

Colorado

Water Supply Outlook Report

February 1, 2018



NRCS snow surveyors near the Rio Blanco snow course in the Flat Tops east of Meeker. This survey revealed 5.1" of snow water equivalent which is 59 percent of the 1981-2010 median value. As of February 1st snowpack throughout the combined Yampa and White River basins was 70 percent of normal.

Photo By: Tiffany Jehorek Date: January 31st, 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.

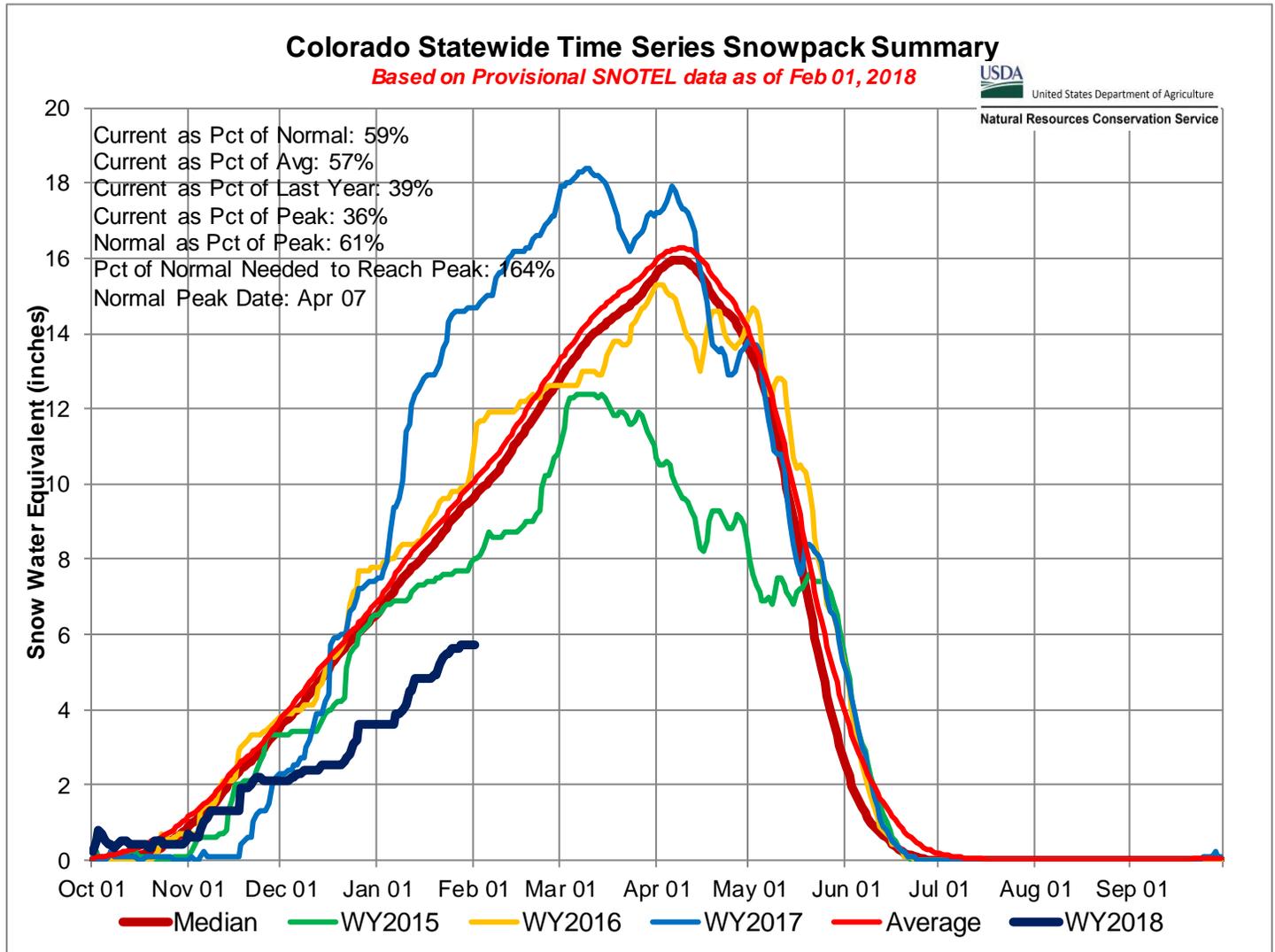
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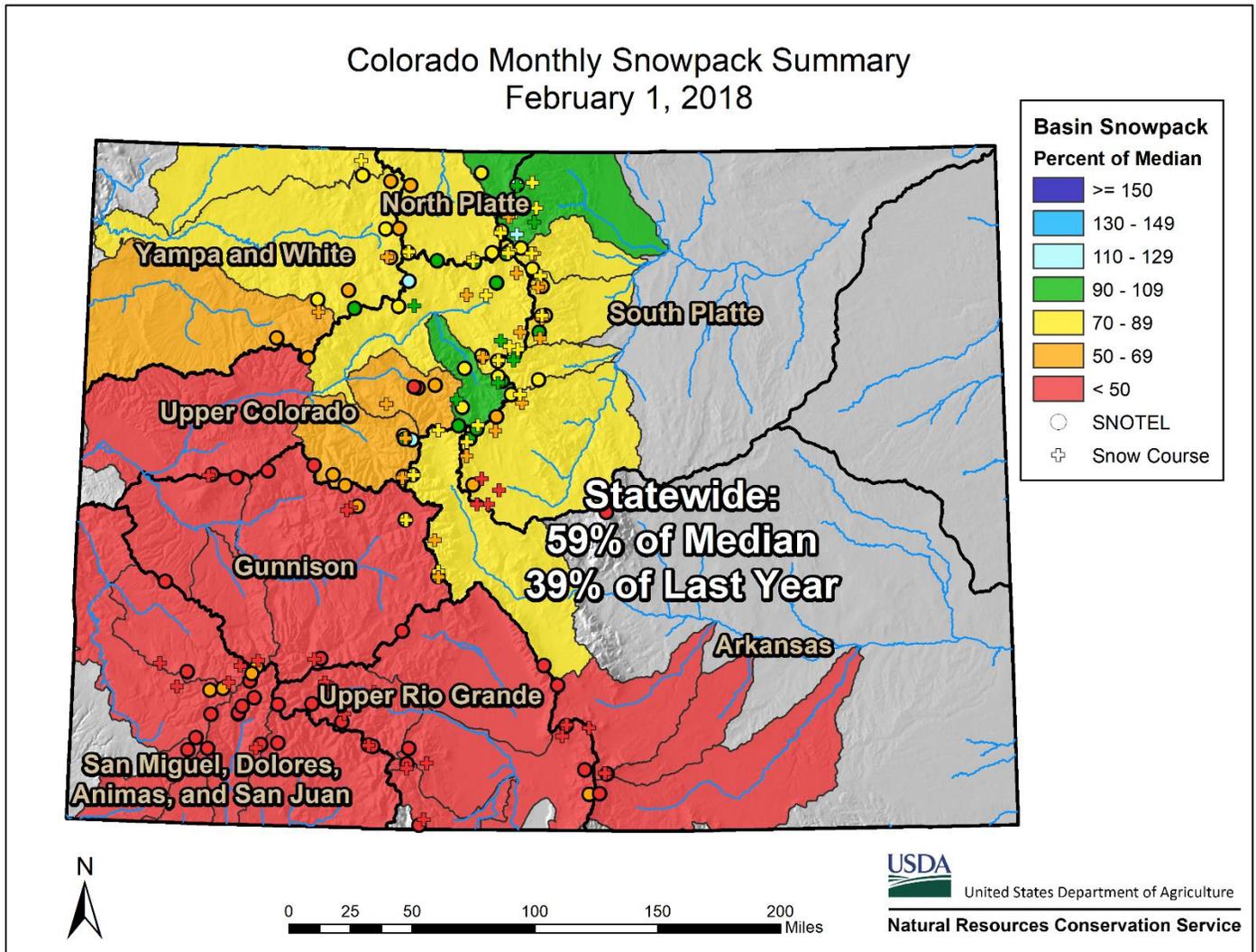
Colorado Statewide Water Supply Conditions

Summary



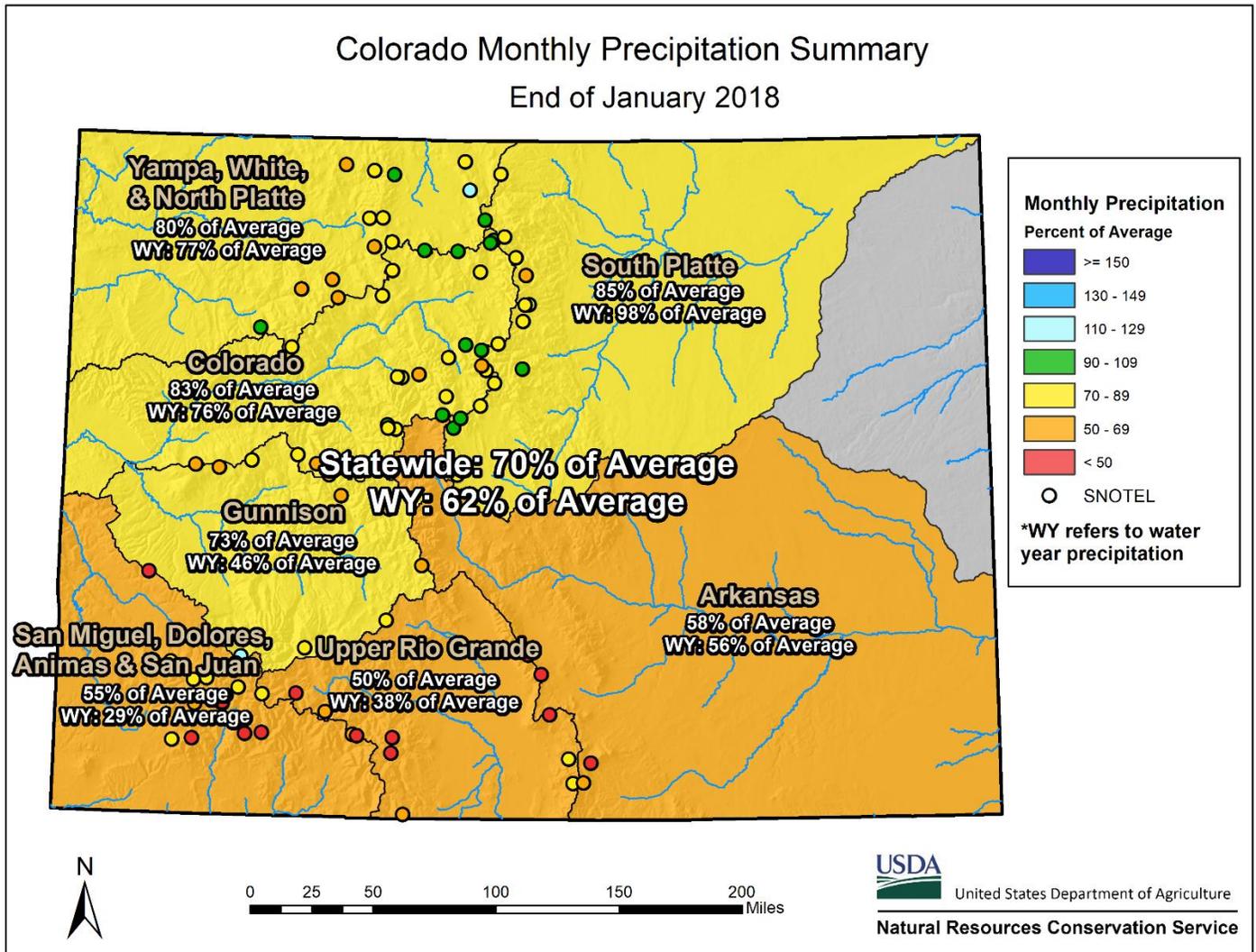
The general patterns of snowpack, precipitation, reservoir storage, and streamflow forecasts observed in the first three months of water year 2018 largely continued through the month of January. Southern Colorado has remained abnormally dry and continues to hold well below normal snowpack, which is also reflected in low streamflow forecasts. Snowpack is 31 percent of normal in the Upper Rio Grande basin and only 34 percent in the combined San Miguel, Dolores, Animas, and San Juan basins to the west. Conversely, snowpack in the North and South Platte basins is 82 and 80 percent of normal, respectively, and they hold several forecasts for near average streamflows, but currently no rivers in Colorado are forecasted to have above average summer flows. While snowpack still lags well below normal in southern Colorado, January did bring the most precipitation of any month of the water year to date, which did help in some capacity. Statewide, mountain precipitation in January was 70 percent of average with the South Platte receiving the most, at 85 percent, and the Upper Rio Grande the least at 50 percent of average. This leaves statewide water year-to-date precipitation at 62 percent of normal and snowpack at 59 percent, a slight increase over a month ago. Despite below normal snowpack and streamflow forecasts across the state, the good news is that every major basin in Colorado is still maintaining above average reservoir storage volumes, which may become critical this summer. Statewide reservoir storage remained unchanged from a month ago and resides at 115 percent of average.

Snowpack



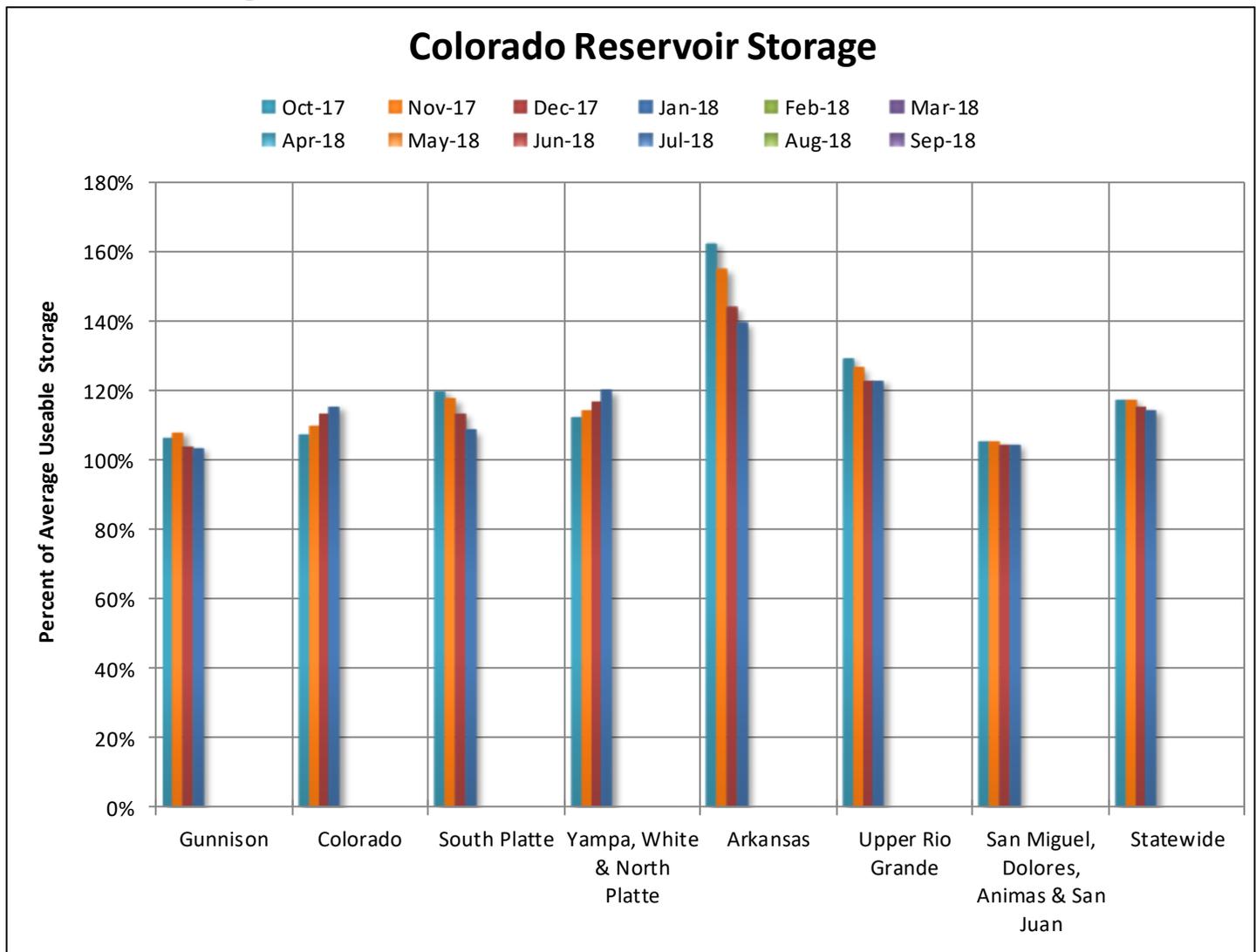
The storm track failed to deliver the moisture laden storms that Colorado was hoping for last month. The mountains across the state continue to hold a below normal snowpack, making the possibility of achieving a normal snowpack peak a dwindling prospect. There continues to be a strong gradient in snowpack conditions deteriorating north to south across the state, with the North and South Platte River basins having the most favorable conditions at 82 and 80 percent of median, respectively. However, these two basins both experienced a drop compared to normal conditions since last month after monthly snowpack accumulations in January were below normal, except at a handful of SNOTEL sites. Colorado's remaining major river basins all experienced a slight boost to percent of normal snowpack, however these improvements are little consolation given the grim snowpack present in the southern river basins. The combined San Miguel, Dolores, Animas, and San Juan River basins are currently at 34 percent of median and the Upper Rio Grande is at 31 percent. In these two basins, more than half of the snow measurement sites (snow courses and SNOTEL) are at or near record low levels. The mountains are already about two-thirds of the way through a typical snowpack accumulation season, so impressive snowfall that is considerably above average is needed to overcome the snow drought that dominated these basins for the first half of the water year. Snowpack amounts in the Gunnison and Arkansas River basins are only slightly better, at 48 and 55 percent of median respectively. The Upper Colorado and combined Yampa and White River basins are in the middle of the range of the current snowpack values across the state, and are at 73 and 70 percent of median respectively. Statewide, snowpack is at a dismal 59 percent of median. A major shift in precipitation patterns is badly needed to bring the state's snowpack anywhere close to normal levels.

Precipitation



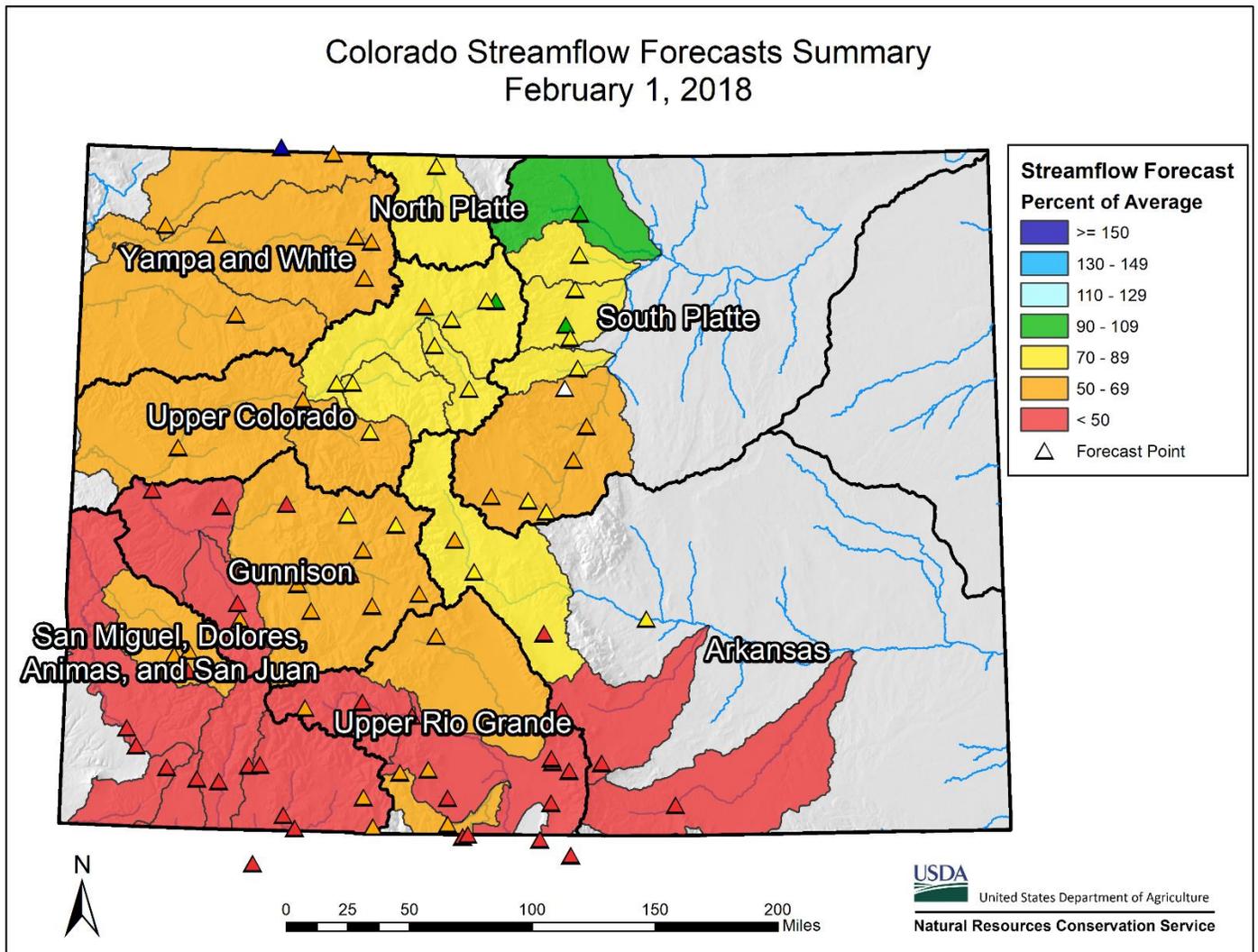
January precipitation amounts were an improvement over the previous monthly accumulations in many of Colorado's major river basins, however precipitation for the month was below normal across the entire state. Additionally, water year-to-date precipitation is no longer above normal for any basin. The northern basins received precipitation accumulations in January that were nearest to normal amounts and these basins have the highest water year precipitation with respect to normal. The South Platte, combined Yampa, White, and North Platte, and Colorado River basins all received between 80 and 85 percent of average monthly precipitation. The January accumulations resulted in a minimal change to the water year-to-date precipitation for the Colorado and combined Yampa, White, and North Platte River basins, which are at 76 and 77 percent of average respectively. Water year-to-date precipitation fell slightly in the South Platte, but the basin remains near normal at 98 percent of average for the water year. The Gunnison received precipitation that was 73 percent of average for January, which while still below average, boosted the water year precipitation in the basin from 36 percent to 46 percent of average. The Arkansas and combined San Miguel, Dolores, Animas, and San Juan River basins were at 58 and 55 percent of average for the month, while the Upper Rio Grande River basin experienced the driest conditions in the state and received only 50 percent of average January precipitation. The combined San Miguel, Dolores, Animas, and San Juan River basins continue to have the lowest water-year-to date precipitation in the state. Average SNOTEL precipitation for these basins is only 4 inches for the water year, which is 29 percent of average. Statewide, January precipitation was 70 percent of average, while the water year precipitation rose slightly to 62 percent of average.

Reservoir Storage



Reservoir levels have fluctuated minimally throughout water year 2018 so far, relative to normal amounts. Statewide reservoir storage was 115 percent of average as of February 1st, the same value as of a month ago. Storage across the major basins has shown change but generally nothing too substantial and all basins remain at above average levels. The most significant declines over the last four months have been in the Arkansas basin, but these reservoirs still have the highest storage in the state, at 140 percent of average. On the low end, the Gunnison and combined San Miguel, Dolores, Animas, and San Juan basins are holding 104 and 105 percent of average storage, respectively. Storage is 109 percent of normal in the South Platte River basin and 116 percent in the Upper Colorado. The Upper Rio Grande River basin continues to hold well above average reservoir storage, at 123 percent, the same as last month. Given the very low snowpack levels in the Rio Grande this is an especially important year to have good reservoir storage, as it has been below average since 2002. The combined Yampa, White, and North Platte River basins lie slightly lower than the Rio Grande relative to normal, holding 120 percent of their average storage values. Given the current low snowpack and streamflow forecasts across the state, particularly in southern Colorado, these above average reservoir volumes may become a critical resource this summer.

Streamflow

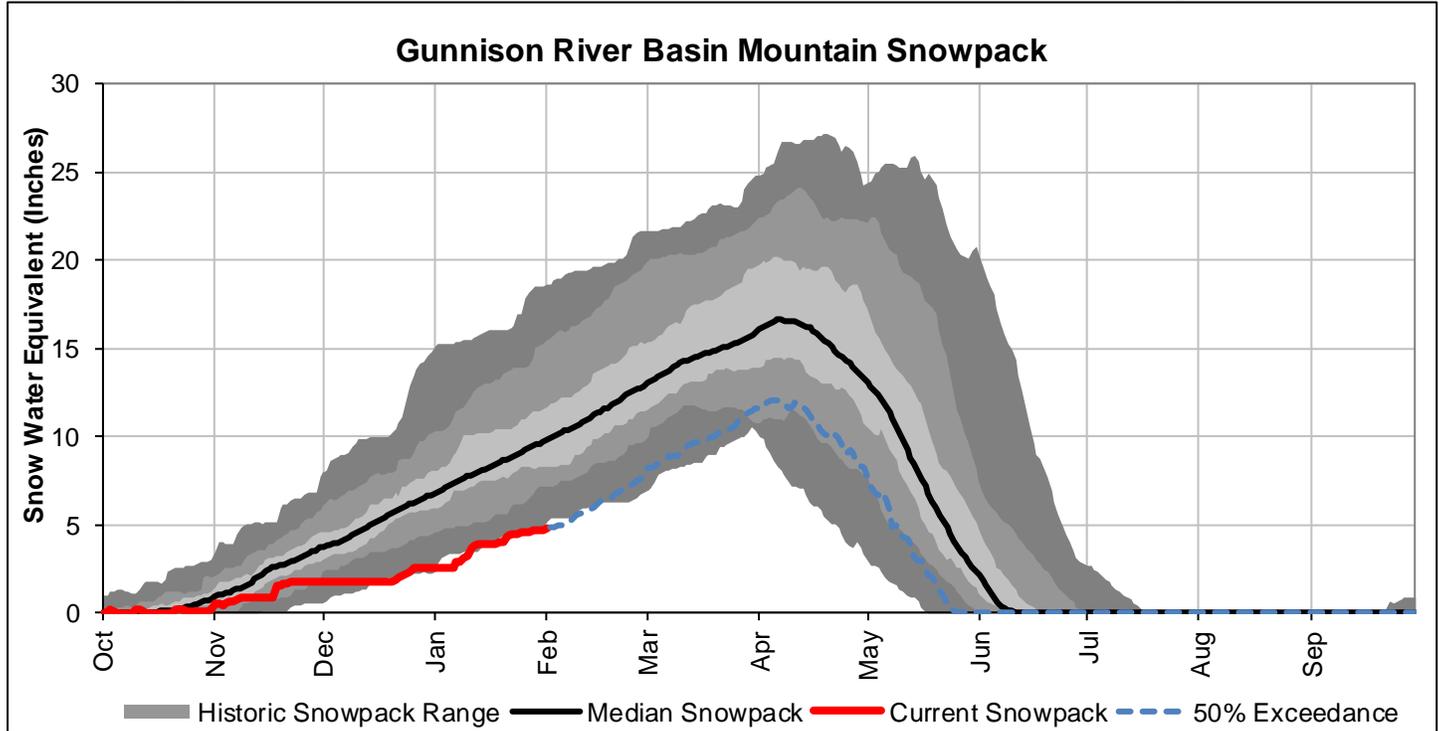


February 1st streamflow forecasts vary widely across the state, largely following the trend of a well below average snowpack in southern Colorado and closer to normal values in the northern Front Range. While there are many streams in the Colorado River headwaters and the northern portion of the South Platte basin forecast to have near average streamflows this summer, there are currently no points in the state forecasted to have above average streamflow at the 50% chance of exceedance level. On the high end, several streams in the South Platte and Colorado River basins are forecast to have 91 percent of average April-July flows, but other forecasts across these basins also range to as low as 59 percent of normal. Across the combined Yampa and White River basins, forecasts range from a low of 48 percent on Elkhead Creek to a high of 70 percent on the Elk River near Milner. Forecasted streamflow volumes generally continue to get lower and lower moving towards the southwest corner of the state. The average of streamflow forecasts across the Gunnison basin is for 55 percent of normal volumes. Forecasts for the rivers and streams of the Rio Grande basin have not changed dramatically from a month ago and currently average out to around 50 percent of normal, but with many substantially lower. The combined San Miguel, Dolores, Animas, and San Juan basins of far southwest Colorado currently have the most consistently low streamflow forecasts in the state. The Dolores, Animas, and San Juan rivers are all forecast to have 43-45 percent of normal flows and the total range of forecasts in these combined basins is 33-56 percent. Forecasts in the Arkansas basin vary the most of any in the state, from a high of 80 percent of average for the Arkansas River at Salida to a low of 20 percent for Grape Creek at Westcliffe.

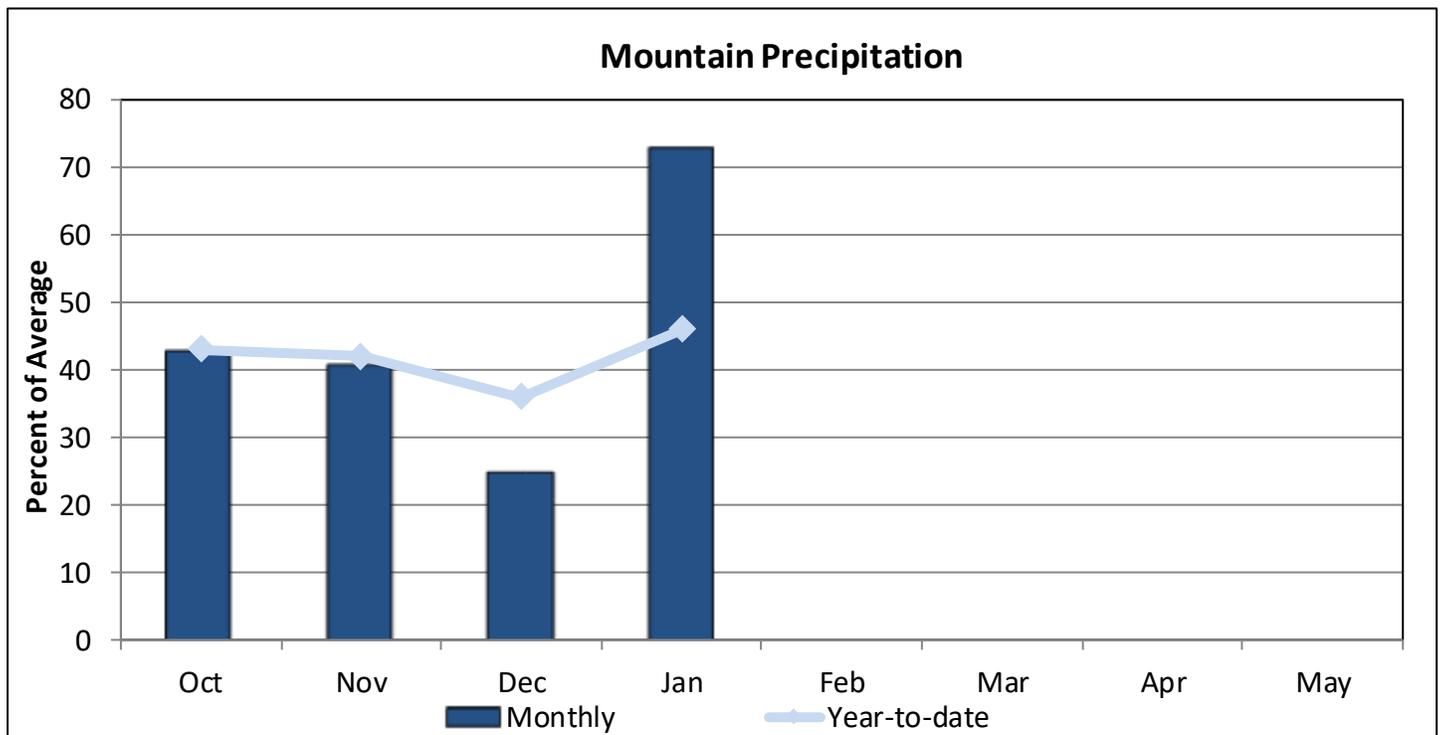
GUNNISON RIVER BASIN

February 1, 2018

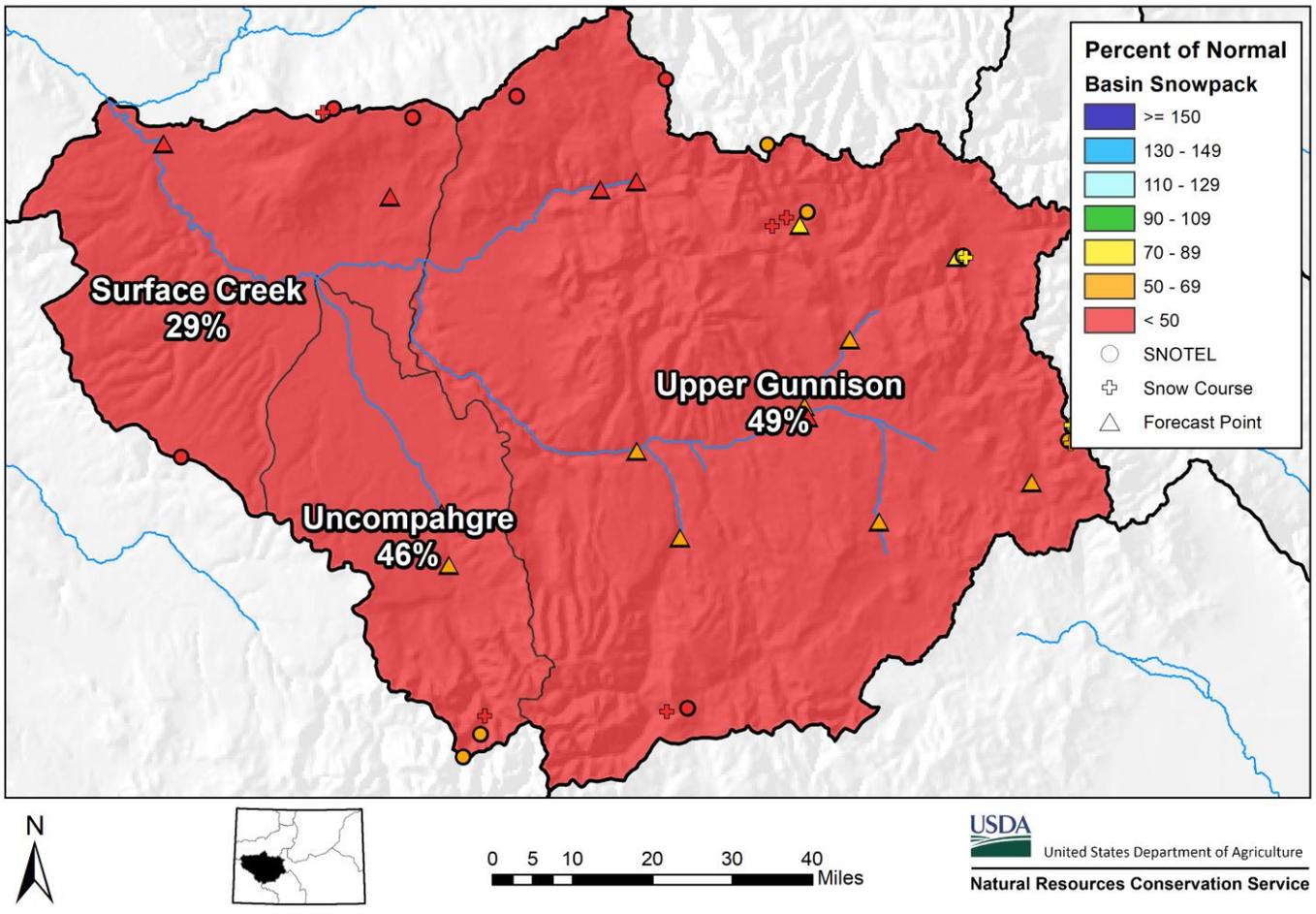
Snowpack in the Gunnison River basin is below normal at 48% of the median. Precipitation for January was 73% of average which brings water year-to-date precipitation up to 46% of average. Reservoir storage at the end of January was 104% of average compared to 108% last year. Current streamflow forecasts range from 72% of average for the Slate River near Crested Butte to 27% for Surface Creek at Cedaredge.



*SWE values calculated using daily SNOTEL data only



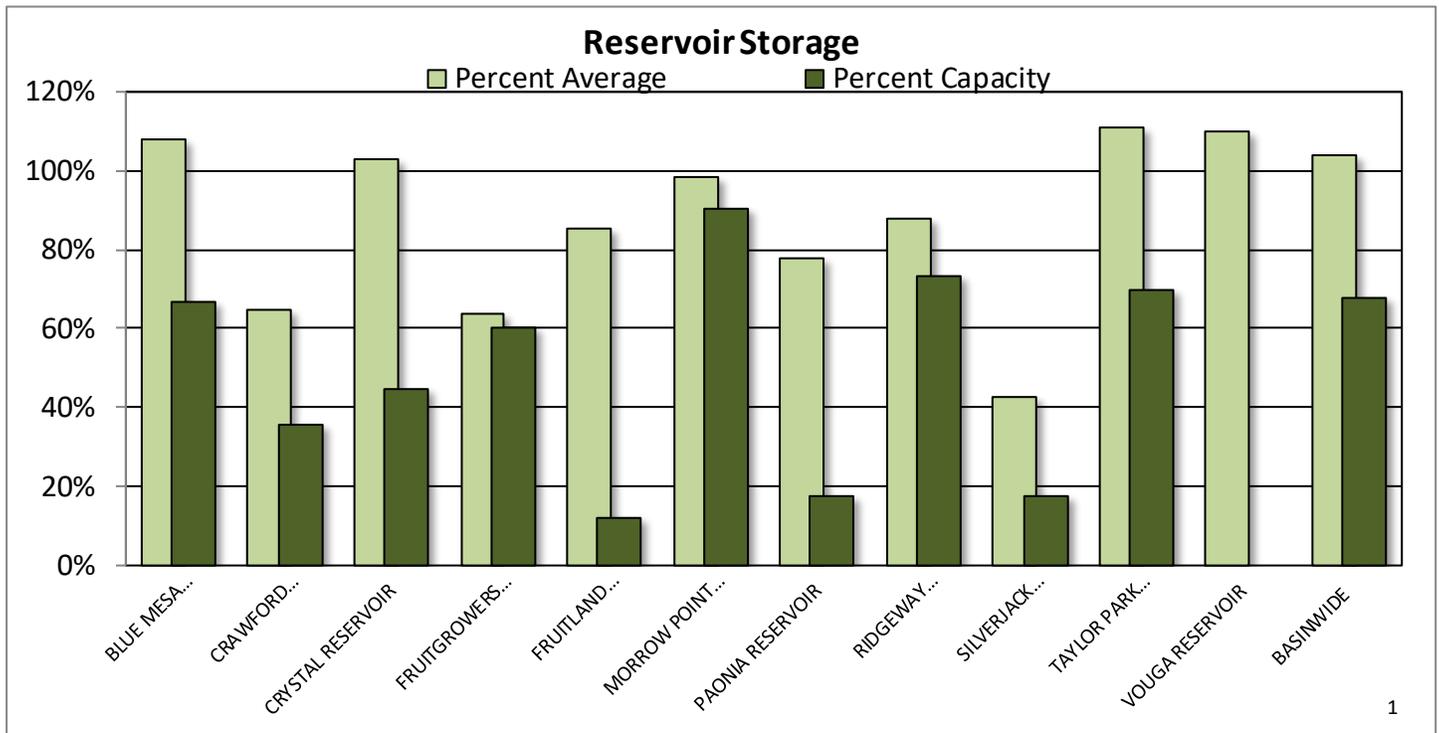
Gunnison River Basin Snowpack and Streamflow Forecasts February 1, 2018



Watershed Snowpack Analysis February 1st, 2018

Sub-Basin	# of Sites	% Median	Last Year %	
			Median	
Upper Gunnison	17	49	172	
Surface Creek	3	29	153	
Uncompahgre	4	46	164	
Basin-Wide Total	21	48	171	

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



Reservoir Storage End of January 2018

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
BLUE MESA RESERVOIR	554.5	586.6	514.6	830
CRAWFORD RESERVOIR	5.0	6.0	7.7	14
CRYSTAL RESERVOIR	7.8	8.5	7.6	18
FRUITGROWERS RESERVOIR	2.2	2.8	3.4	4
FRUITLAND RESERVOIR	1.1	0.7	1.3	9
MORROW POINT RESERVOIR	109.3	112.0	111.4	121
PAONIA RESERVOIR	2.7	1.5	3.5	15
RIDGEWAY RESERVOIR	60.9	63.7	69.2	83
SILVERJACK RESERVOIR	2.3	2.2	5.3	13
TAYLOR PARK RESERVOIR	74.2	69.5	66.9	106
VOUGA RESERVOIR	0.7	0.9	0.7	0.92
BASINWIDE	820.7	854.4	791.6	1213.4
Number of Reservoirs	11	11	11	11

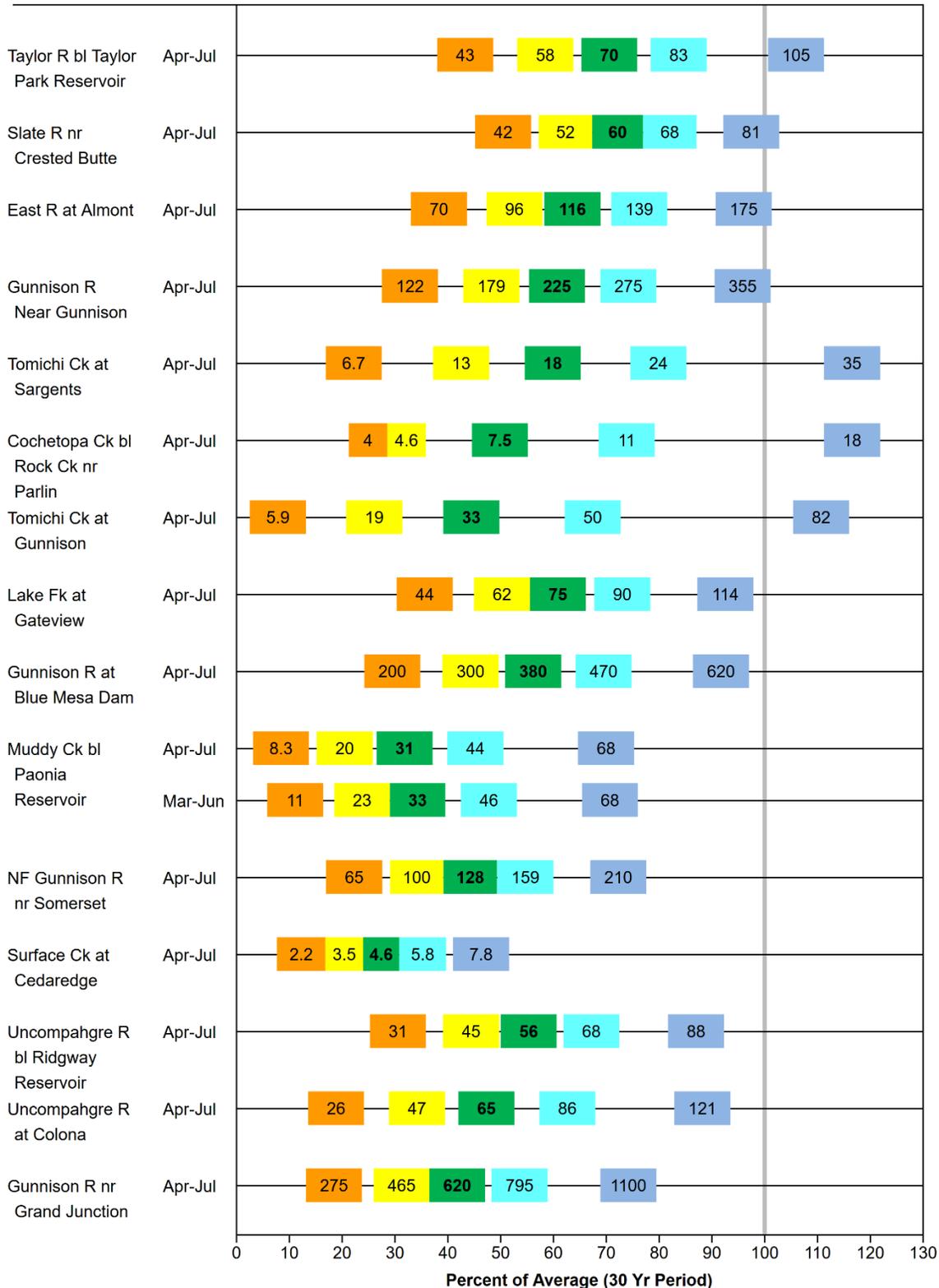
GUNNISON RIVER BASIN

Water Supply Forecasts

February 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.

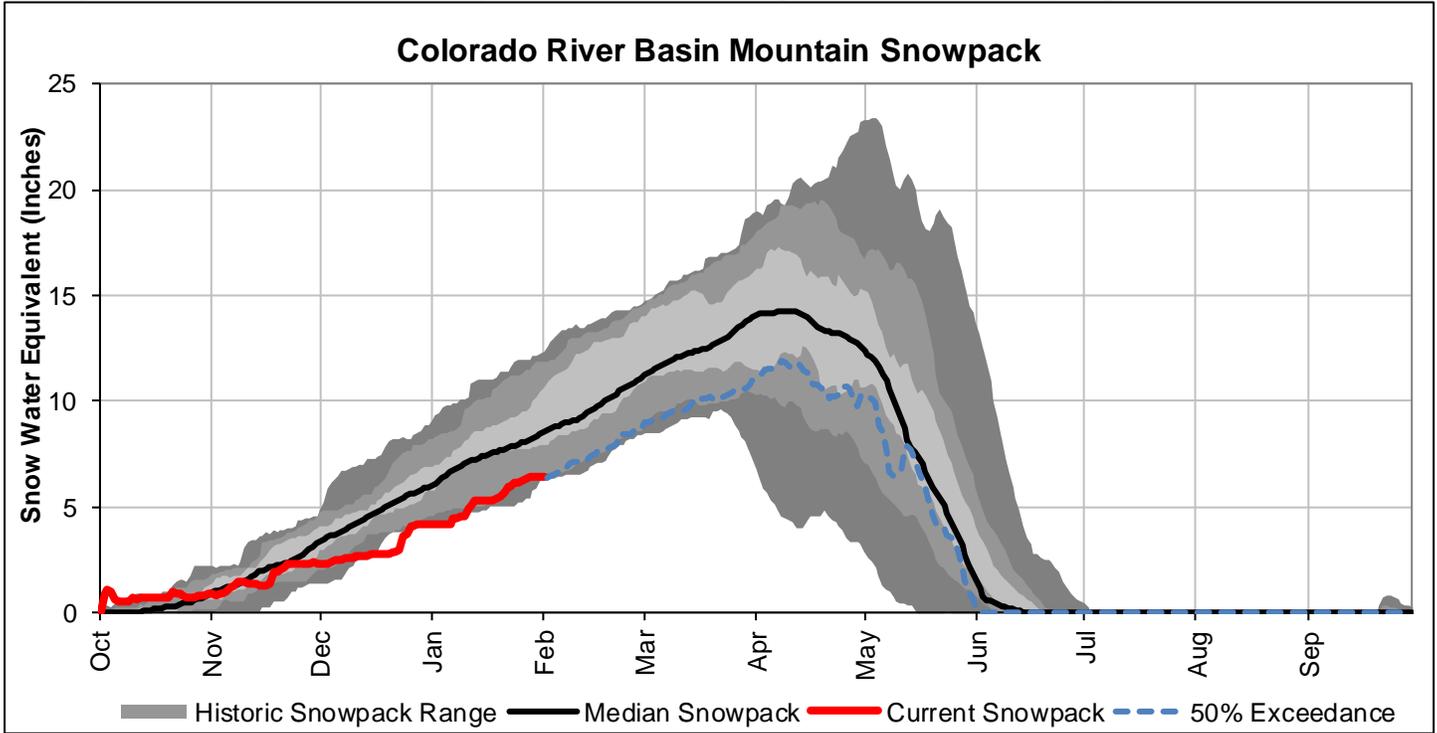


10% Exceedance Forecast (KAF)	30% Exceedance Forecast (KAF) There is a 30% chance that flows will exceed this volume.	50% Exceedance Forecast (KAF) There is a 50% chance that flows will exceed this volume.	70% Exceedance Forecast (KAF) There is a 70% chance that flows will exceed this volume.	90% Exceedance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

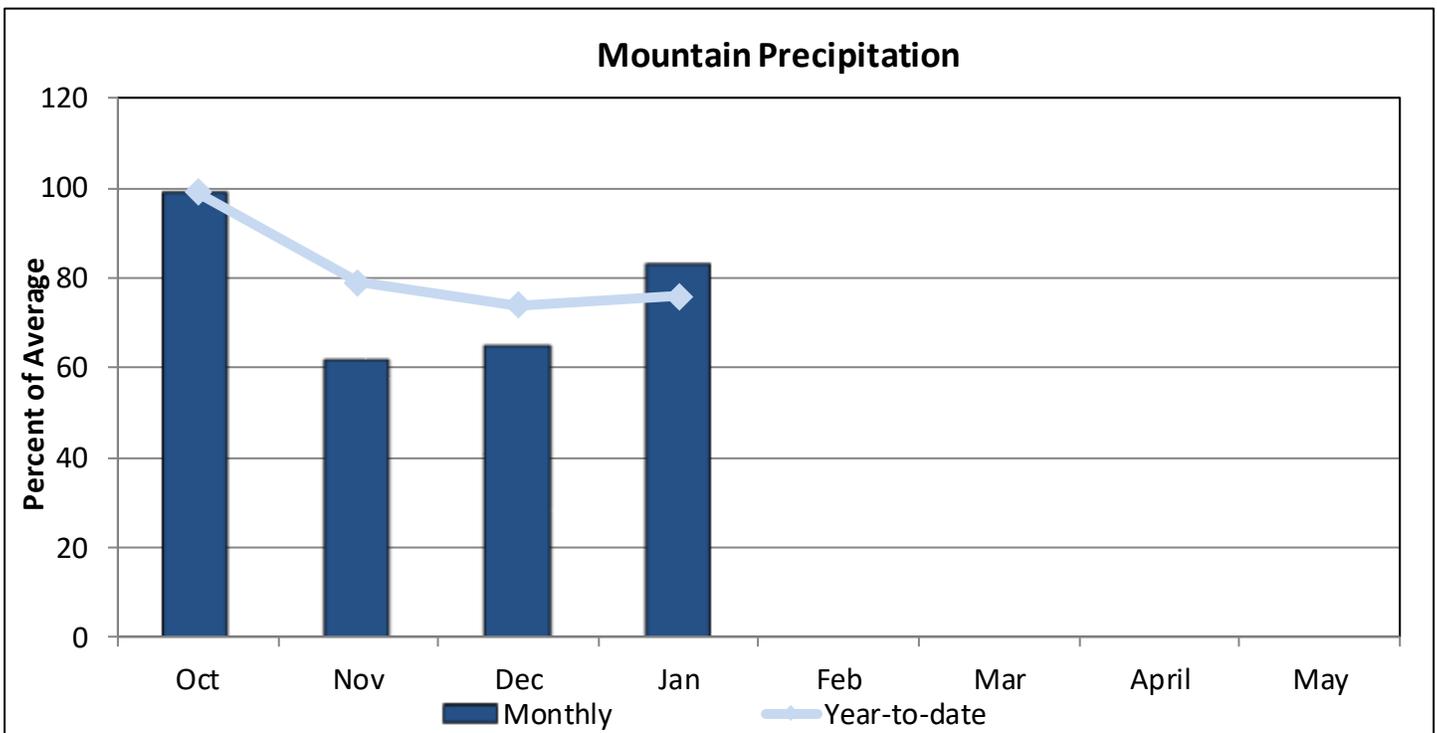
UPPER COLORADO RIVER BASIN

February 1, 2018

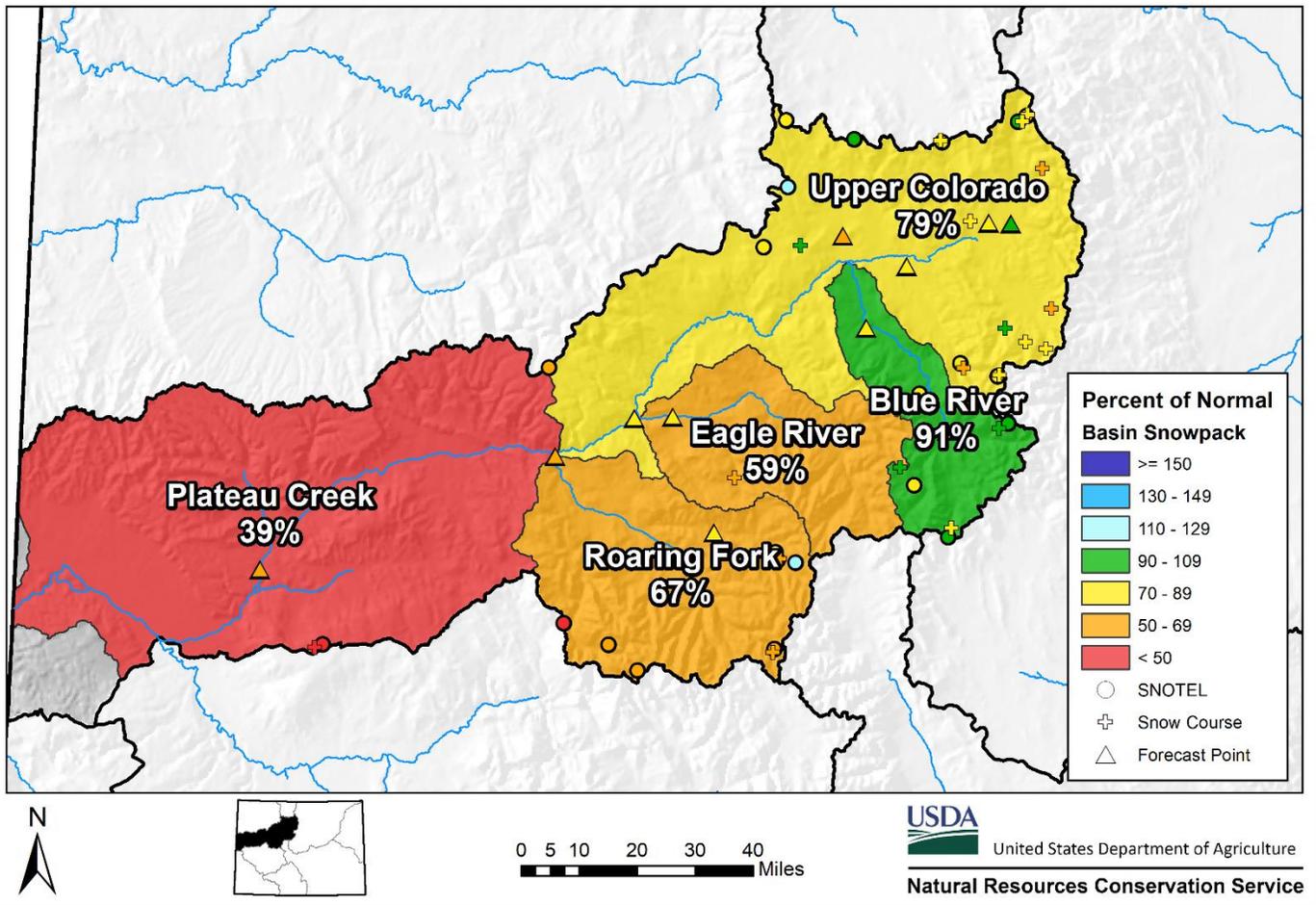
Snowpack in the Colorado River basin is below normal at 73% of the median. Precipitation for January was 83% of average which brings water year-to-date precipitation to 76% of average. Reservoir storage at the end of January was 116% of average compared to 108% last year. Current streamflow forecasts range from 91% of average for the inflow to Lake Granby to 59% for the Roaring Fork at Glenwood Springs.



*SWE values calculated using daily SNOTEL data only



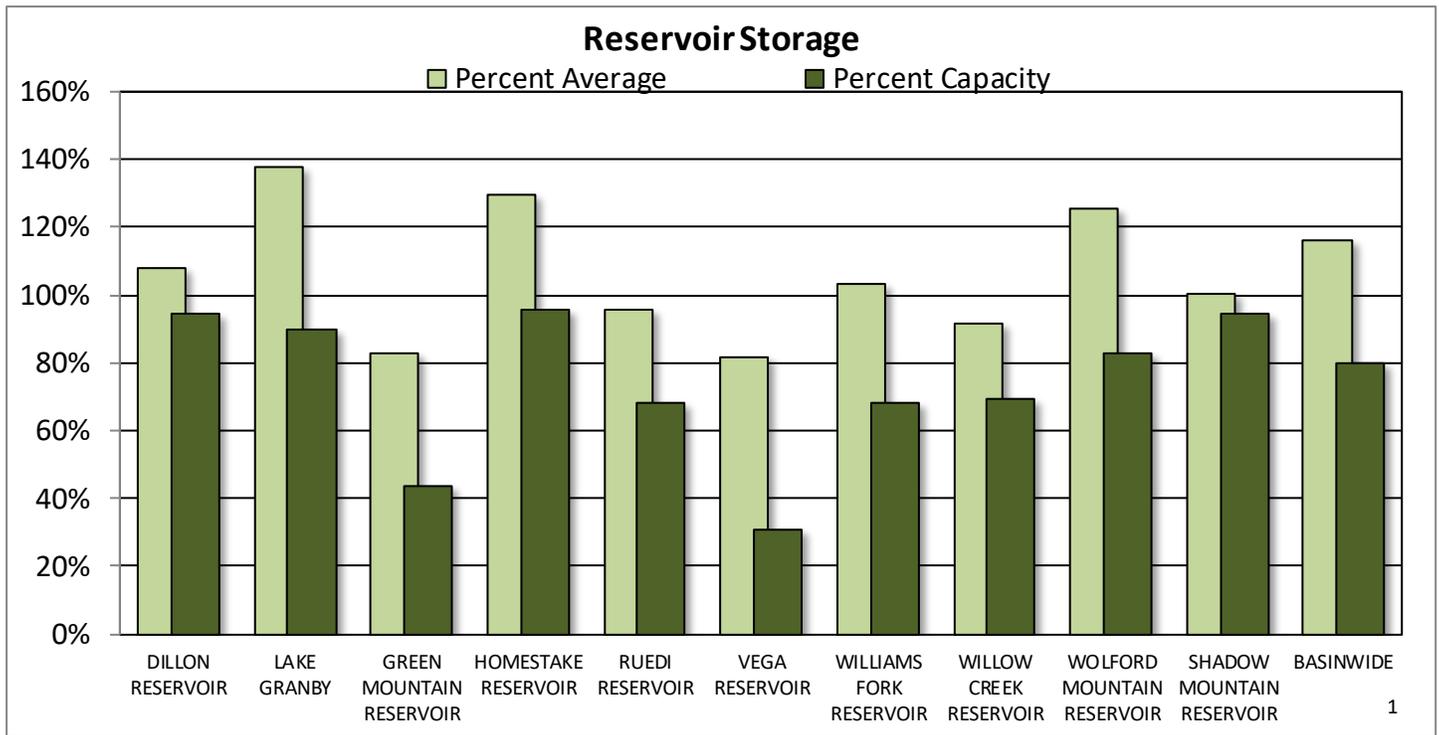
Upper Colorado River Basin Snowpack and Streamflow Forecasts February 1, 2018



Watershed Snowpack Analysis February 1st, 2018

Sub-Basin	# of Sites	% Median	Last Year %	
			% Median	Median
Blue River	8	91		157
Upper Colorado	36	79		151
Muddy Creek	5	89		151
Eagle River	5	59		130
Plateau Creek	6	39		145
Roaring Fork	9	67		171
Williams Fork	5	72		137
Willow Creek	5	85		187
Basin-Wide Total	48	73		154

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



Reservoir Storage End of January 2018

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
DILLON RESERVOIR	235.1	219.0	218.4	249
LAKE GRANBY	417.2	350.0	302.9	466
GREEN MOUNTAIN RESERVOIR	63.7	60.4	77.1	147
HOMESTAKE RESERVOIR	41.0	42.1	31.7	43
RUEDI RESERVOIR	69.4	67.8	72.4	102
VEGA RESERVOIR	10.1	11.0	12.4	33
WILLIAMS FORK RESERVOIR	66.0	74.4	63.8	97
WILLOW CREEK RESERVOIR	6.3	6.7	6.9	9
WOLFORD MOUNTAIN RESERVOIR	54.6	50.8	43.6	66
SHADOW MOUNTAIN RESERVOIR	17.4	17.4	17.3	18
BASINWIDE	980.9	899.5	846.5	1229.8
Number of Reservoirs	10	10	10	10

UPPER COLORADO RIVER BASIN

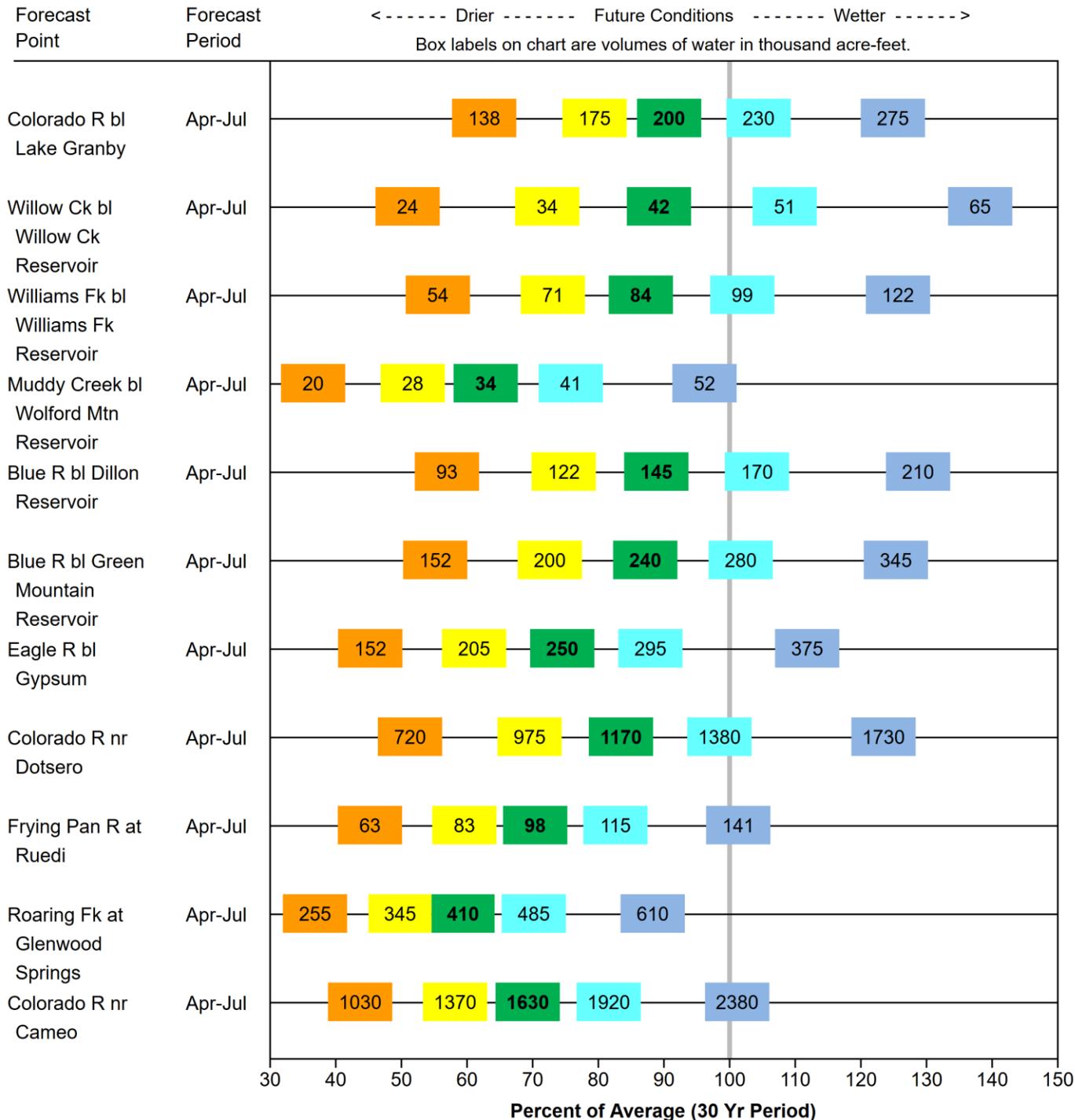
Water Supply Forecasts

February 1, 2018

Forecast Exceedance Probabilities and Volumes

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

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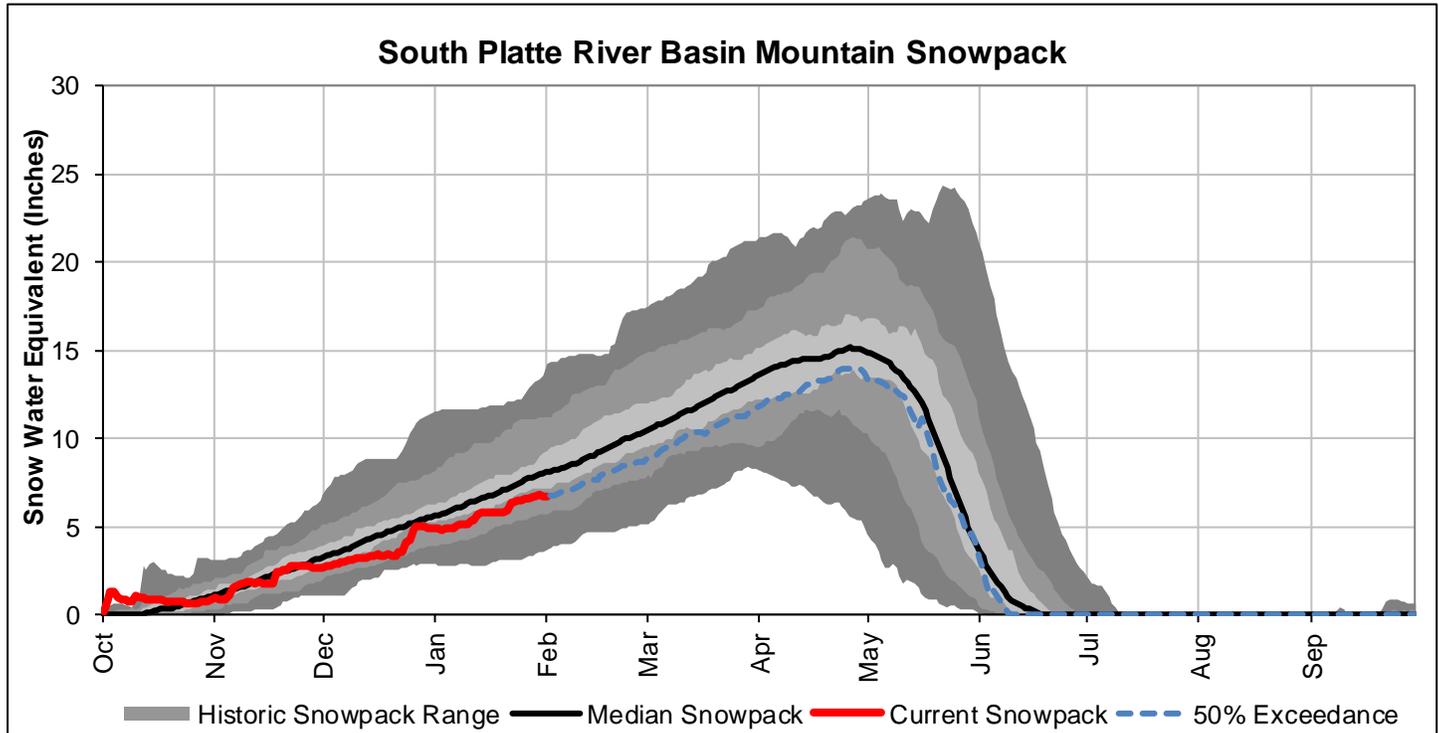


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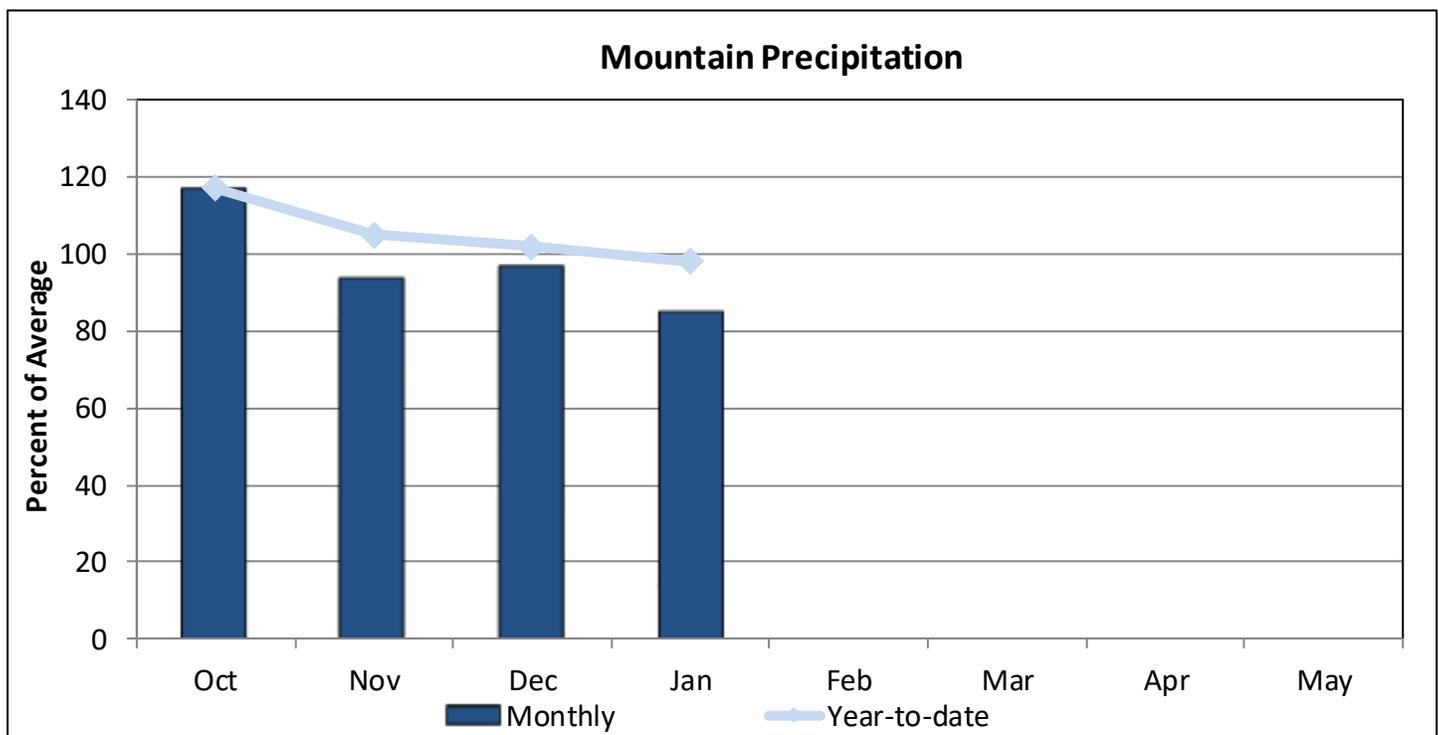
SOUTH PLATTE RIVER BASIN

February 1, 2018

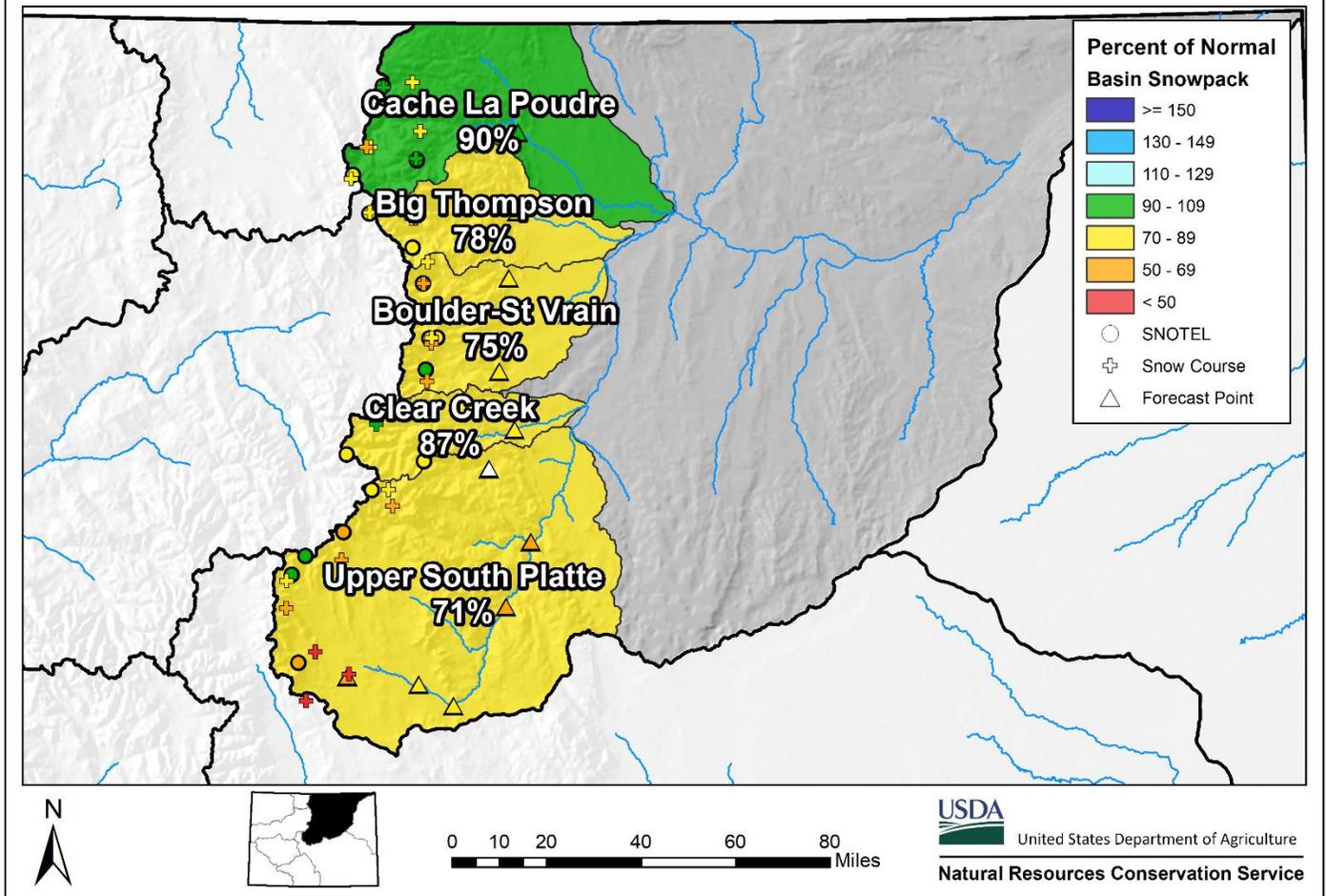
Snowpack in the South Platte River basin is below normal at 80% of the median. Precipitation for January was 85% of average which brings water year-to-date precipitation to 98%. Reservoir storage at the end of January was 109% of average compared to 104% last year. Streamflow forecasts range from 91% of average for Boulder Creek near Orodell to 62% for the inflow to Antero Reservoir.



*SWE values calculated using daily SNOTEL data only



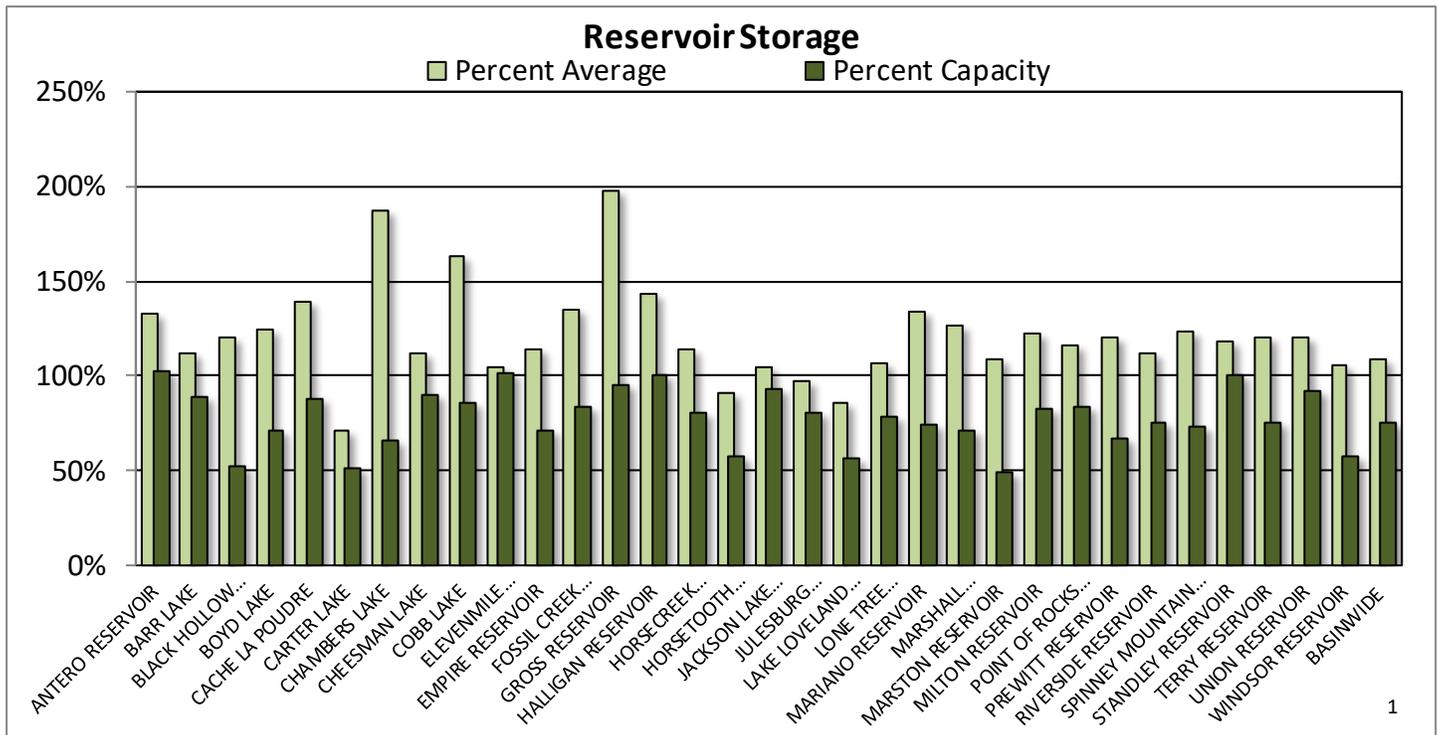
South Platte River Basin Snowpack and Streamflow Forecasts February 1, 2018



Watershed Snowpack Analysis February 1st, 2018

Sub-Basin	# of Sites	% Median	Last Year %	
			% Median	Median
Big Thompson	7	78		160
Boulder Creek	6	79		170
Cache La Poudre	10	90		156
Clear Creek	4	87		145
Saint Vrain	2	60		245
Upper South Platte	16	71		139
Basin-Wide Total	45	80		156

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



Reservoir Storage End of January 2018

Reservoir	(KAF)	(KAF)	(KAF)	(KAF)
ANTERO RESERVOIR	20.3	14.5	15.3	20
BARR LAKE	26.8	24.0	24.0	30
BLACK HOLLOW RESERVOIR	3.4	3.3	2.8	7
BOYD LAKE	34.6	27.6	27.8	48
CACHE LA POUUDRE	8.9	6.8	6.4	10
CARTER LAKE	55.4	71.5	78.3	109
CHAMBERS LAKE	5.8	2.6	3.1	9
CHEESMAN LAKE	71.0	68.5	63.7	79
COBB LAKE	19.1	17.0	11.7	22
ELEVENMILE CANYON RESERVOIR	99.8	99.4	95.9	98
EMPIRE RESERVOIR	25.8	23.7	22.6	37
FOSSIL CREEK RESERVOIR	9.3	9.3	6.9	11
GROSS RESERVOIR	28.3	12.1	14.3	30
HALLIGAN RESERVOIR	6.4	6.4	4.5	6
HORSECREEK RESERVOIR	11.8	7.5	10.4	15
HORSETOOTH RESERVOIR	85.8	114.5	94.7	150
JACKSON LAKE RESERVOIR	24.2	24.0	23.1	26
JULESBURG RESERVOIR	16.5	12.7	16.9	21
LAKE LOVELAND RESERVOIR	5.8	3.9	6.8	10
LONE TREE RESERVOIR	6.8	5.2	6.4	9
MARIANO RESERVOIR	4.0	1.0	3.0	5
MARSHALL RESERVOIR	7.1	5.9	5.6	10
MARSTON RESERVOIR	6.4	5.1	5.9	13
MILTON RESERVOIR	19.3	19.4	15.8	24
POINT OF ROCKS RESERVOIR	59.2	50.9	51.1	71
PREWITT RESERVOIR	18.9	20.1	15.7	28
RIVERSIDE RESERVOIR	41.8	45.1	37.3	56
SPINNEY MOUNTAIN RESERVOIR	35.8	27.6	29.0	49
STANDLEY RESERVOIR	42.0	32.1	35.7	42
TERRY RESERVOIR	6.0	4.8	5.0	8
UNION RESERVOIR	12.0	9.3	10.0	13
WINDSOR RESERVOIR	8.8	11.2	8.3	15
BASINWIDE	827.0	787.0	758.0	1079.5
Number of Reservoirs	32	32	32	32

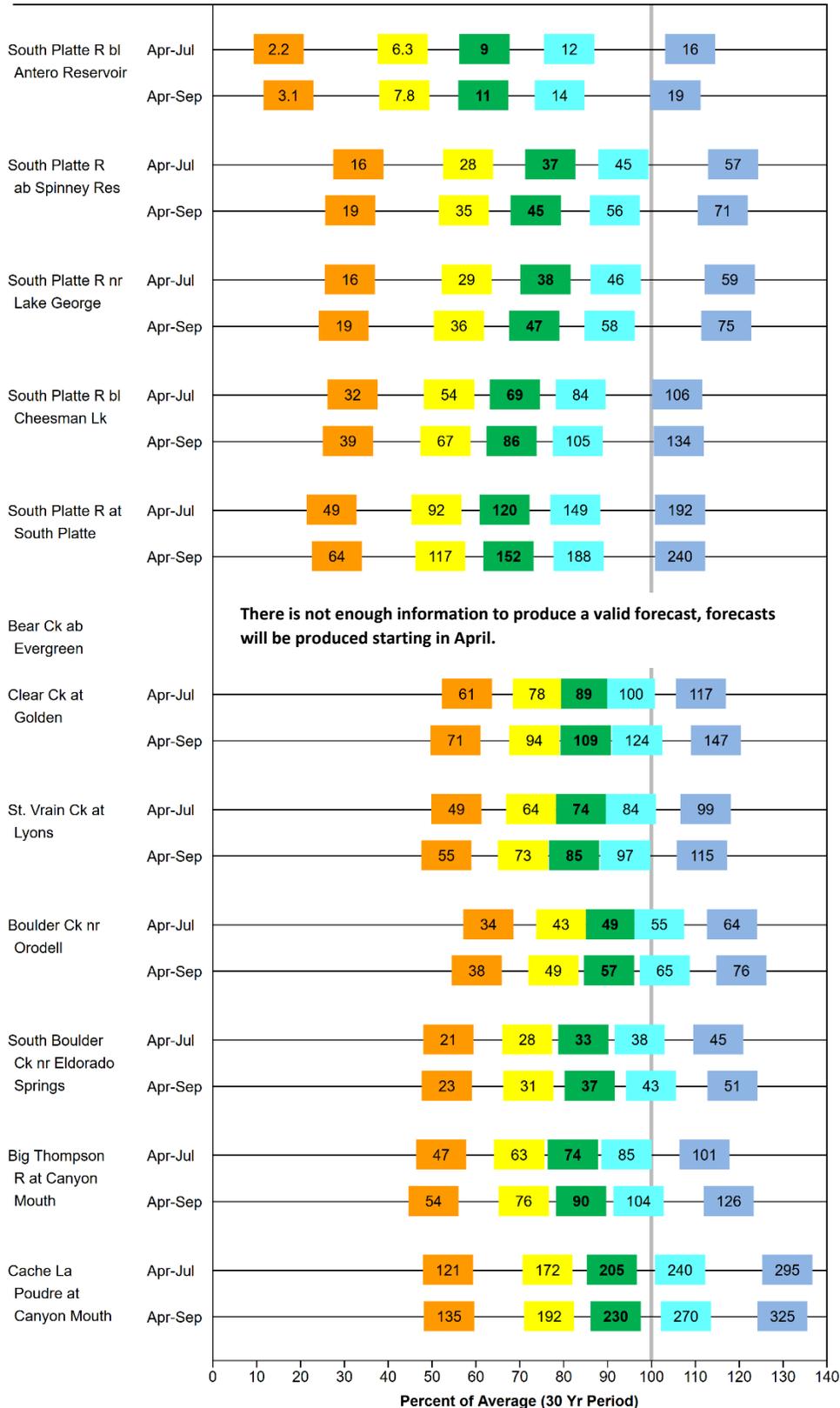
SOUTH PLATTE RIVER BASIN

Water Supply Forecasts

February 1, 2018

Forecast Exceedance Probabilities and Volumes

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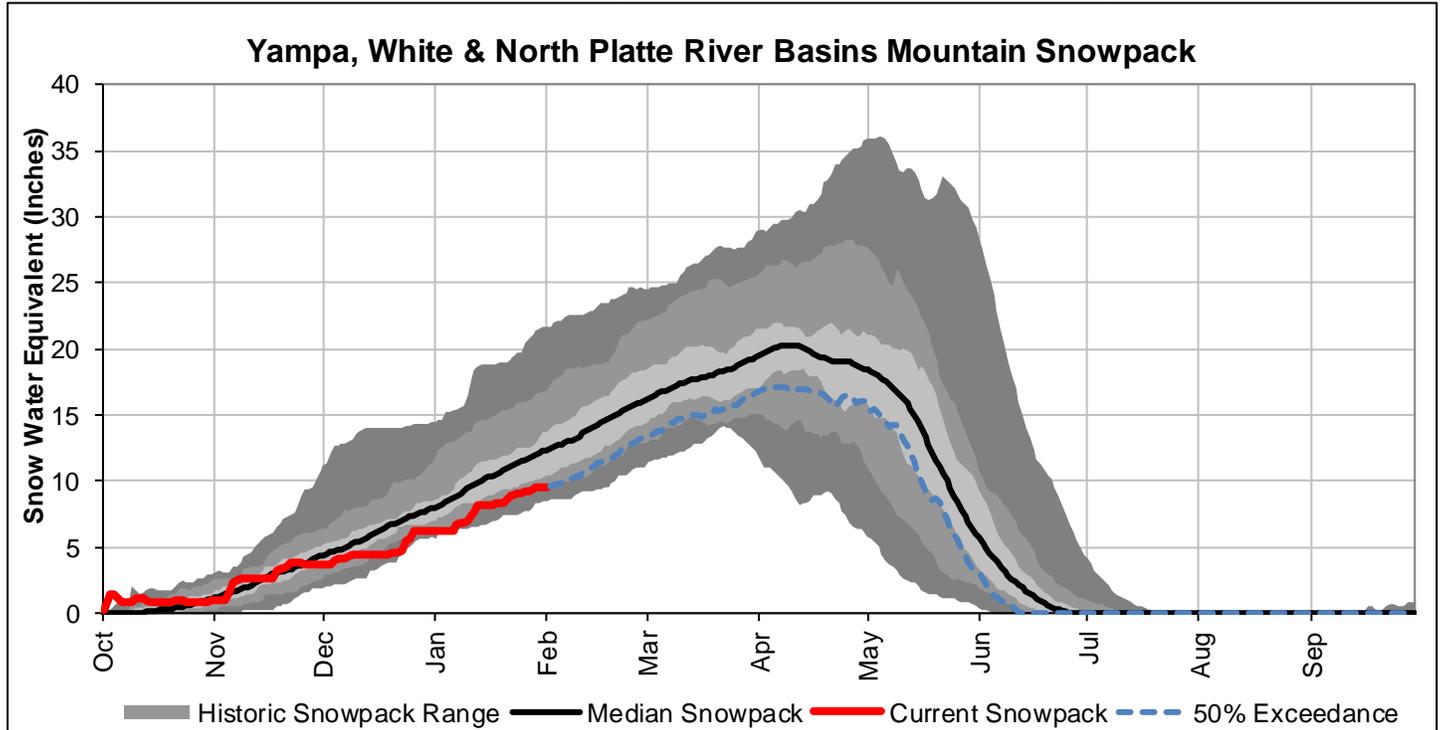


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5% Exceedance	90% Exceedance Forecast (KAF)		
95% Exceedance			

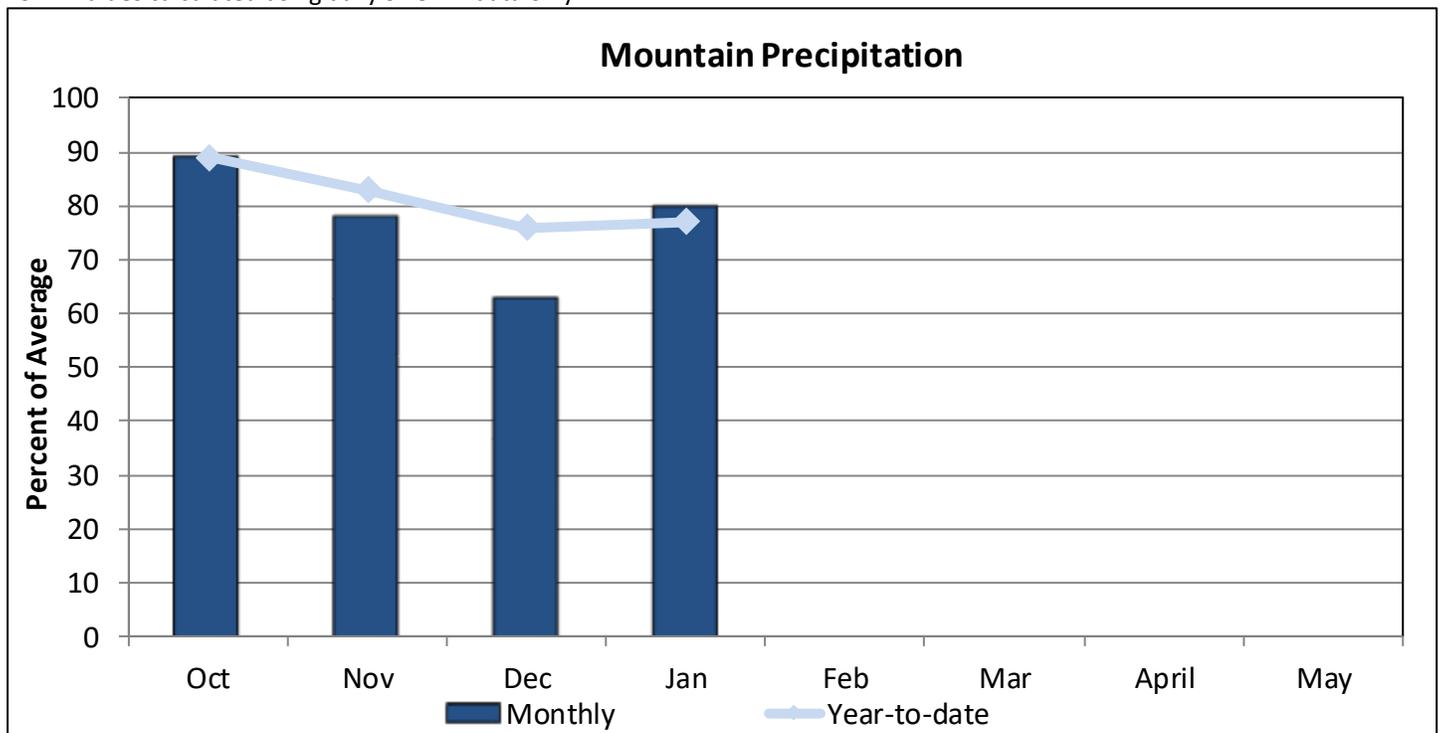
YAMPA, WHITE, NORTH PLATTE, AND LARAMIE RIVER BASINS

February 1, 2018

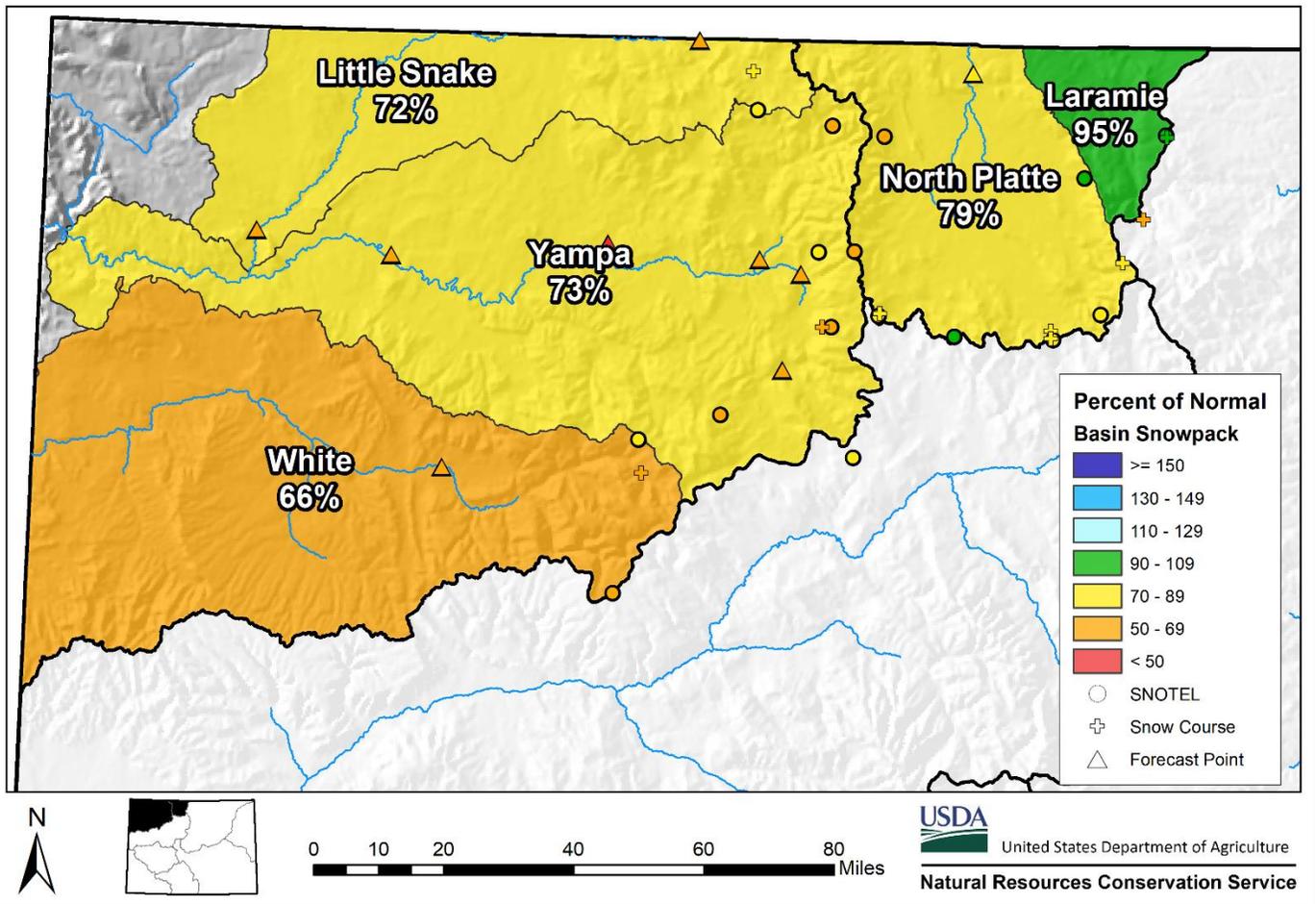
Snowpack in the Yampa, White & North Platte basins is below normal at 75% of the median. Precipitation for January was 80% of average and water year-to-date precipitation is 77% of average. Reservoir storage at the end of January was 120% of average compared to 121% last year. Streamflow forecasts range from 98% of average for the Laramie River at Woods Landing to 48% for Elkhead Creek above Long Gulch.



*SWE values calculated using daily SNOTEL data only



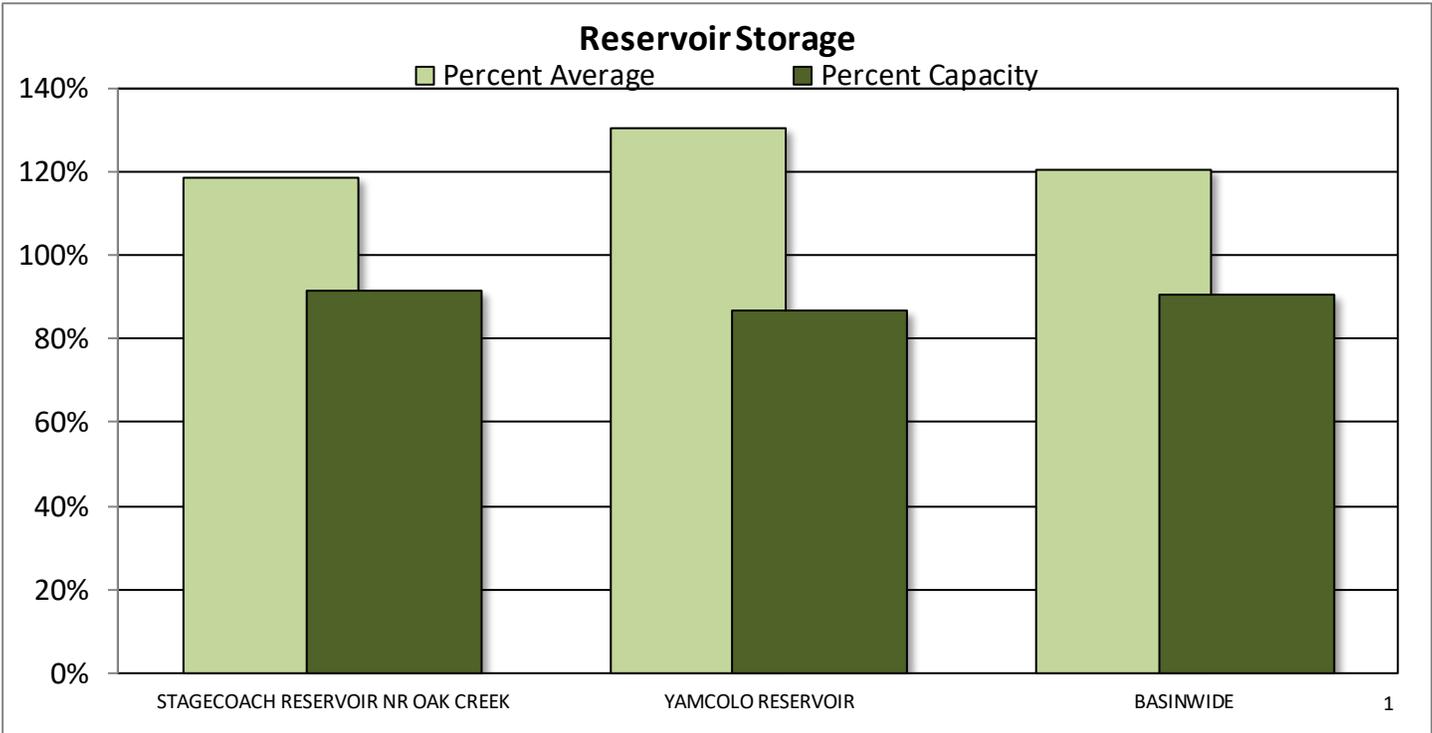
Yampa, White, and North Platte River Basins Snowpack and Streamflow Forecasts February 1, 2018



Watershed Snowpack Analysis February 1st, 2018

Sub-Basin	# of Sites	% Median	Last Year %	
				Median
Laramie	4	95		149
North Platte	12	79		137
Total Laramie & North Platte	16	82		139
Elk	2	68		135
Yampa	11	73		128
White	4	66		134
Total Yampa & White	14	70		128
Little Snake	9	72		132
Basin-Wide Total	35	75		135

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



Reservoir Storage End of January 2018

Reservoir	Current Last Year Average Capacity			
	(KAF)	(KAF)	(KAF)	(KAF)
STAGECOACH RESERVOIR NR OAK C	33.4	34.5	28.2	37
YAMCOLO RESERVOIR	7.6	6.7	5.8	9
BASINWIDE	41.0	41.2	34.0	45.2
Number of Reservoirs	2	2	2	2

YAMPA-WHITE-NORTH PLATTE RIVER BASINS

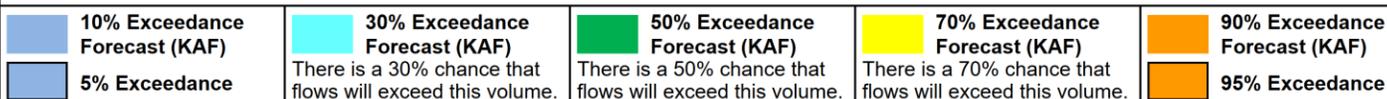
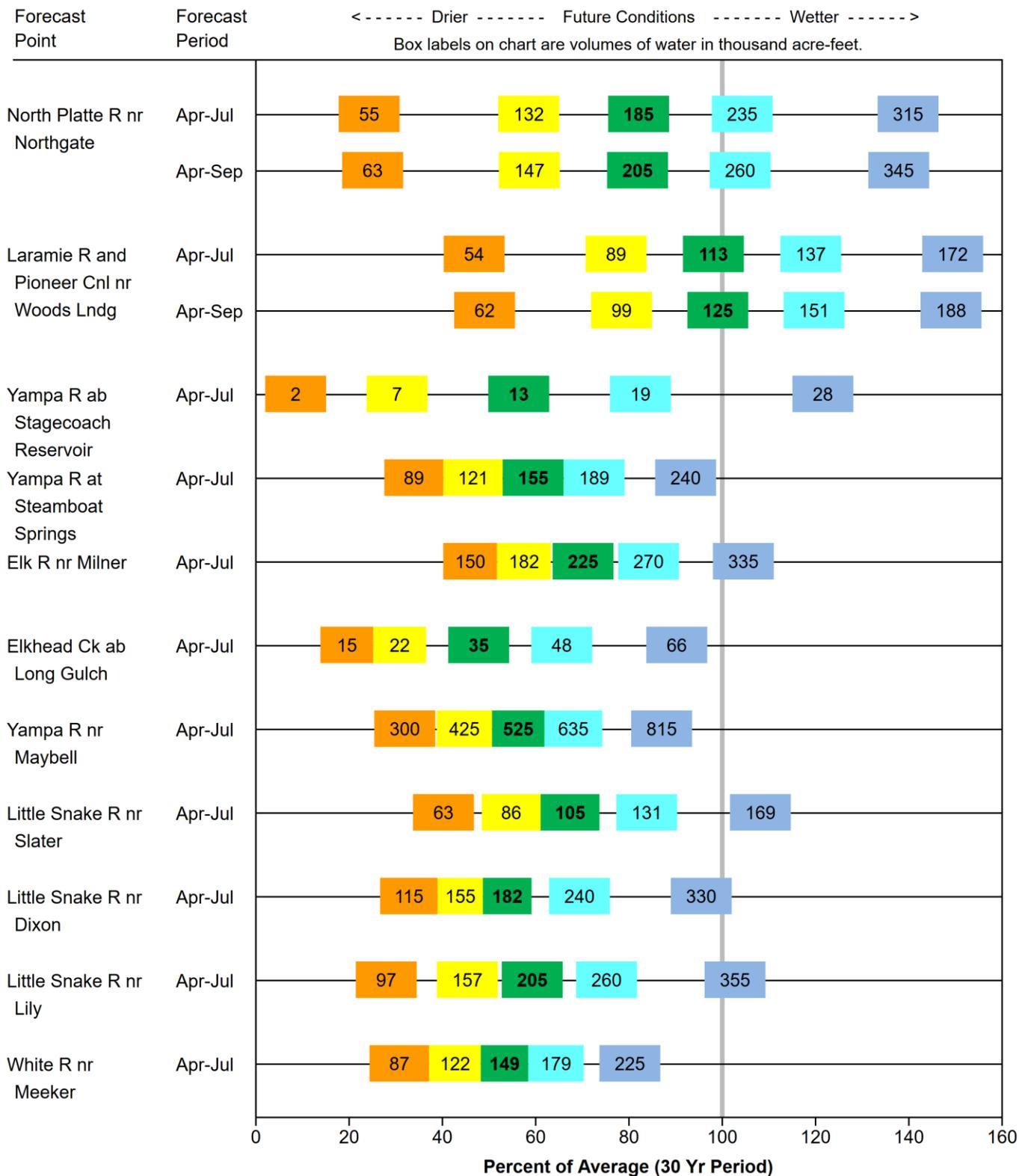
Water Supply Forecasts

February 1, 2018

Forecast Exceedance Probabilities and Volumes

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

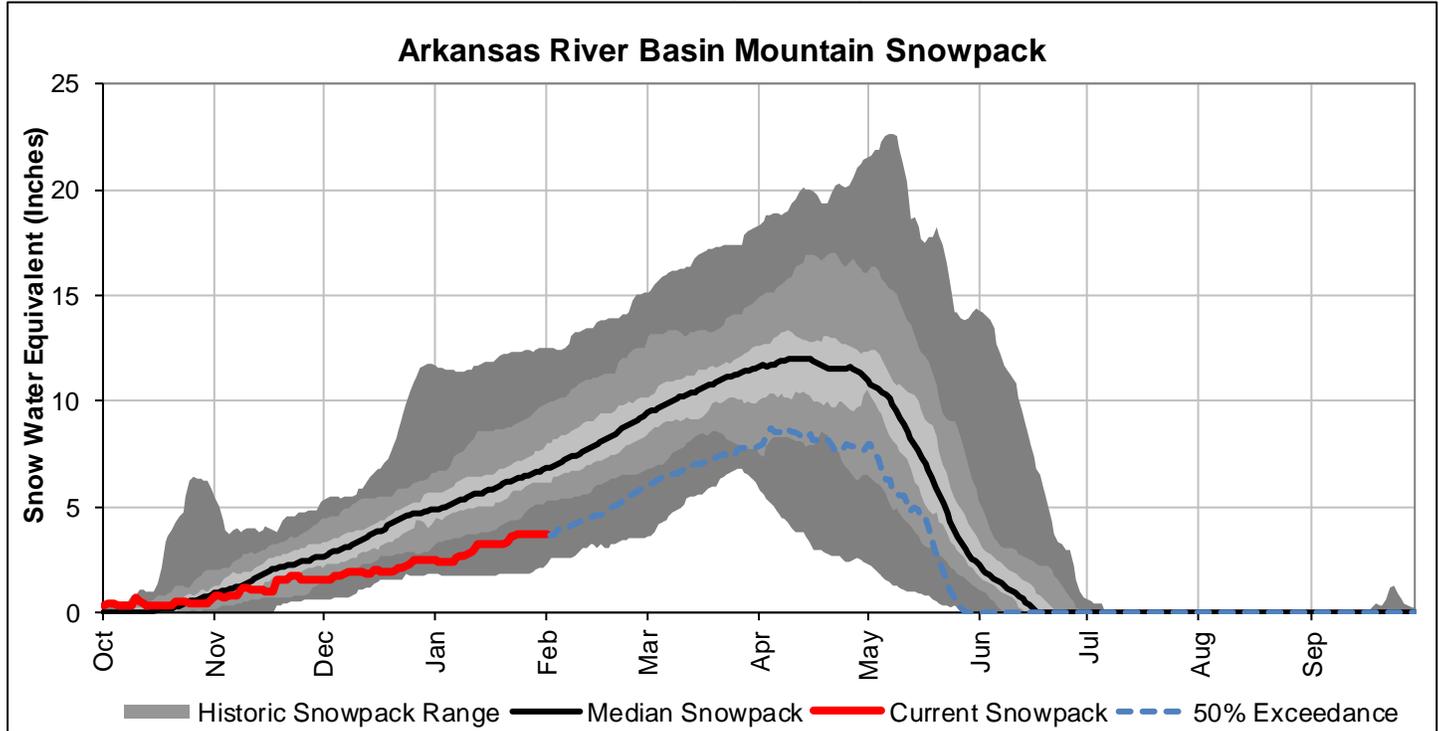
Box labels on chart are volumes of water in thousand acre-feet.



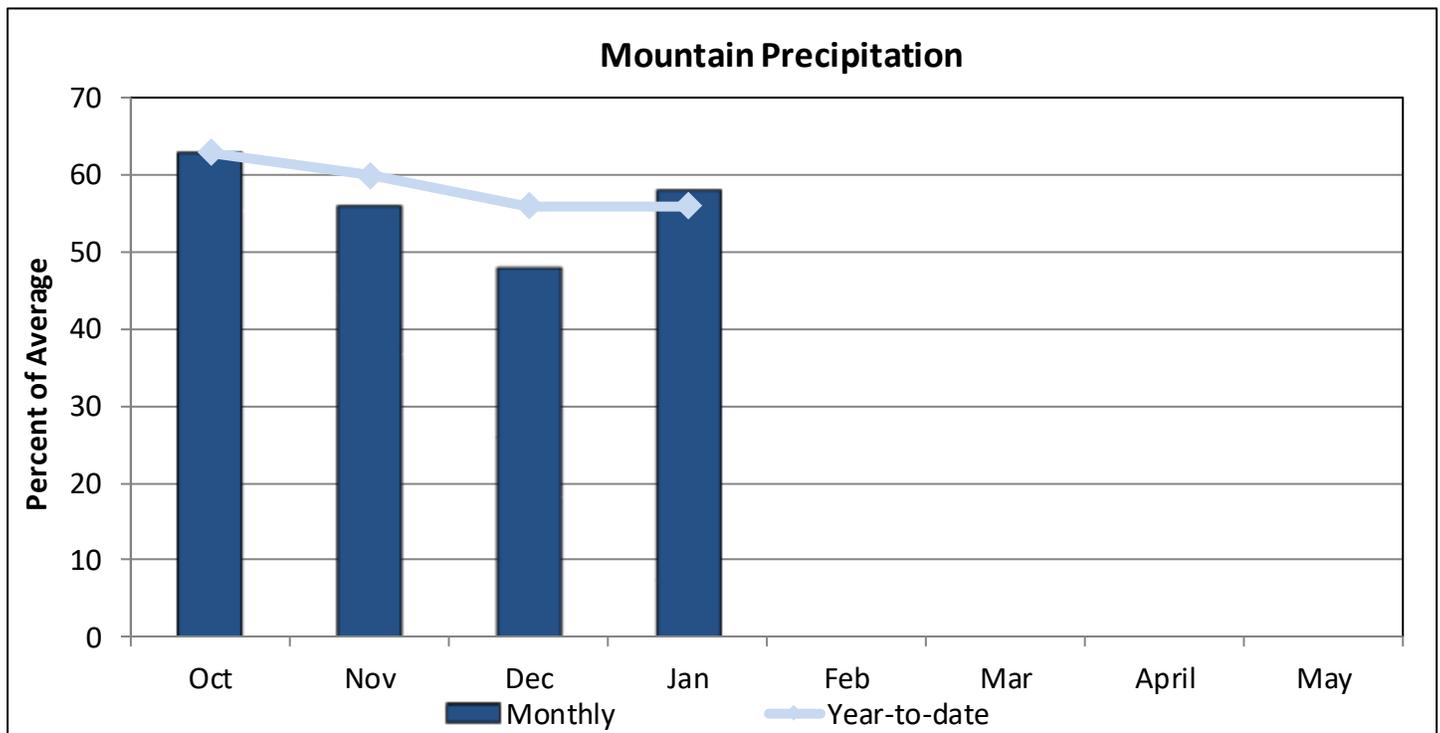
ARKANSAS RIVER BASIN

February 1, 2018

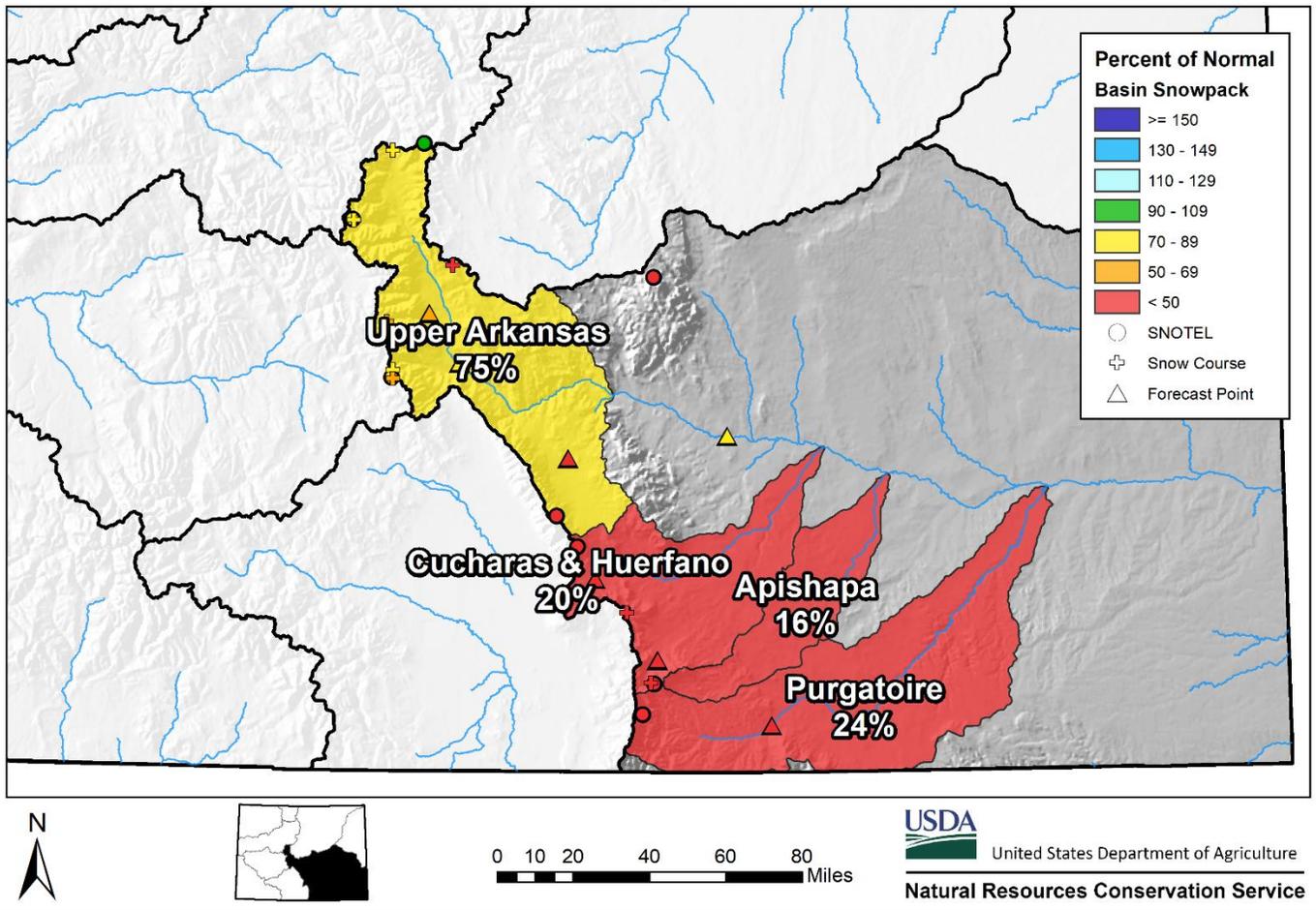
Snowpack in the Arkansas River basin is below normal at 55% of the median. Precipitation for January was 58% of average which brings water year-to-date precipitation to 56% of average. Reservoir storage at the end of January was 138% of average compared to 99% last year. Current streamflow forecasts range from 80% of average for the Arkansas River at Salida to 20% of average for Grape Creek near Westcliffe.



*SWE values calculated using daily SNOTEL data only



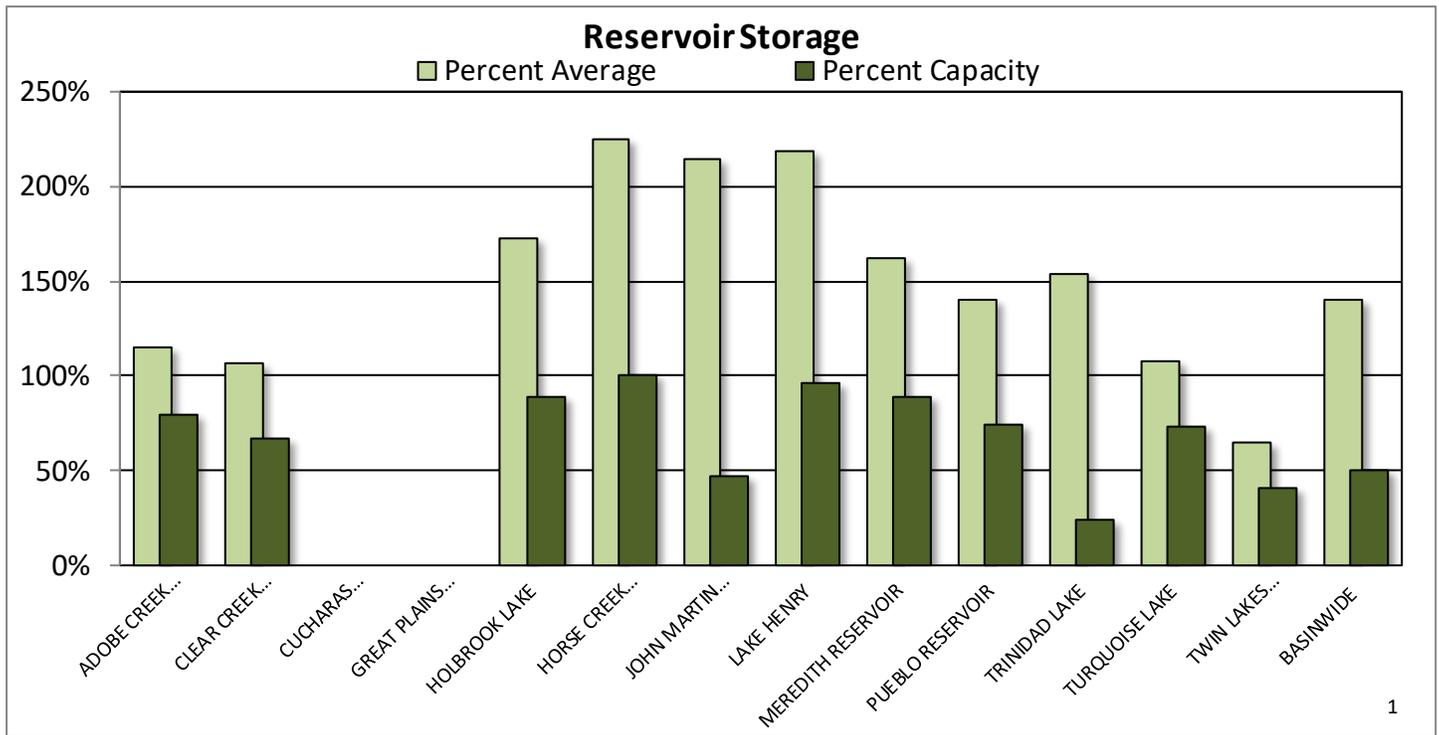
Arkansas River Basin Snowpack and Streamflow Forecasts February 1, 2018



Watershed Snowpack Analysis February 1st, 2018

Sub-Basin	# of Sites	% Median	Last Year %	
			% Median	Median
Upper Arkansas	9	75		169
Cucharas & Huerfano	5	20		142
Purgatoire	2	24		221
Basin-Wide Total	16	55		164

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



Reservoir Storage End of January 2018

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
ADOBE CREEK RESERVOIR	49.4	58.0	42.9	62
CLEAR CREEK RESERVOIR	7.7	7.6	7.2	11
CUCHARAS RESERVOIR	0.0	0.0	0.0	40
GREAT PLAINS RESERVOIR	0.0	0.0	30.7	150
HOLBROOK LAKE	6.2	0.0	3.6	7
HORSE CREEK RESERVOIR	27.0	0.0	12.0	27
JOHN MARTIN RESERVOIR	291.6	120.1	135.9	616
LAKE HENRY	8.9	6.9	4.1	9
MEREDITH RESERVOIR	37.2	33.8	22.9	42
PUEBLO RESERVOIR	262.8	226.9	187.5	354
TRINIDAD LAKE	39.3	24.4	25.6	167
TURQUOISE LAKE	92.7	66.3	86.3	127
TWIN LAKES RESERVOIR	34.9	45.1	54.3	86
BASINWIDE	857.8	589.0	613.0	1698.8
Number of Reservoirs	13	13	13	13

ARKANSAS RIVER BASIN

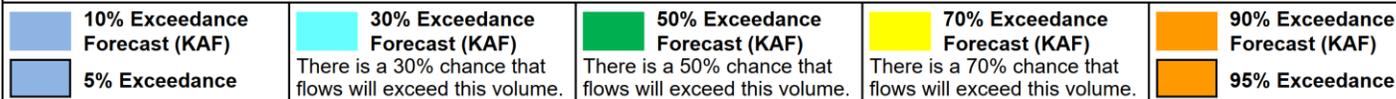
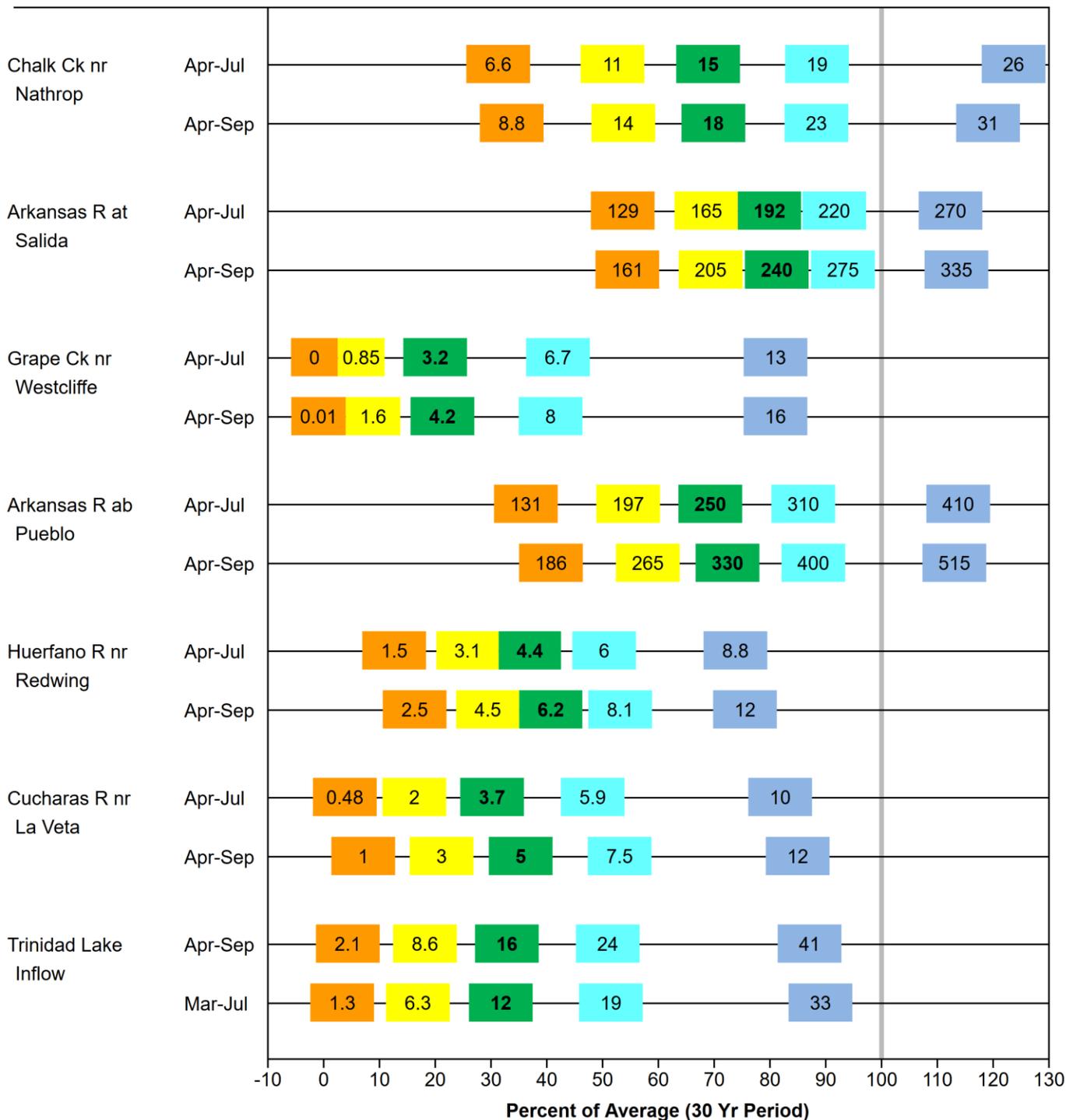
Water Supply Forecasts

February 1, 2018

Forecast Exceedance Probabilities and Volumes

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

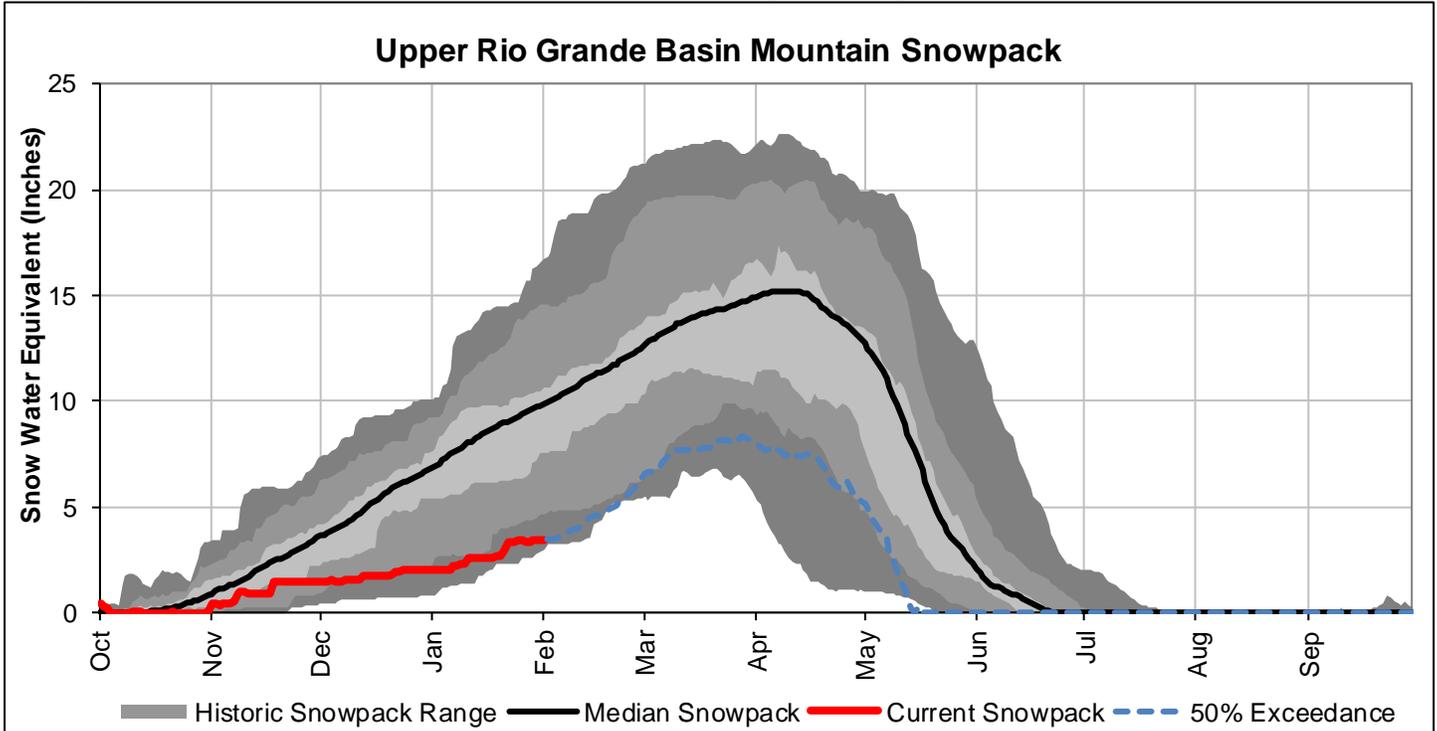
Box labels on chart are volumes of water in thousand acre-feet.



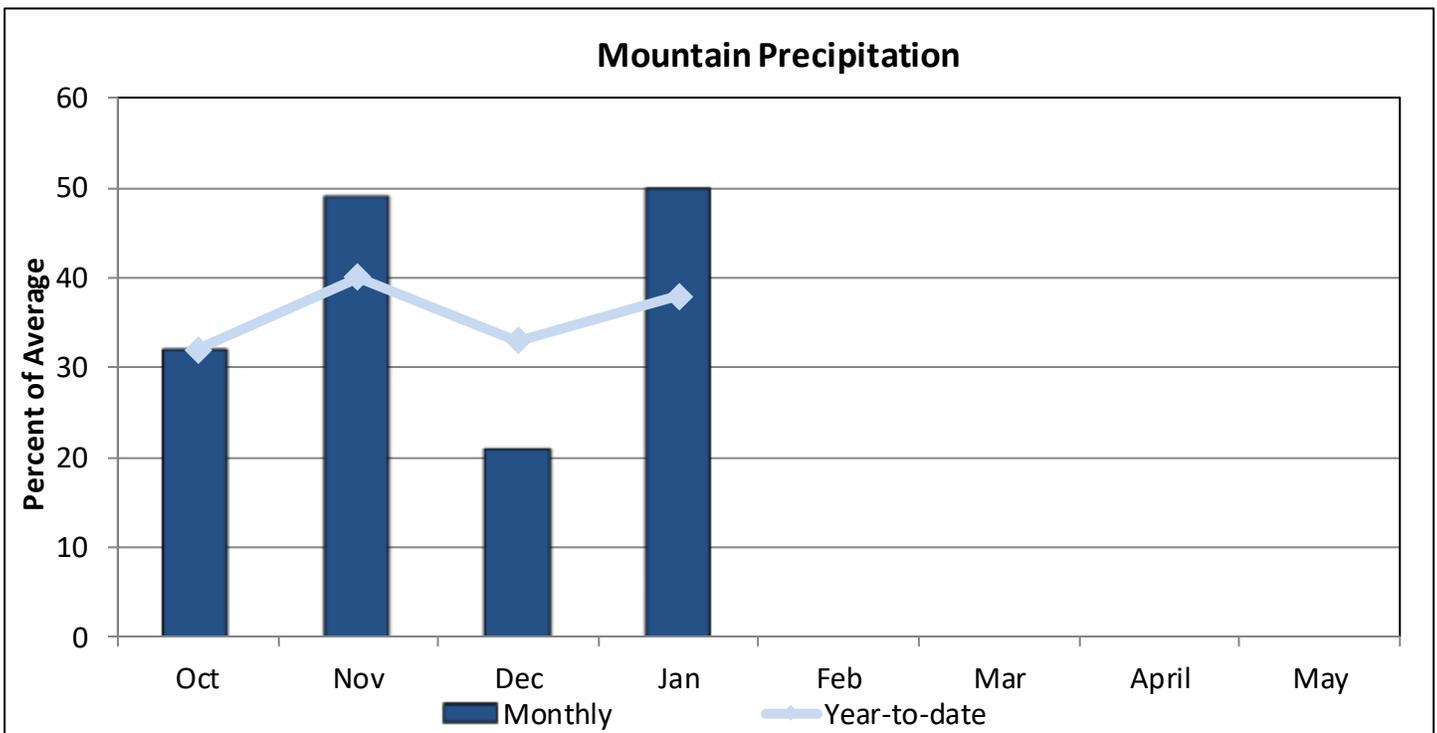
UPPER RIO GRANDE RIVER BASIN

February 1, 2018

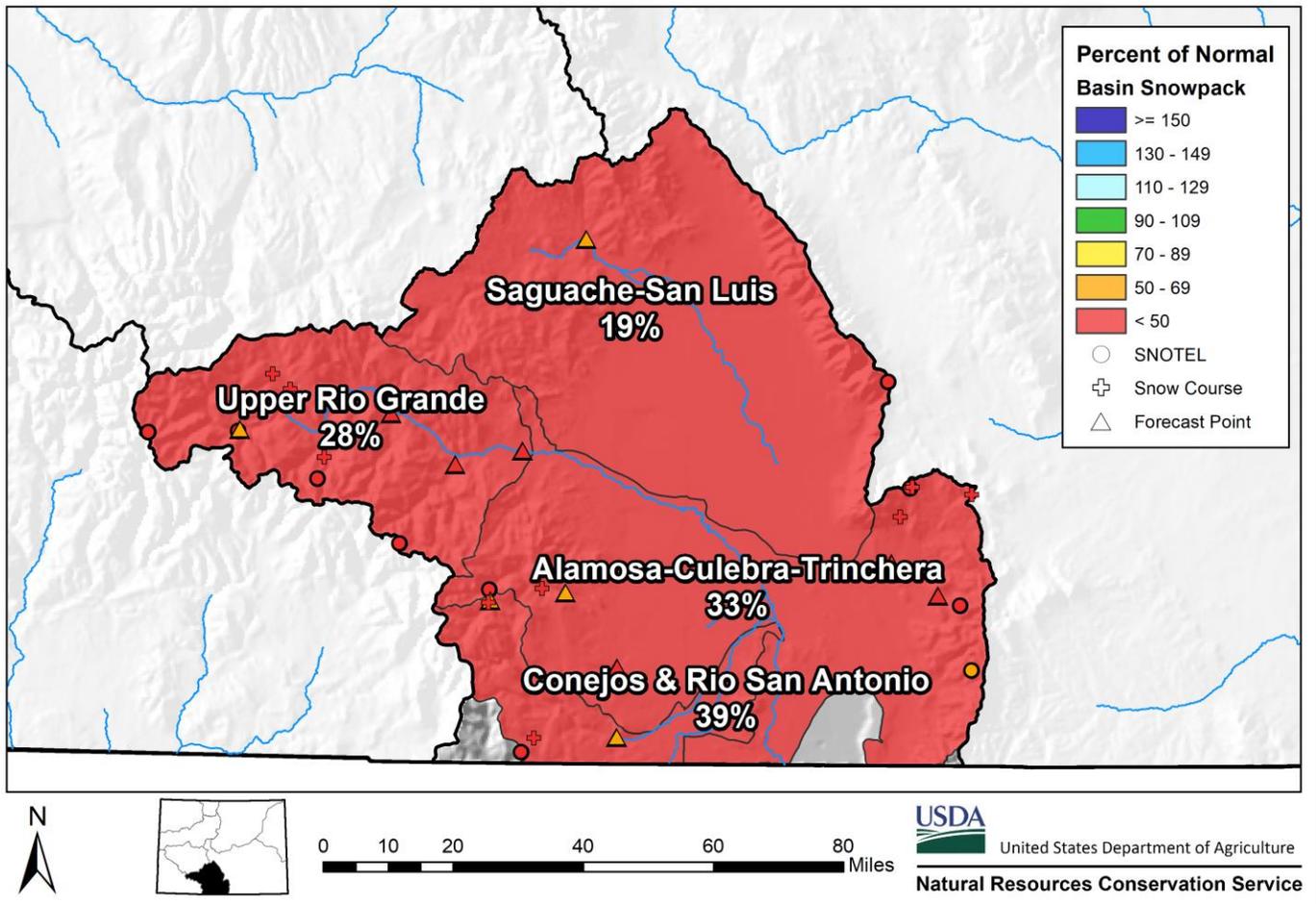
Snowpack in the Upper Rio Grande River basin is below normal at 31% of median. Precipitation for January was 50% of average which brings water year-to-date precipitation to 38% of average. Reservoir storage at the end of January was 123% of average compared to 90% last year. Streamflow forecasts range from 59% of average for the inflow to Platoro Reservoir to 22% of average for Sangre de Cristo Creek.



*SWE values calculated using daily SNOTEL data only



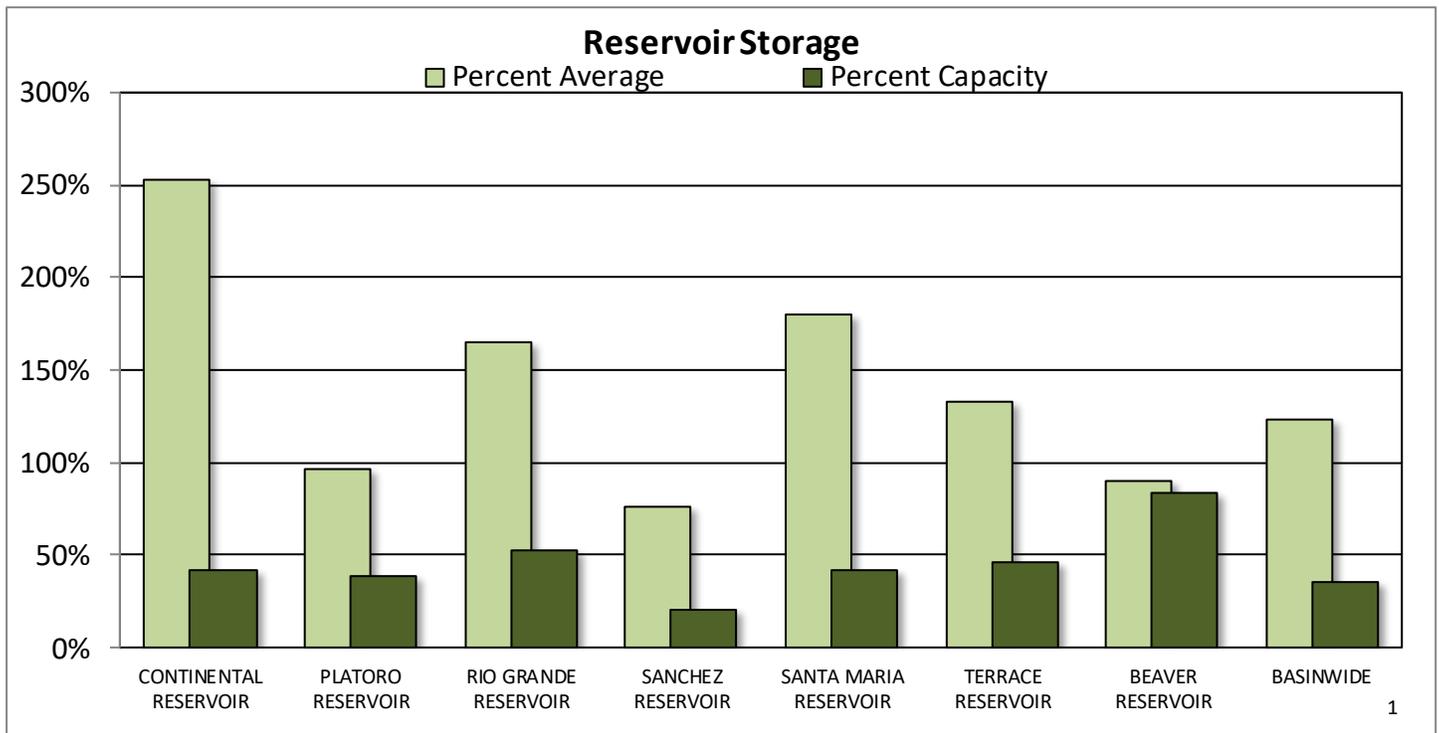
Upper Rio Grande River Basin Snowpack and Streamflow Forecasts February 1, 2018



Watershed Snowpack Analysis February 1st, 2018

Sub-Basin	# of Sites	% Median	Last Year %	
				Median
Alamosa Creek	3	32		162
Conejos & Rio San Antonio	4	39		173
Culebra & Trinchera Creek	6	31		169
Upper Rio Grande	10	28		146
Basin-Wide Total	22	31		160

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



Reservoir Storage End of January 2018

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
CONTINENTAL RESERVOIR	11.4	9.0	4.5	27
PLATORO RESERVOIR	23.2	15.6	24.0	60
RIO GRANDE RESERVOIR	27.0	24.8	16.3	51
SANCHEZ RESERVOIR	21.1	9.2	27.6	103
SANTA MARIA RESERVOIR	18.9	16.5	10.5	45
TERRACE RESERVOIR	8.3	4.9	6.2	18
BEAVER RESERVOIR	3.8	3.1	4.2	5
BASINWIDE	113.6	83.1	93.3	308.5
Number of Reservoirs	7	7	7	7

UPPER RIO GRANDE BASIN

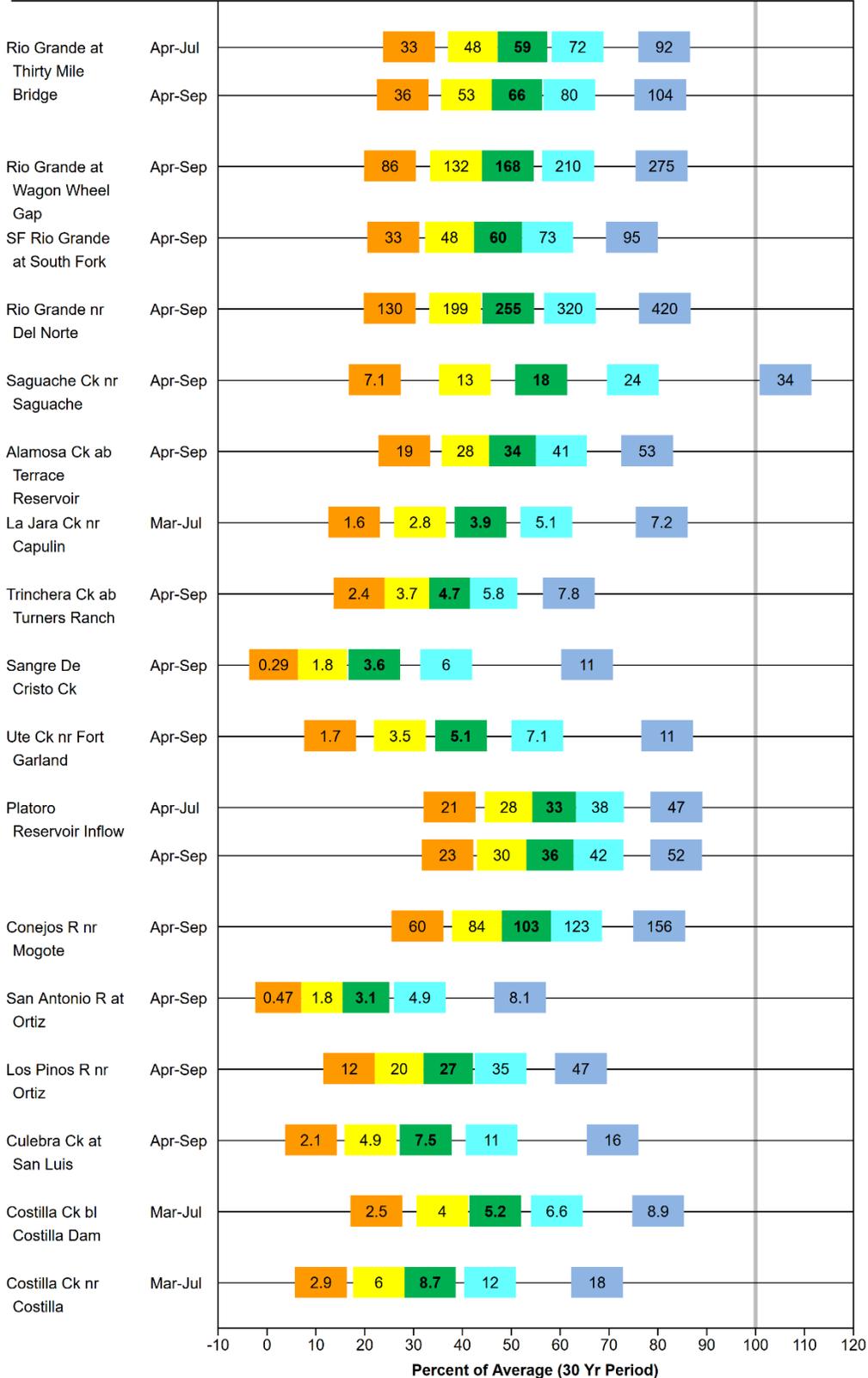
Water Supply Forecasts

February 1, 2018

Forecast Exceedance Probabilities and Volumes

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

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

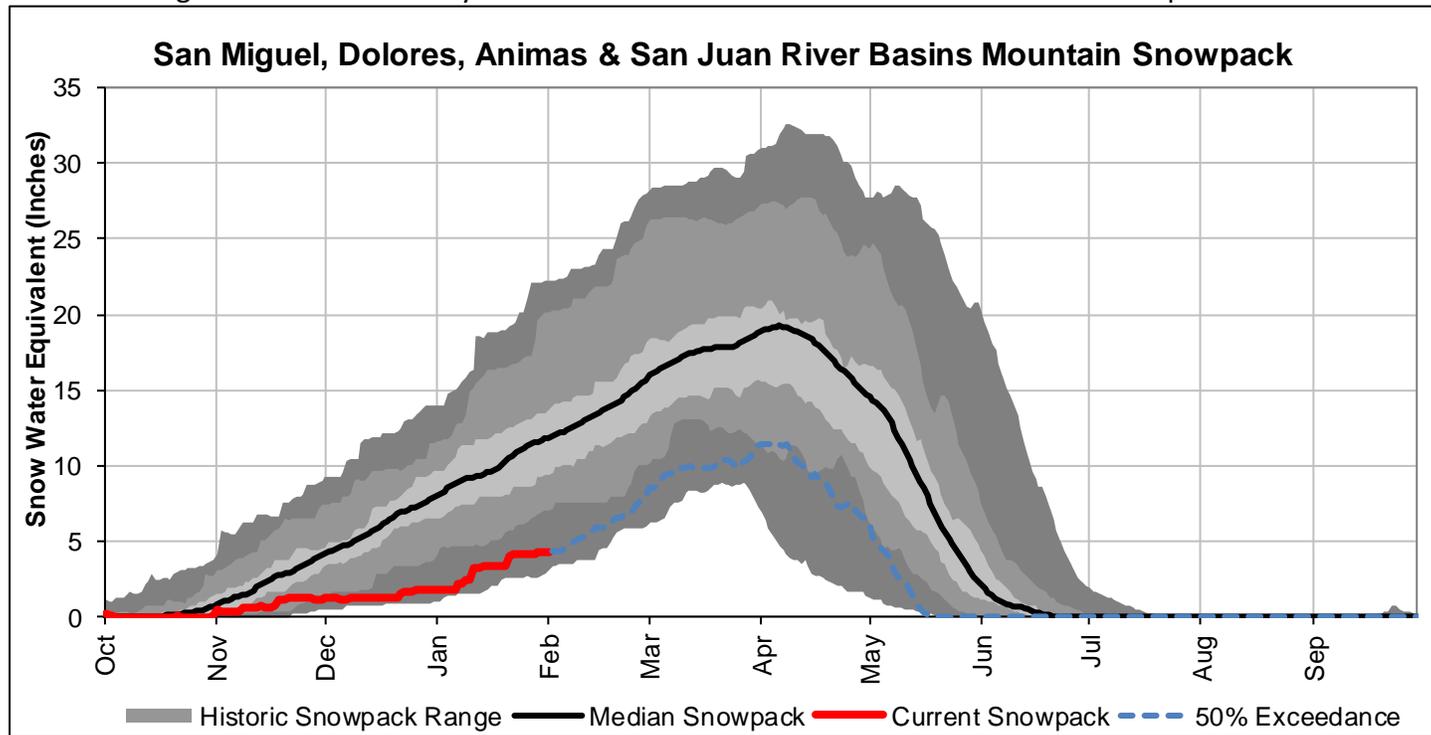


10% Exceedance Forecast (KAF)	30% Exceedance Forecast (KAF)	50% Exceedance Forecast (KAF)	70% Exceedance Forecast (KAF)	90% Exceedance Forecast (KAF)
5% Exceedance	There is a 30% chance that flows will exceed this volume.	There is a 50% chance that flows will exceed this volume.	There is a 70% chance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

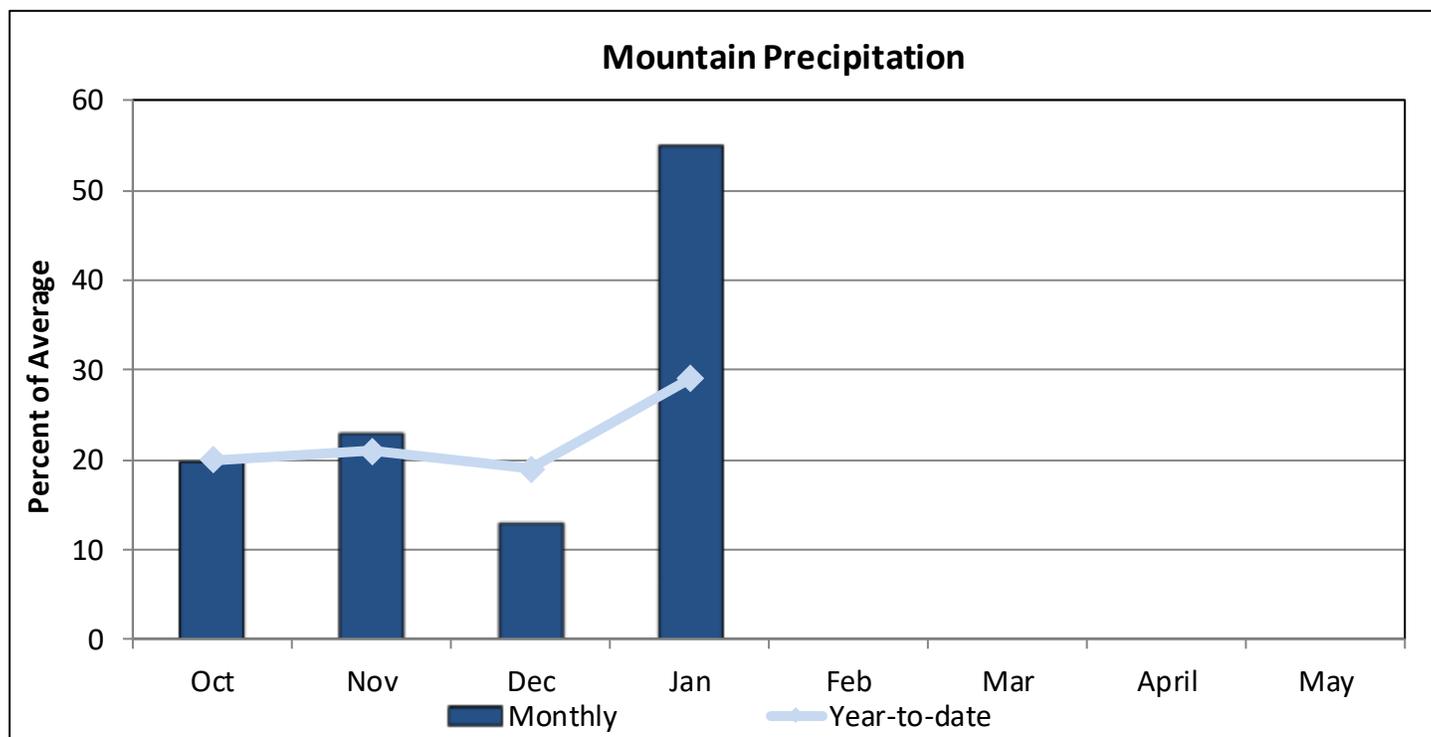
SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS

February 1, 2018

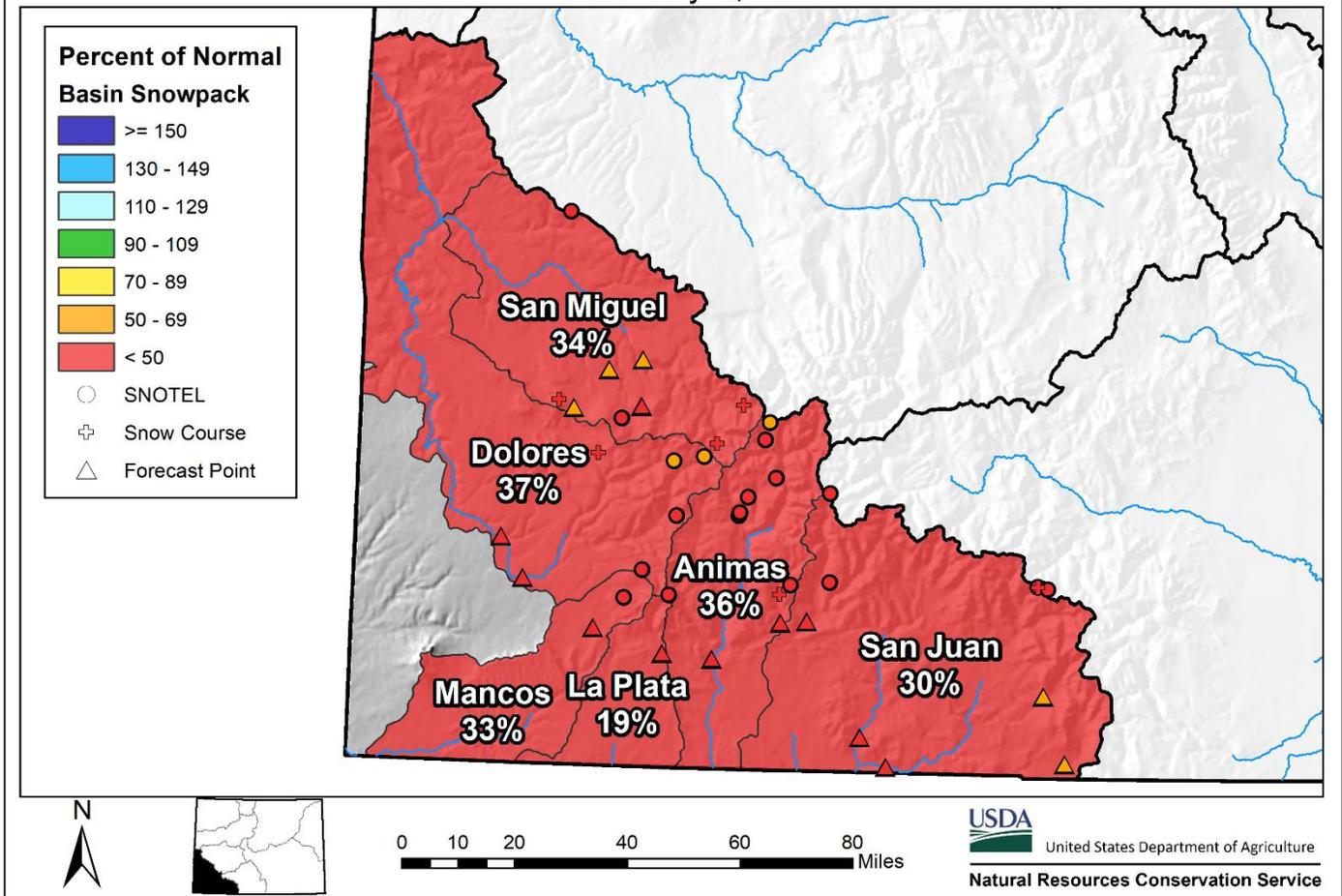
Snowpack in the combined southwest river basins is below normal at 34% of median. Precipitation for January was 55% of average which brings water year-to-date precipitation to 29% of average. Reservoir storage at the end of January was 105% of average compared to 115% last year. Current streamflow forecasts range from 56% of average for the inflow to Lilylands Reservoir to 33% for the La Plata River near Hesperus.



*SWE values calculated using daily SNOTEL data only



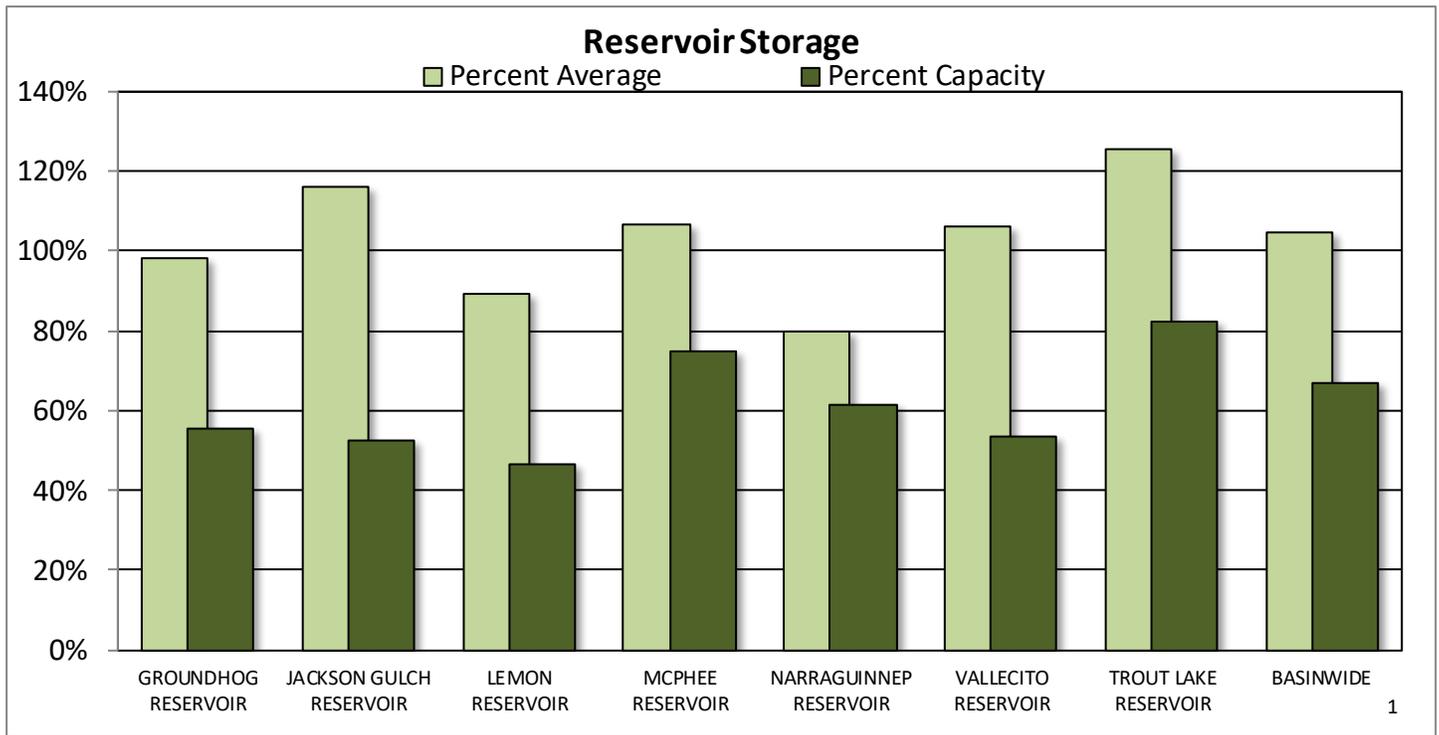
San Miguel, Dolores, Animas, and San Juan River Basins Snowpack and Streamflow Forecasts February 1, 2018



Watershed Snowpack Analysis February 1st, 2018

Sub-Basin	# of Sites	% Median	Last Year %	
			Median	
Animas	10	36		180
Dolores	7	37		185
San Miguel	6	34		170
San Juan	4	30		157
Basin-Wide Total	25	34		174

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



Reservoir Storage End of January 2018

Reservoir	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
GROUNDHOG RESERVOIR	12.2	18.1	12.4	22
JACKSON GULCH RESERVOIR	5.2	5.1	4.5	10
LEMON RESERVOIR	18.6	20.6	20.9	40
MCPHEE RESERVOIR	284.5	294.4	266.4	381
NARRAGUINNEP RESERVOIR	11.7	15.5	14.7	19
VALLECITO RESERVOIR	67.3	84.3	63.3	126
TROUT LAKE RESERVOIR	2.6	3.2	2.1	3
BASINWIDE	402.2	441.3	384.3	601.2
Number of Reservoirs	7	7	7	7

SAN MIGUEL-DOLORES-ANIMAS-SAN JUAN RIVER BASINS

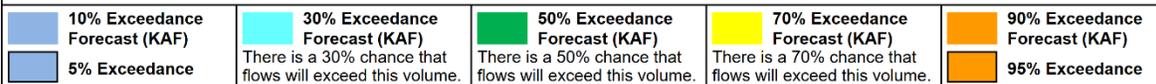
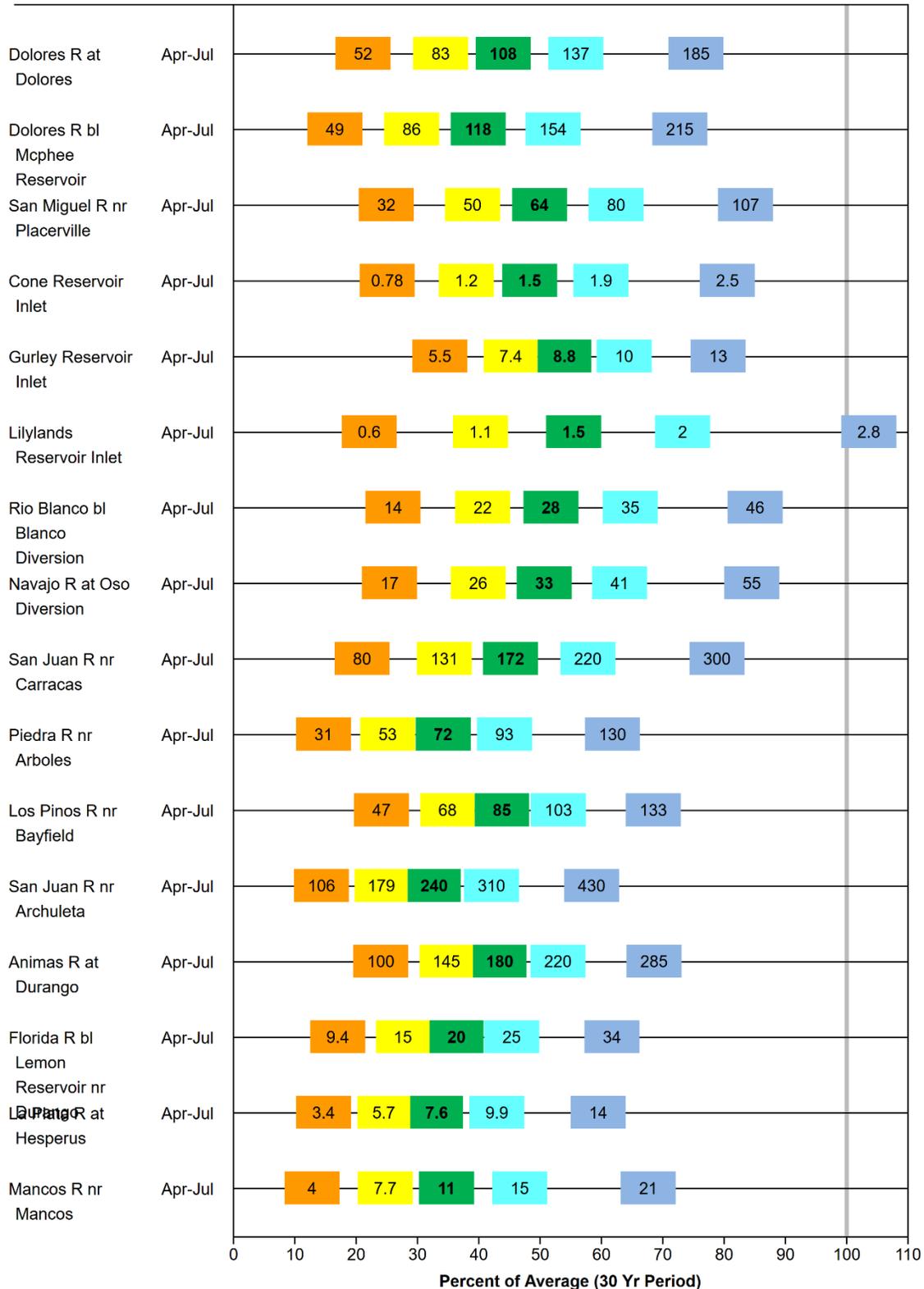
Water Supply Forecasts

February 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.

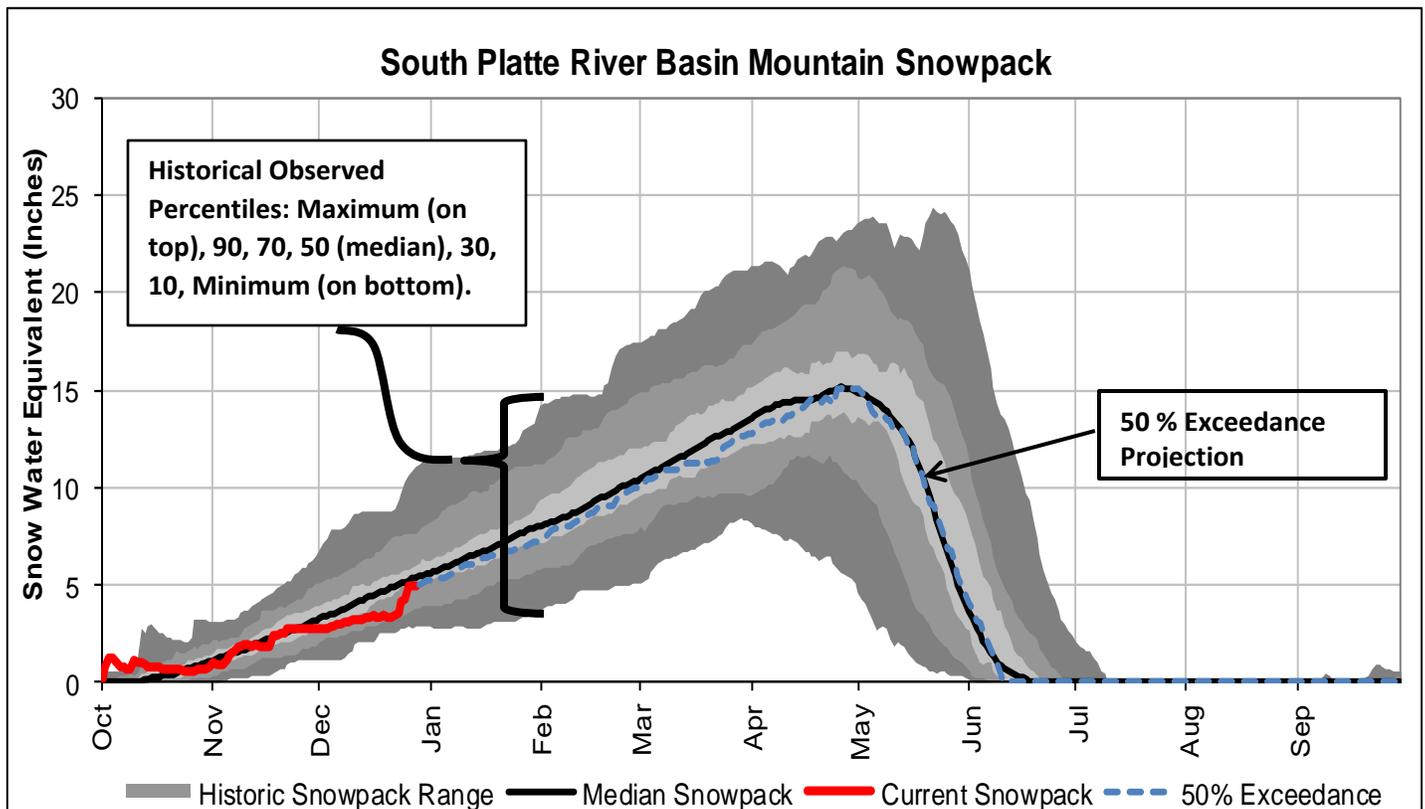
Current water year is represented by the heavy red line terminating on the last day the graphic was updated.

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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PO Box 25426

Denver, CO 80225-0426

Phone (720) 544-2852

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

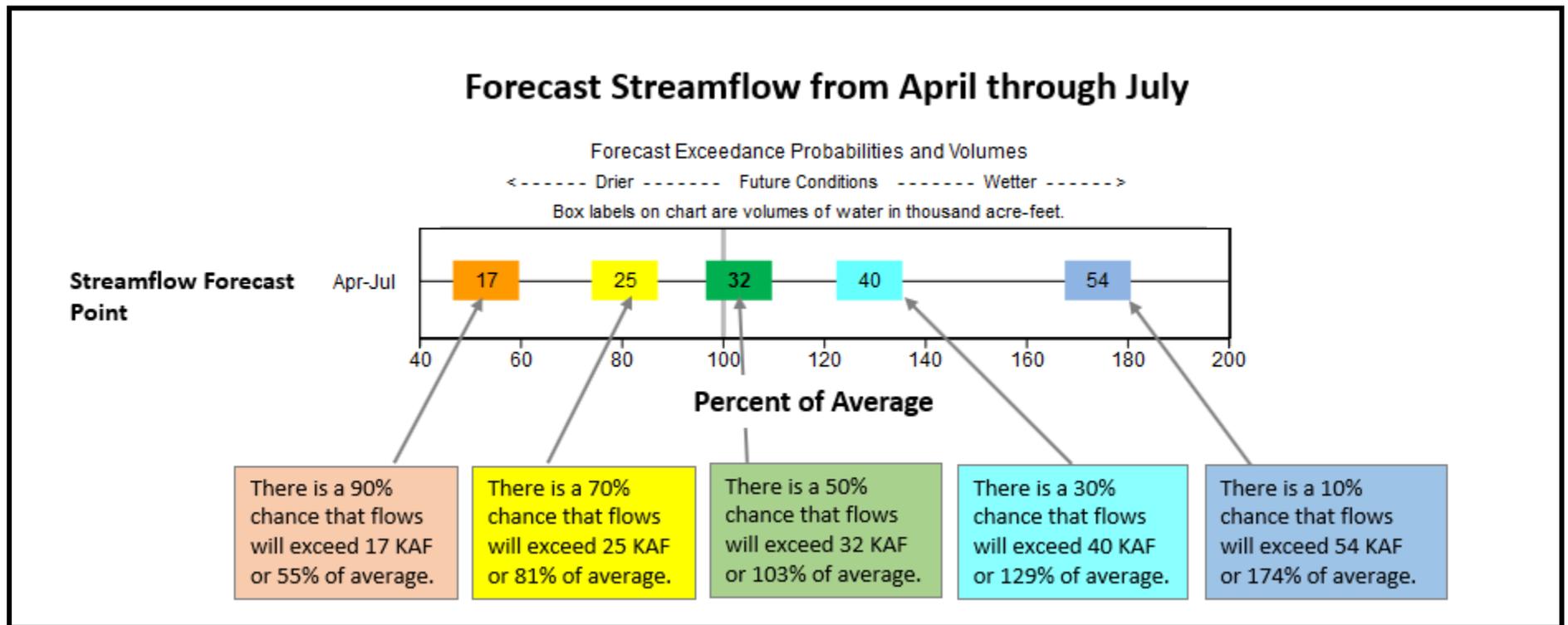
Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual 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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Natural Resources Conservation Service
Lakewood, Colorado

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