAS RIVER AT BOYD RANCH NR LA VETA	10,200	51
11020010	Durgatoiro	TRINIDAD LAKE	23,760	67
11020010	Fulgatone	PURGATOIRE RIVER AT TRINIDAD	42,000	46
11020002	Hopor Arkansas	PUEBLO RESERVOIR	262,200	81
11020002	opper Arkansas	PUEBLO RESERVOIR INFLOW	335,000	55
		HUERFANO RIVER NEAR REDWING	10,000	33
		CUCHARAS RIVER AT BOYD RANCH NR LA VETA	10,200	51
11020000	Upper Arkansas-John	PURGATOIRE RIVER AT TRINIDAD	42,000	46
11020009	Martin Reservoir	ADOBE CREEK RESERVOIR	48,643	67
		JOHN MARTIN RESERVOIR	109,062	69
		PUEBLO RESERVOIR INFLOW	335,000	55
	Upper Arkansas-Lake Meredith	LAKE HENRY	3,911	9
		HUERFANO RIVER NEAR REDWING	10,000	33
11020005		CUCHARAS RIVER AT BOYD RANCH NR LA VETA	10,200	51
		MEREDITH RESERVOIR	41,537	99
		PUEBLO RESERVOIR INFLOW	335,000	55
14010002	Blue	GREEN MOUNTAIN RESERVOIR	70,320	55
14010002		BLUE RIVER INFLOW TO GREEN MOUNTAIN RES	320,000	73
	Colorado Headwaters	WOLFORD MOUNTAIN RESERVOIR	50,610	88
14010001		WILLIAMS FORK RESERVOIR	75,100	90
		COLORADO RIVER NEAR DOTSERO	1,550,000	62
14010005	Colorado Headwaters-Plateau	VEGA RESERVOIR	14,577	63
14010005		COLORADO RIVER NEAR CAMEO	2,310,000	52
14010003	Eagle	EAGLE RIVER BELOW GYPSUM	360,000	62
14010004	Popring Fork	RUEDI RESERVOIR	70,900	77
14010004	Roaring FOR	ROARING FORK AT GLENWOOD SPRINGS	590,000	36
		TAYLOR PARK RESERVOIR	72,827	82
14020001	East-Taylor	TAYLOR R INF TO TAYLOR PARK RESERVOIR	86,000	47
		EAST RIVER AT ALMONT	130,000	24
14020005	Lower Gunnison	GUNNISON RIVER NR GRAND JUNCTION	1,000,000	30
14020004	North Fork Gunnison	PAONIA RESERVOIR	5,037	76
14020004		NORTH FORK GUNNISON R NR SOMERSET	180,000	19
14030003	San Miguel	SAN MIGUEL RIVER NEAR PLACERVILLE	87,000	22
1/020002	Tomichi	VOUGA RESERVOIR NEAR DOYLEVILLE	340	66
14020003	romicm	TOMICHI CREEK AT GUNNISON, CO	65,000	55

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
14020006	Uncompabore	RIDGEWAY RESERVOIR	65,963	62
14020000	oncompanyic	UNCOMPAHGRE RIVER AT COLONA	105,000	38
		SILVER JACK RESERVOIR	767	2
		FRUITLAND RESERVOIR	1,173	45
		CRAWFORD RESERVOIR	7,817	37
14020002	Upper Gunnison	LAKE FORK AT GATEVIEW, CO	100,000	34
		MORROW POINT RESERVOIR	107,406	13
		GUNNISON R INF TO BLUE MESA RESERVOIR	515,000	39
		BLUE MESA RESERVOIR	537,045	75
		MOUNTAIN HOME	5,211	87
		TERRACE RESERVOIR	8,251	74
		TRINCHERA CK	10,000	38
13010002	Alamosa-Trinchera	UTE CREEK	11,000	44
		SANGRE DE CRISTO	12,000	45
		CULEBRA CREEK AT SAN LUIS	18,000	46
		ALAMOSA CREEK ABOVE TERRACE RESERVOIR	45,000	26
12010005	Conoios	PLATORO RESERVOIR	18,204	48
13010005	Conejos	CONEJOS RIVER NEAR MOGOTE	130,000	25
	Rio Grande Headwaters	RIO GRANDE RESERVOIR	3,972	9
12010001		CONTINENTAL RESERVOIR	16,108	99
13010001		SANTA MARIA RESERVOIR	21,638	92
		RIO GRANDE NEAR DEL NORTE	345,000	24
13010004	Saguache	SAGUACHE CREEK NEAR SAGUACHE, CO	30,000	55
	Animas	LEMON RESERVOIR	17,428	30
14080104		FLORIDA RIVER INFLOW TO LEMON RESERVOIR	38,000	23
		ANIMAS RIVER AT DURANGO	295,000	26
14090107	Mancos	JACKSON GULCH RESERVOIR	3,700	31
14060107	Maricos	MANCOS RIVER NEAR MANCOS	18,000	21
14090105	Middle San Juan	LONG HOLLOW RESERVOIR	4,647	50
14080105	Midule Sali Juali	LA PLATA RIVER AT HESPERUS	15,000	29
14080102	Piedra	PIEDRA RIVER NEAR ARBOLES	125,000	25
		GROUNDHOG RESERVOIR	16,000	81
14030002	Upper Dolores	DOLORES RIVER BELOW MCPHEE RESERVOIR	190,000	25
		MCPHEE RESERVOIR	286,654	74
		VALLECITO RESERVOIR	79 <i>,</i> 898	99
14080101	Upper San Juan	LOS PINOS RIVER NEAR BAYFIELD	130,000	16
		SAN JUAN RIVER NEAR CARRACAS	240,000	25
		MARIANO RESERVOIR	200	2
		LAKE LOVELAND RESERVOIR	2,800	10
		LONE TREE RESERVOIR	7,100	54
10100006	Big Thompson	WILLOW CREEK RESERVOIR	8,924	99
10130000	ווטניוויציט	BOYD LAKE	34,300	56
		CARTER LAKE	91,140	41
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	94,000	57
		LAKE GRANBY	342,776	74

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
		BLACK HOLLOW RESERVOIR	3,700	91
		CHAMBERS LAKE	4,400	75
		HALLIGAN RESERVOIR	5,100	56
		CACHE LA POUDRE	8,400	76
10190007	Cache La Poudre	FOSSIL CREEK RESERVOIR	9,300	78
		WINDSOR RESERVOIR	10,200	24
		COBB LAKE	18,100	74
		HORSETOOTH RESERVOIR	142,370	98
		CACHE LA POUDRE R AT CANYON MOUTH	240,000	61
10190004	Clear Creek	CLEAR CREEK AT GOLDEN	116,000	67
		HORSECREEK RESERVOIR	9,200	9
		MILTON RESERVOIR	18,200	76
		BARR LAKE	23,000	16
		STANDLEY RESERVOIR	38,300	78
	Middle South Dista	SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	41,000	65
10190003	Cherry Creek	BOULDER CREEK NEAR ORODELL	59,000	65
		SAINT VRAIN CREEK AT LYONS	88,000	49
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	94,000	57
		CLEAR CREEK AT GOLDEN	116,000	67
		SOUTH PLATTE RIVER AT SOUTH PLATTE	196,000	68
		CACHE LA POUDRE R AT CANYON MOUTH	240,000	61
		JULESBURG RESERVOIR	17,400	53
		JACKSON LAKE RESERVOIR	22,200	27
		EMPIRE RESERVOIR	25,700	54
		PREWITT RESERVOIR	26,315	99
		SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	41,000	65
	Middle South Platte- Sterling	RIVERSIDE RESERVOIR	52,100	95
10190012		BOULDER CREEK NEAR ORODELL	59,000	65
		POINT OF ROCKS RESERVOIR	73,296	99
		SAINT VRAIN CREEK AT LYONS	88,000	49
		BIG THOMPSON R AT MOUTH, NR DRAKE, CO	94,000	57
		CLEAR CREEK AT GOLDEN	116,000	67
		SOUTH PLATTE RIVER AT SOUTH PLATTE	196,000	68
		CACHE LA POUDRE R AT CANYON MOUTH	240,000	61
		ANTERO RESERVOIR	20,000	75
10190001	South Platte	SPINNEY MOUNTAIN RESERVOIR	36,100	87
10150001	Headwater	ELEVENMILE CANYON RESV INFLOW	65,000	75
		ELEVENMILE CANYON RESERVOIR	100,300	97
		TERRY RESERVOIR	5,300	52
		MARSHALL RESERVOIR	6,300	62
		UNION RESERVOIR	9,706	31
10190005	St. Vrain	BUTTONROCK (RALPH PRICE) RESERVOIR	13,300	63
		GROSS RESERVOIR	13,872	58
		SOUTH BOULDER CK NR ELDORADO SPRINGS, CO	41,000	65
		BOULDER CREEK NEAR ORODELL	59,000	65
		SAINT VRAIN CREEK AT LYONS	88,000	49

HUC ID	HUC Name	Component Name	Component Volume (AF)	Component NEP for Month
		CHEESMAN LAKE	54,221	33
10190002	Upper South Platte	SOUTH PLATTE RIVER AT SOUTH PLATTE	196,000	68
		DILLON RESERVOIR	223,300	68
14050003	Little Snake	LITTLE SNAKE RIVER NEAR LILY	360,000	48
14050002	Lower Yampa	YAMPA RIVER NEAR MAYBELL	1,030,000	51
10180001	North Platte Headwaters	NORTH PLATTE R NR NORTHGATE	280,000	63
14050005	Upper White	WHITE RIVER NEAR MEEKER	230,000	34
		YAMCOLO RESERVOIR	6,713	55
		STAGECOACH RESERVOIR NR OAK CREEK	34,100	99
14050001	Upper Yampa	ELKHEAD CREEK ABOVE LONG GULCH	76,000	49
		YAMPA RIVER AT STEAMBOAT SPRINGS	280,000	51
		ELK RIVER NEAR MILNER, CO	370,000	48

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

\*No longer exists

Water Volume NEP Color Scale:

0 (Well Below Normal)

Normal) 50 (Normal)

100 (Well Above Normal)

<u>Basinwide Conditions Assessment</u> The SWSI value for the month was +1.6.

Temperatures and precipitation in Northeast Colorado has been split between the foothills and mountains compared to the eastern plains during the month of February. The mountains and foothills have experienced well above average monthly precipitation, mostly in the form of snowpack, while the eastern plains have experienced below average precipitation. The entire basin experienced below average temperatures for the month of February. As a result, the South Platte Basin received 172% of the monthly average Snowpack in the mountainous and foothill areas. The South Platte Basin ended the month of February with 114 percent of the average water year-to-date precipitation.

The USDA Drought Monitor rating for northeast Colorado ended the month of February similar to the end of January, with all of the mountainous and foothill areas experiencing no drought conditions, while the eastern plains continue to experience abnormally dry conditions. Portions of the eastern plains continue to experience a rating of DO (abnormally dry) conditions, including portions of El Paso, Elbert, Lincoln, Kit Carson, Washington, Yuma, Morgan, Logan, Phillips, and Sedgewick Counties. The end of February into early March indicated that dry conditions persisted on the eastern plains with portions of Lincoln, Washington, and Logan Counties worsening from a rating of Abnormally Dry (rating of DO) conditions to a rating of Moderate Drought (rating of D1).

The overall basin experienced above average flows at the Kersey gage near the City of Greeley, with the average daily flows for the month of February approximately 682cfs, identical to the historic mean value of 682 cfs. The average daily flows at the Julesburg gage for the month of January was 698 cfs, 118% of the historic mean value of 590 cfs, partly due to good reservoir storage levels, and icing of diversion ditches to reservoirs.

The reservoir fill season began November 1st, with reservoir calls controlled from January 10 through the end of February by a 1910 Prospect Reservoir call at the Burlington Canal Headgate located just downstream from Denver. No call has been in place below these points on the lower end of the South Platte River during the months of November through February. Many tributaries have senior reservoir calls controlling their water district working towards filling reservoirs.

Reservoir storage levels throughout the South Platte River mainstem ended the month of February above the average at the 6 SWSI Representative Reservoirs at 581,913 acre-feet volume, which is 111% of the long term average of 525,257 acre-feet. Additionally, 32 indexed reservoirs throughout Division 1 basin ended the month of February at 117% of the long term average (1981 - 2010) with a storage volume of 958,335 acre-feet. This is ahead of the long term average of 73% of full capacity for the end of February storage in the 32 indexed reservoirs throughout Division 1.

The temperature and precipitation outlook into March, April and May prepared by the National Weather Service, in northeastern Colorado indicates an equal chance of near average temperatures and precipitation in the South Platte River Basin and Republican River Basin.





South Platte-DataComposite-SWSI



## Basinwide Conditions Assessment

The SWSI value for the month was +1.4.

## <u>Outlook</u>

Reservoir storage in the Pueblo Winter Water Program totaled 40,782 acre-feet as of the end of February. This storage amount is lower than last year's storage to date (47% of last year) and represents about 40% of the past five-year average. Conservation storage in John Martin Reservoir has accumulated 27,695 acre-feet representing a small increase from last year when storage reached 24,731 acre-feet for the same time period. Conservation storage remained significantly above the 1950 to 1975 pre-Winter Water Storage Period average of 17,810 acre-feet.

On another positive note, while the current storage program has improved over last year, snowpack for the basin continues to be higher than average at 111% which is only down 10% from same time last year of 125% for the basin.

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50,000

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John Martin

Pueblo

Avg. 2/29 Contents

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## Administrative Concerns

Members of the Division met with representatives from Kansas mid-February in Burlington, Colorado for the Special Engineering Team as part of ARCA to discuss water quality concerns in the Arkansas River and to continue the discussions for the Special Use pool project being developed in John Martin Reservoir. At this time, Kansas is hesitant to approve the pilot project for the Special Use pool, so those negotiations will be continuing.

Ongoing concerns still relate to the spilling of account water from Pueblo Reservoir. Because of the spill potential in Pueblo, entities with water in excess capacity accounts are moving water and it has to be out by April 15. The Division is continuing to work with the various entities to manage the spilling of account water.



11

Twin Lakes

Turquoise

Arkansas-DataComposite-SWSI



## Basinwide Conditions Assessment

The SWSI value for the month was -1.8.

Flow at the gaging station Rio Grande near Del Norte averaged 160 cfs (92% of normal). The Conejos River near Mogote had a mean flow of 55 cfs (113% of normal).

Limited snowfall in the San Juans and Sangre de Cristos during January kept the snowpack just above the long-term averages. Basinwide snowpack accumulation stood at about 105% of normal on February 1. Early February snowstorms increased that to 108% by February 13. January precipitation in Alamosa was only 0.14 inches, 0.12 inches below normal.

## <u>Outlook</u>

Due to the extremely dry past summer and fall, the Natural Resources Conservation Service stream flow forecasts are predicting runoff in area streams to be in the range of 64% (San Antonio River near Ortiz) to 97% (Saguache Creek) of average during the 2020 irrigation season. In general, runoff predictions are a bit disappointing considering the current near-average snowpack.

Current National Weather Service forecasts for February through April, 2020 are calling for above normal temperatures and near normal precipitation in this area of the state.

## Administrative/Management Concerns

Full implementation of the Groundwater Use Rules for Water Division No. 3 is on the horizon. The phase-in period will end March 16, 2021. All nonexempt well use must be covered by a plan for augmentation or participation in one of the six groundwater management subdistricts of the Rio Grande Water Conservation District or the Trinchera Water Conservancy District. The rules will require replacement of injurious depletions from non-exempt well use and aquifer sustainability metrics. The rules also contain the confirmation of a presumptive irrigation season (April 1 - November 1) that can be adjusted by the Division Engineer based on conditions within the separate drainages.





Rio Grande-DataComposite-SWSI



#### **Basinwide Conditions Assessment**

The SWSI value for the month was -1.6.

#### **Basin Wide Conditions Outlook**

Unfortunately the dry weather pattern from January continued into February. Areas in the lower Gunnison basin received as little as 0-30% of average precipitation for the month while the areas that fared best in the east part of the basin received only 70% of average. As expected, snowpack, as measured by snow water equivalent (SWE), on March 1st declined and the basin as a whole sits at 92% of the 30-year median. The Grand Mesa contains the least snowpack when compared to median values for the date with the Park Reservoir Snotel site containing only 71% of the median snow water equivalent (SWE). Interestingly, while all sites contain more SWE than on the same date in 2018, some sites in Division 4, such as Park Reservoir, Lone Cone, and Columbine Pass, now contain less snow than on the same date in 2012. Other sites in the south and east, such as Red Mountain Pass and Slumgullion remain above the median at 104% and 113%, respectively.

#### <u>Outlook</u>

According to National Climate Prediction Center forecasts, the Gunnison basin is squarely between expected greater than average precipitation to the north and below average to the south. Streamflow forecasts prepared by the Colorado Basin River Forecast Center (CBRFC) predict April to July runoff into Blue Mesa Reservoir to be 91% of the median while forecasts for the Uncompany Reservoir and the North Fork Gunnison into Paonia Reservoir are expected to be 80% and 83% of the median, respectively.

#### Administrative/Management Concerns

Taylor Park Reservoir continued to accrue water in the second fill account and contains 19,758 acre-feet on March 1st. The remaining 53,045 acre-feet physically in storage in Taylor Park is stored under the first fill account, which is continuing to be moved to the Aspinall Unit at a rate of approximately 200 acre-feet per day. Dry conditions during January and February have resulted in low soil moisture in the Uncompander Valley and producers who have winter wheat and are ready to plant onions will most likely result in the Uncompander Valley Water Users Association (UVWUA) turning on the Gunnison Tunnel on March 16th. The current plan is to begin by diverting 300 cfs and ramp up to 500 cfs that will allow their hydropower facilities on the South Canal to function.

The UVWUA has completed construction of seven flumes to measure diversions at the tail end of their delivery laterals. Satellite telemetry equipment will be installed at these locations in late March or early April, which will allow the information to be available on CDSS. As mentioned previously, these measuring stations will help UVWUA better manage diversions into their system and reduce mileage that their ditch riders and Division of Water Resources water commissioners drive.

Due to declining inflow forecasts and the fact that flows in the Gunnison River at Whitewater remain above the target for endangered species, Reclamation reduced releases from Crystal Dam from 800 cfs to 600 cfs on February 26th. This should preserve storage in Blue Mesa Reservoir prior to runoff as it is declined by 20,000 acrefeet during February to 536,500 acre-feet of storage, or approximately 65% of capacity.

Concern is growing in the Surface Creek Valley as the precipitation on the Grand Mesa during the past two months has been dismal, reducing their snowpack to 67%



of the median. Climate forecasts for the next 6 to 14 days are promising as they indicate a return to a more southerly storm track so irrigators are hoping that the forecasts are correct.

#### Public Use Impacts

Skiing conditions declined at Crested Butte and Telluride with the lack of precipitation, but reports are that the number of skier visits were still strong.

Gunnison-DataComposite-SWSI



Mar-20

Basinwide Conditions Assessment The SWSI value for the month was +0.4.

# <u>Outlook</u>

Colorado River flows are running slightly below average with tributary flows running above average throughout March. As of March 12, the Upper Colorado River Basin snowpack was 102 percent of median snow water equivalent and 88 percent of average precipitation. Forecasts call for above average precipitation and below average temperatures for western Colorado through March.

# Administrative/Management Concerns

There is currently no call on the Colorado although entities are following the Shoshone Outage Protocol agreements. Accordingly, Green Mountain and Wolford Reservoirs are releasing to pass inflows and meet the protocol agreements.

# Public Use Impacts

Colorado water leaders move forward with Demand Management Feasibility Investigation. Demand Management is the temporary, voluntary and compensated reductions in the consumptive use of water in the Colorado River Basin to be used to ensure compact compliance and provide protection from involuntary curtailment.





Colorado-DataComposite-SWSI



# Basinwide Conditions Assessment

The SWSI value for the month was +0.0.

Precipitation (24 sites) - Entire Yampa, White, and North Platte basins were **130%** of the monthly average, putting the basin at 103% of average for the water year to date. This is up from last year's monthly average of 121%. For the month, the lowest percent of average, at 80%, was the Old Battle SNOTEL station. The highest, at 208%, was the Columbine SNOTEL station. \**Averages are from 1981-2010 records* 

Snowpack (25 sites) - Yampa, White, and North Platte basins were **116**% of the monthly SWE median. This is up from last year's median of 107%. For the month, the lowest percent of median, at 88%, was the Bison Lake SNOTEL station. The highest, at 153%, was the Chambers Lake SNOTEL station. The largest snow depth is at 112 inches from the Tower SNOTEL site at 10,500 ft in elevation. *\*Averages are from 1981-2010 records* 

*Temperatures* - The average temperature for Colorado Climate Division 2: Colorado River Drainage was **24.0**° **F**. This is -0.4°F from the average of 24.4°F or 2% below average. This temperature ranks  $53^{rd}$  lowest of the previous 125 years of data. For the Platte Drainage, Colorado Climate Division 4, the average temperature was **25.0°F**, -2.3°F or 8% below the average of 27.3°F, ranking  $39^{th}$ .

\*Averages are from 1901-2000 records

# Reservoir Outlook

Elkhead Reservoir - March 1<sup>st</sup>, 2020 elevation was 73' and 20,045 AF of 25,550 AF - 78% capacity

Fish Creek Reservoir - March 1<sup>st</sup>, 2020 elevation was 9,871.93' at 2,462 AF of 4,170 AF - 59.1% capacity.

Stagecoach Reservoir - March 1<sup>st</sup>, 2020 capacity level was at 34,100 AF of 36,500 AF - 93% capacity, 125% average, 109% last year

Yamcolo Reservoir - March 1<sup>st</sup>, 2020 capacity level was at 6,700 AF of 8,700 AF -

77% capacity, 108% average, 156% last year.

\*Averages are from 1981-2010 records

## Administrative Concerns

There have been no calls in Division 6 for February.



Yampa-White-DataComposite-SWSI



### Basinwide Conditions Assessment The SWSI value for the month was -1.6.

Flow at the Animas River at Durango averaged 139 cfs (68% of average). The flow at the Dolores River at Dolores was estimated to average 37 cfs (66% of average). The La Plata River at Hesperus averaged 4.2 cfs (57% of average). Precipitation in Durango was 0.53 inches for the month, 32% of the 30-year average of 1.68 inches. Precipitation to date in Durango, for the water year is 5.77 inches, 69% of the 30-year average of 8.32 inches. The average high and low temperatures for the month of February in Durango were 49° and 20°. In comparison, the 30-year average high and low for the month is 46° and 19°. At the end of the month Vallecito Reservoir contained 80,707 acrefeet compared to its average content of 57,014 acre-feet (142% of average). McPhee Reservoir was up to 286,356 acre-feet compared to its average content of 259,214 (110% of average), while Lemon Reservoir was up to 17,770 acre-feet as compared to its average content of 19,697 acre-feet (90% of average).

# <u>Outlook</u>

Precipitation (0.53 inches) was well below average for February in Durango. There were 102 years out of 125 years of record where there was more precipitation than this year. The flows in the rivers held steady for the month when compared to the previous month. There are 104 out of 110 years of record where the total flow past the Animas River at Durango stream gauge was more than this year. There were 90 out of 109 years of record where the total flow past the Dolores stream gauge was more than this year and 91 out of 103 years of record where the total flow past the La Plata River at Hesperus gauge was more than this year. Most of the reservoirs within the basin are above average for this time of year. On February 29, the NRCS SNOTEL sites reported an average snowwater-equivalent within the basin at 89%. Last month the average snow-waterequivalent at the end of the month was 105%.





San Juan-Dolores-DataComposite-SWSI

















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

HUC 10190005 (St. Vrain) SWSI Values - MAR





HUC:10190005-MAR-PrevMoStreamflow-SWSI HUC:10190005-MAR-ForecastedRunoff/SWSI HUC:10190005-MAR-reservoirStorage-SWSI HUC:10190005-MAR-DataComposite-SWSI















HUC:11020006-MAR-FreeMostream100-SWS HUC:11020006-MAR-ForeastedRunoff-SWSI HUC:11020006-MAR-ReservoirStorage-SWSI HUC:11020006-MAR-DataComposite-SWSI













HUC:13010005-MAR-PrevMoStreamflow-SWSI HUC:13010005-MAR-FreeWostream100-SWS HUC:13010005-MAR-ReservoirStorage-SWSI HUC:13010005-MAR-DataComposite-SWSI





HUC:14010002-MAR-PrevMoStreamflow-SWSI HUC:14010002-MAR-ForecastedRunoff SWSI HUC:14010002-MAR-ReservoirStorage-SWSI HUC:14010002-MAR-DataComposite-SWSI

0.00

-2.00 -4.00 -6.00









HUC:14020001-MAR-PrevMoStreamflow-SWSI HUC:14020001-MAR-FreeMostream100-SWS HUC:14020001-MAR-ForeastedRunoff-SWSI HUC:14020001-MAR-ReservoirStorage-SWSI HUC:14020001-MAR-DataComposite-SWSI

-4.00 -6.00





























