

Colorado

Water Supply Outlook Report

March 1, 2018



Longtime snow surveyor, Rick Sexton, measures the Wurtz Middle snow course along the Wurtz Ditch situated near the headwaters of the Eagle River. The Wurtz Ditch transports some of the spring snowmelt runoff from the Eagle River basin across the Continental Divide to the Arkansas River basin. Rick measured a snow water equivalent of 12.1 inches, which is 90 percent of normal for March 1 based on the period of record data at the course. The Wurtz Middle snow course was established in 2004.

Photo By: Zack Wilson Date: February 28, 2018

REMINDER: We are soliciting field work photos from the field again this year. Each month we will pick one to grace the cover of this report! Please include information on where, when and of who/what the photo was taken.

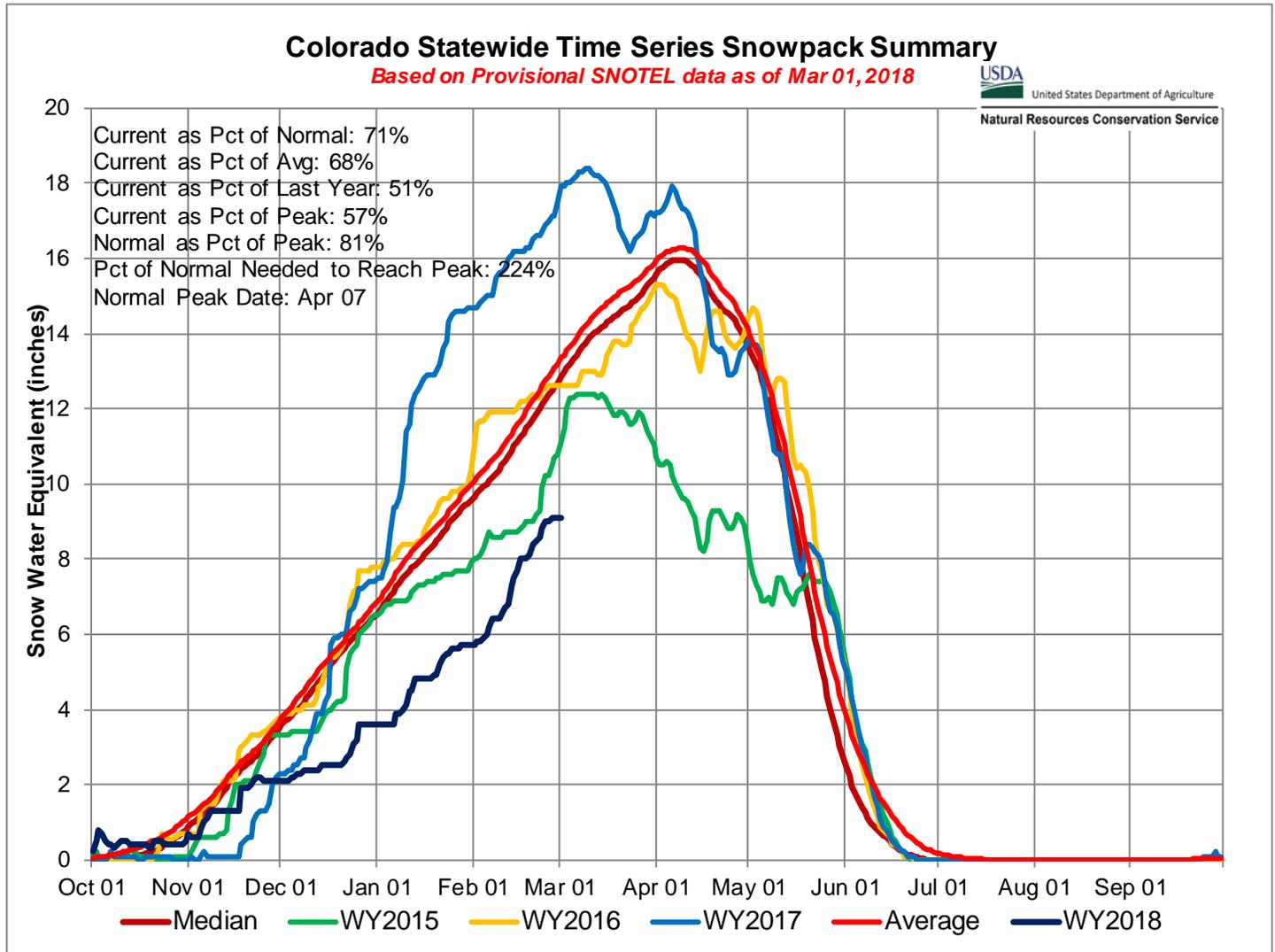
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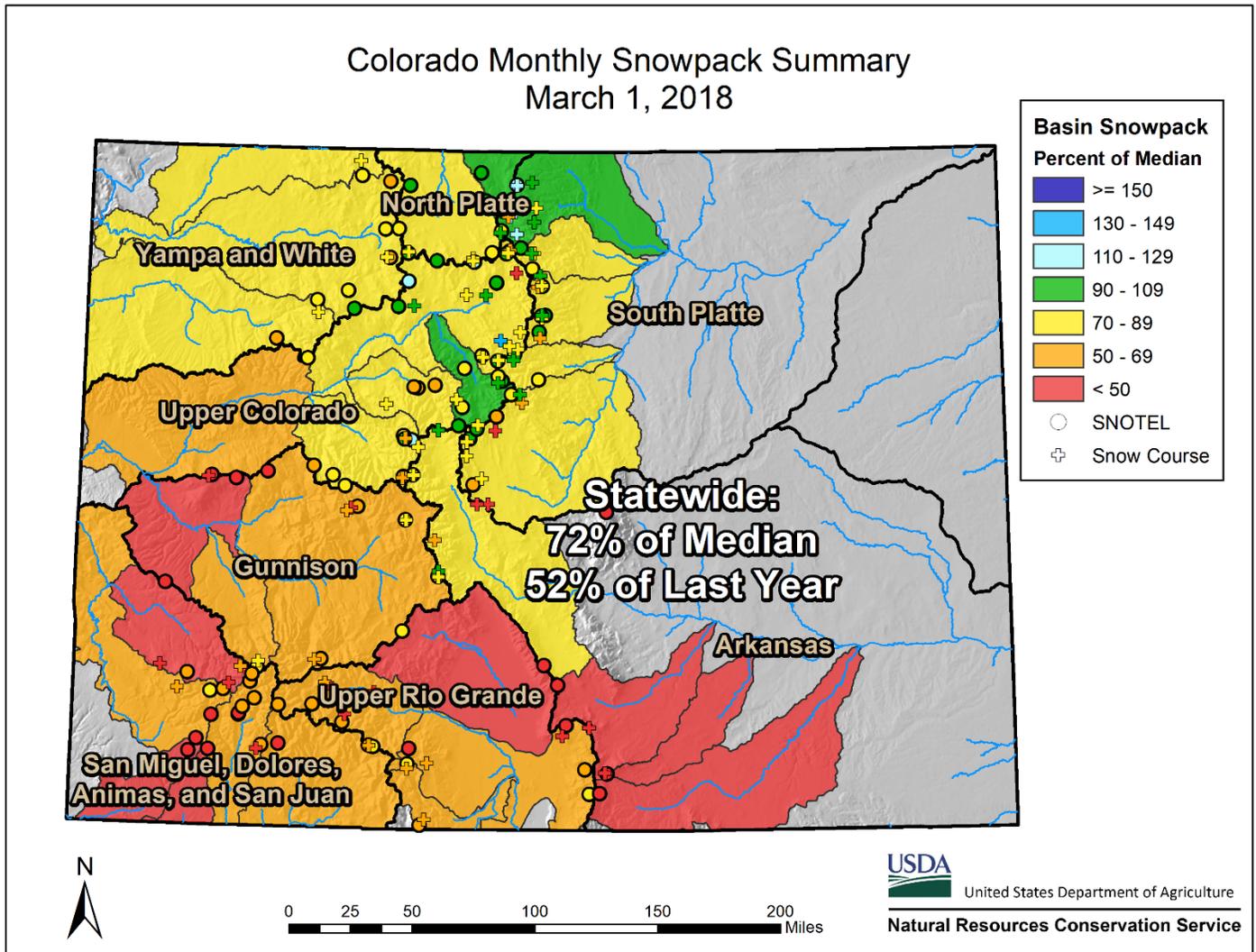
Colorado Statewide Water Supply Conditions

Summary



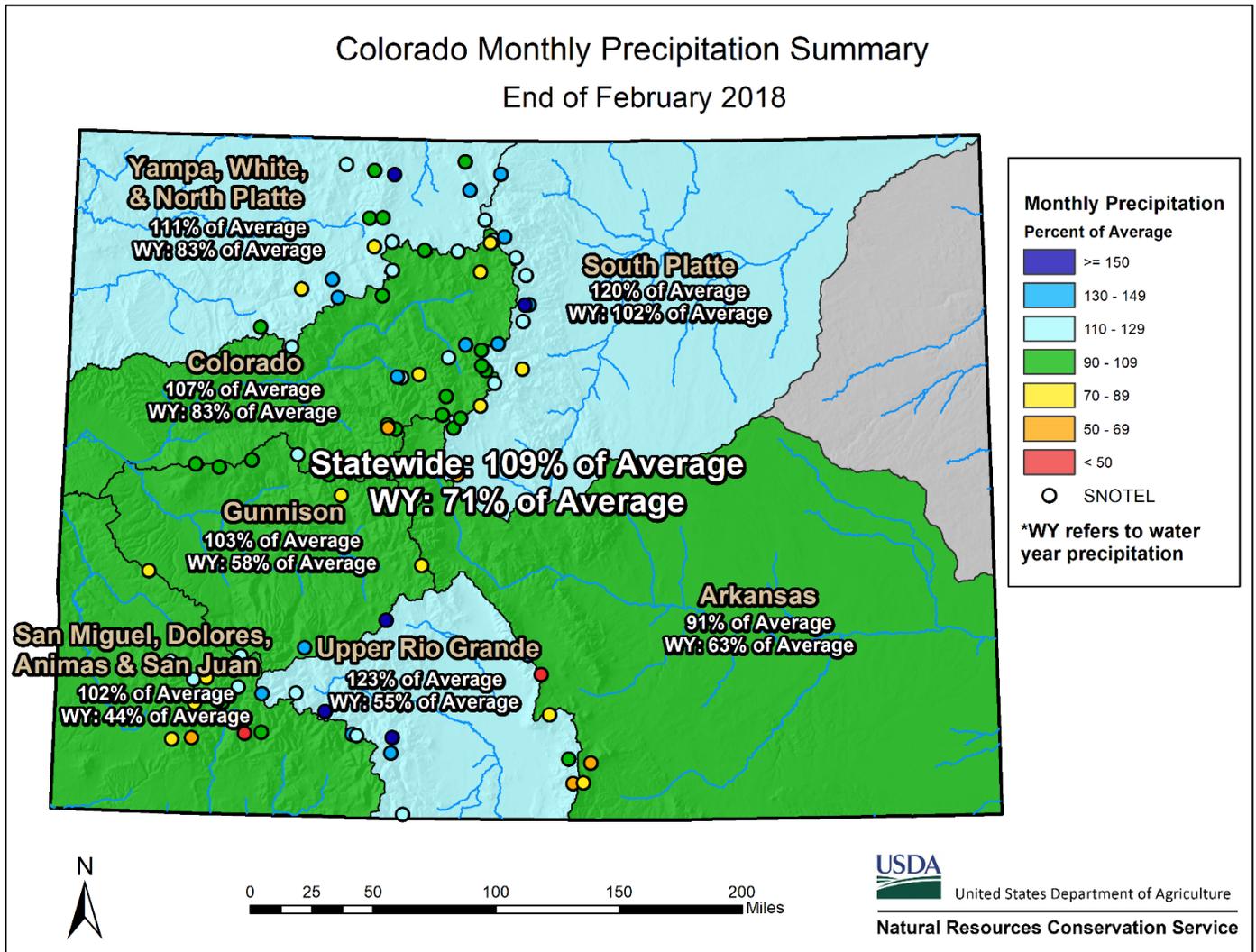
Colorado finally experienced a shift during February from the dry conditions that have been prevalent since the start of the water year in October. Universal improvements in monthly precipitation and snowfall have served to augment overall snowpack and year-to-date precipitation, bringing the statewide snowpack up from 59 to 72 percent of median and water year precipitation up from 61 to 71 percent of average. However great these improvements may seem, they have done little to improve the water supply outlook for southern Colorado. Snowpack in the Arkansas, Upper Rio Grande, Gunnison, and combined San Miguel, Animas, Dolores, and San Juan river remains at dismal levels with little hope of achieving near-normal peak snowpack accumulations. Streamflow forecasts in these basins are equally poor, with even the highest exceedance forecasts falling far below average levels at most forecast points. Spring and summer runoff is currently expected to be below normal for all forecast points in Colorado, however, the streams in Colorado's northern basins have a higher probability of achieving streamflow volumes that are close to normal levels. Little change has been recorded at Colorado's reservoirs, but most basins have indicated a collective net increase in percent of average storage since last month. All basins remain at above normal storage levels and most are holding more volume than last year on March 1. This is especially true in the Arkansas and Upper Rio Grande River basins, where reservoirs are storing greater than 30 percent more than last year, in preparation for what is looking to be a paltry runoff season in these basins.

Snowpack



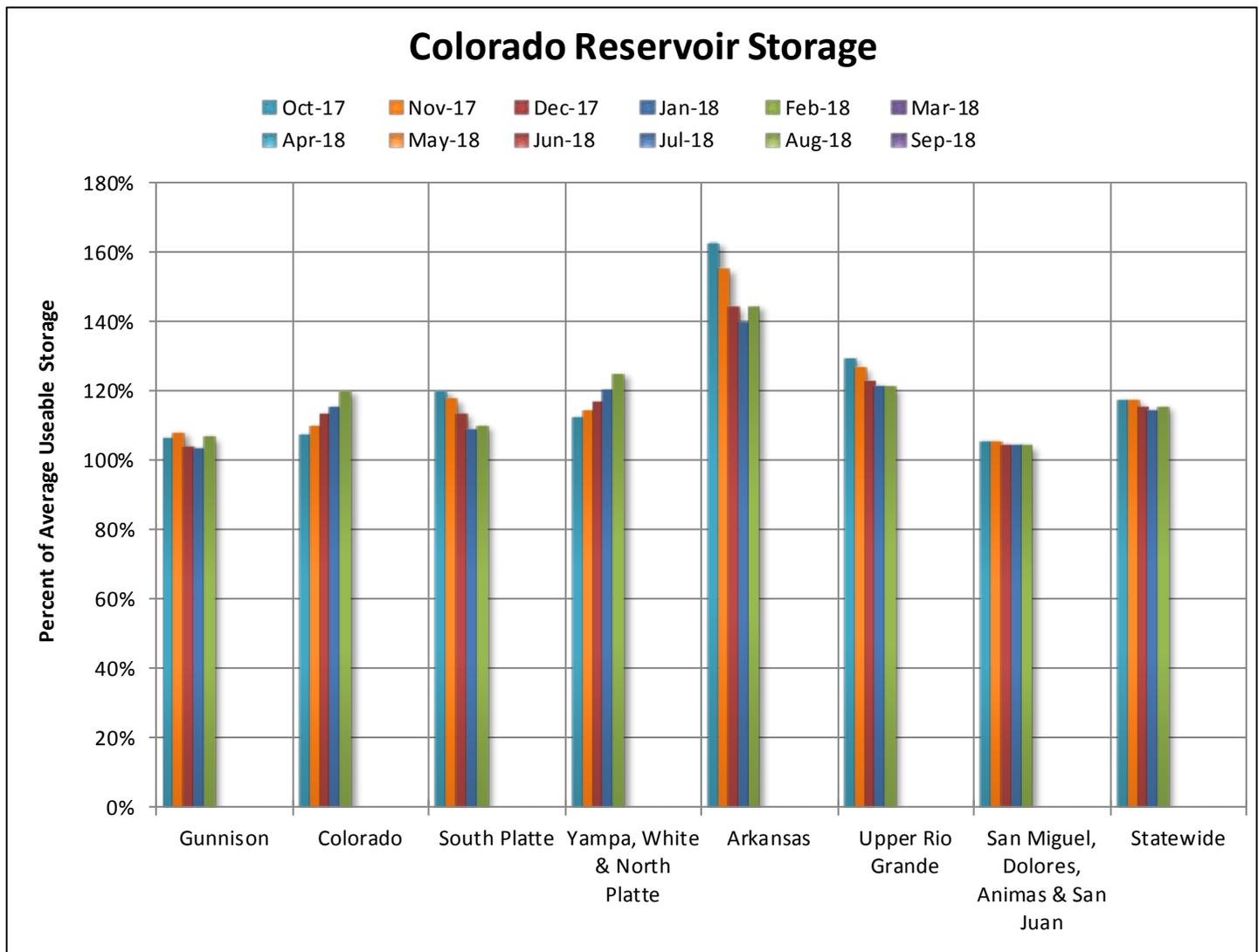
A snowy February failed to augment Colorado's snowpack enough to reach normal levels on March 1. The month's steady progression of storms did not discriminate across the state and even the southern river basins that had been bypassed by much of the snowfall earlier this winter received ample snow accumulations during February. Copious snowfall, particularly in the Upper Rio Grande, was certainly helpful, but has done little to improve the snowpack outlook for these regions. The southern basins have struggled to surpass being only half of normal this water year. After February's snowfall, the Upper Rio Grande and combined San Miguel, Dolores, Animas, and San Juan River basins only just achieved this dismal goal and have reached 55 and 53 percent of median respectively. With only about one month until these basins typically reach their respective peak accumulations, there is little chance that normal snowpack levels will be achieved before snowmelt begins in earnest. Both basins would need to receive over 350 percent of median snowfall amounts to reach normal levels in the next month. The Gunnison and Arkansas River basins are only slightly better positioned and are at 63 and 64 percent of median snowpack, respectively. Comparatively, the Colorado and combined Yampa and White River basins are doing better than the southern watersheds, but are still well-below normal and are respectively at 81 and 78 percent of median. The South and North Platte River basins currently contain the healthiest snowpack in the state, at 87 and 91 percent of median respectively. Provided the current trends continue, these basins have the greatest chance of achieving near-normal peak snowpack accumulations prior to runoff. Collectively, Colorado's statewide snowpack has improved considerably over previous months, but is still less than three quarters of normal, at 72 percent of median.

Precipitation



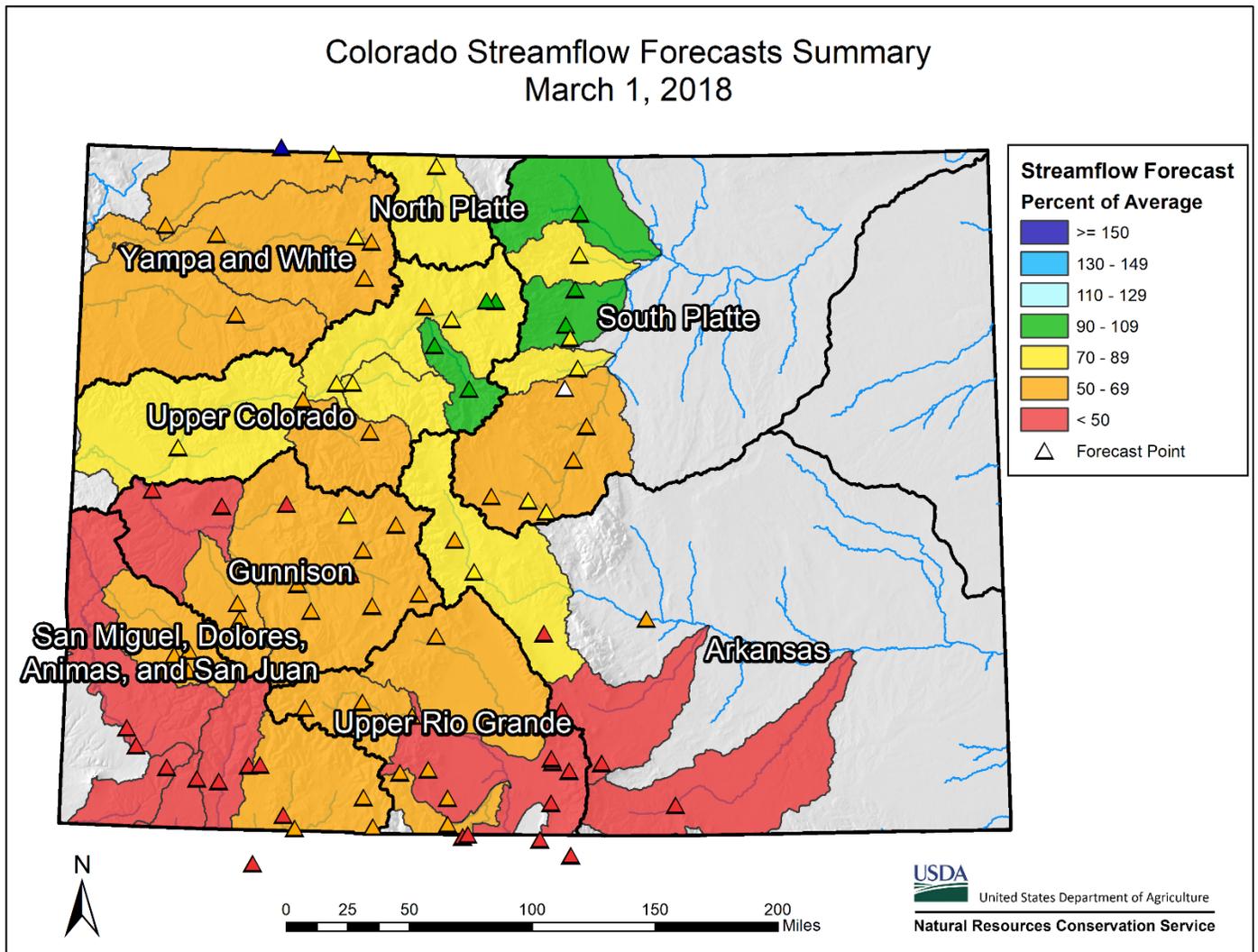
Consistent precipitation during February brought reprieve to the persistent dryness that has impacted Colorado's southern river basins this water year. The month ended with all but one of the state's major river basins receiving above normal monthly precipitation, which boosted year-to-date percent of average precipitation for all basins. At 123 percent of average, the Upper Rio Grande River basin received the most precipitation with respect to normal during February and the combined San Miguel, Dolores, Animas, and San Juan River basins also received favorable precipitation at 102 percent of average accumulations for the month. These accumulations are much needed after the southwestern basins have recorded monthly precipitation levels below 55 percent of average for every other month this water year. While the productive February storms have increased water year-to-date precipitation levels, these southern basins are still far below normal water year precipitation at 55 and 44 percent of average respectively. The Gunnison and Arkansas River basins are not faring much better in terms of water year precipitation, at 58 and 63 percent of average respectively. The Gunnison River basin did see slightly above normal monthly precipitation during February at 103 percent of average, while the Arkansas, at 91 percent of average, was the only of the major river basins to not receive above average precipitation for the month. The watersheds in the northern half of the state have seen better precipitation accumulations this year. The Upper Colorado and the combined Yampa, White, and North Platte River basins are both at 83 percent of average for the water year after receiving 107 and 111 percent of average February precipitation, respectively. The South Platte River basin received 120 percent of average February precipitation. This increased the basin's water year accumulations to 102 percent of average, making this the only basin in the state with above normal water year precipitation.

Reservoir Storage



Reservoir storage across Colorado has remained fairly consistent throughout water year 2018 and is currently 116 percent of average statewide, an increase of just one percent over last month. Storage in all major basins either showed an increase or remained very close to the same, relative to normal, and all basins are holding above average storage. The Upper Rio Grande did display a very small decrease but this was only less than one percent and is currently at 121 percent of average. The combined San Miguel, Dolores, Animas, and San Juan basins of Southwest Colorado have the lowest percent of average storage at 105, slightly below the Gunnison River basin which has 107 percent after a slight increase over last month. The South Platte River basin also had a slight increase since a month ago and is currently holding 110 percent of average storage. The Colorado River basin has been steadily increasing its reservoir holdings throughout the water year and has risen from 108 percent of average in October to its current value of 117 percent. Similarly, the combined Yampa, White, and North Platte basins have increased their storage from 117 to 125 percent over the past five months. While reservoir storage in the Arkansas basin has undergone a net decline since October it still remains the highest in the state, relative to normal, at 142 percent of average. As we get closer to the end of the primary snowpack accumulation season with well below normal snowpack and streamflow forecasts in many parts of Colorado these above average reservoir storages could be a valuable resource in those areas going forward.

Streamflow

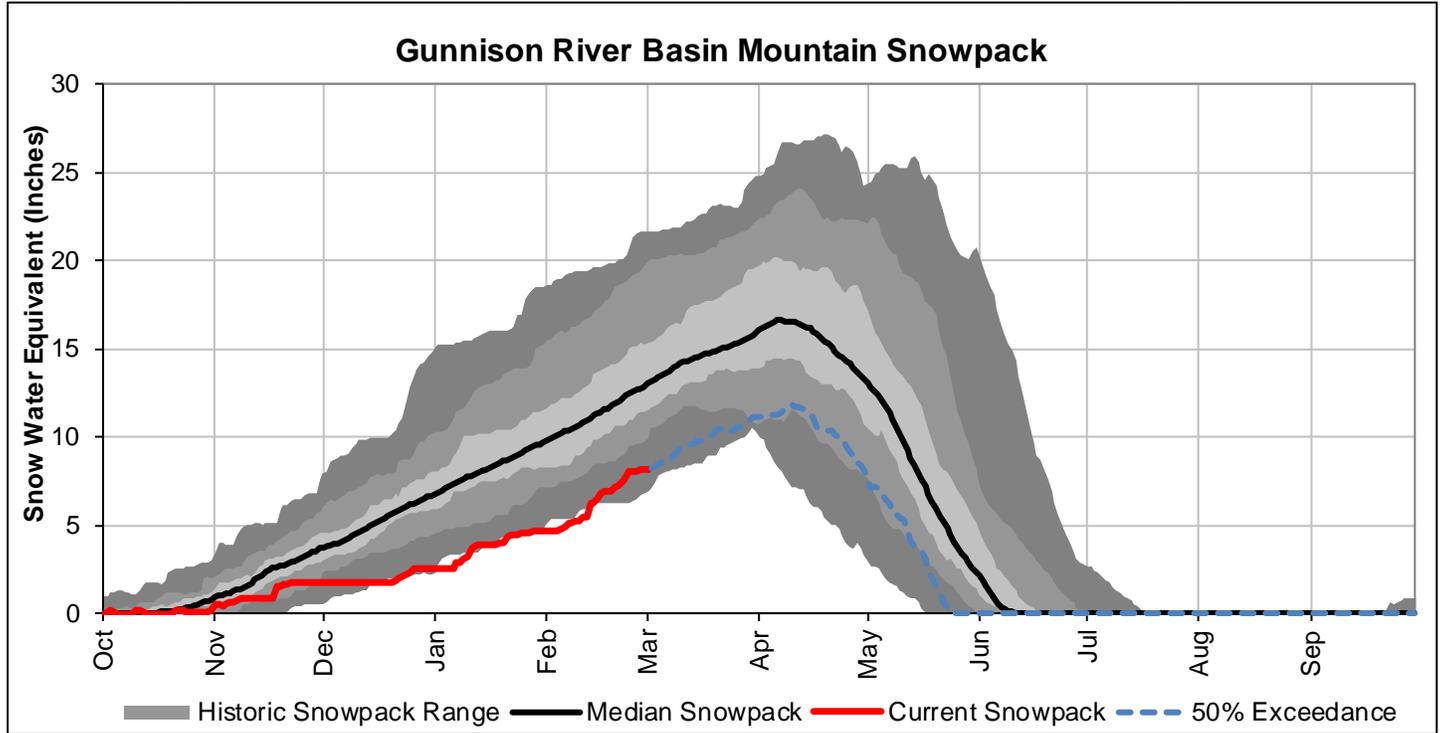


Statewide streamflow forecasts did not show particularly dramatic changes since February 1, but with above average precipitation there was a net increase in forecasts across Colorado. The largest increase occurred in the Upper Rio Grande basin, in which averages across all points in the basin rose from 50 percent of average streamflow volume last month to 60 percent for the March 1 forecast. While this improvement is encouraging for that area, the Sangre de Cristo Mountains have remained quite dry overall and are forecasted to produce some of the lowest streamflows in the state, going as low as 18 percent of normal for Sangre de Cristo Creek. While some of the individual forecasted streamflows are not quite as low as in the Rio Grande, the Gunnison and combined San Miguel, Dolores, Animas, and San Juan basins are lower as a whole, being forecasted to produce between 45-51 percent of average volumes. Alternatively, the combined Yampa and White River basins as well as the Arkansas sit just above the Rio Grande at 63 and 65 percent of average, respectively. Individual forecasts in the Yampa-White reside in a relatively confined range between 54 and 75 percent of average but forecasts in the Arkansas vary widely, between 28 percent for the Trinidad Lake inflow up to 73 percent for the Arkansas at Salida. Forecasts across the Colorado River basin remained similar to those on February 1, with only a one percent increase up to 77 percent of normal, averaged over all forecast points. The South Platte continues to be forecasted for having the most plentiful summer streamflows in the state, with the highest values resulting from the mountains of the northern Front Range and the lowest being along the main stem of the South Platte in the southern portion of the basin. The Cache la Poudre and Boulder Creek are both forecasted at 96 percent of average, which are the highest in the state.

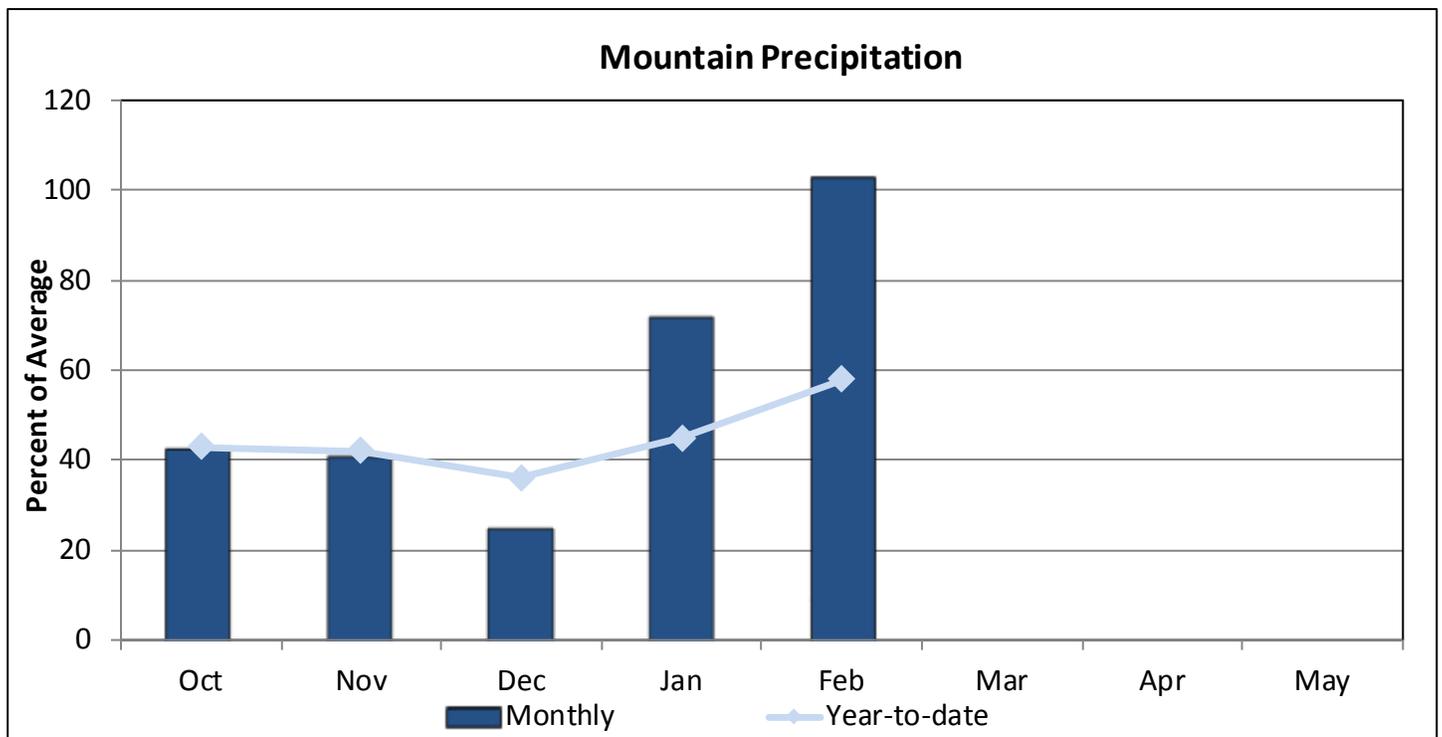
GUNNISON RIVER BASIN

March 1, 2018

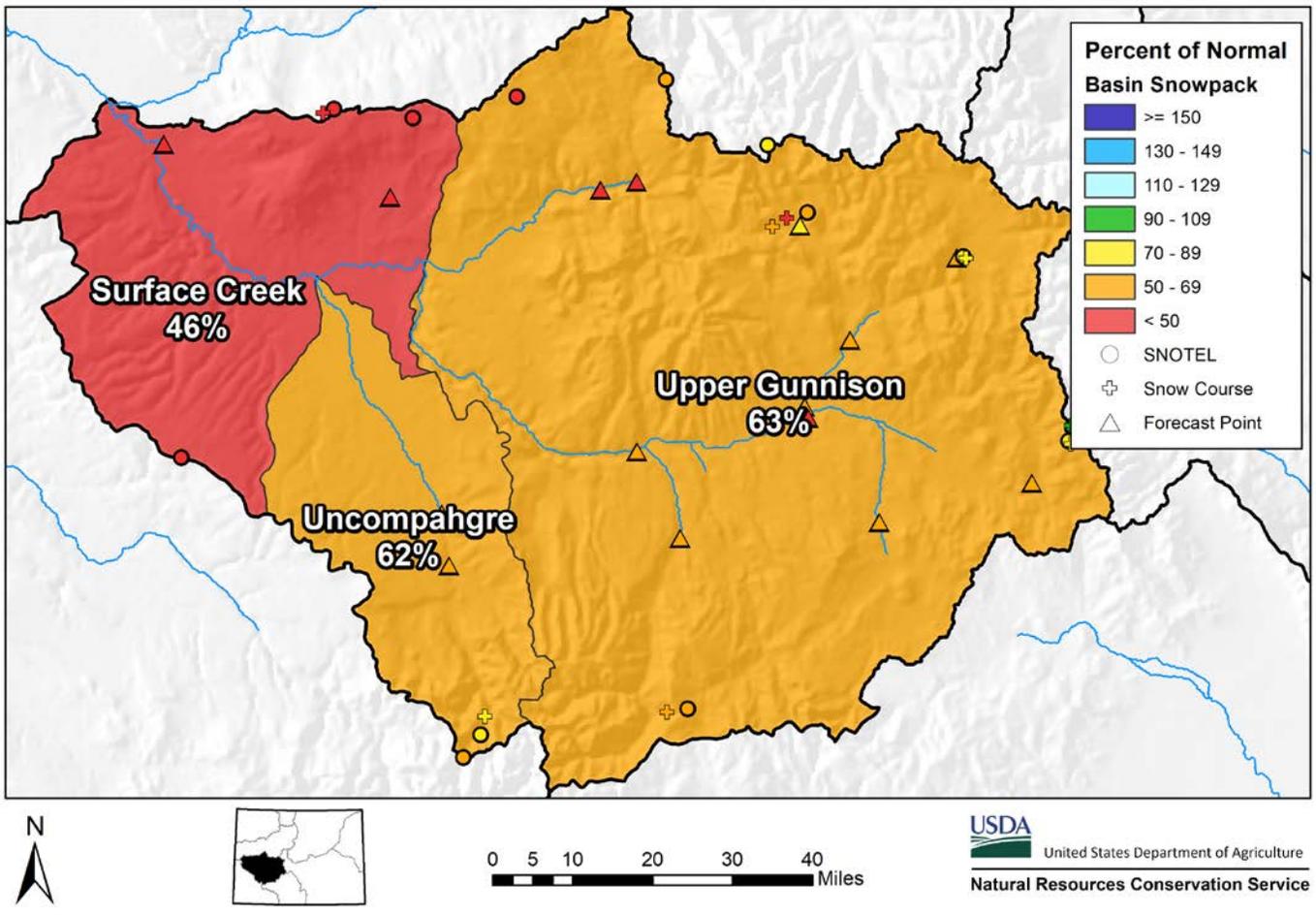
Snowpack in the Gunnison River basin is below normal at 63% of the median. Precipitation for February was 103% of average which brings water year-to-date precipitation up to 58% of average. Reservoir storage at the end of February was 107% of average compared to 110% last year. Current streamflow forecasts range from 70% of average for the Slate River near Crested Butte to 33% for Surface Creek at Cedaredge.



*SWE values calculated using daily SNOTEL data only



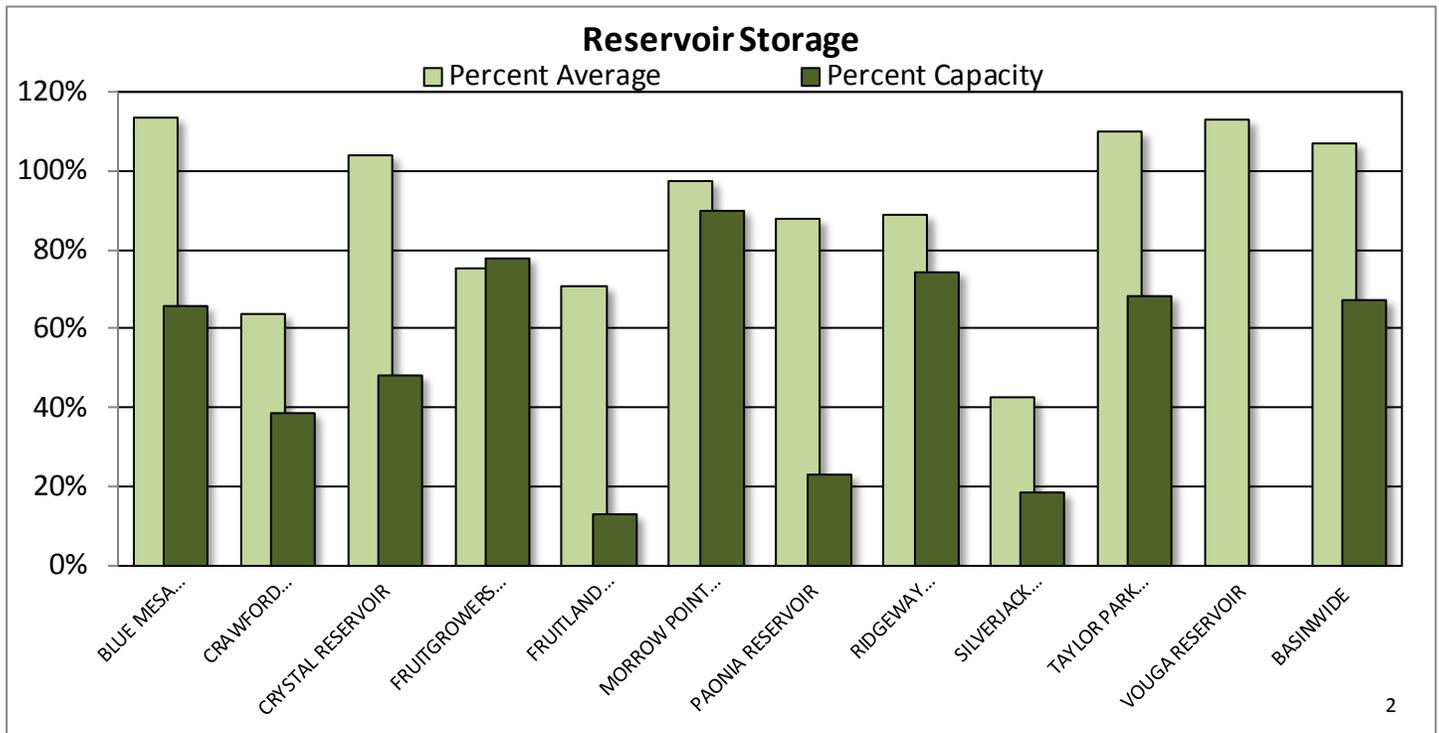
Gunnison River Basin Snowpack and Streamflow Forecasts March 1, 2018



Watershed Snowpack Analysis March 1st, 2018

Sub-Basin	# of Sites	% Median	Last Year %	
				Median
Upper Gunnison	17	63		158
Surface Creek	3	46		130
Uncompahgre	4	62		142
Basin-Wide Total	21	63		155

*SWE values calculated using first of month SNOTEL data and snow course measurements



Reservoir Storage End of February 2018

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
BLUE MESA RESERVOIR	547.1	571.4	482.2	830.0
CRAWFORD RESERVOIR	5.4	7.5	8.5	14.0
CRYSTAL RESERVOIR	8.4	8.3	8.1	17.5
FRUITGROWERS RESERVOIR	2.8	3.3	3.7	3.6
FRUITLAND RESERVOIR	1.2	1.6	1.7	9.2
MORROW POINT RESERVOIR	108.4	101.9	111.1	121.0
PAONIA RESERVOIR	3.5	2.4	4.0	15.4
RIDGEWAY RESERVOIR	61.6	65.0	69.4	83.0
SILVERJACK RESERVOIR	2.4	2.4	5.5	12.8
TAYLOR PARK RESERVOIR	72.3	69.0	65.7	106.0
VOUGA RESERVOIR	0.8	0.9	0.7	0.9
BASINWIDE	814.0	833.5	760.6	1213.4
Number of Reservoirs	11	11	11	11

GUNNISON RIVER BASIN

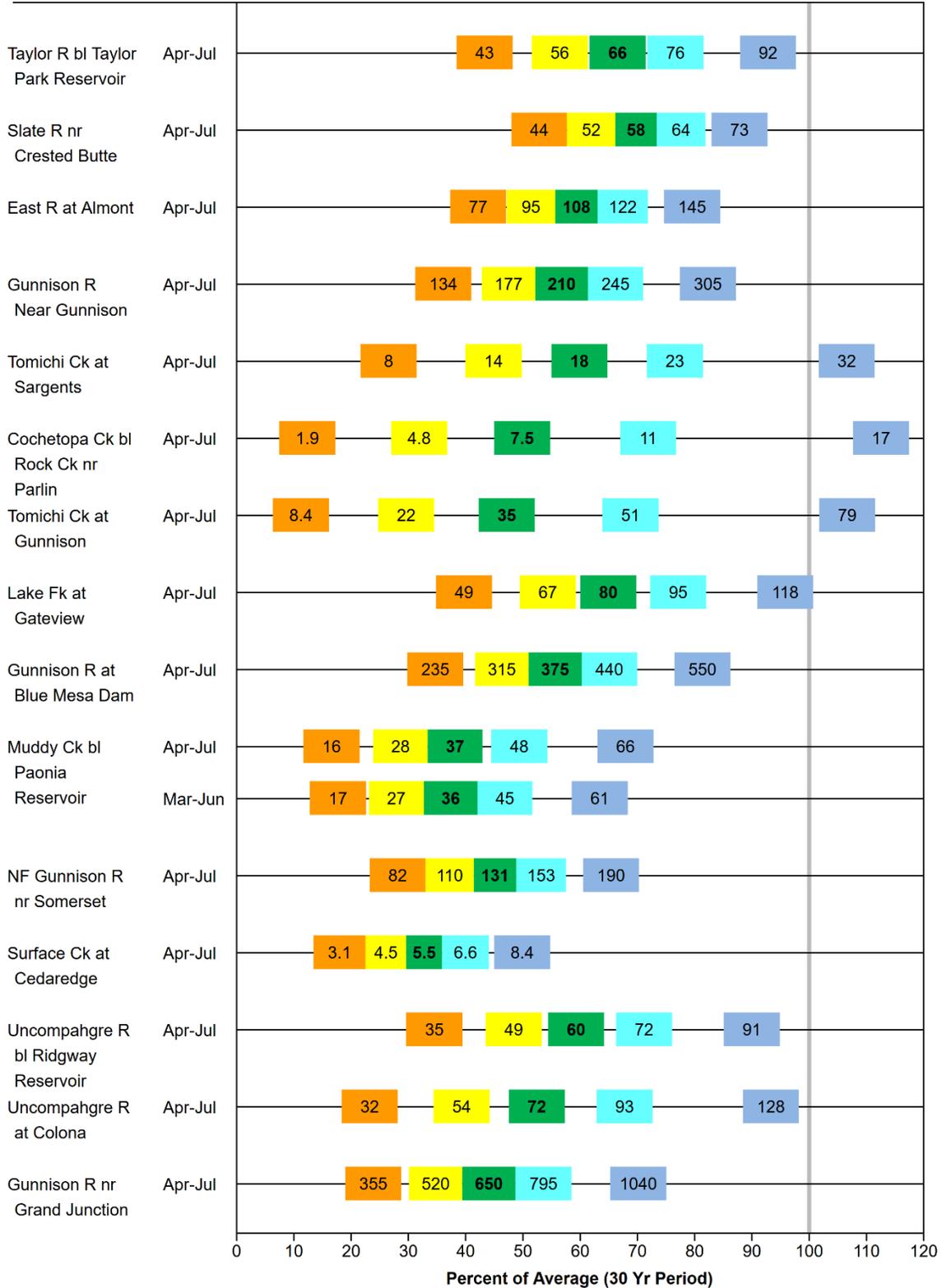
Water Supply Forecasts

March 1, 2018

Forecast Exceedance Probabilities and Volumes

Forecast Point Forecast Period <----- Drier ----- Future Conditions ----- Wetter ----->

Box labels on chart are volumes of water in thousand acre-feet.

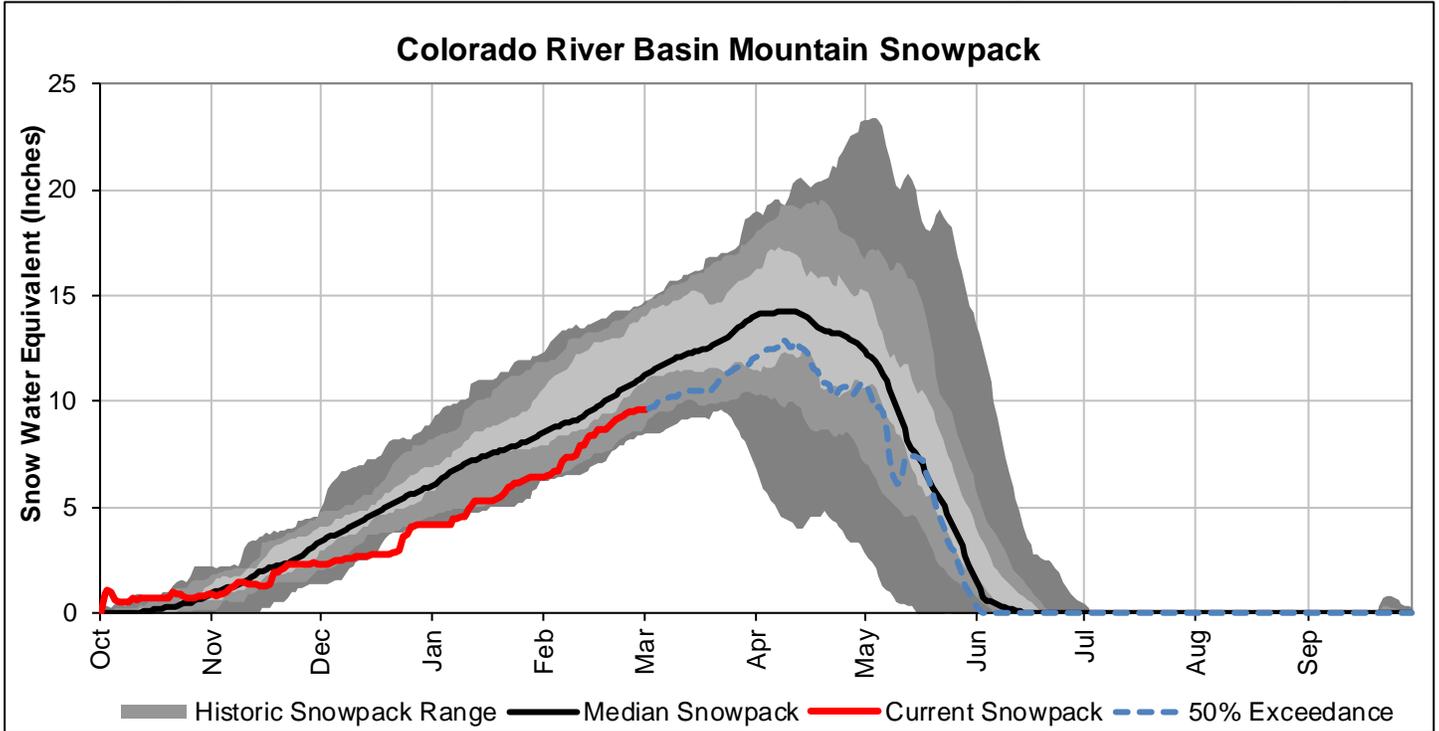


 10% Exceedance Forecast (KAF)	 30% Exceedance Forecast (KAF) <small>There is a 30% chance that flows will exceed this volume.</small>	 50% Exceedance Forecast (KAF) <small>There is a 50% chance that flows will exceed this volume.</small>	 70% Exceedance Forecast (KAF) <small>There is a 70% chance that flows will exceed this volume.</small>	 90% Exceedance Forecast (KAF)
 5% Exceedance	 95% Exceedance			

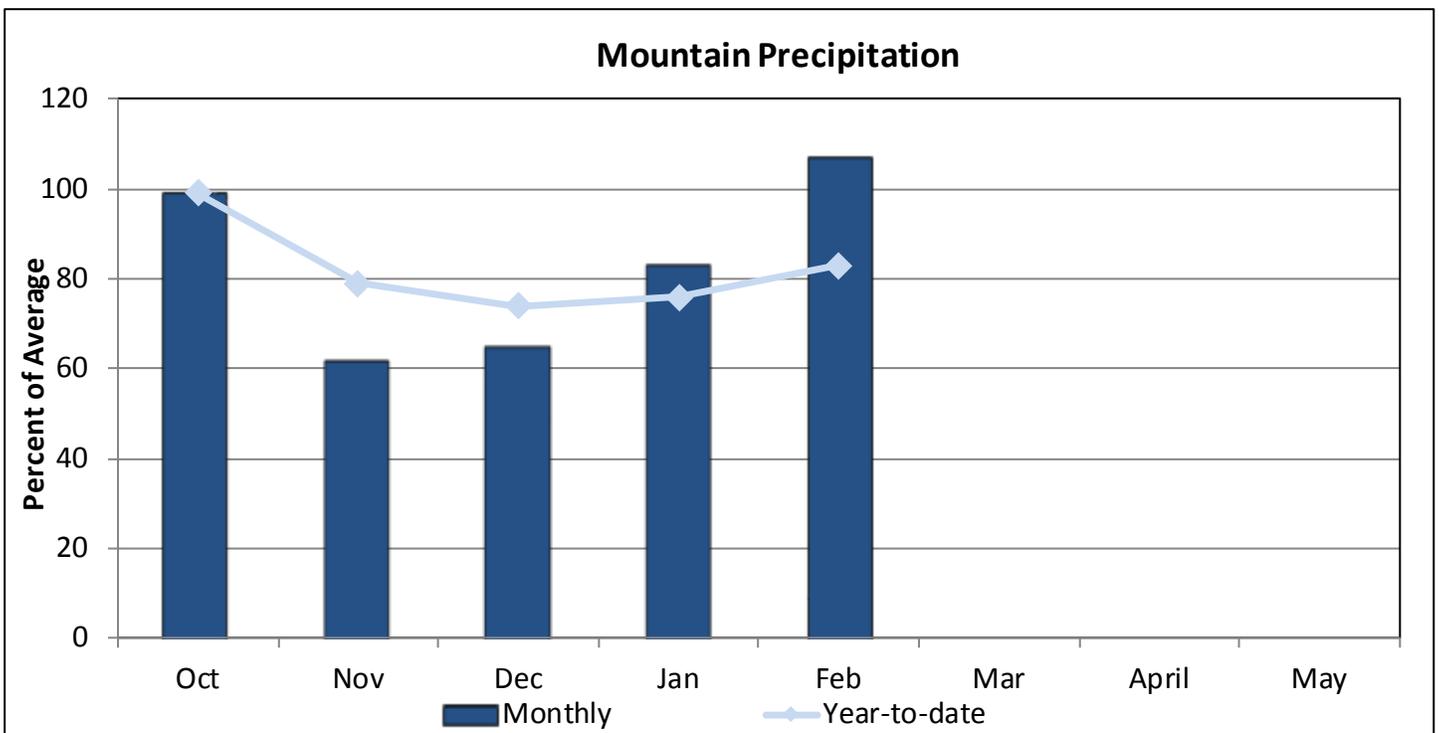
UPPER COLORADO RIVER BASIN

March 1, 2018

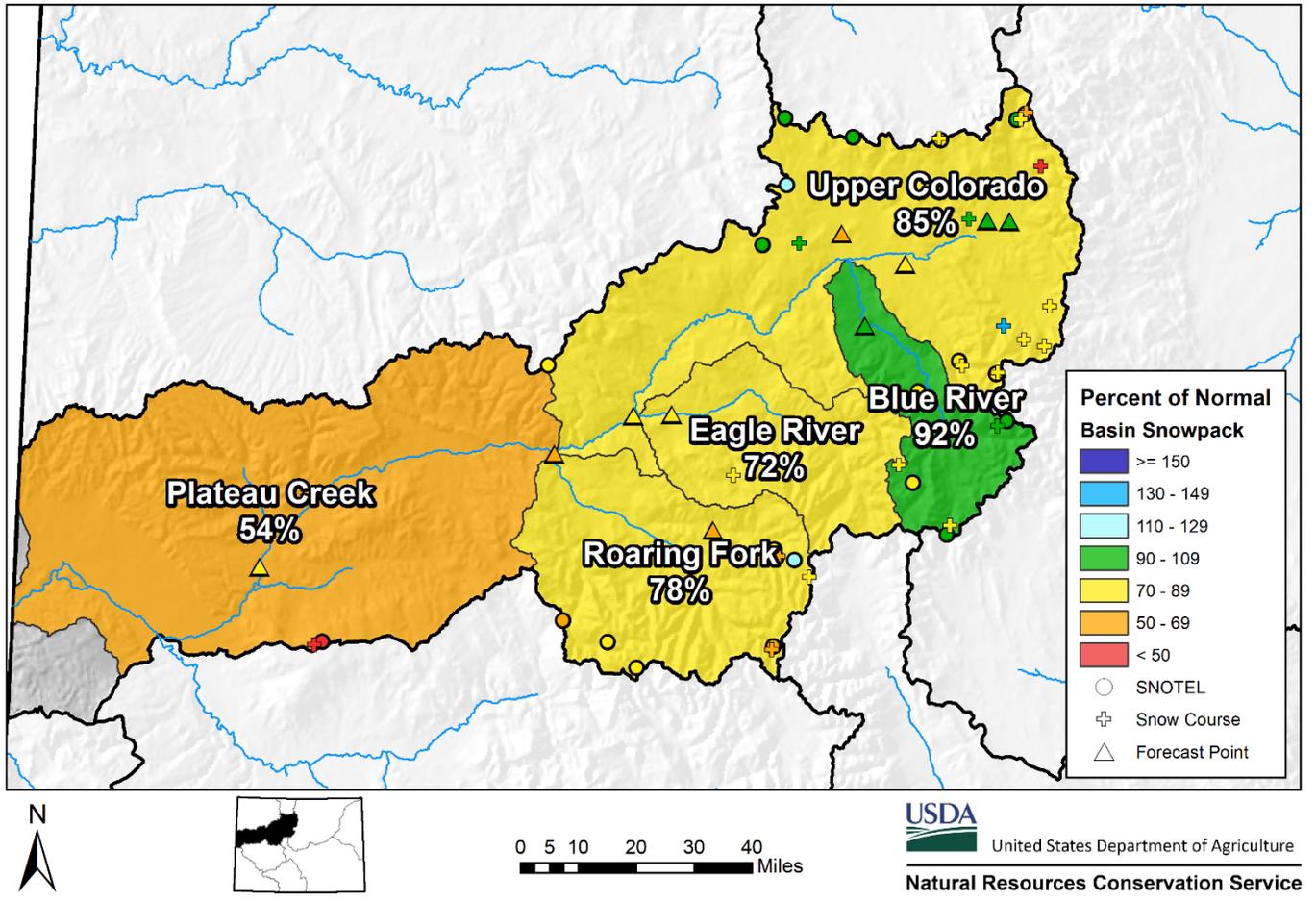
Snowpack in the Colorado River basin is below normal at 81% of the median. Precipitation for February was 107% of average which brings water year-to-date precipitation up to 83% of average. Reservoir storage at the end of February was 120% of average compared to 107% last year. Current streamflow forecasts range from 94% of average for the inflow to Willow Creek Reservoir to 59% for the Roaring Fork at Glenwood Springs.



*SWE values calculated using daily SNOTEL data only



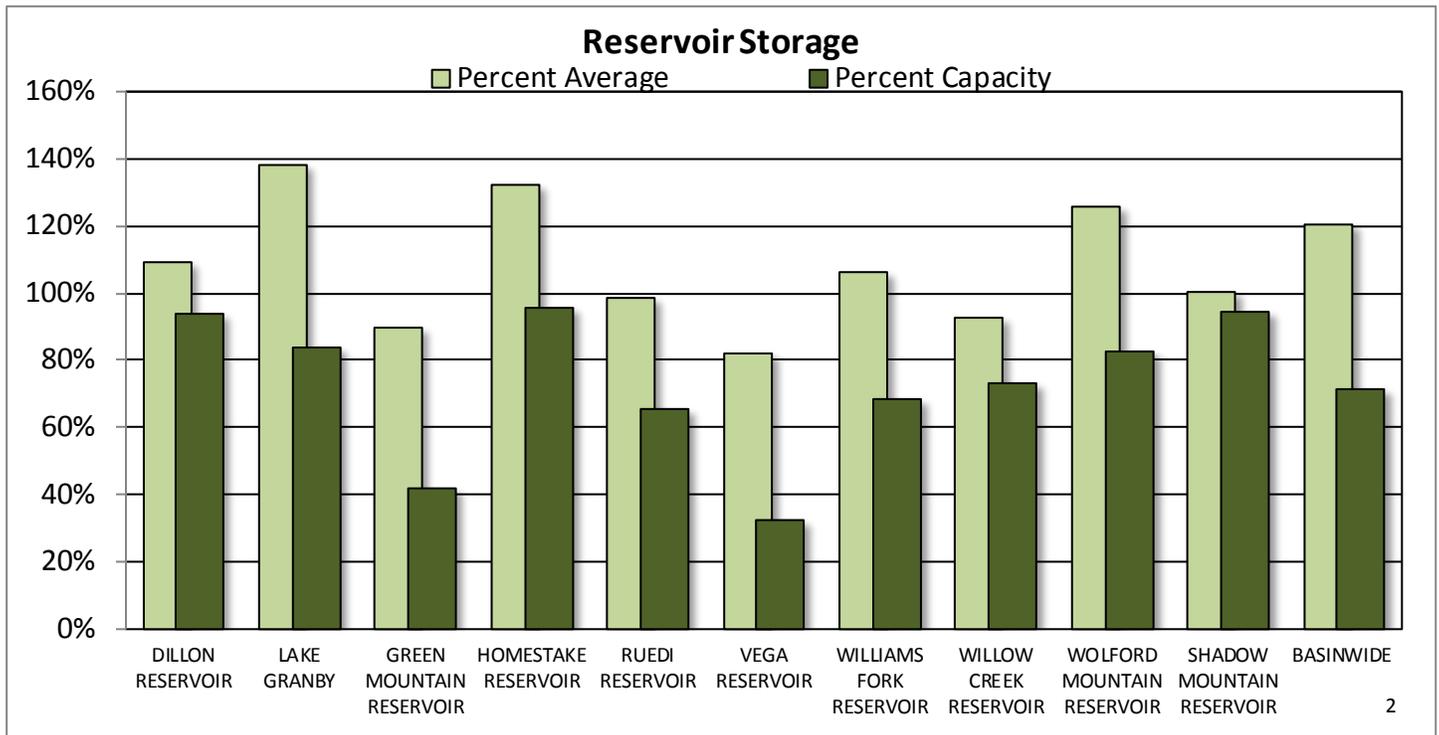
Upper Colorado River Basin Snowpack and Streamflow Forecasts March 1, 2018



Watershed Snowpack Analysis March 1st, 2018

Sub-Basin	# of Sites	% Median	Last Year %	
				Median
Blue River	8	92		136
Upper Colorado	36	86		131
Muddy Creek	5	100		134
Eagle River	5	72		122
Plateau Creek	6	54		129
Roaring Fork	10	78		147
Williams Fork	5	80		118
Willow Creek	5	93		167
Basin-Wide Total	49	82		135

*SWE values calculated using first of month SNOTEL data and snow course measurements



Reservoir Storage End of February 2018

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
DILLON RESERVOIR	234.0	213.6	214.5	249.1
LAKE GRANBY	389.6	323.8	282.6	465.6
GREEN MOUNTAIN RESERVOIR	61.5	59.0	68.7	146.8
HOMESTAKE RESERVOIR	41.0	42.1	31.0	43.0
RUEDI RESERVOIR	67.1	66.0	67.9	102.0
VEGA RESERVOIR	10.7	11.8	13.1	32.9
WILLIAMS FORK RESERVOIR	66.3	73.2	62.4	97.0
WILLOW CREEK RESERVOIR	6.7	7.1	7.2	9.1
WOLFORD MOUNTAIN RESERVOIR	54.3	50.6	43.2	65.9
SHADOW MOUNTAIN RESERVOIR	17.4	17.4	17.3	18.4
BASINWIDE	948.5	864.6	807.9	1229.8
Number of Reservoirs	10	10	10	10

UPPER COLORADO RIVER BASIN

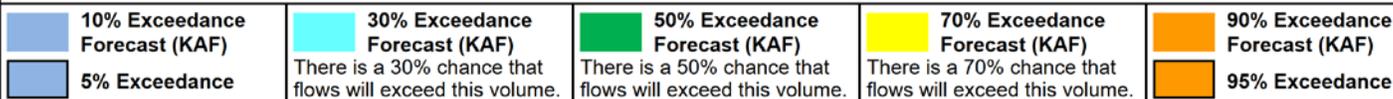
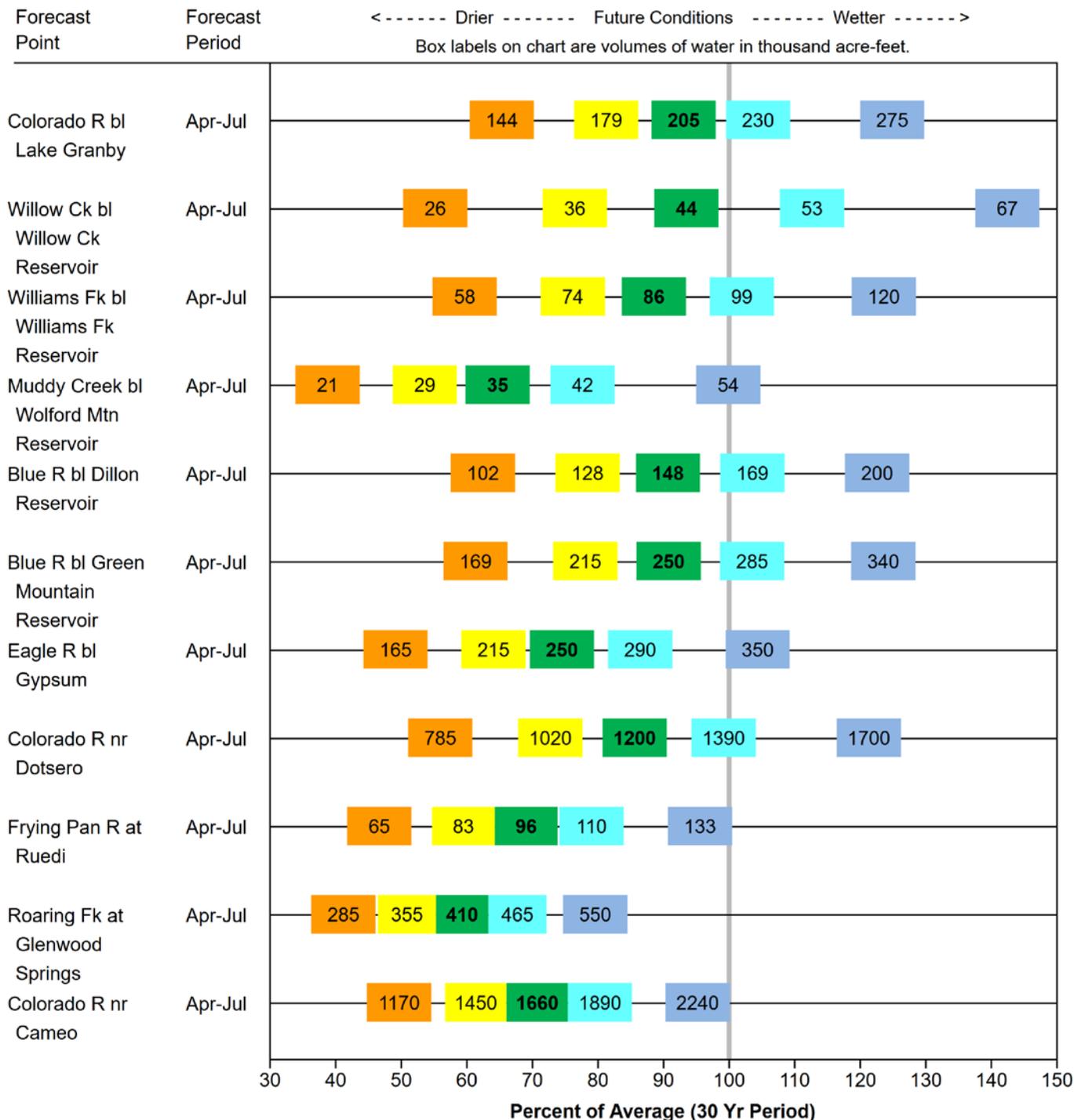
Water Supply Forecasts

March 1, 2018

Forecast Exceedance Probabilities and Volumes

<----- Drier ----- Future Conditions ----- Wetter ----->

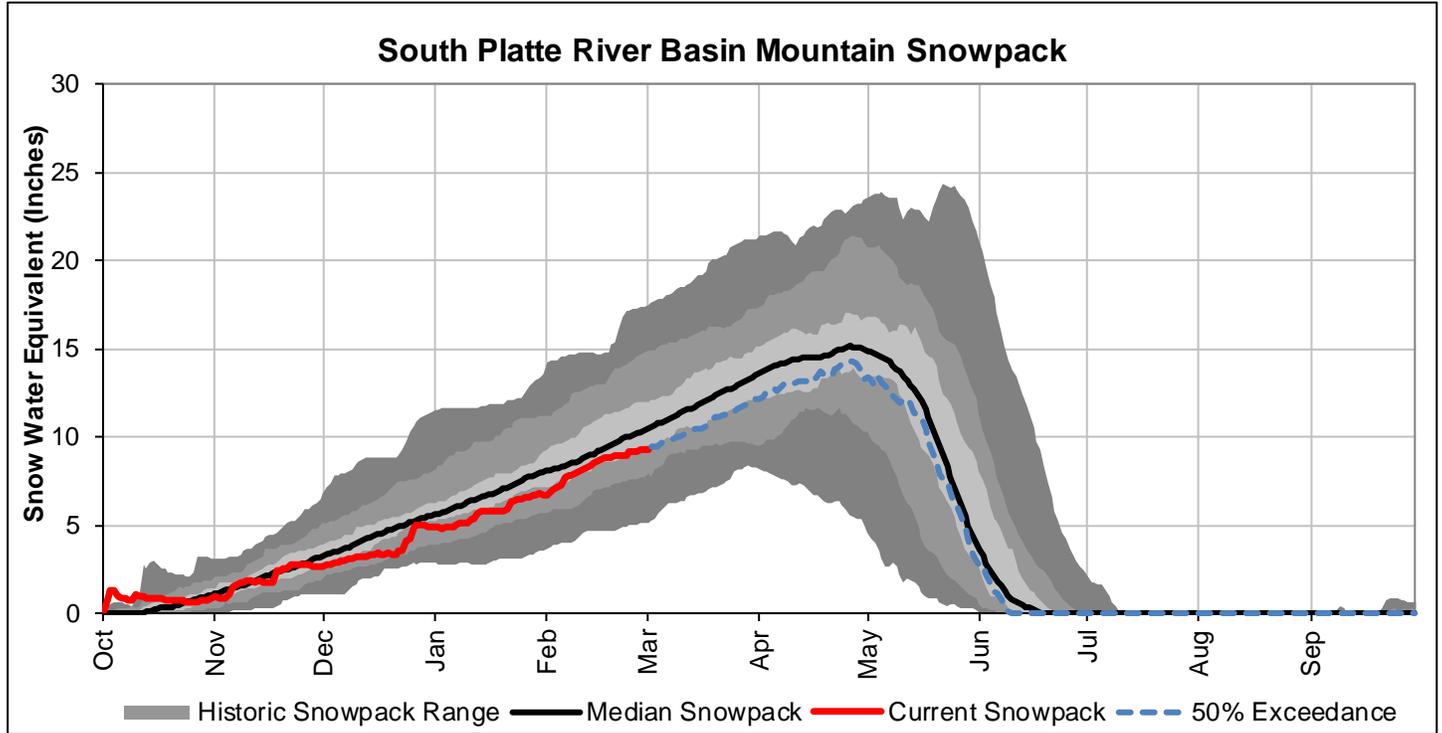
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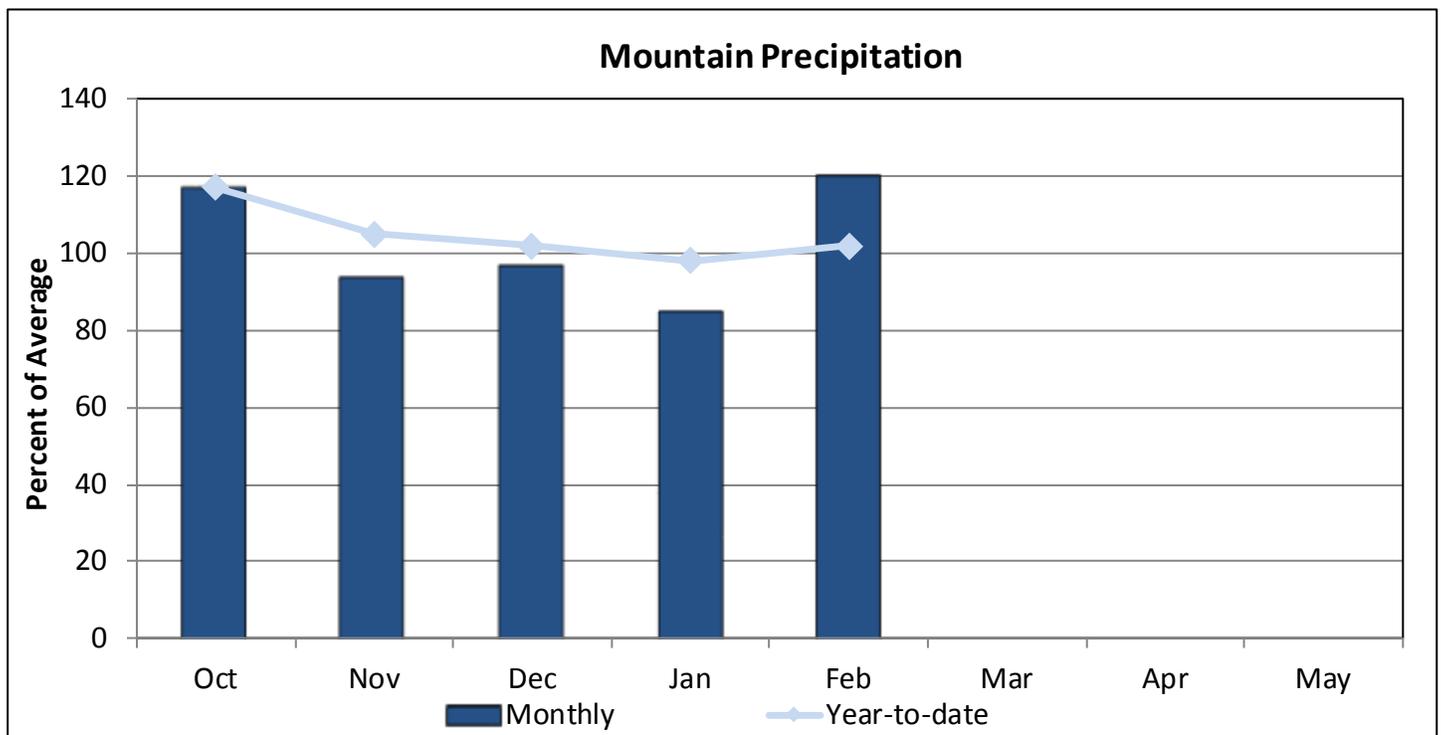
SOUTH PLATTE RIVER BASIN

March 1, 2018

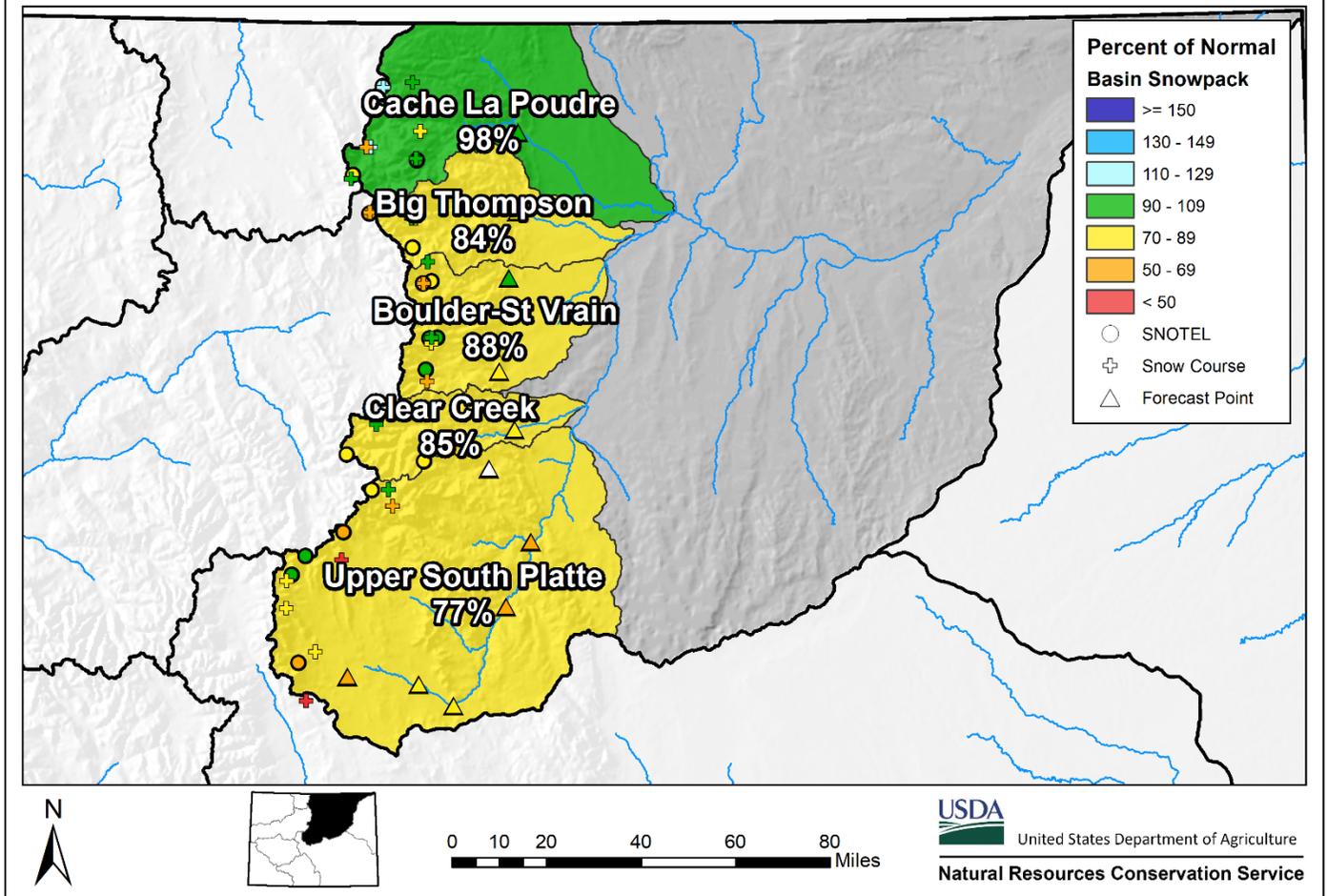
Snowpack in the South Platte River basin is below normal at 87% of the median. Precipitation for February was 120% of average which brings water year-to-date precipitation up to 102%. Reservoir storage at the end of February was 110% of average compared to 108% last year. Streamflow forecasts range from 96% of average for Boulder Creek near Orodell to 61% for the inflow to Antero Reservoir.



*SWE values calculated using daily SNOTEL data only



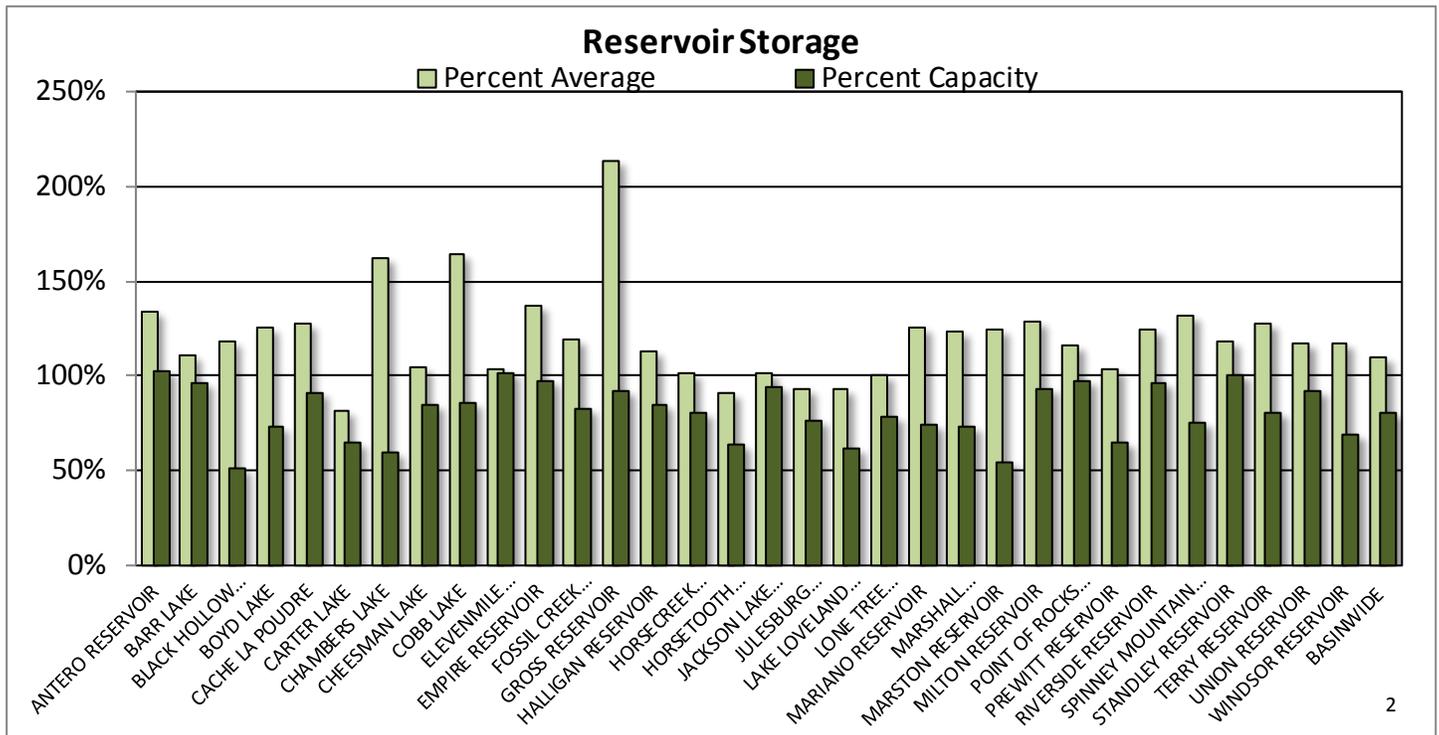
South Platte River Basin Snowpack and Streamflow Forecasts March 1, 2018



Watershed Snowpack Analysis March 1st, 2018

Sub-Basin	# of Sites	% Median	Last Year %	
			Median	Median
Big Thompson	7	84	146	
Boulder Creek	6	94	155	
Cache La Poudre	10	98	137	
Clear Creek	4	85	126	
Saint Vrain	3	71	200	
Upper South Platte	16	77	124	
Basin-Wide Total	46	87	140	

*SWE values calculated using first of month SNOTEL data and snow course measurements



Reservoir Storage End of February 2018

Reservoir	(KAF)	(KAF)	(KAF)	(KAF)
ANTERO RESERVOIR	20.4	14.9	15.2	19.9
BARR LAKE	28.8	26.0	26.0	30.1
BLACK HOLLOW RESERVOIR	3.3	3.3	2.8	6.5
BOYD LAKE	35.5	27.7	28.2	48.4
CACHE LA POUFRE	9.2	9.9	7.2	10.1
CARTER LAKE	70.6	86.6	87.0	108.9
CHAMBERS LAKE	5.2	2.3	3.2	8.8
CHEESMAN LAKE	66.5	72.1	63.4	79.0
COBB LAKE	19.0	17.0	11.6	22.3
ELEVENMILE CANYON RESERVOIR	99.6	99.3	95.8	98.0
EMPIRE RESERVOIR	35.4	29.7	25.9	36.5
FOSSIL CREEK RESERVOIR	9.2	9.3	7.7	11.1
GROSS RESERVOIR	27.3	9.4	12.8	29.8
HALLIGAN RESERVOIR	5.4	6.4	4.8	6.4
HORSECREEK RESERVOIR	11.8	11.0	11.7	14.7
HORSETOOTH RESERVOIR	95.0	123.3	104.8	149.7
JACKSON LAKE RESERVOIR	24.6	26.0	24.2	26.1
JULESBURG RESERVOIR	15.7	14.1	16.9	20.5
LAKE LOVELAND RESERVOIR	6.3	3.6	6.8	10.3
LONE TREE RESERVOIR	6.8	6.4	6.8	8.7
MARIANO RESERVOIR	4.0	1.0	3.2	5.4
MARSHALL RESERVOIR	7.3	6.5	5.9	10.0
MARSTON RESERVOIR	7.1	6.2	5.7	13.0
MILTON RESERVOIR	21.9	19.4	17.0	23.5
POINT OF ROCKS RESERVOIR	68.9	69.3	59.2	70.6
PREWITT RESERVOIR	18.4	22.7	17.7	28.2
RIVERSIDE RESERVOIR	53.9	50.4	43.5	55.8
SPINNEY MOUNTAIN RESERVOIR	37.0	29.0	28.1	49.0
STANDLEY RESERVOIR	42.0	31.1	35.7	42.0
TERRY RESERVOIR	6.4	4.6	5.0	8.0
UNION RESERVOIR	11.9	9.0	10.2	13.0
WINDSOR RESERVOIR	10.4	11.2	8.9	15.2
BASINWIDE	884.8	858.6	802.9	1079.5
Number of Reservoirs	32	32	32	32

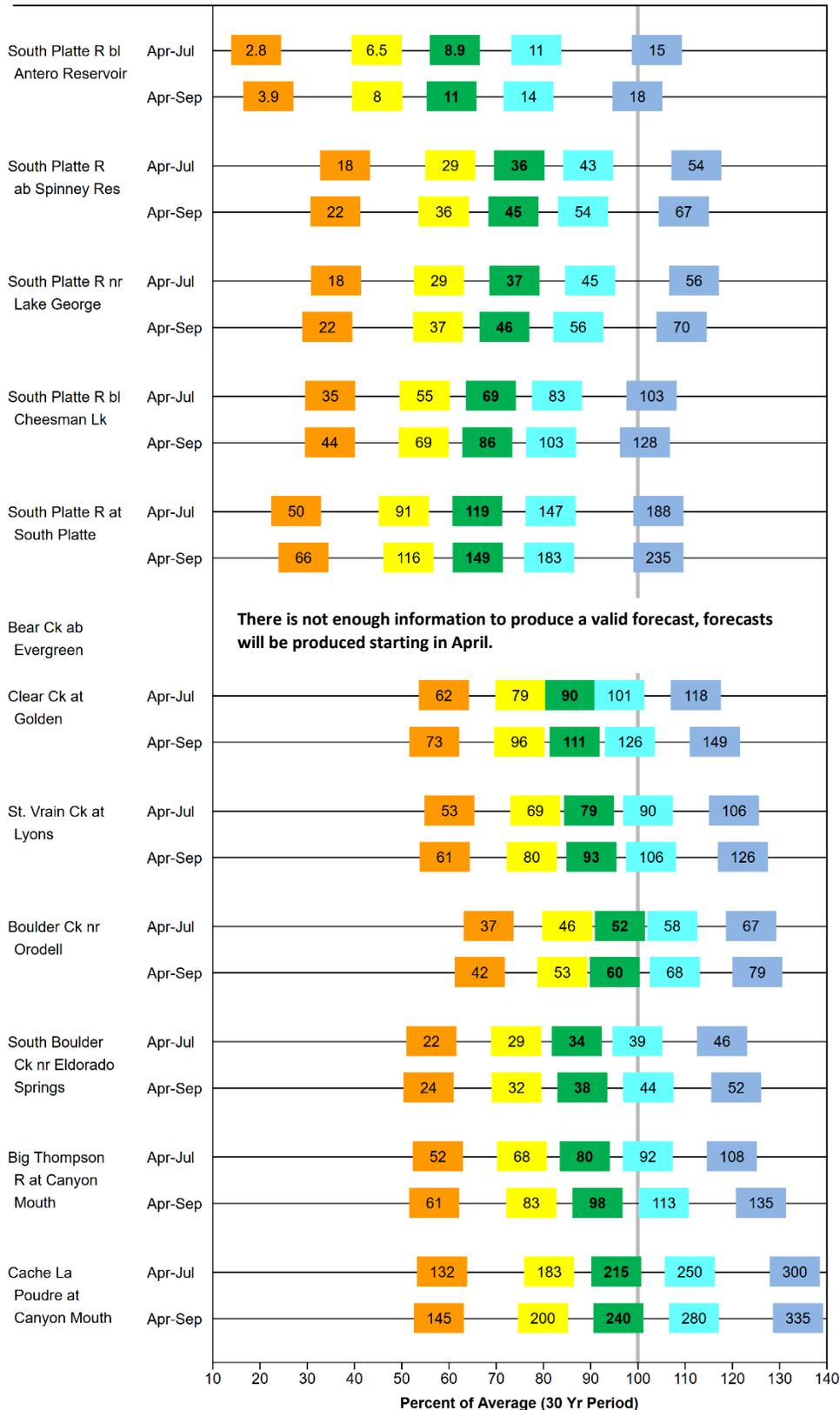
SOUTH PLATTE RIVER BASIN

Water Supply Forecasts

March 1, 2018

Forecast Exceedance Probabilities and Volumes

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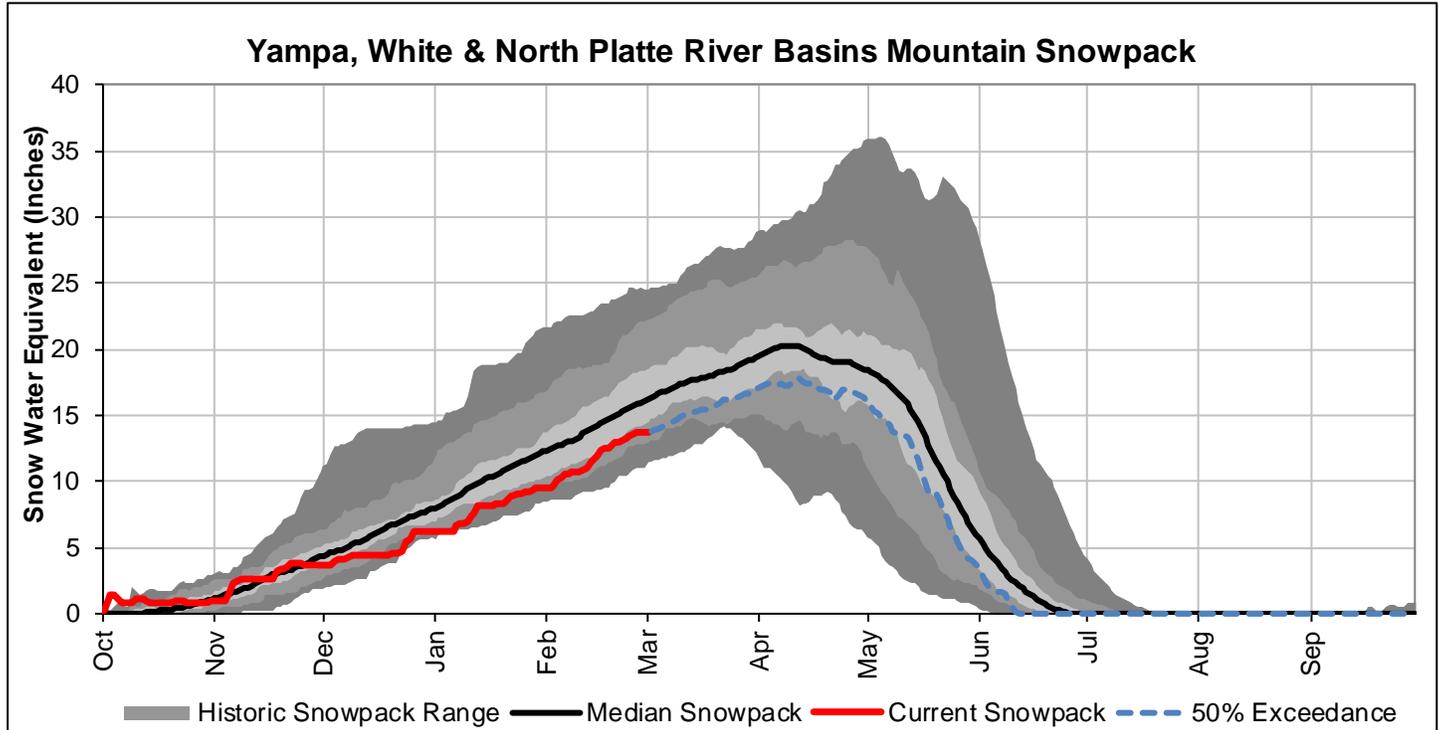


■ 10% Exceedance Forecast (KAF) ■ 5% Exceedance	■ 30% Exceedance Forecast (KAF) There is a 30% chance that flows will exceed this volume.	■ 50% Exceedance Forecast (KAF) There is a 50% chance that flows will exceed this volume.	■ 70% Exceedance Forecast (KAF) There is a 70% chance that flows will exceed this volume.
			■ 90% Exceedance Forecast (KAF) ■ 95% Exceedance

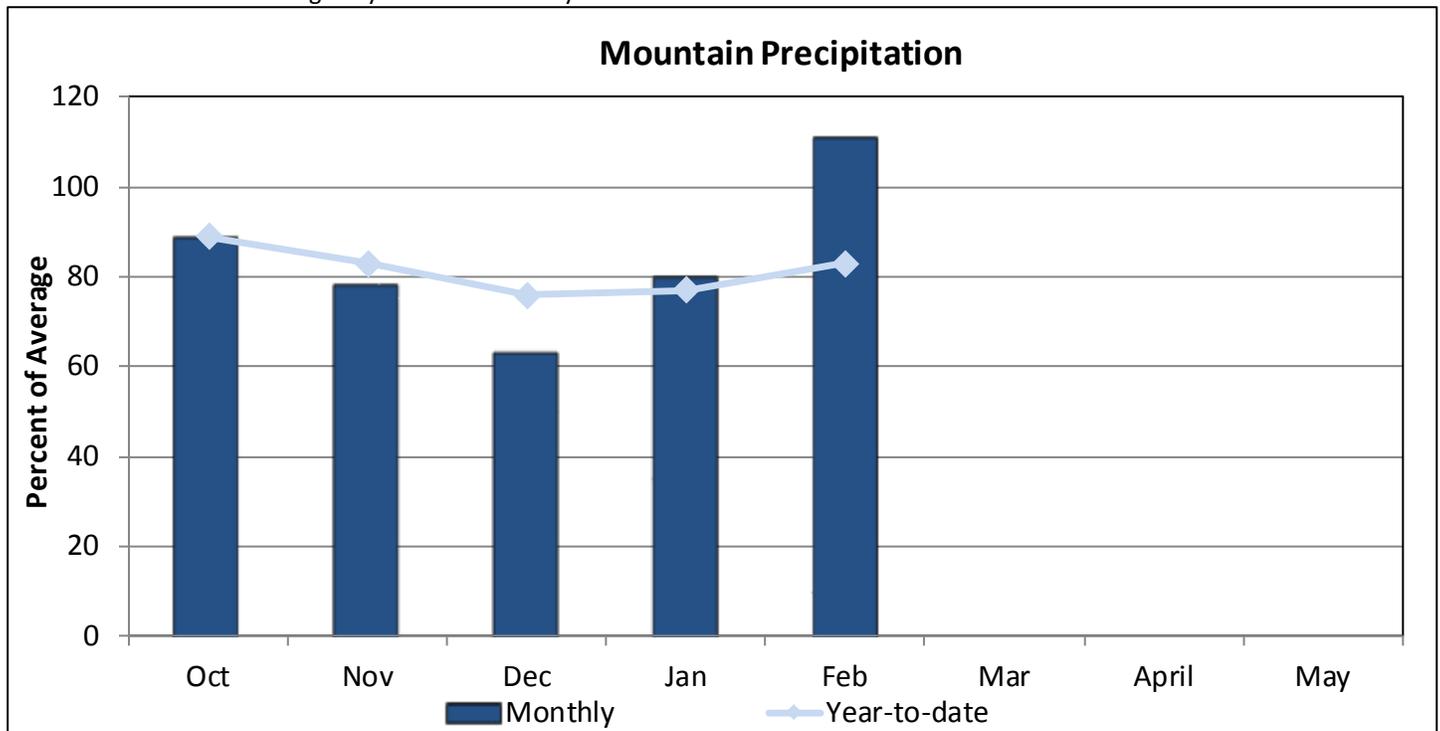
YAMPA, WHITE, NORTH PLATTE, AND LARAMIE RIVER BASINS

March 1, 2018

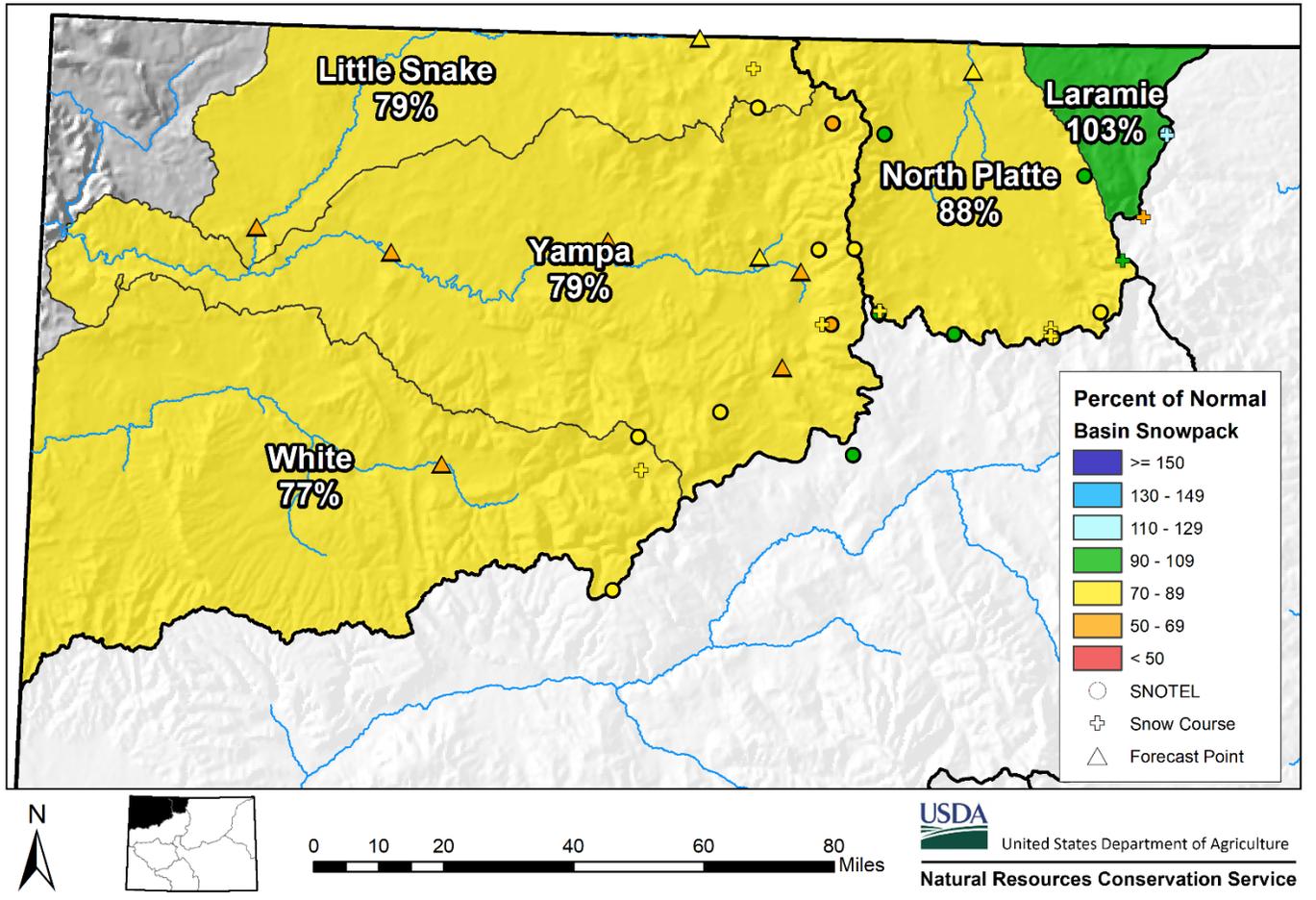
Snowpack in the Yampa, White & North Platte basins is below normal at 83% of the median. Precipitation for February was 111% of average and water year-to-date precipitation is 83% of average. Reservoir storage at the end of February was 125% of average compared to 127% last year. Streamflow forecasts range from 97% of average for Laramie River at Woods Landing to 54% for the White River near Meeker.



*SWE values calculated using daily SNOTEL data only



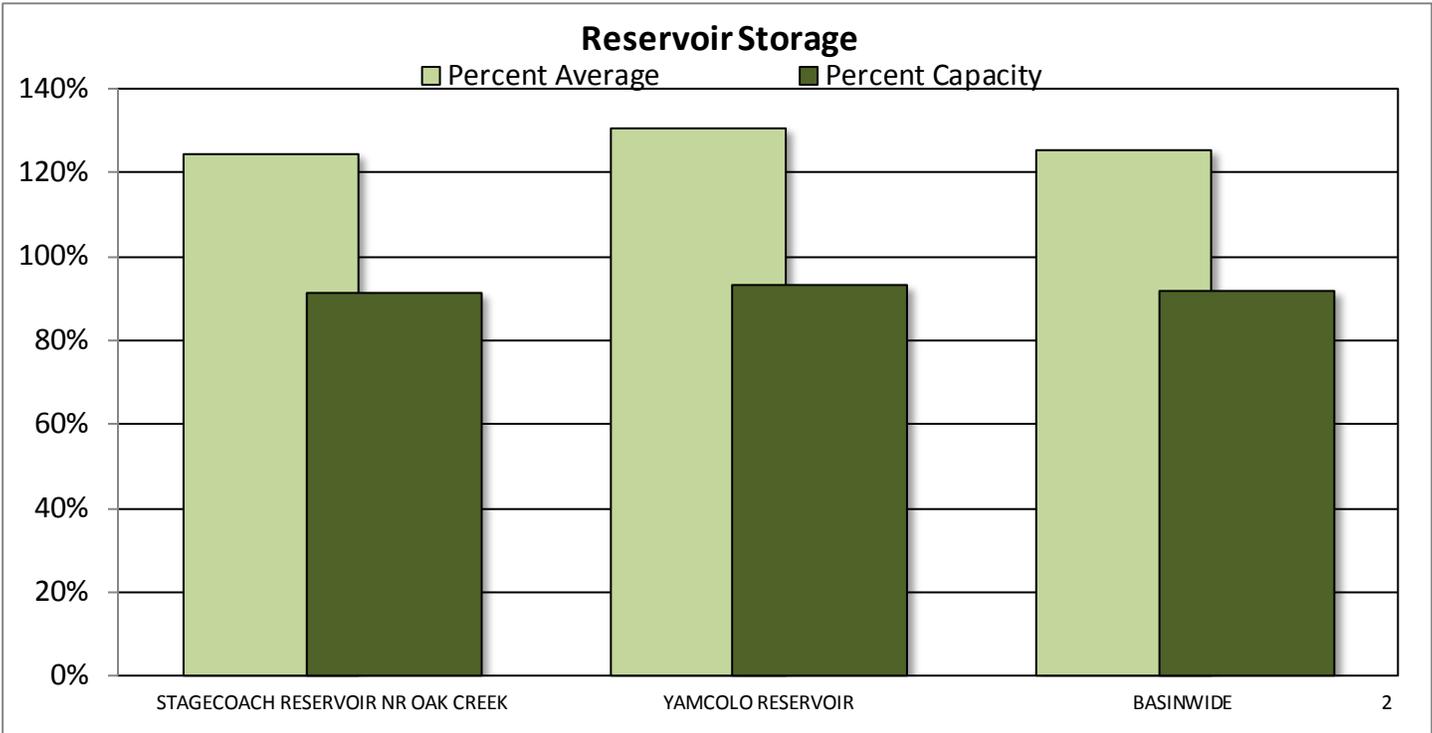
Yampa, White, and North Platte River Basins Snowpack and Streamflow Forecasts March 1, 2018



Watershed Snowpack Analysis March 1st, 2018

Sub-Basin	# of Sites	% Median	Last Year %	
			% Median	Median
Laramie	4	103		139
North Platte	12	88		128
Total Laramie & North Platte	16	91		130
Elk	2	73		128
Yampa	11	79		115
White	4	77		125
Total Yampa & White	14	78		116
Little Snake	9	79		126
Basin-Wide Total	35	83		126

*SWE values calculated using first of month SNOTEL data and snow course measurements



Reservoir Storage End of February 2018

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
STAGECOACH RESERVOIR NR OAK C	33.4	34.4	26.9	36.5
YAMCOLO RESERVOIR	8.1	7.6	6.2	8.7
BASINWIDE	41.5	42.0	33.1	45.2
Number of Reservoirs	2	2	2	2

YAMPA-WHITE-NORTH PLATTE RIVER BASINS

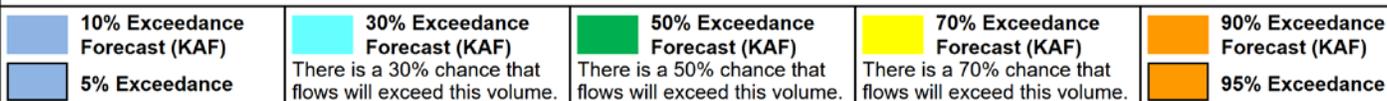
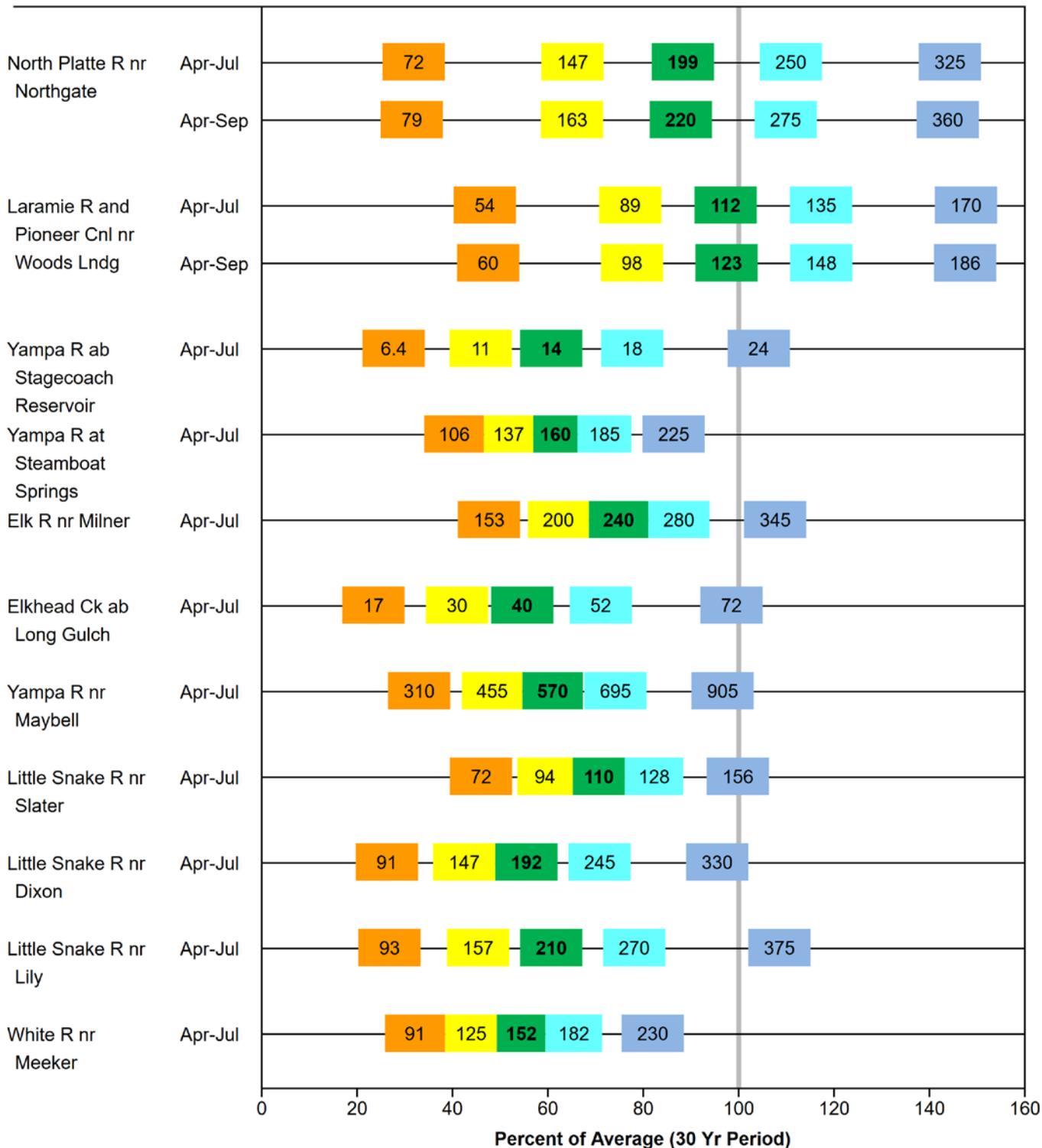
Water Supply Forecasts

March 1, 2018

Forecast Exceedance Probabilities and Volumes

<----- Drier ----- Future Conditions ----- Wetter ----->

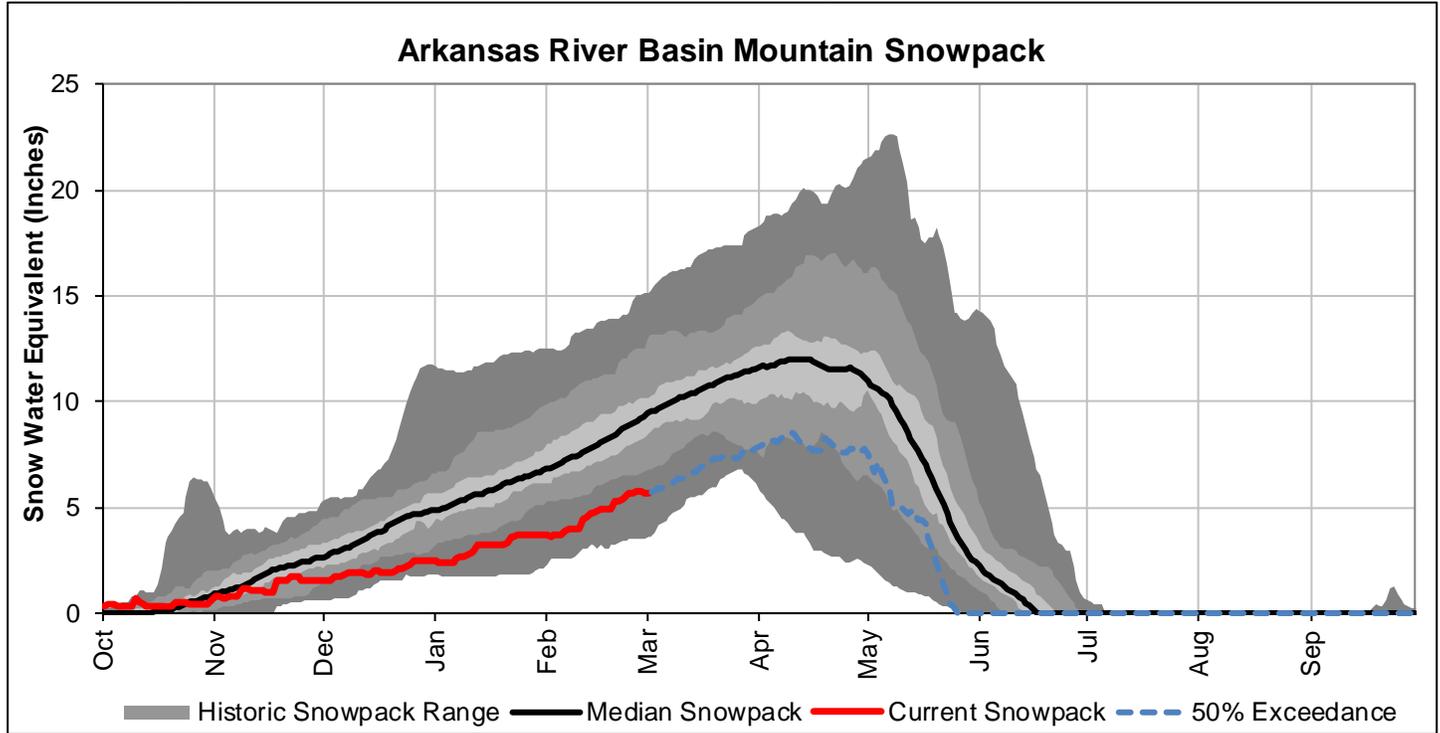
Box labels on chart are volumes of water in thousand acre-feet.



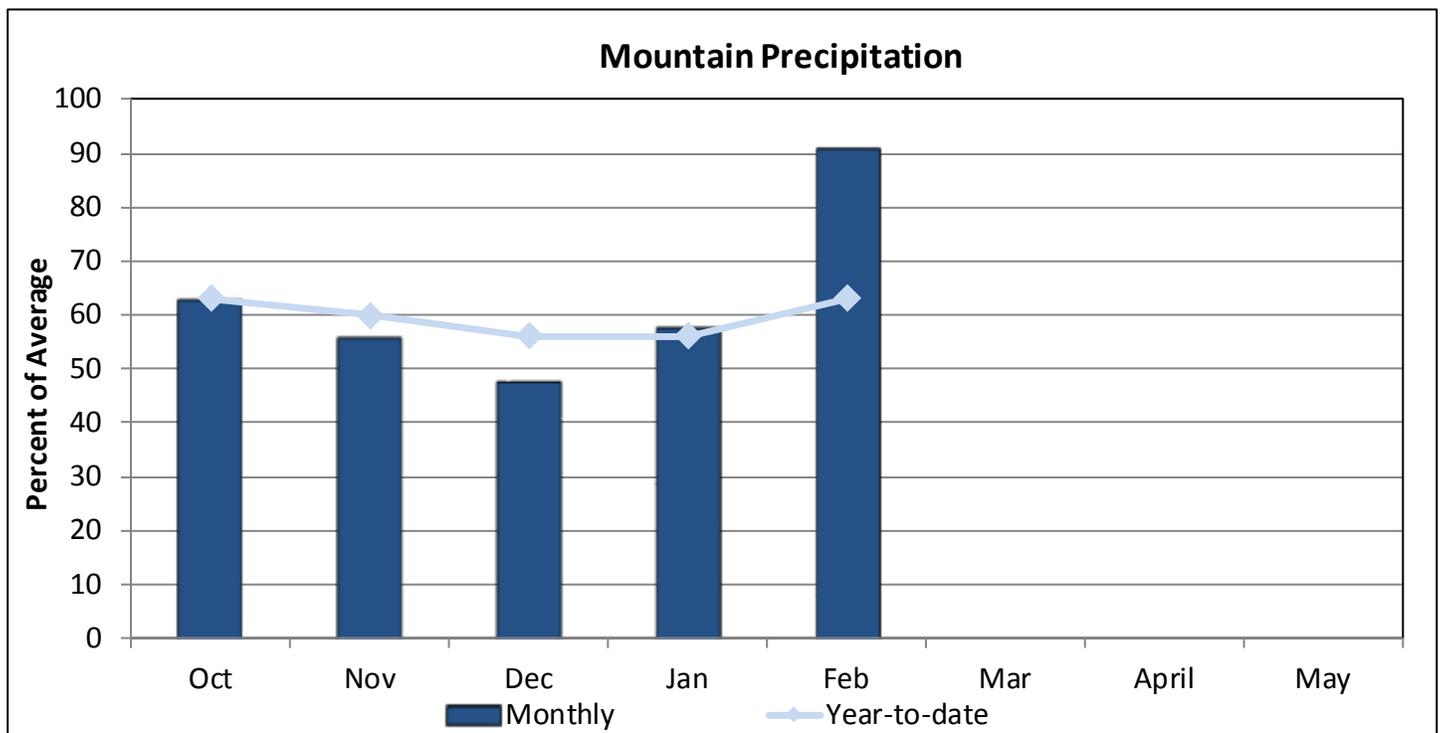
ARKANSAS RIVER BASIN

March 1, 2018

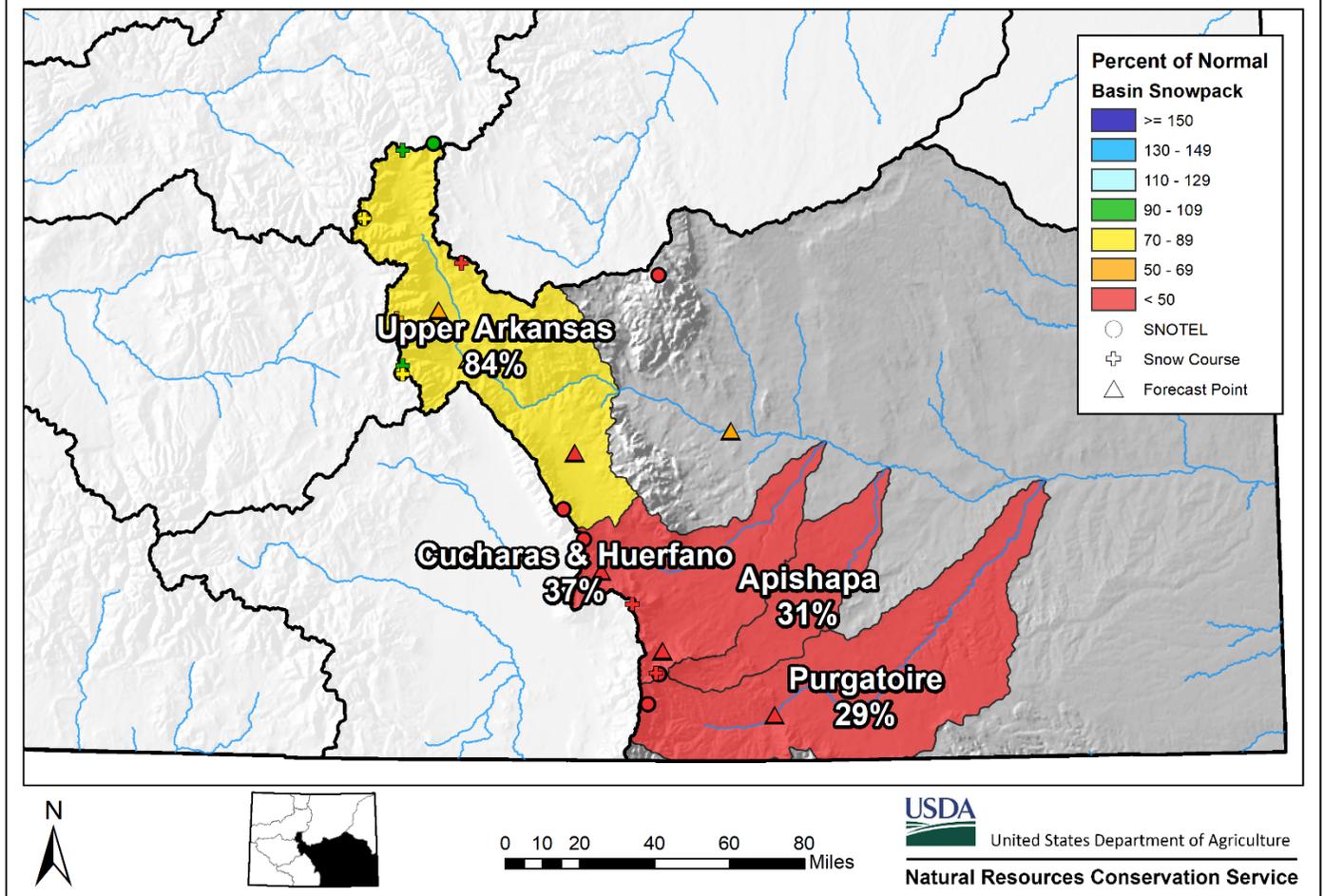
Snowpack in the Arkansas River basin is below normal at 64% of the median. Precipitation for February was 91% of average which brings water year-to-date precipitation up to 63% of average. Reservoir storage at the end of February was 145% of average compared to 103% last year. Current streamflow forecasts range from 73% of average for the Arkansas River at Salida to 28% of average for the Trinidad Lake Inflow.



*SWE values calculated using daily SNOTEL data only



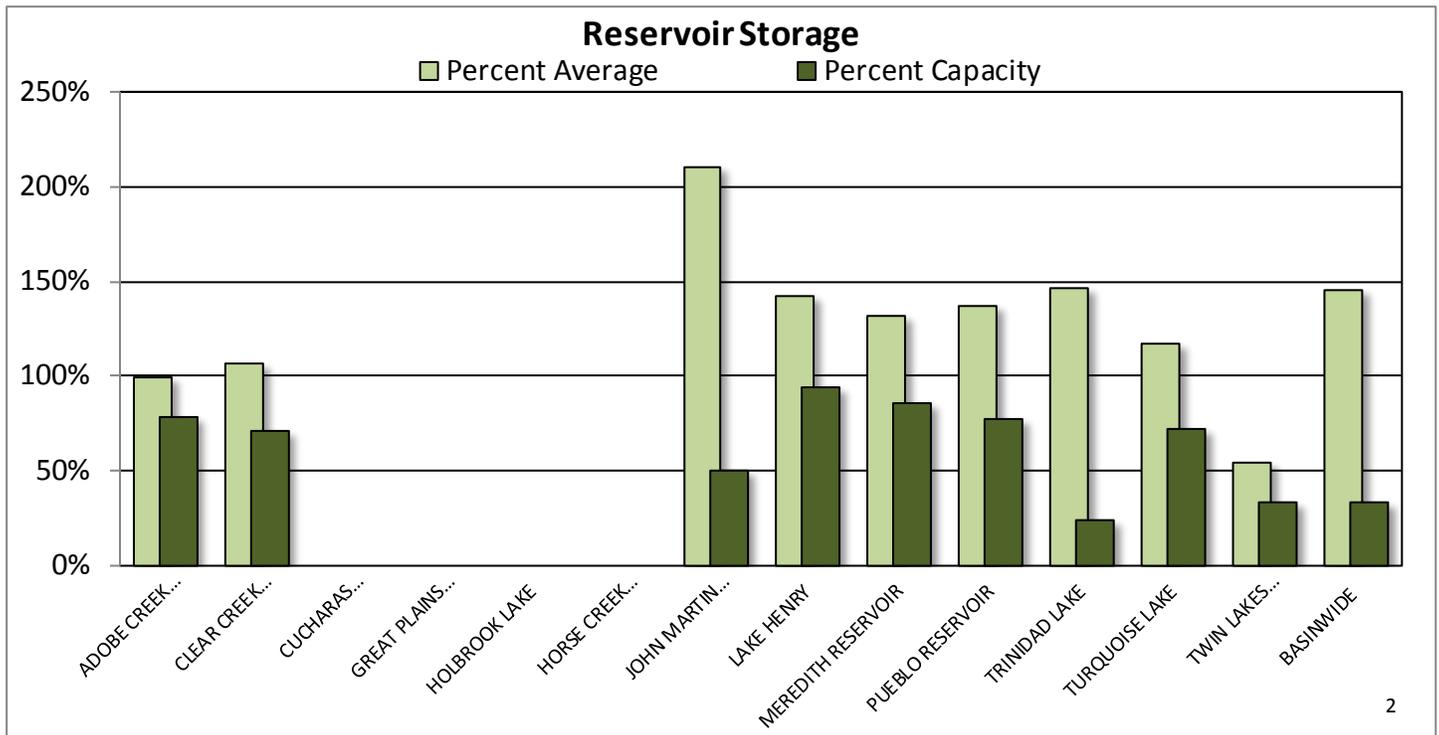
Arkansas River Basin Snowpack and Streamflow Forecasts March 1, 2018



Watershed Snowpack Analysis March 1st, 2018

Sub-Basin	# of Sites	% Median	Last Year %	
			Median	Median
Upper Arkansas	9	84	158	
Cucharas & Huerfano	5	37	112	
Purgatoire	2	29	144	
Basin-Wide Total	16	64	142	

*SWE values calculated using first of month SNOTEL data and snow course measurements



Reservoir Storage End of February 2018

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
ADOBE CREEK RESERVOIR	48.7	54.7	48.9	62.0
CLEAR CREEK RESERVOIR	8.1	7.9	7.6	11.4
CUCHARAS RESERVOIR				40.0
GREAT PLAINS RESERVOIR				150.0
HOLBROOK LAKE		6.2		7.0
HORSE CREEK RESERVOIR		25.8		27.0
JOHN MARTIN RESERVOIR	311.1	126.7	148.2	616.0
LAKE HENRY	8.8	8.2	6.2	9.4
MEREDITH RESERVOIR	36.1	39.4	27.4	42.0
PUEBLO RESERVOIR	274.1	247.9	200.6	354.0
TRINIDAD LAKE	39.3	25.1	26.8	167.0
TURQUOISE LAKE	92.1	48.2	78.5	127.0
TWIN LAKES RESERVOIR	28.4	43.0	51.8	86.0
BASINWIDE	846.7	633.1	596.0	1698.8
Number of Reservoirs	9	11	9	13

ARKANSAS RIVER BASIN

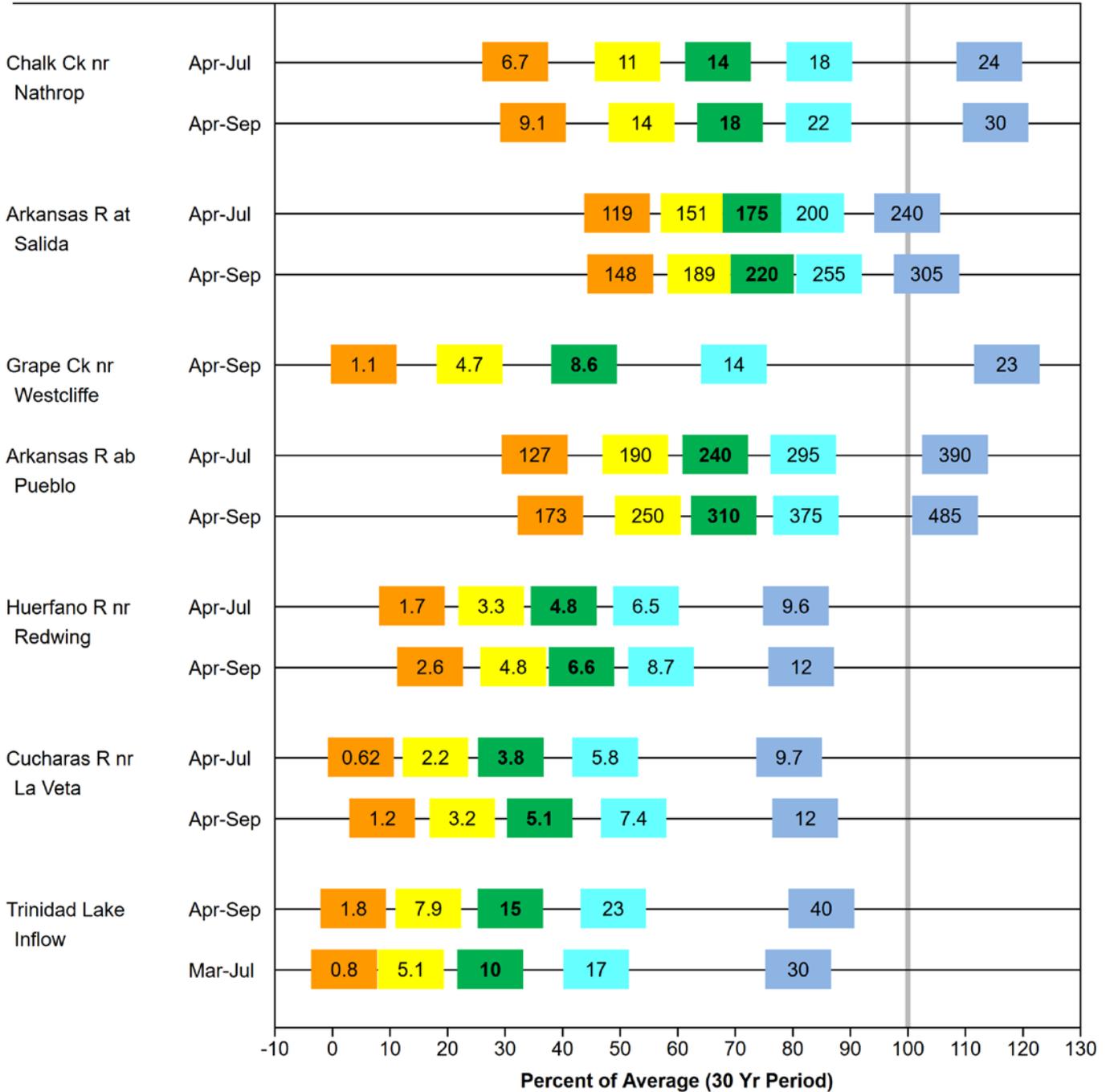
Water Supply Forecasts

March 1, 2018

Forecast Exceedance Probabilities and Volumes

<----- Drier ----- Future Conditions ----- Wetter ----->

Box labels on chart are volumes of water in thousand acre-feet.

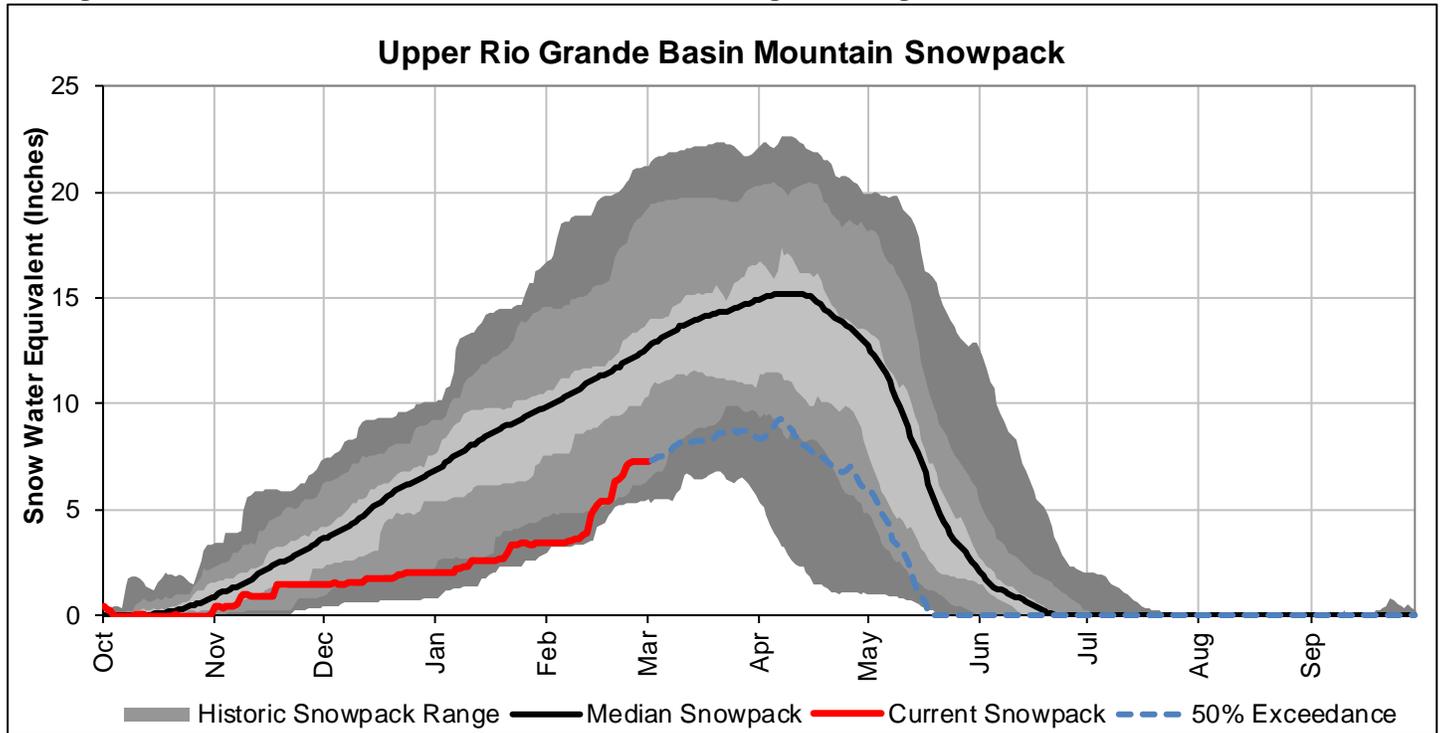


10% Exceedance Forecast (KAF)	30% Exceedance Forecast (KAF) <small>There is a 30% chance that flows will exceed this volume.</small>	50% Exceedance Forecast (KAF) <small>There is a 50% chance that flows will exceed this volume.</small>	70% Exceedance Forecast (KAF) <small>There is a 70% chance that flows will exceed this volume.</small>	90% Exceedance Forecast (KAF)
5% Exceedance				

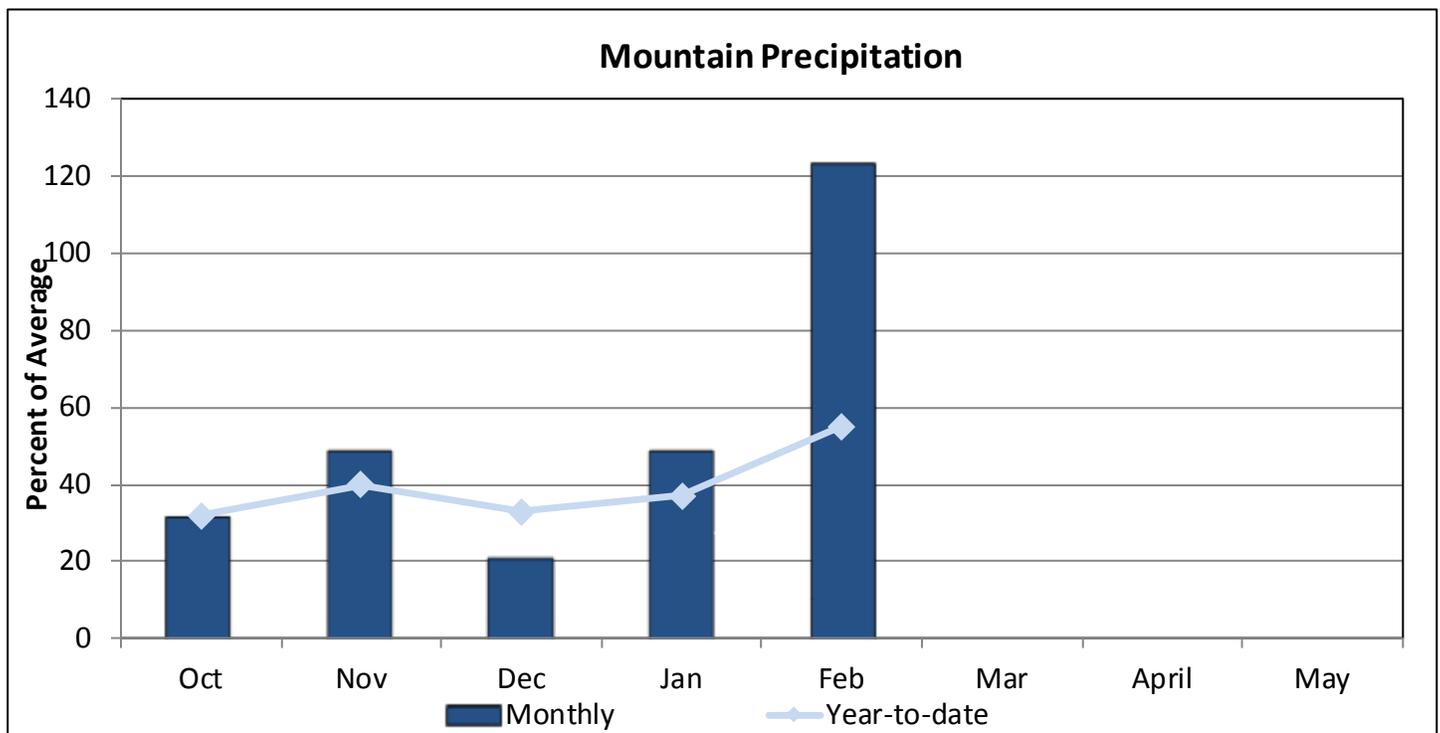
UPPER RIO GRANDE RIVER BASIN

March 1, 2018

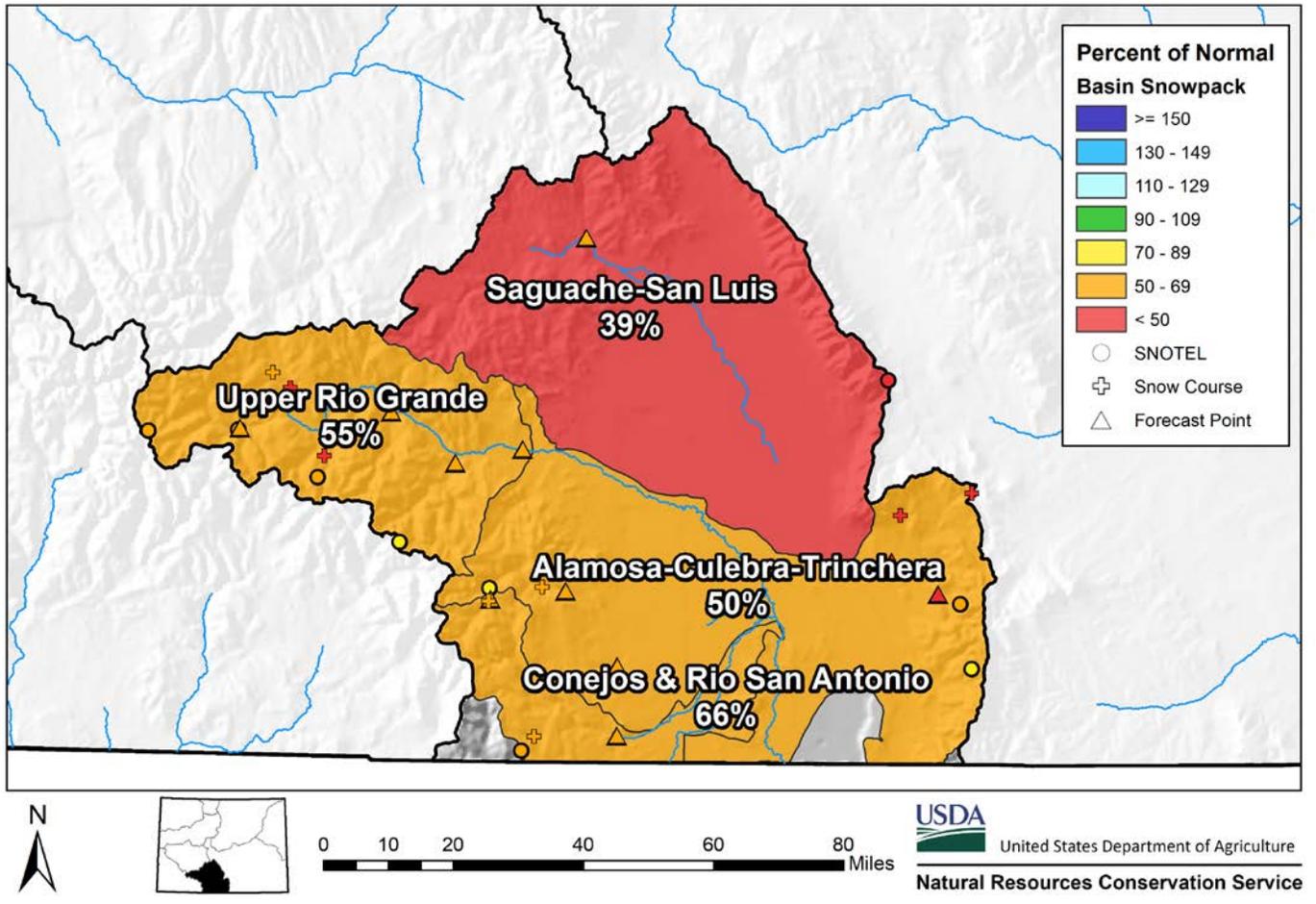
Snowpack in the Upper Rio Grande River basin is below normal at 55% of median. Precipitation for February was 123% of average which brings water year-to-date precipitation up to 55% of average. Reservoir storage at the end of February was 121% of average compared to 91% last year. Streamflow forecasts range from 68% of average for the inflow to Platoro Reservoir to 18% of average for Sangre de Cristo Creek.



*SWE values calculated using daily SNOTEL data only



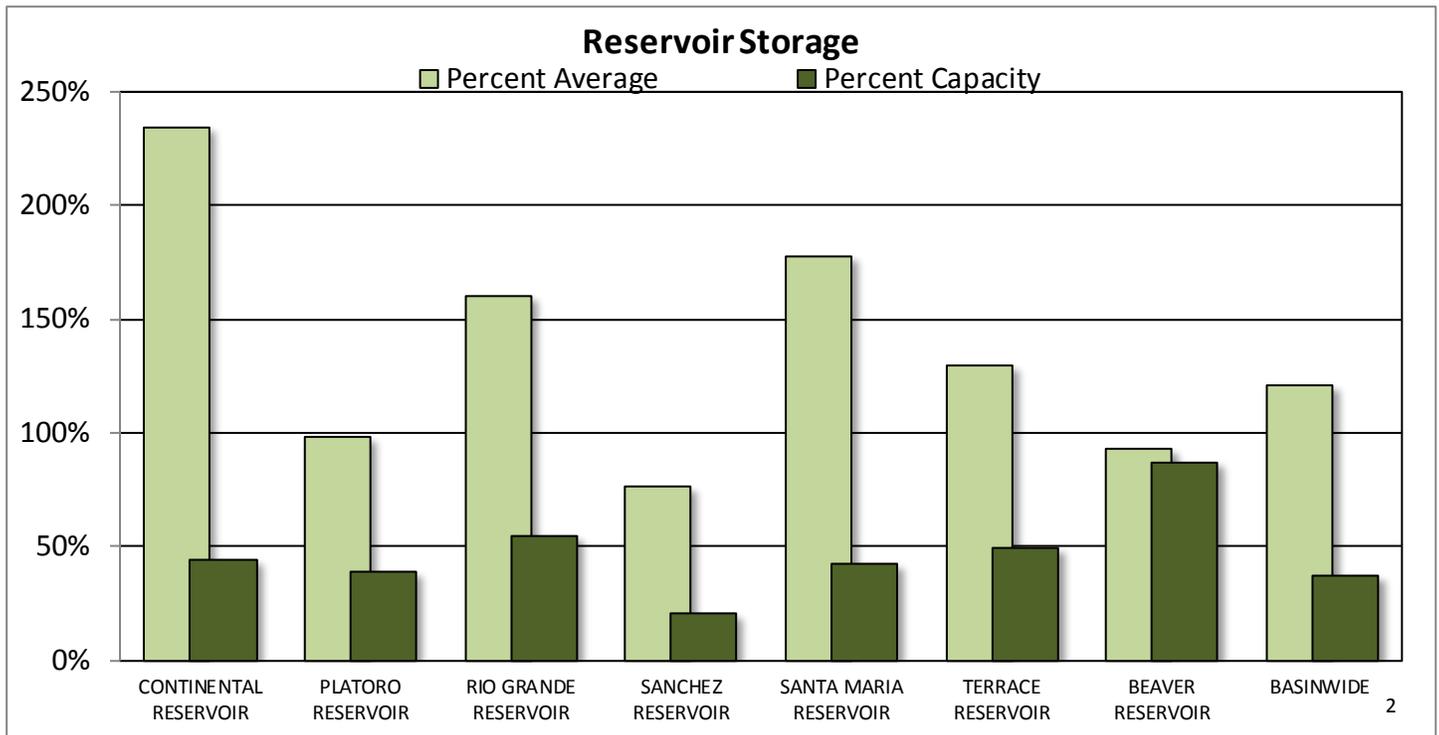
Upper Rio Grande River Basin Snowpack and Streamflow Forecasts March 1, 2018



Watershed Snowpack Analysis March 1st, 2018

Sub-Basin	# of Sites	% Median	Last Year % Median
Alamosa Creek	3	67	140
Conejos & Rio San Antonio	4	66	160
Culebra & Trinchera Creek	5	43	129
Upper Rio Grande	10	55	124
Basin-Wide Total	21	55	136

*SWE values calculated using first of month SNOTEL data and snow course measurements



Reservoir Storage End of February 2018

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
CONTINENTAL RESERVOIR	11.9	9.7	5.1	27.0
PLATORO RESERVOIR	23.5	15.6	23.9	60.0
RIO GRANDE RESERVOIR	28.1	26.8	17.6	51.0
SANCHEZ RESERVOIR	21.2	9.5	27.6	103.0
SANTA MARIA RESERVOIR	19.0	16.7	10.7	45.0
TERRACE RESERVOIR	9.0	5.9	6.9	18.0
BEAVER RESERVOIR	3.9	3.4	4.2	4.5
BASINWIDE	116.5	87.5	96.0	308.5
Number of Reservoirs	7	7	7	7

UPPER RIO GRANDE BASIN

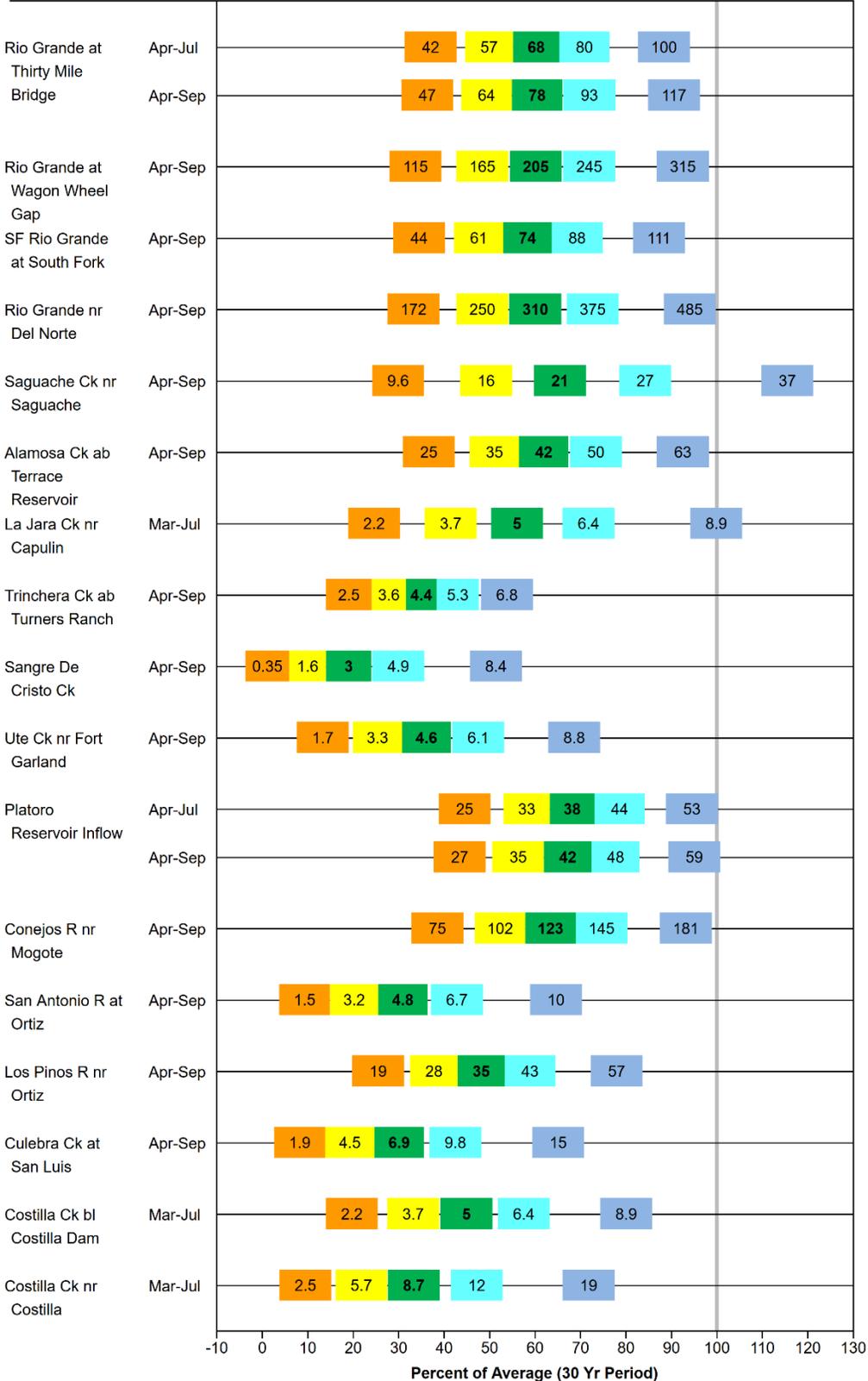
Water Supply Forecasts

March 1, 2018

Forecast Exceedance Probabilities and Volumes

< - - - - - Drier - - - - - Future Conditions - - - - - Wetter - - - - - >

Box labels on chart are volumes of water in thousand acre-feet.

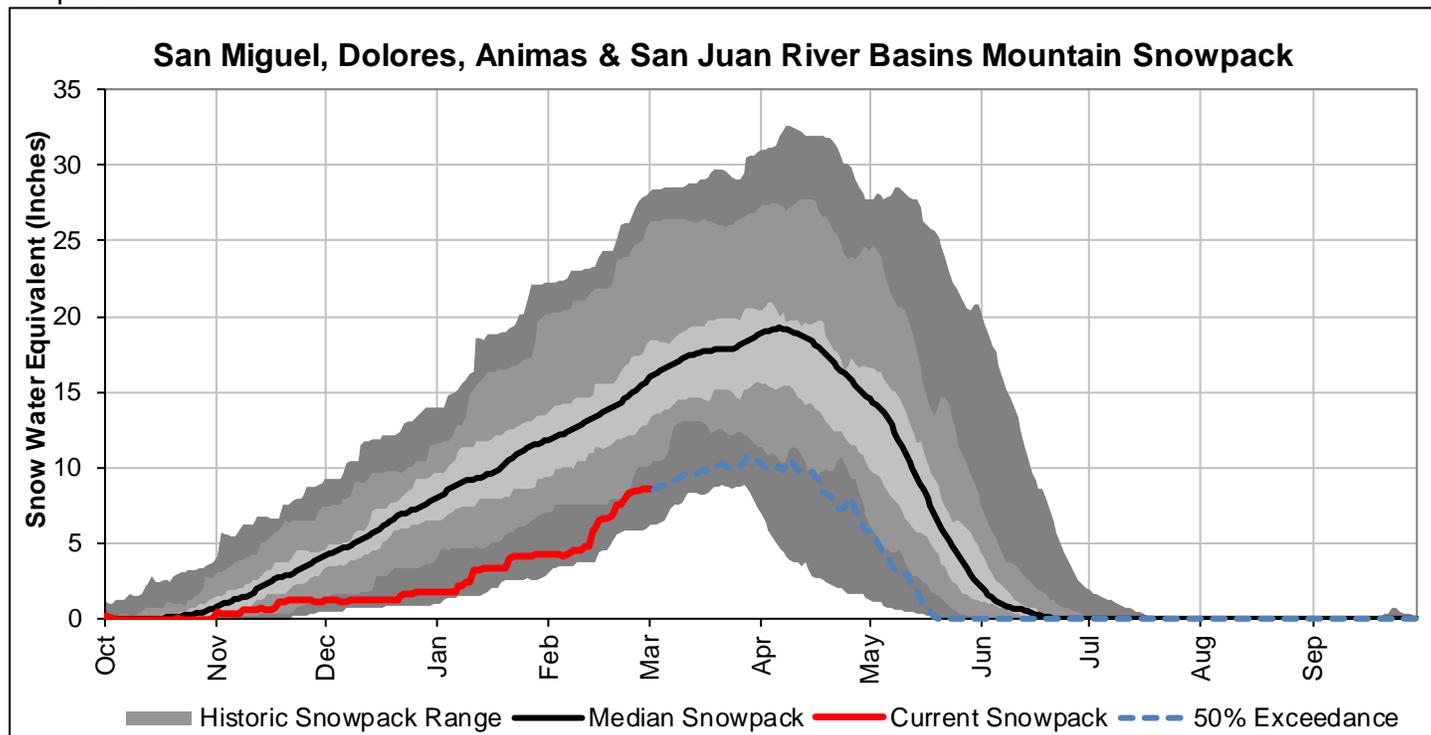


10% Exceedance Forecast (KAF)	30% Exceedance Forecast (KAF)	50% Exceedance Forecast (KAF)	70% Exceedance Forecast (KAF)	90% Exceedance Forecast (KAF)
5% Exceedance	There is a 30% chance that flows will exceed this volume.	There is a 50% chance that flows will exceed this volume.	There is a 70% chance that flows will exceed this volume.	95% Exceedance

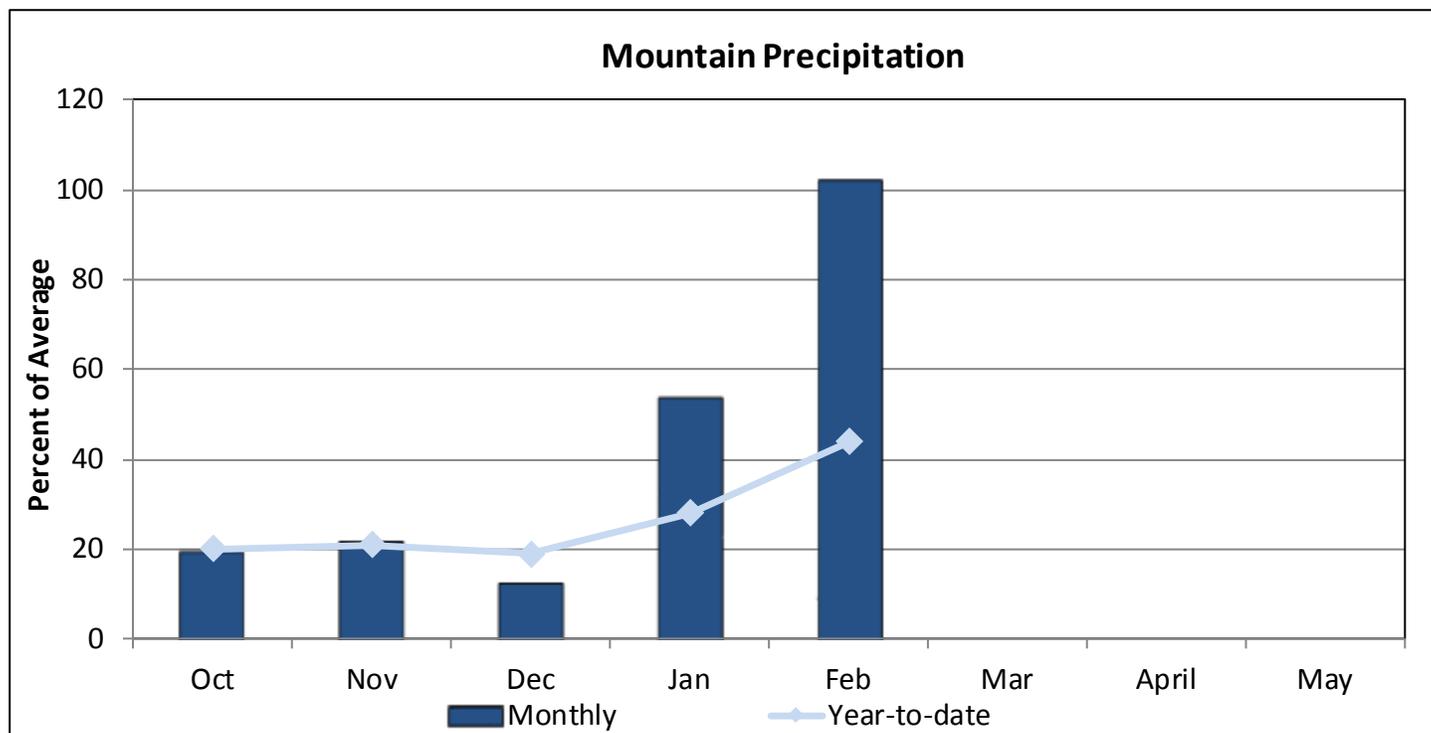
SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS

March 1, 2018

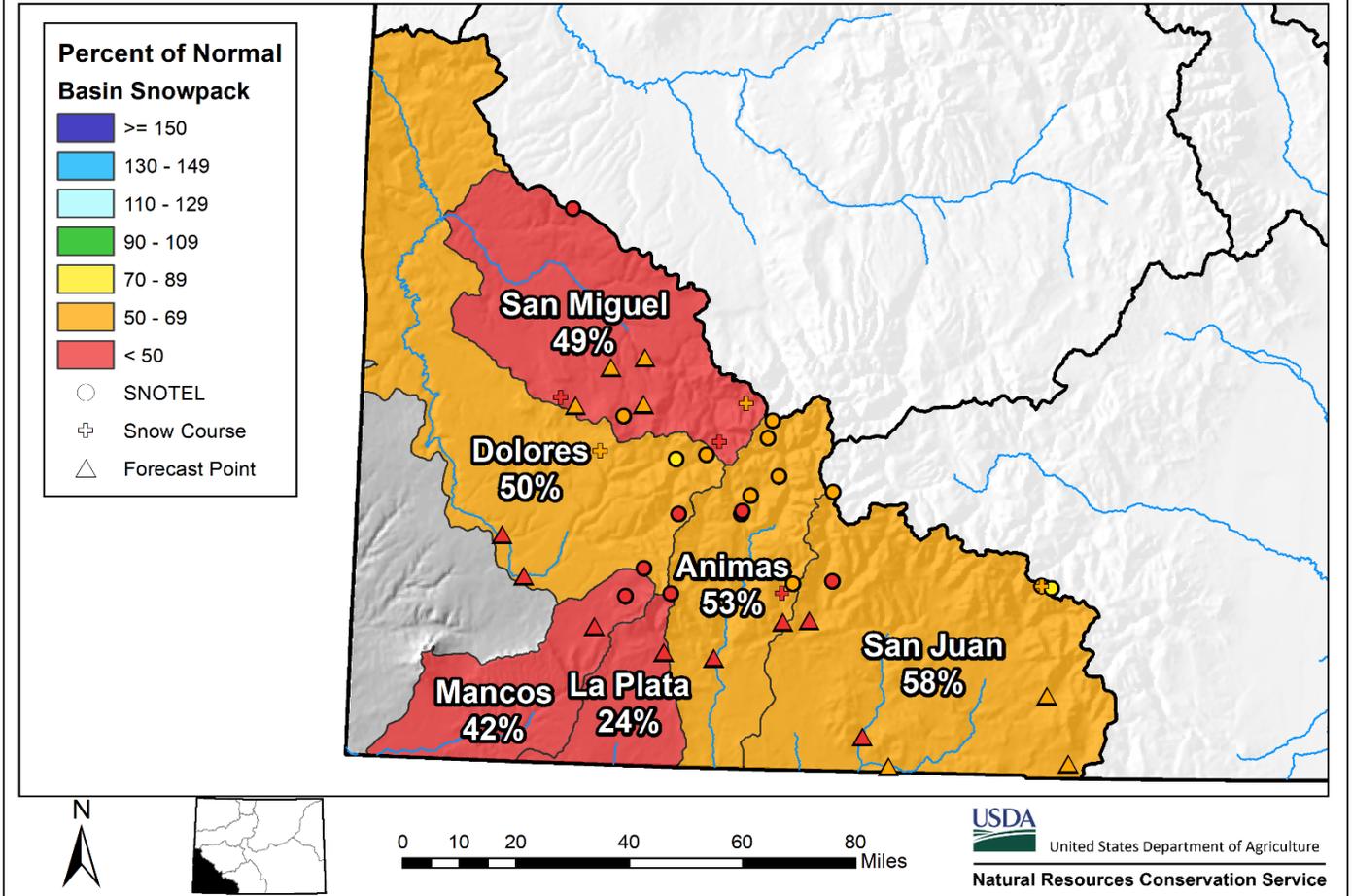
Snowpack in the combined southwest river basins is below normal at 53% of median. Precipitation for February was 102% of average which brings water year-to-date precipitation up to 44% of average. Reservoir storage at the end of February was 105% of average compared to 114% last year. Current streamflow forecasts range from 62% of average for the Navajo River at Oso Diversion to 33% for the La Plata River at Hesperus.



*SWE values calculated using daily SNOTEL data only



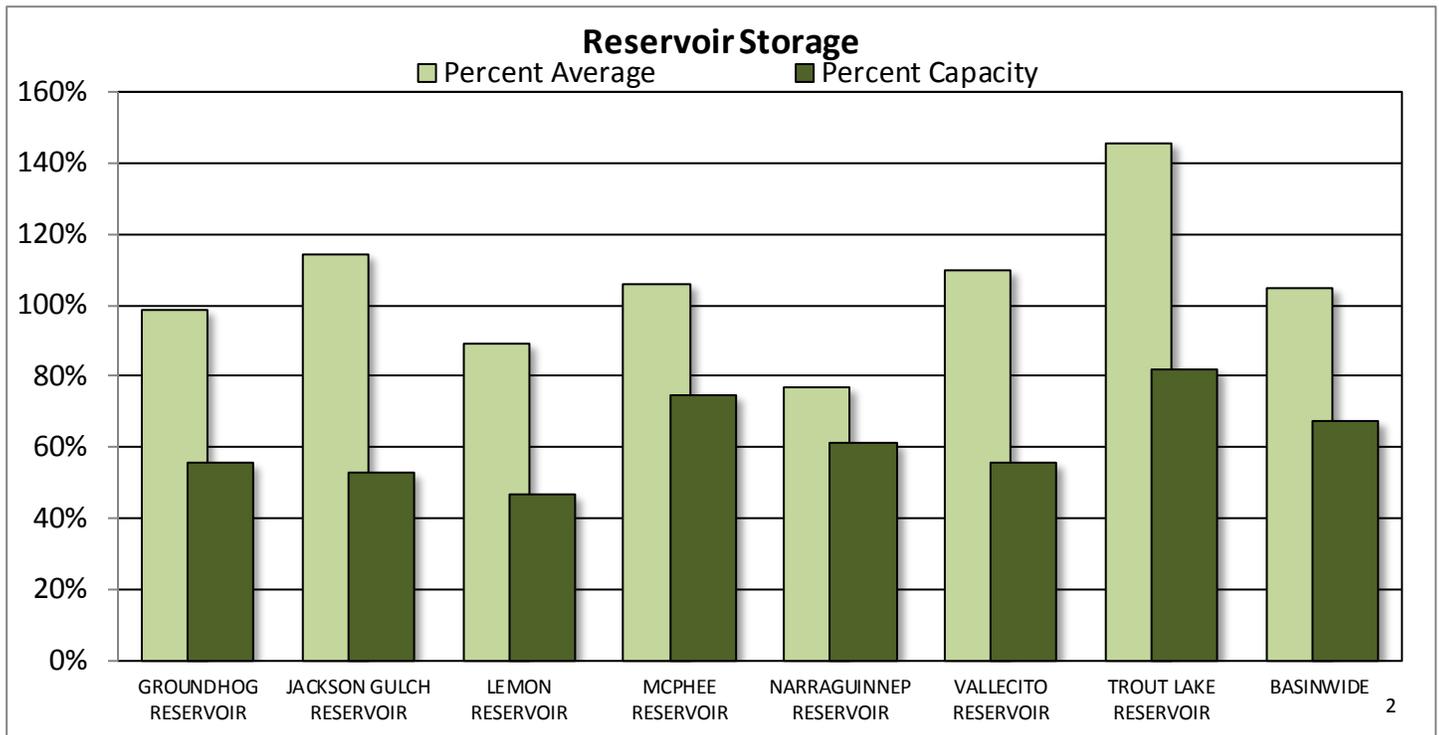
San Miguel, Dolores, Animas, and San Juan River Basins Snowpack and Streamflow Forecasts March 1, 2018



Watershed Snowpack Analysis March 1st, 2018

Sub-Basin	# of Sites	% Median	Last Year %	
			Median	
Animas	10	53		148
Dolores	7	50		158
San Miguel	6	49		146
San Juan	4	58		145
Basin-Wide Total	25	53		149

*SWE values calculated using first of month SNOTEL data and snow course measurements



Reservoir Storage End of February 2018

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
GROUNDHOG RESERVOIR	12.3	18.3	12.4	22.0
JACKSON GULCH RESERVOIR	5.3	5.2	4.6	10.0
LEMON RESERVOIR	18.7	21.0	21.0	40.0
MCPHEE RESERVOIR	284.1	298.7	268.0	381.0
NARRAGUINNEP RESERVOIR	11.6	17.7	15.1	19.0
VALLECITO RESERVOIR	69.8	76.2	63.6	126.0
TROUT LAKE RESERVOIR	2.6	2.9	1.8	3.2
BASINWIDE	404.4	440.0	386.5	601.2
Number of Reservoirs	7	7	7	7

SAN MIGUEL-DOLORES-ANIMAS-SAN JUAN RIVER BASINS

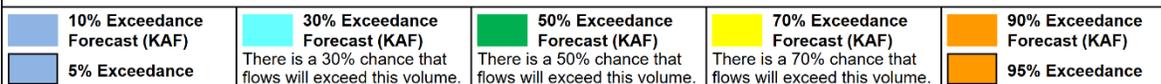
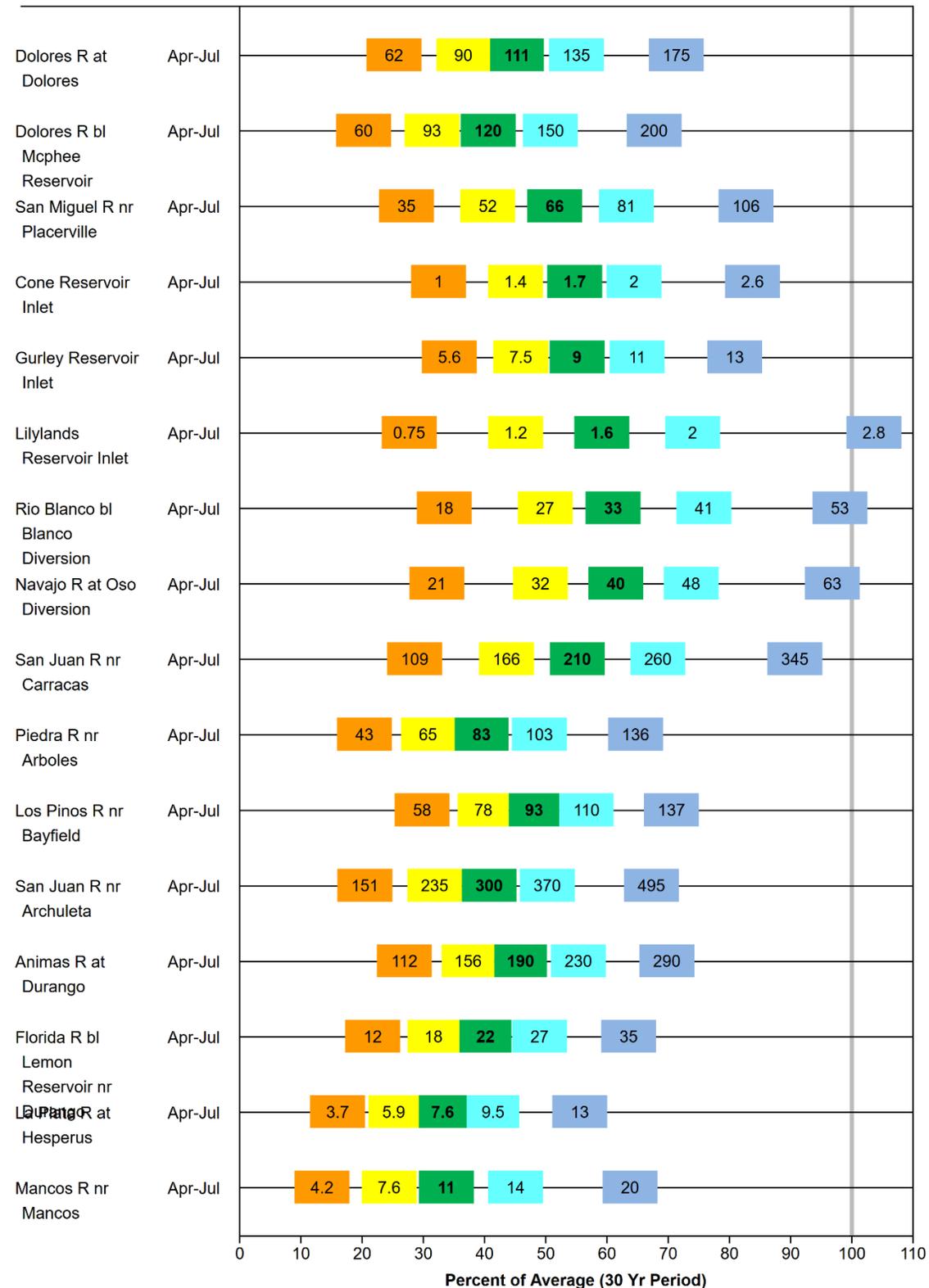
Water Supply Forecasts

March 1, 2018

Forecast Exceedance Probabilities and Volumes

Forecast Point Forecast Period <----- Drier ----- Future Conditions ----- Wetter ----->

Box labels on chart are volumes of water in thousand acre-feet.



How to Read Snowpack Graphs

The graphs show snow water equivalent (SWE) (in inches), using daily SNOTEL data, for the October 1 through September 30 water year. Basin “observed” SWE values are computed using SNOTEL sites which are characteristic of the snowpack of the particular basin. The SWE observations at these sites are averaged and normalized to produce these basin snowpack graphs.

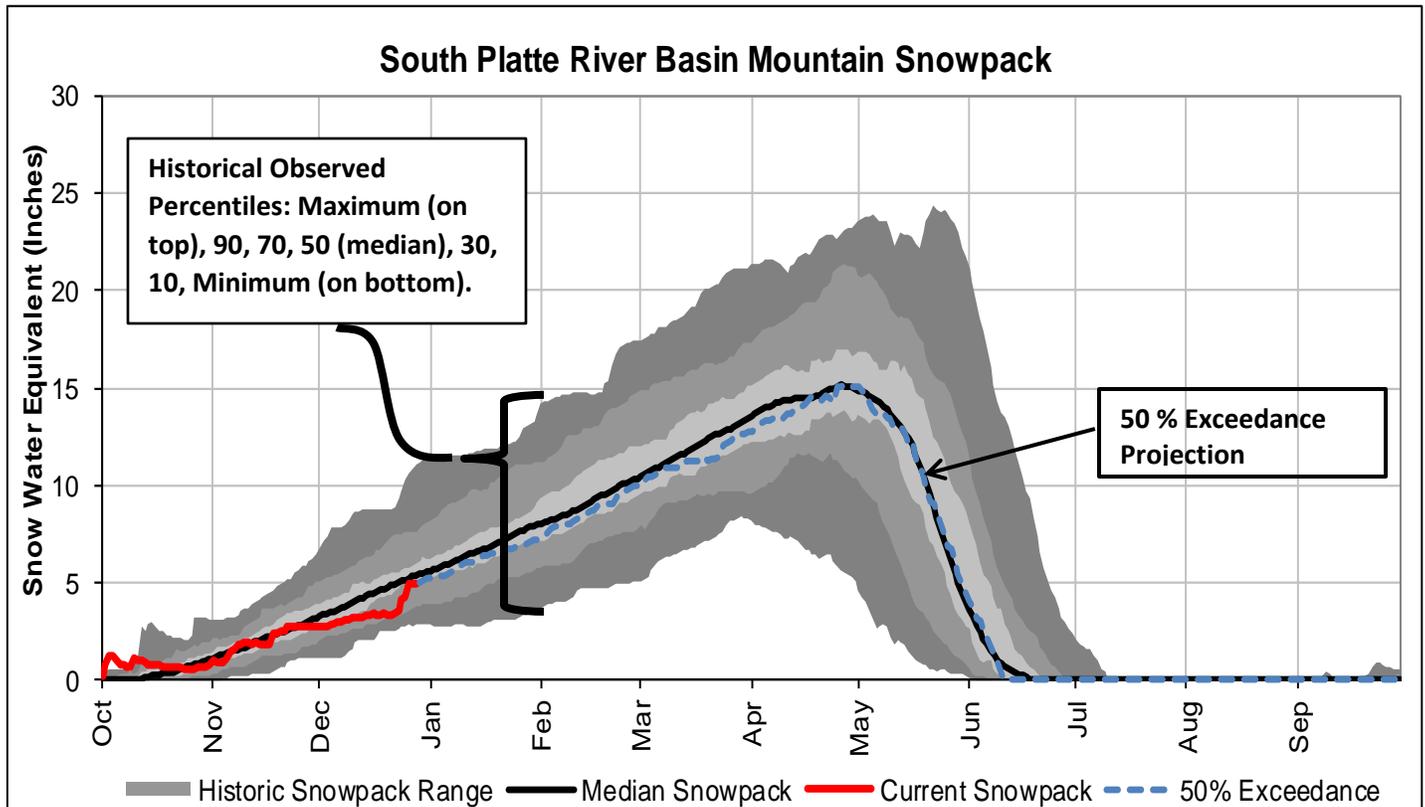
Current water year is represented by the heavy red line terminating on the last day the graphic was updated.

Historical observed percentile range is shown as a gray background area on the graph. Shades of gray indicate maximum, 90 percentile, 70 percentile, 50 percentile (solid black line), 30 percentile, 10 percentile, and minimum for the period of record.

50 % Exceedance Projection: The most probabilistic snowpack projection, based on the median snowpack is projected forward from the end of the current period to the end of the current water year.

For more detailed information on these graphs visit:

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_062291.pdf



How Forecasts Are Made

For more water supply and resource management information, contact:

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Denver, CO 80225-0426

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Website: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/co/snow/>

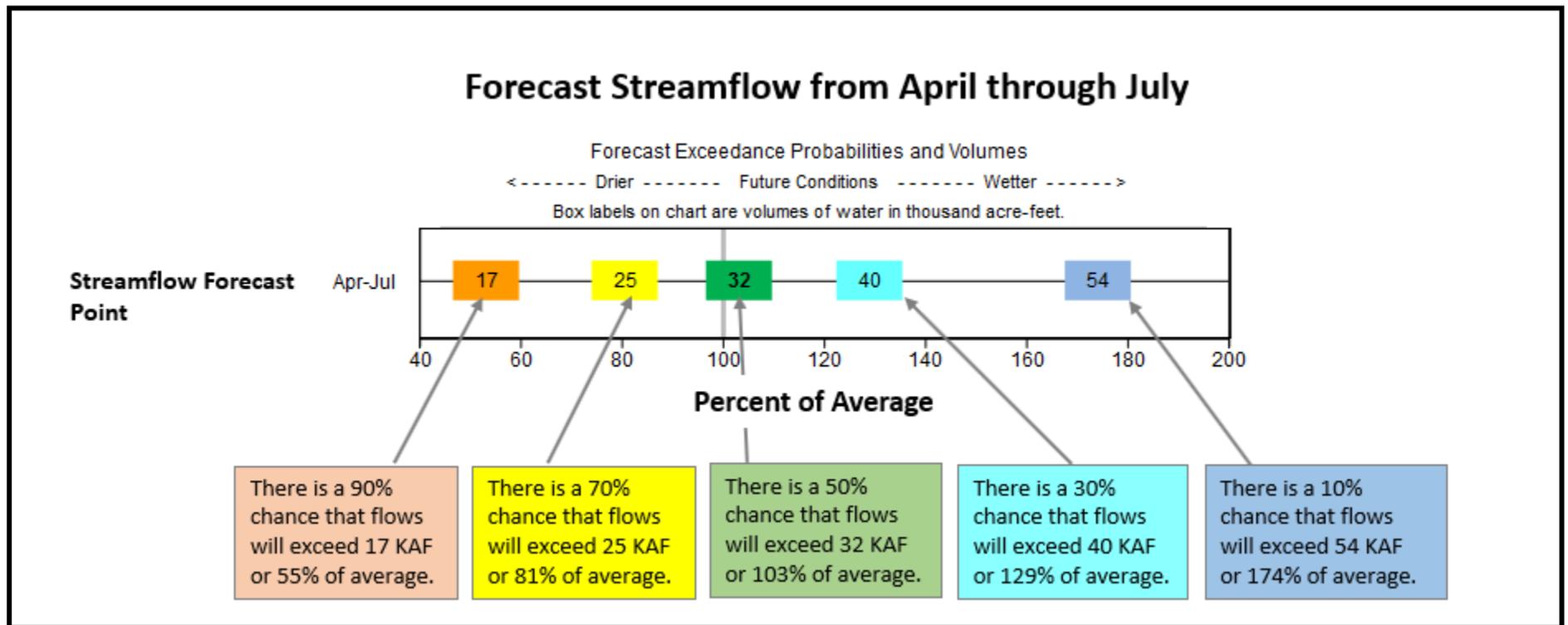
Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

Interpreting the Forecast Graphics

These graphics provide the same information that was contained in the previously published basin forecast tables, but provide a new way to visualize the range of streamflows represented by the forecast exceedance probabilities for each forecast period. The numbers displayed in the box represent the actual forecasted streamflow volume (in KAF) for the given exceedance probability, and the horizontal position of the box represents the percent of average of that streamflow volume. The spread of the forecasts offers an indication of the uncertainty in a given forecast; when the colored boxes are spread far a part, the forecast skill is low and uncertainty is high; when the boxes are close together, the forecast skill is higher and uncertainty lower.





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In addition to the water supply outlook reports, water supply forecast information for the Western United States is available from the Natural Resources Conservation Service and the National Weather Service monthly, January through June. The information may be obtained from the Natural Resources Conservation Service web page at <http://www.wcc.nrcs.usda.gov/wsf/westwide.html>

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Colorado
Water Supply Outlook Report
Natural Resources Conservation Service
Lakewood, CO