

# Wyoming Water Supply Outlook Report

April 1, 2018



**Deer Park SNOTEL #923**

**(Shoshone Forest above Lander, WY)**

**Photo by: Unknown**

## Basin Outlook Reports

And

## Federal - State - Private Cooperative Snow Surveys

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*For more water supply and resource management information, contact:*

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100 East B Street, Casper, Wyoming 82602  
307-233-6784

### *How forecasts are made*

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.

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# STATE OF WYOMING GENERAL OUTLOOK

April 1, 2018

## SUMMARY

The snow water equivalent (SWE) across Wyoming is above normal at 112%. Monthly precipitation for the basins ranged from a high of 152% of average in the Upper Yellowstone in WY Basin to a low of 70% of average in the Lower North Platte River Basin, for an overall average of 112%. The year-to-date precipitation average for Wyoming basins is now at 102% varying from a high of 141% in the Shoshone River Basin to a low of 67% of average in the Lower North Platte River Basin. Forecasted runoff varies from 54% to 178% of average across the Wyoming basins. Basin reservoir levels for Wyoming vary from 43-100% of average for an overall average of 79%.

## SNOWPACK

The SWE across Wyoming is above median for Apr. 1<sup>st</sup> at 112%, compared to 133% last year. The SWE was the lowest in the Lower Snake River Basin at 70%, while SWE in the Upper Yellowstone in WY Basin is the highest at 152% of median. The Wolverine SNOTEL had the highest SWE at 224% of median, while the St. Lawrence Alt SNOTEL had the lowest SWE at 44% of median.

## PRECIPITATION

Year to date precipitation is at 102% of average, compared to 148% last year. The Shoshone River Basin had the highest precipitation amount at 141% of average and the Lower North Platte River Basin had the lowest precipitation amount at 67% of average. The Beartooth Lake SNOTEL had the highest precipitation at 172% of average, while the Timber Creek SNOTEL had the lowest precipitation at 36% of average.

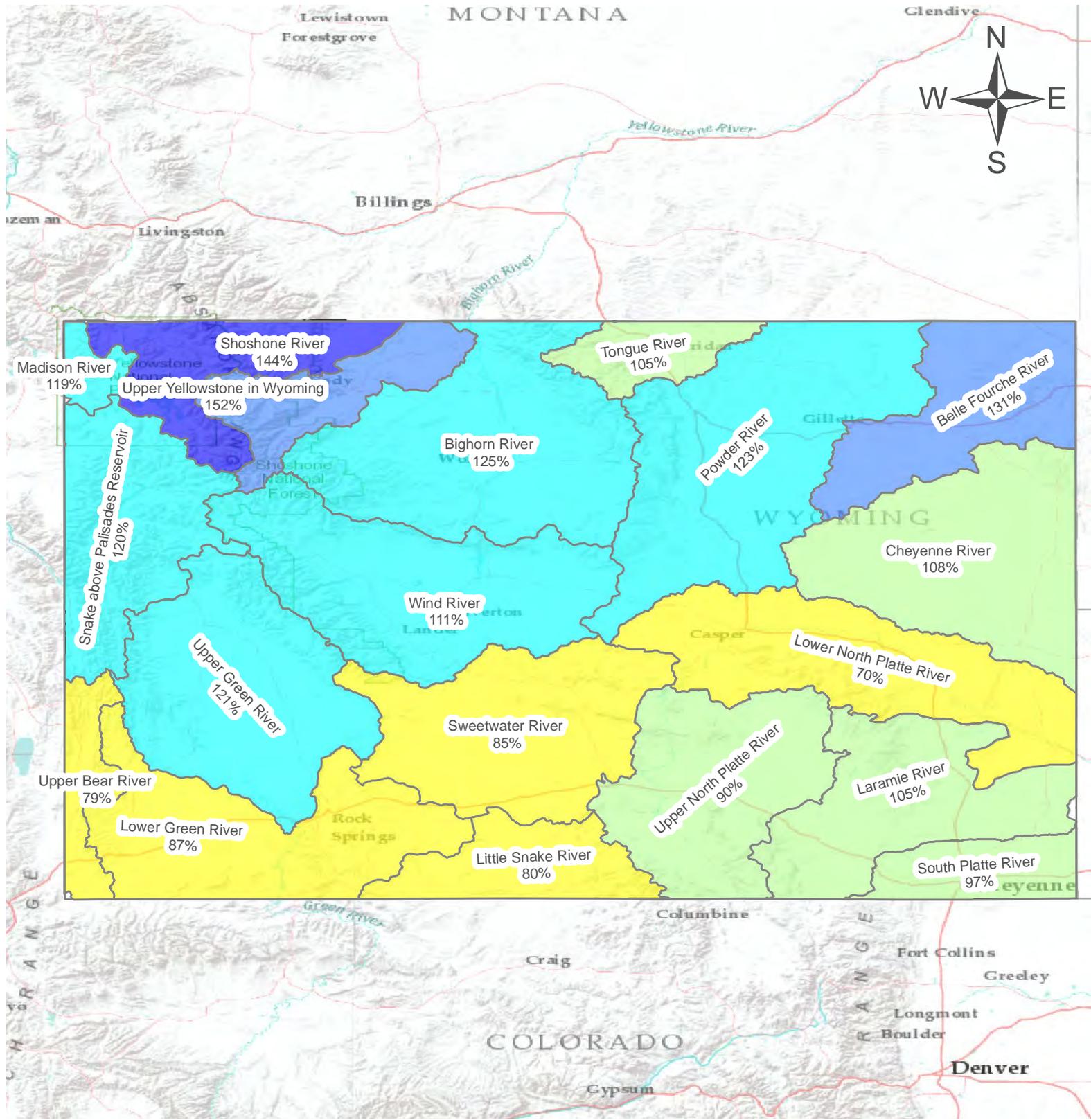
## RESERVOIRS

Reservoir storage is above average at 116% for the entire state. Reservoirs in the Snake above Palisade Basin are above average at 132% with a current capacity at 79%. Reservoirs in the Madison abv Hebgen Lake Basin are above average at 106% with a current capacity at 76%. Reservoirs in the Wind River Basin are above average at 112% with a current capacity at 85%. Reservoirs on the Big Horn River Basin are slightly above average at 101% with a current capacity at 66%. The Buffalo Bill Reservoir on the Shoshone River Basin is above average at 121% with a current capacity at 65%. The Tongue River Basin Reservoir is above average at 193% with a current capacity at 79%. Reservoirs in the Belle Fourche and Cheyenne River Basins are above average in storage at 120% and 117% respectively with current capacities at 76% and 94% respectively. Reservoirs on the Upper and Lower North Platte River are above average at 166% and 118% respectively with current capacities at 78% and 79% respectively. Pathfinder Reservoir on the Sweetwater River Basin is above average at 140% with a current capacity at 83%. Reservoirs on the Laramie and Little Snake River basins are at 137% and 89% respectively with current capacities at 71% and 52% respectively. Reservoirs on the Upper Green River are slightly above average at 106% with a current capacity at 39%. Reservoirs on the Lower Green River Basin are slightly above average at 105% with a current capacity at 81%. Woodruff Narrows Reservoir on the Upper Bear River Basin is above average at 151% with a current capacity at 101%.

## STREAMFLOW

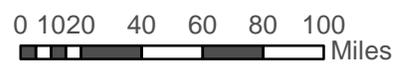
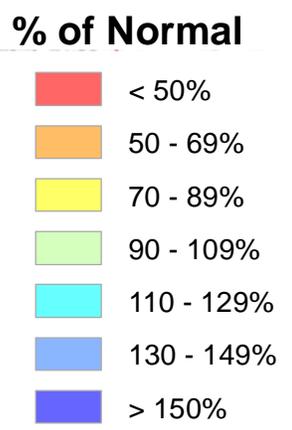
The Snake above Palisades, Madison abv Hebgen Lake, and Upper Yellowstone in WY Basins should yield about 109%, 110% and 140% of average, respectively. Yields from the Wind and Bighorn River Basins should

be about 153% and 130% of average, respectively. Yields from the Shoshone River Basin should be about 157% of average. Yields from the Powder and Tongue River Basins should be about 141% and 84% of average, respectively. Yield for the Cheyenne River Basin should be about 114% of average. Yields for the Upper North Platte, Sweetwater, Lower North Platte, and Laramie Rivers of Wyoming should be about 80%, 54%, 73%, and 93% of average, respectively. Yields for the Little Snake, Upper Green River, Lower Green River, and Smith's Fork of Wyoming should be 51%, 121%, 102%, and 89% of average respectively.



# Statewide Snow Water Equivalent

As of April 1, 2018:  
112% of Normal Snow Water Equivalent



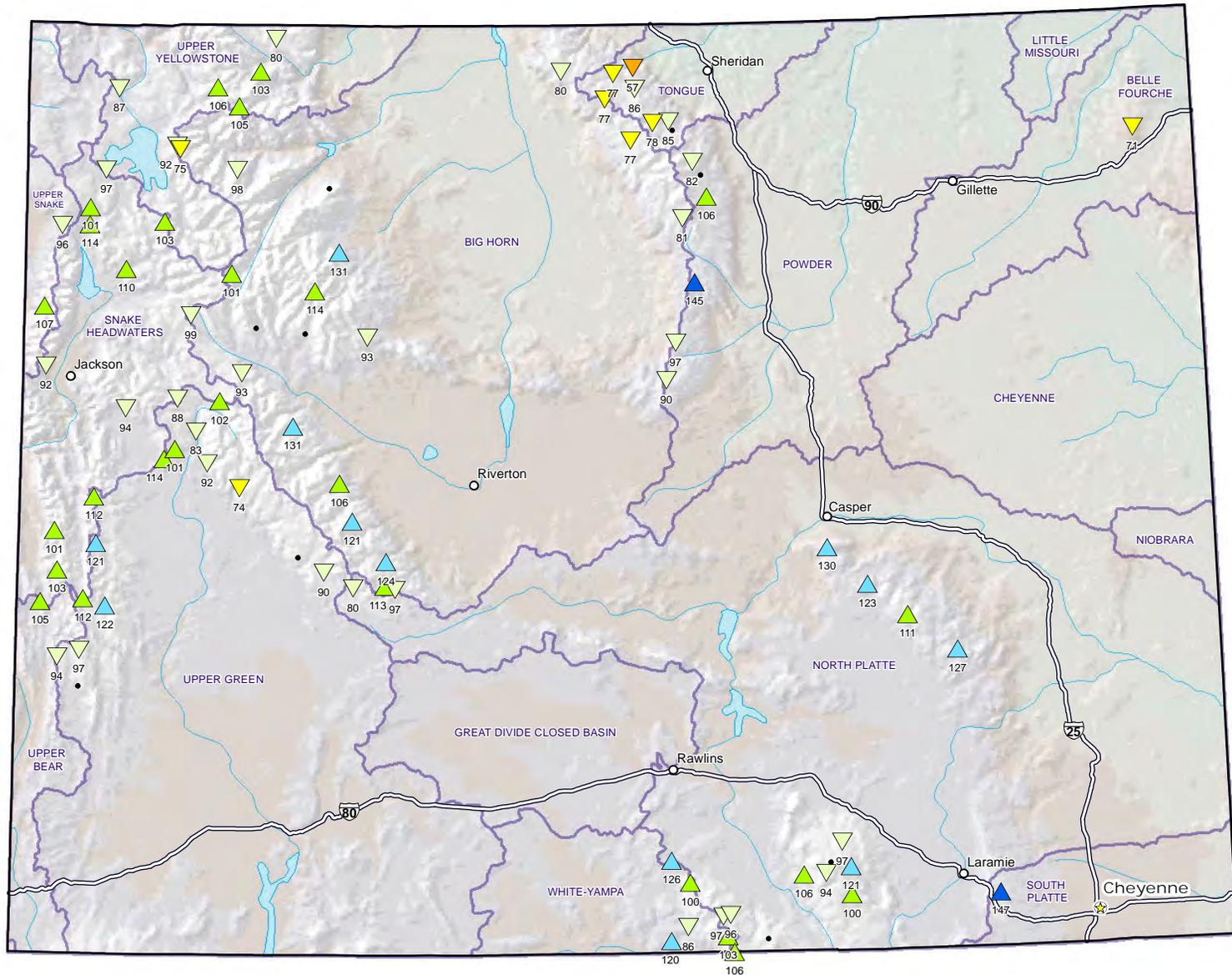
# Wyoming SNOTEL Snow Water Equivalent (SWE) % of Normal

Apr 01, 2016

### Current SWE % of 1981-2010 Median

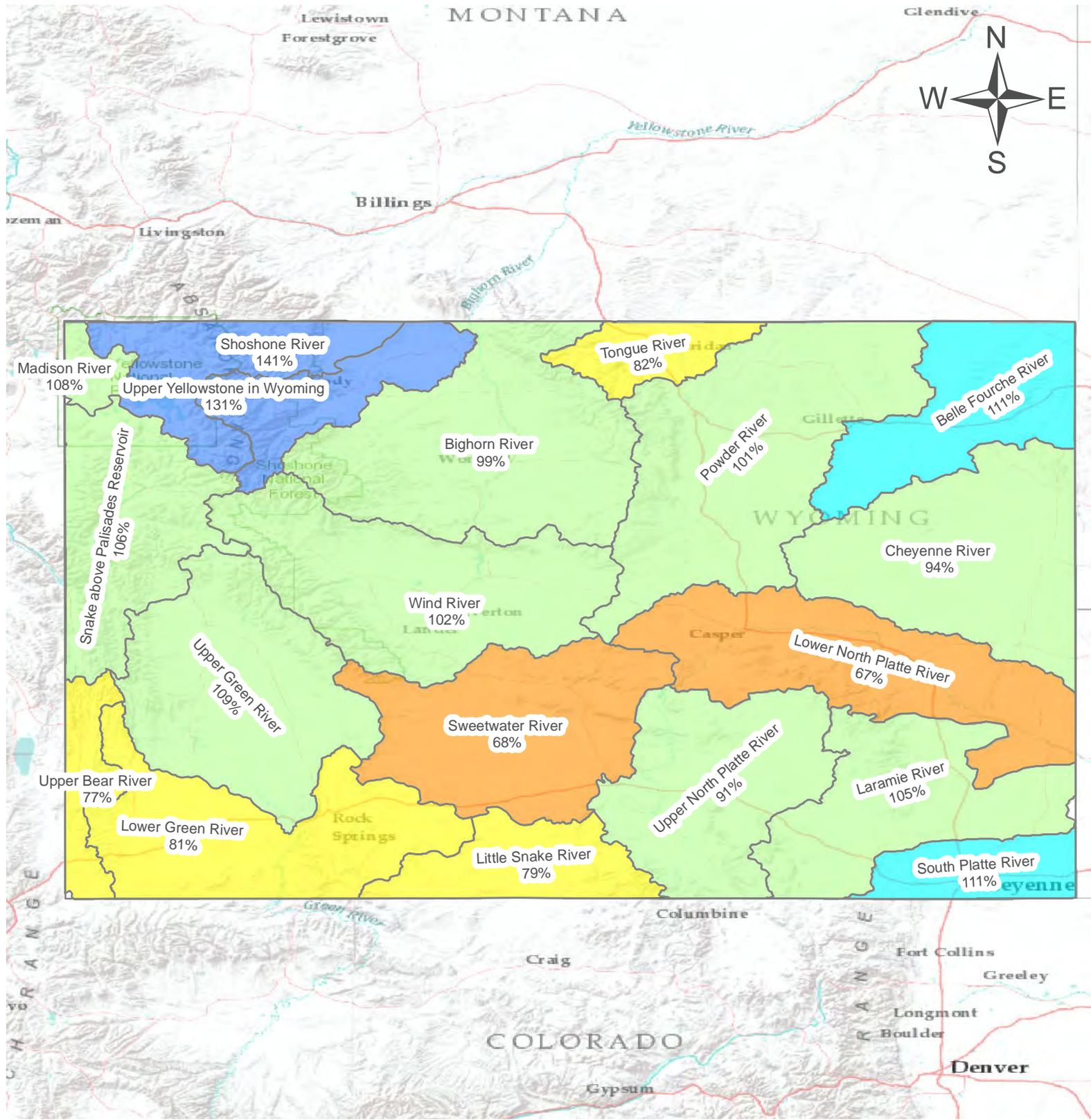
- ▲ > 160%
- ▲ 140-160%
- ▲ 120-139%
- ▲ 100-119%
- ▼ 80-99%
- ▼ 60-79%
- ▼ 40-59%
- ▼ 1-39%
- + 0%
- Unavailable\*

*Provisional Data  
Subject to Revision*



Prepared by:  
USDA/NRCS National Water and Climate Center  
Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>

*\* Data unavailable at time of posting or unavailable long-term normal.*

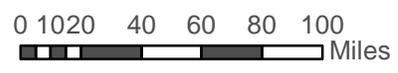


# Statewide Precipitation

As of April 1, 2018:  
102% of Normal Precipitation

## % of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%



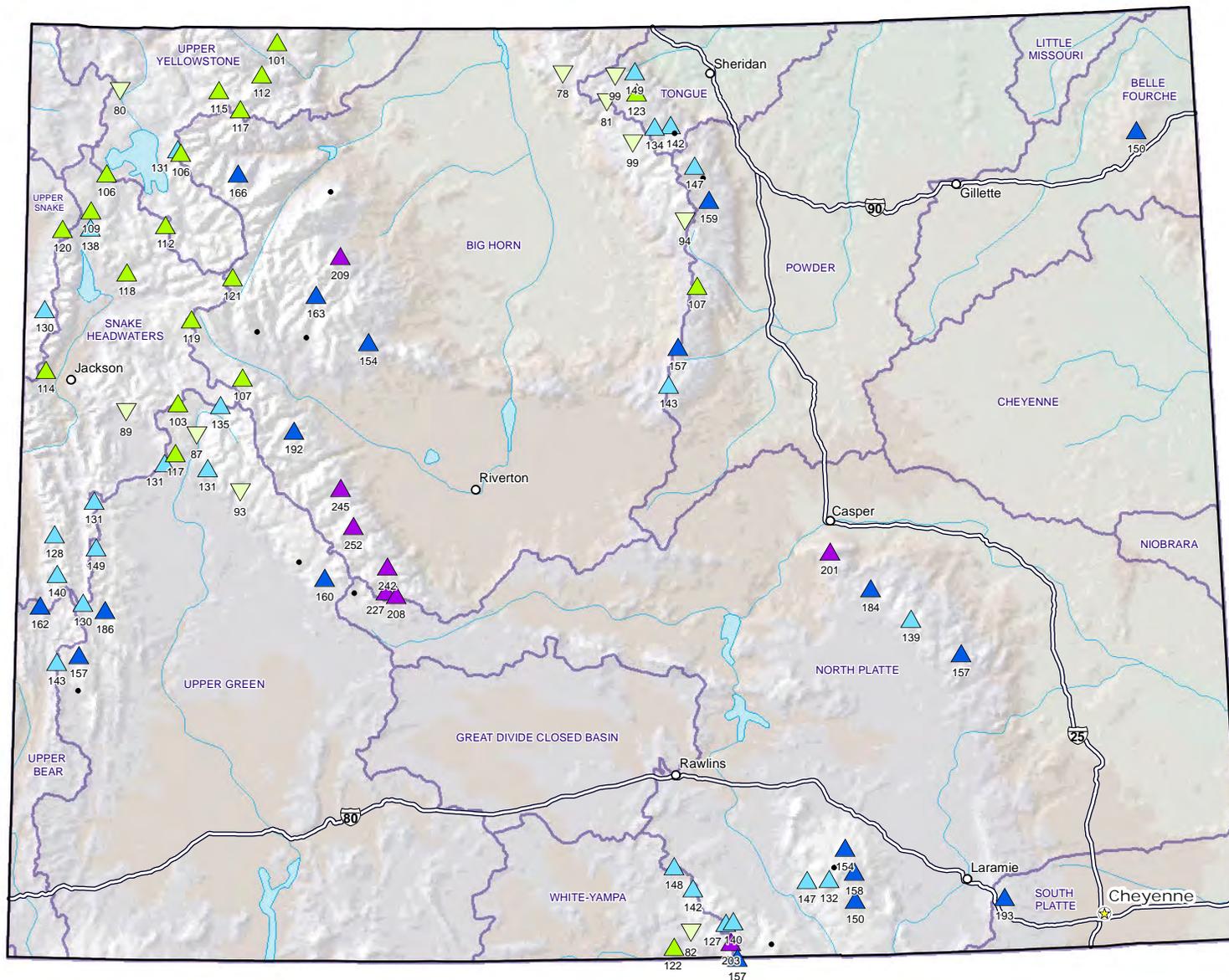
# Wyoming SNOTEL Month to Date (MTD) Precipitation % of Normal

Apr 01, 2016

## Current MTD Precipitation % of 1981-2010 Average

- ▲ > 200%
- ▲ 150-200%
- ▲ 125-149%
- ▲ 100-124%
- ▼ 75-99%
- ▼ 50-74%
- ▼ 25-49%
- ▼ 1-24%
- +
- Unavailable\*

*Provisional Data  
Subject to Revision*



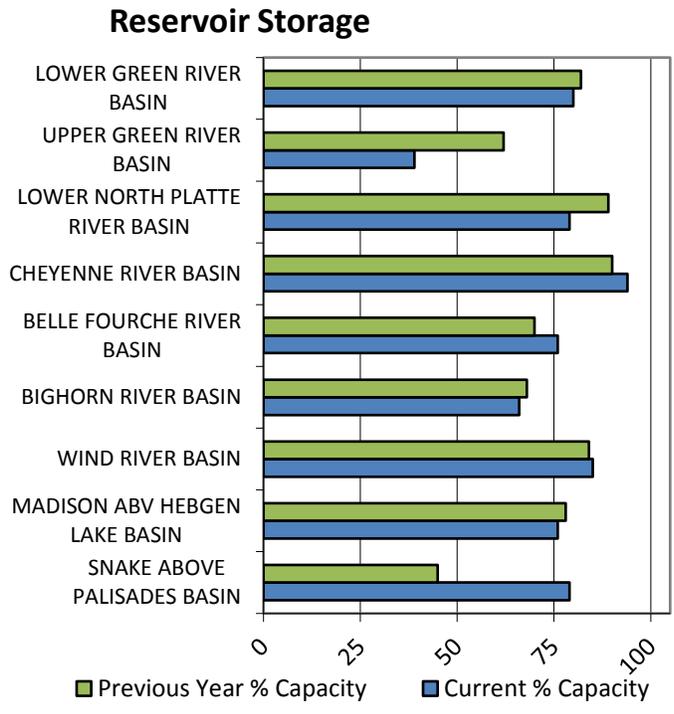
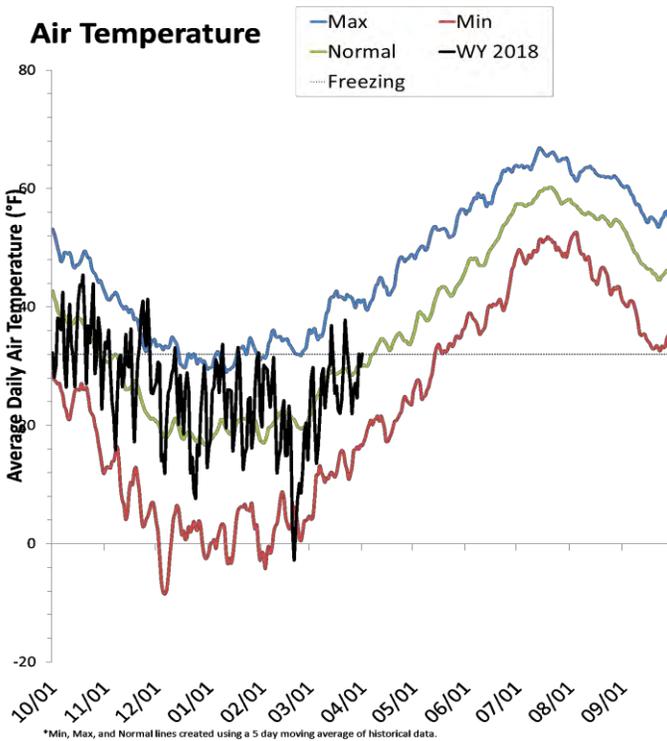
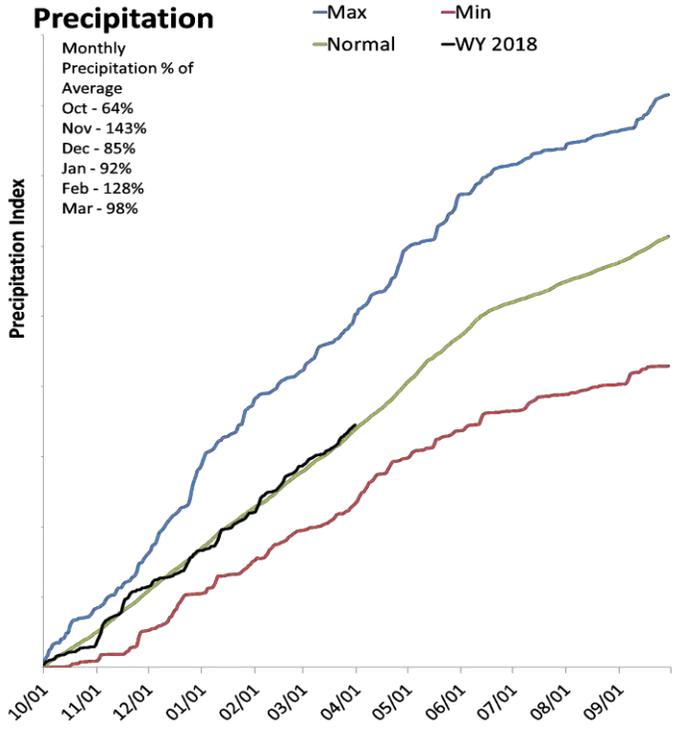
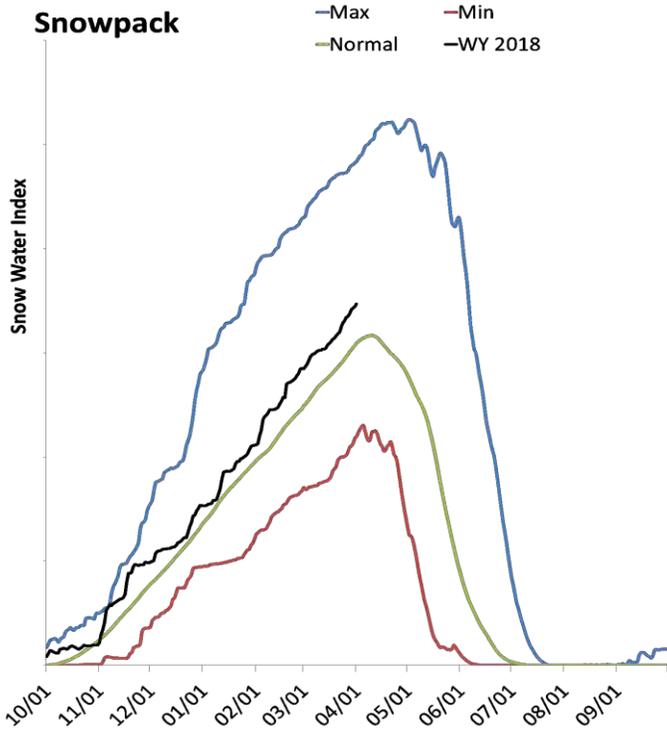
Prepared by:  
USDA/NRCS National Water and Climate Center  
Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>

\* Data unavailable at time of posting or unavailable long-term normal.

# Wyoming Statewide

April 1, 2018

Snowpack in Wyoming is above normal at 112% of normal, compared to 133% last year. Precipitation in March was near average at 98%, which brings the seasonal accumulation (Oct-Mar) to 102% of average. Soil moisture at sites with sensors is at 55% of saturation. Reservoir storage is at 77% of capacity, compared to 72% last year. Forecast streamflow volumes range from 21% to 171% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

**Statewide - April 1, 2018**

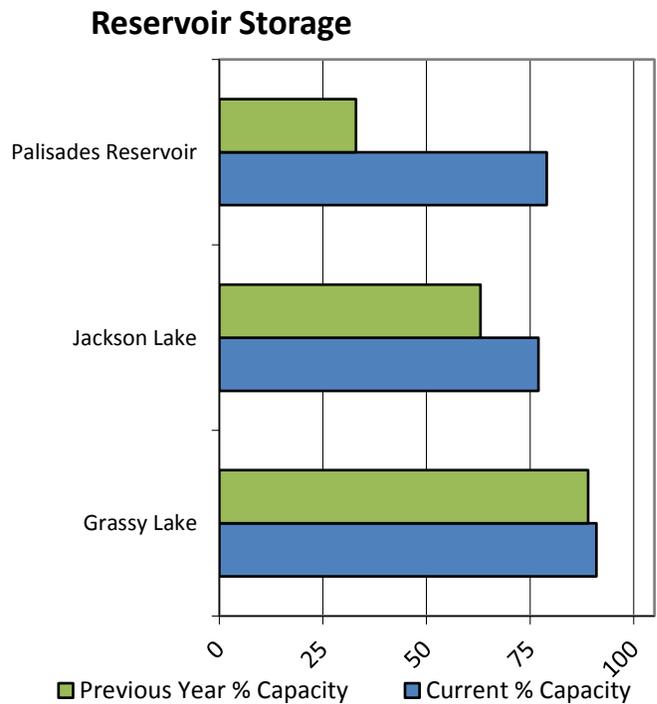
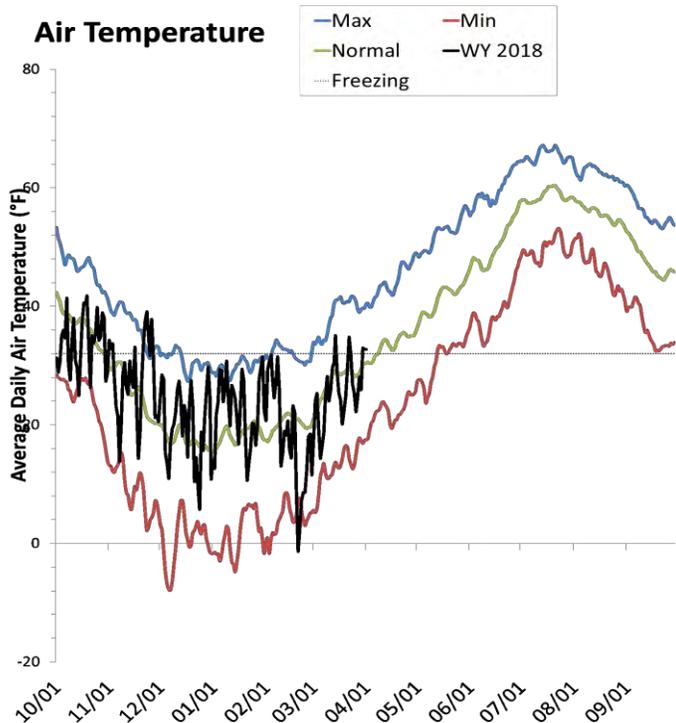
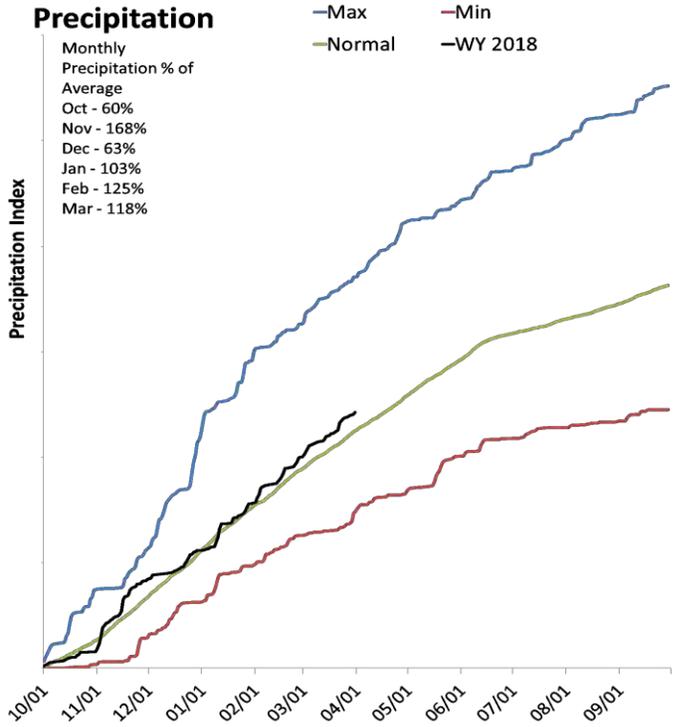
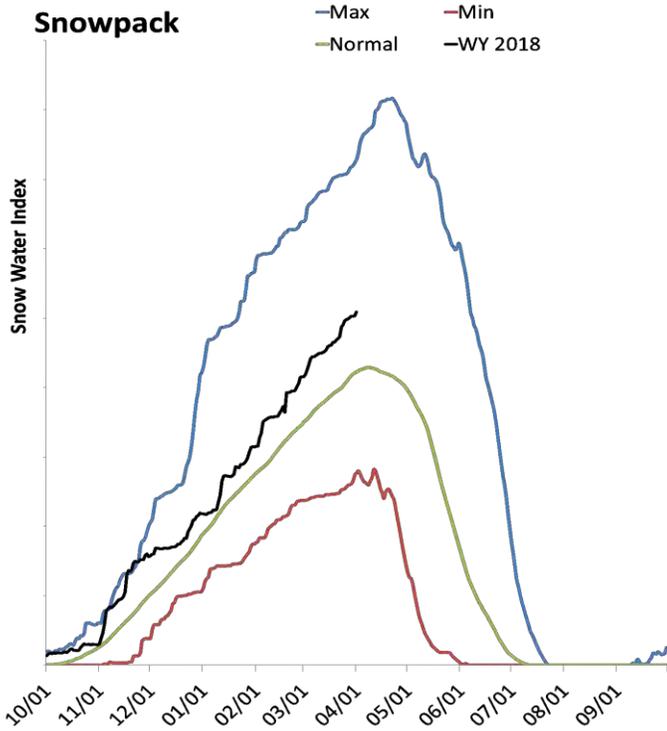
<b>Reservoir Storage End of March, 2018</b>	<b>Current (KAF)</b>	<b>Last Year (KAF)</b>	<b>Average (KAF)</b>	<b>Capacity (KAF)</b>
Hebgen Lake	287.9	294.0	270.4	378.8
Pilot Butte	24.1	25.7	24.8	31.6
Bull Lake	103.7	51.7	75.4	151.8
Boysen	531.3	578.2	489.0	596.0
Buffalo Bill	423.4	457.1	348.9	646.6
Bighorn Lake	755.5	751.5	787.5	1356.0
Tongue River Res	62.4	64.7	32.3	79.1
Shadehill	56.4	45.4	59.0	81.4
Angostura	112.5	102.9	94.3	122.1
Deerfield	14.7	15.1	14.1	15.2
Pactola	53.7	54.2	46.4	55.0
Keyhole	157.1	147.1	96.8	193.8
Belle Fourche	132.6	126.2	133.5	178.4
Seminole	798.1	772.3	481.2	1016.7
Pathfinder	845.3	967.3	604.6	1016.5
Alcova	157.9	158.3	158.5	184.3
Glendo	357.4	432.5	389.4	506.4
Guernsey	24.8	0.0	20.0	45.6
Wheatland #2	69.8	65.5	51.0	98.9
Fontenelle	117.4	206.8	121.7	344.8
Big Sandy	33.4	30.5	19.9	38.3
Meeks Cabin Reservoir	12.2	15.8	13.4	32.5
Viva Naughton Res		21.6	27.2	42.4
Flaming Gorge Reservoir	3184.3	3169.4	3020.0	3749.0
High Savery Reservoir	11.7	15.5	13.1	22.4
Woodruff Narrows Reservoir	57.9	48.7	38.4	57.3
Jackson Lake	655.7	536.6	430.7	847.0
Palisades Reservoir	1109.4	461.9	902.8	1400.0
Grassy Lake	13.8	13.5	12.3	15.2
<b>Basin-wide Total</b>	<b>10164.6</b>	<b>9608.6</b>	<b>8749.4</b>	<b>13260.7</b>
<b># of reservoirs</b>	<b>28</b>	<b>28</b>	<b>28</b>	<b>28</b>

<b>Watershed Snowpack Analysis April 1, 2018</b>	<b># of Sites</b>	<b>% Median</b>	<b>Last Year % Median</b>
SNAKE ABOVE PALISADES BASIN	20	120%	148%
MADISON ABV HEBGEN LAKE BASIN	4	119%	112%
UPPER YELLOWSTONE IN WY BASIN	8	152%	152%
WIND RIVER BASIN	9	111%	189%
BIGHORN RIVER BASIN	10	125%	115%
SHOSHONE RIVER BASIN	4	144%	141%
POWDER RIVER BASIN	6	123%	94%
TONGUE RIVER BASIN	6	105%	114%
BELLE FOURCHE RIVER BASIN	1	131%	0%
CHEYENNE RIVER BASIN	2	108%	4%
UPPER NORTH PLATTE RIVER BASIN	17	90%	98%
SWEETWATER RIVER BASIN	3	85%	193%
LOWER NORTH PLATTE RIVER BASIN	4	70%	95%
LARAMIE RIVER BASIN	7	105%	97%
SOUTH PLATTE RIVER BASIN	4	97%	91%
LITTLE SNAKE RIVER BASIN	8	80%	87%
UPPER GREEN RIVER BASIN	12	121%	169%
LOWER GREEN RIVER BASIN	7	87%	138%
UPPER BEAR RIVER BASIN	7	79%	146%
Statewide	80	112%	133%

# Snake above Palisades Reservoir

April 1, 2018

Snowpack in the Snake above Palisades Reservoir is above normal at 120% of normal, compared to 148% last year. Precipitation in March was above average at 117%, which brings the seasonal accumulation (Oct-Mar) to 106% of average. Soil moisture at sites with sensors is at 63% of saturation. Reservoir storage is at 79% of capacity, compared to 45% last year. Forecast streamflow volumes range from 93% to 122% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

### Snake Above Palisades Basin Streamflow Forecasts - April 1, 2018

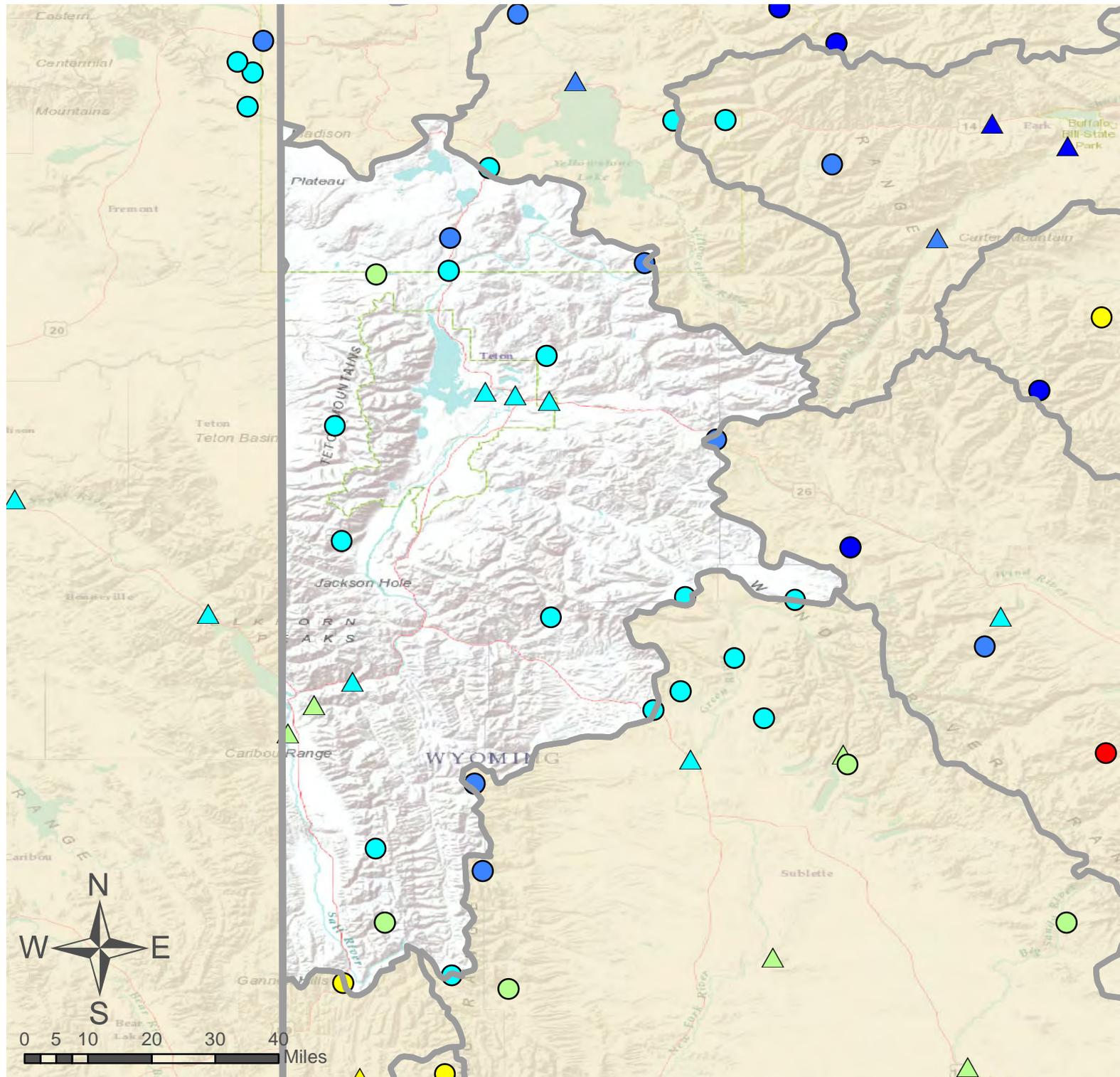
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

SNAKE ABOVE PALISADES BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Snake R nr Moran <sup>2</sup>	APR-JUL	730	810	860	112%	915	990	765
	APR-SEP	805	895	955	113%	1020	1110	845
Snake R ab Reservoir nr Alpine <sup>2</sup>	APR-JUL	2300	2480	2610	120%	2730	2920	2170
	APR-SEP	2610	2840	2990	120%	3140	3360	2500
Snake R nr Irwin <sup>2</sup>	APR-JUL	2730	3060	3280	109%	3510	3840	3010
	APR-SEP	3190	3560	3820	109%	4070	4440	3500
Snake R nr Heise <sup>2</sup>	APR-JUL	2940	3290	3530	109%	3760	4120	3240
	APR-SEP	3470	3860	4130	109%	4400	4790	3780
Pacific Ck at Moran	APR-JUL	158	184	200	122%	220	245	164
	APR-SEP	166	193	210	121%	230	255	173
Buffalo Fk ab Lava Ck nr Moran	APR-JUL	280	315	335	120%	360	390	280
	APR-SEP	315	355	380	119%	410	450	320
Greys R ab Reservoir nr Alpine	APR-JUL	265	295	315	103%	340	370	305
	APR-SEP	305	345	370	103%	395	435	360
Salt R ab Reservoir nr Etna	APR-JUL	181	240	280	93%	315	375	300
	APR-SEP	230	300	345	93%	390	455	370

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Grassy Lake	13.8	13.5	12.3	15.2
Jackson Lake	655.7	536.6	430.7	847.0
Palisades Reservoir	1109.4	461.9	902.8	1400.0
Basin-wide Total	1778.8	1012.0	1345.8	2262.2
# of reservoirs	3	3	3	3

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
SNAKE above Jackson Lake	13	116%	135%
PACIFIC CREEK	4	121%	166%
BUFFALO FORK	4	137%	137%
GROS VENTRE RIVER	4	134%	145%
HOBACK RIVER	6	126%	179%
GREYS RIVER	4	119%	154%
SALT RIVER	5	104%	129%
SNAKE AB PALISADES RESV	34	117%	144%



# Snake above Palisades Reservoir

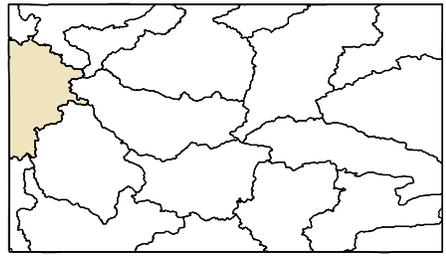
As of April 1, 2018:

- 120% of Normal SWE
- 106% of Normal Precipitation
- 117% of Normal Precipitation Last Month

- SNOTEL Site
- △ Forecast Point

### % of Normal

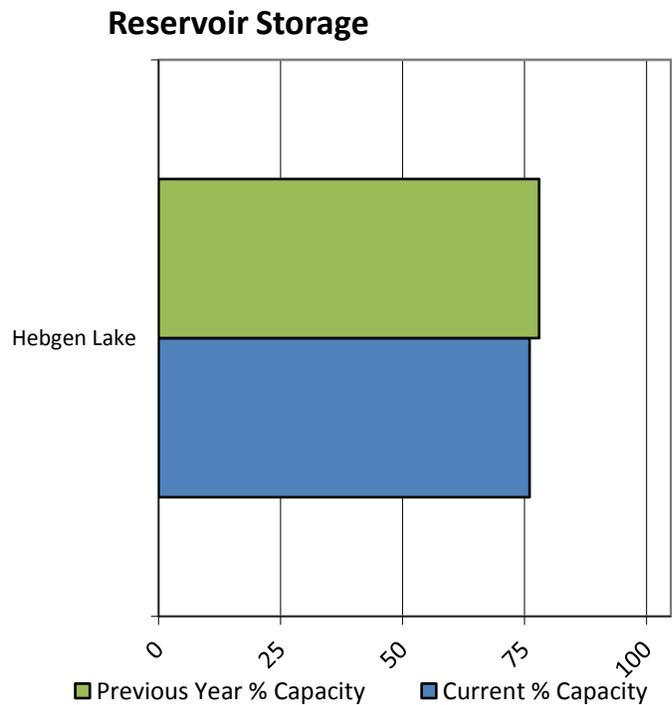
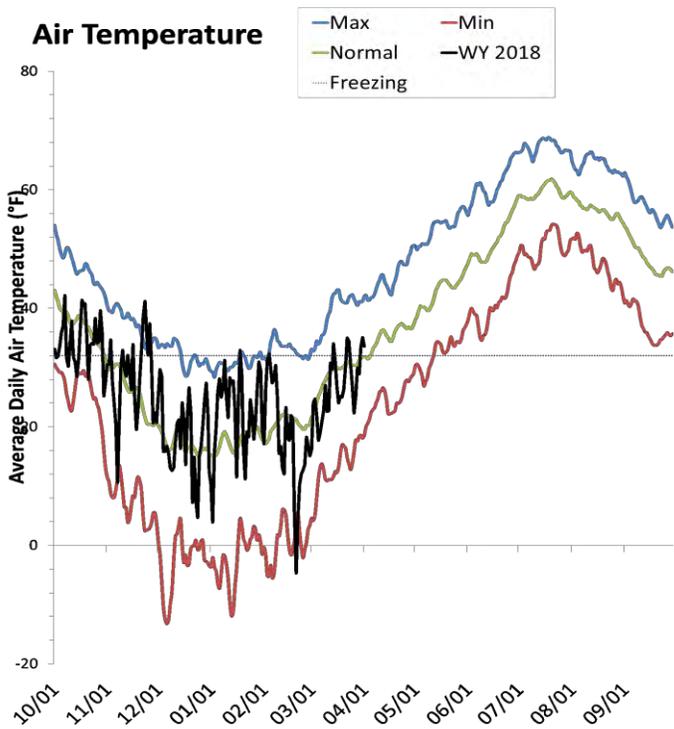
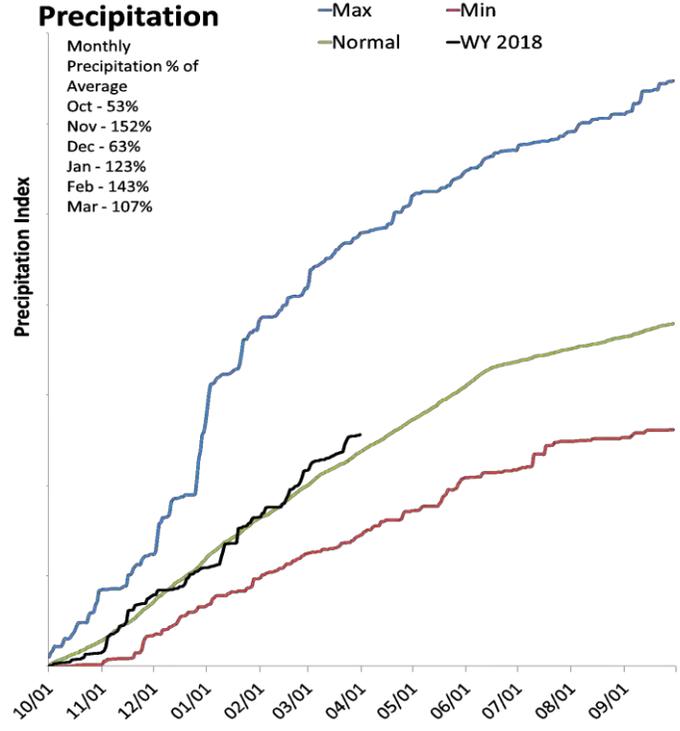
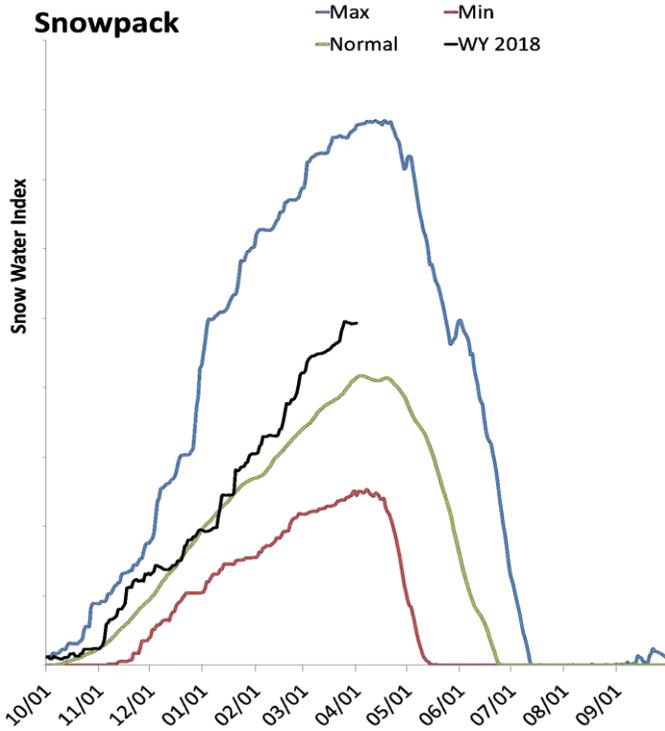
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%



# Madison River above Hebgen Lake

April 1, 2018

Snowpack in the Madison River above Hebgen Lake is above normal at 119% of normal, compared to 112% last year. Precipitation in March was near average at 107%, which brings the seasonal accumulation (Oct-Mar) to 108% of average. Reservoir storage is at 76% of capacity, compared to 78% last year. Forecast streamflow volumes range from 111% to 111% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

### Madison Abv Hebgen Lake Basin Streamflow Forecasts - April 1, 2018

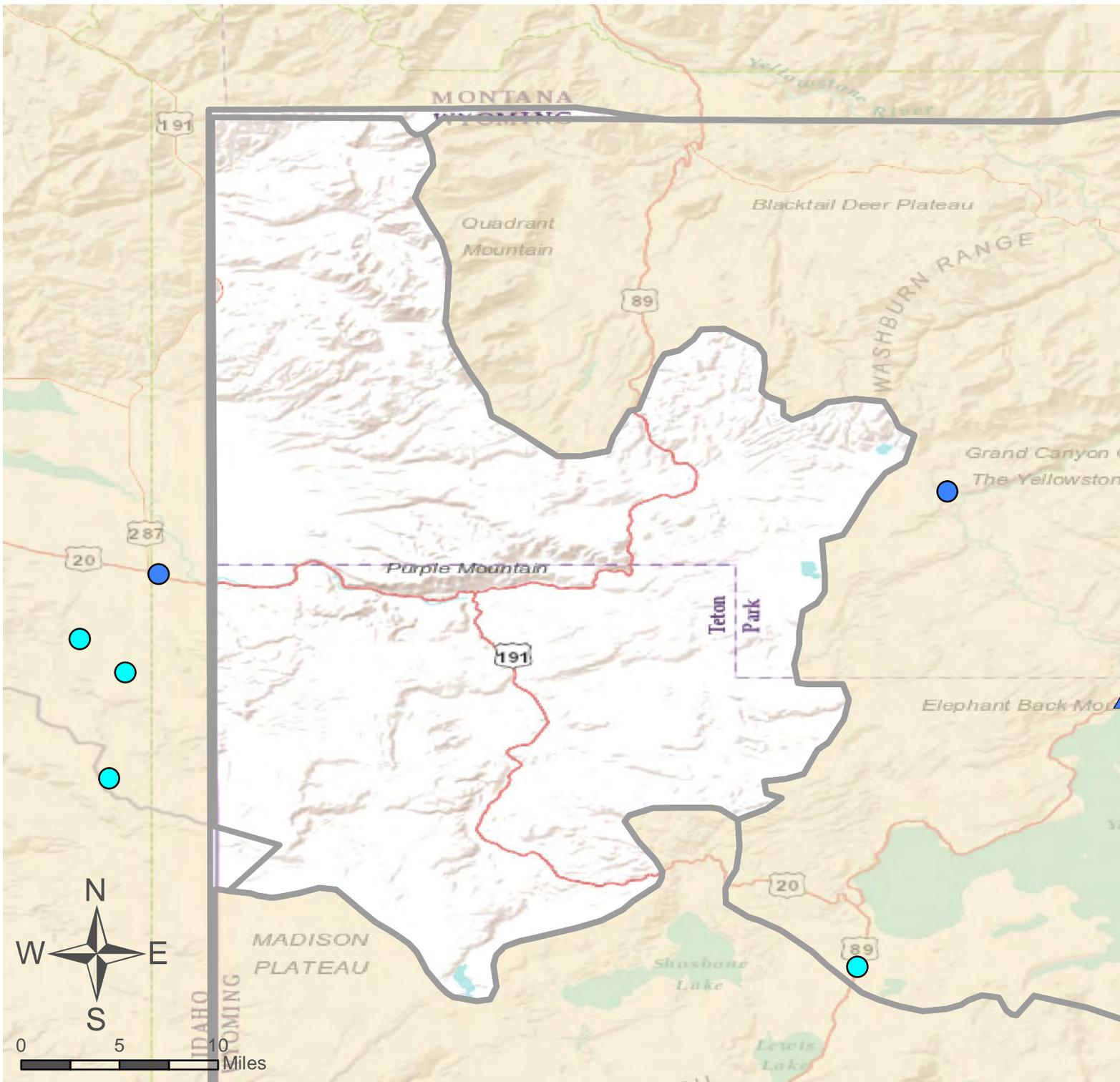
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

MADISON ABV HEBGEN LAKE BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Hebgen Lake Inflow								
	APR-JUL	340	380	410	111%	440	480	370
	APR-SEP	430	480	515	110%	550	600	470

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Hebgen Lake	287.9	294.0	270.4	378.8
Basin-wide Total	287.9	294.0	270.4	378.8
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
MADISON ABV HEBGEN LAKE	5	121%	115%



# Madison River above Hebgen Lake

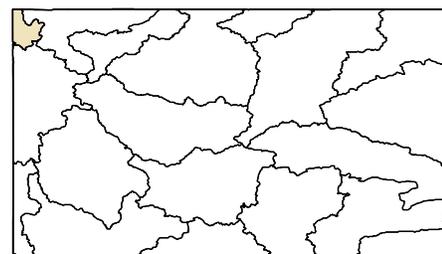
- SNOTEL Site
- △ Forecast Point

## % of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

As of April 1, 2018:

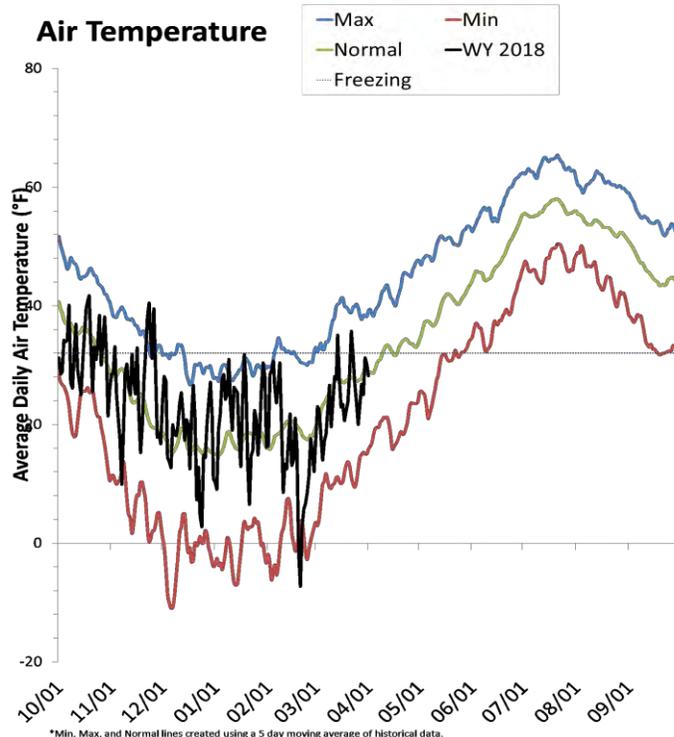
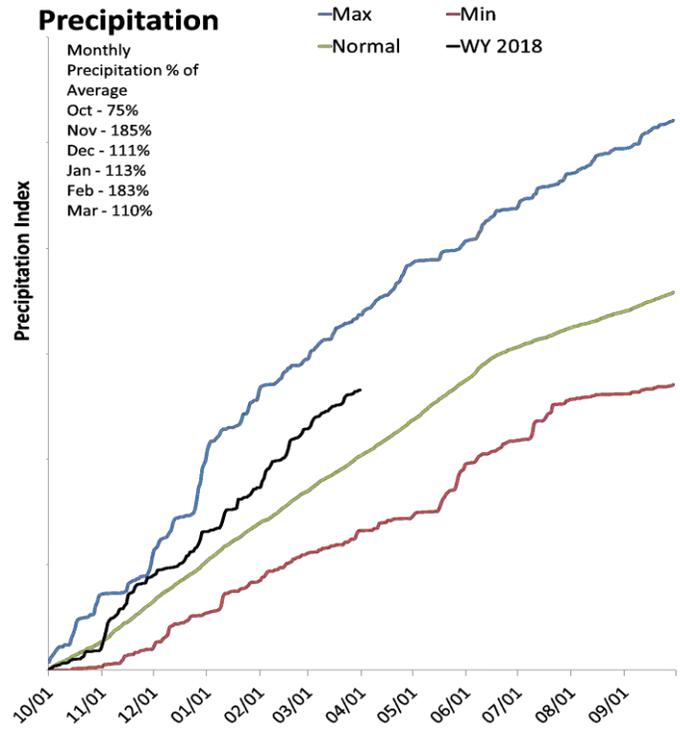
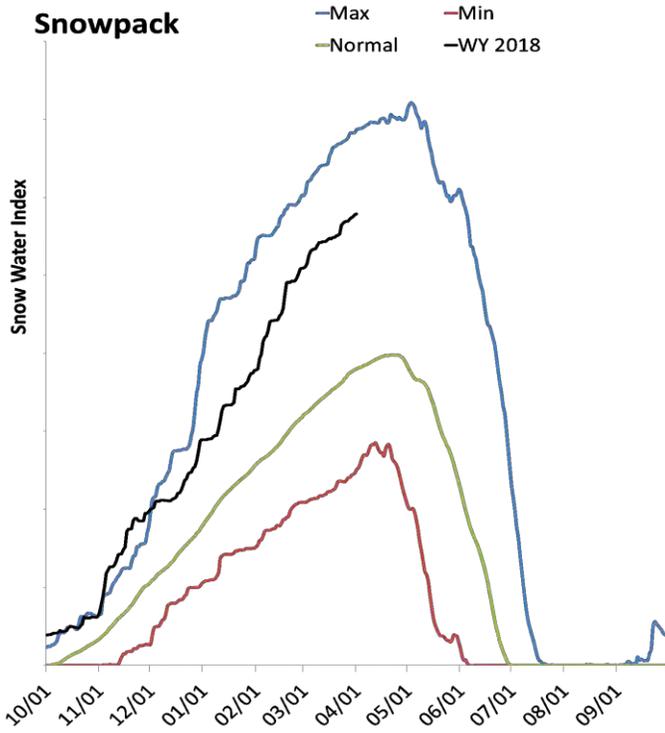
- 119% of Normal SWE
- 108% of Normal Precipitation
- 107% of Normal Precipitation Last Month



# Upper Yellowstone in Wyoming

April 1, 2018

Snowpack in the Upper Yellowstone in Wyoming is much above normal at 152% of normal, compared to 152% last year. Precipitation in March was near average at 109%, which brings the seasonal accumulation (Oct-Mar) to 131% of average. Soil moisture at sites with sensors is at 81% of saturation. Forecast streamflow volumes range from 137% to 140% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

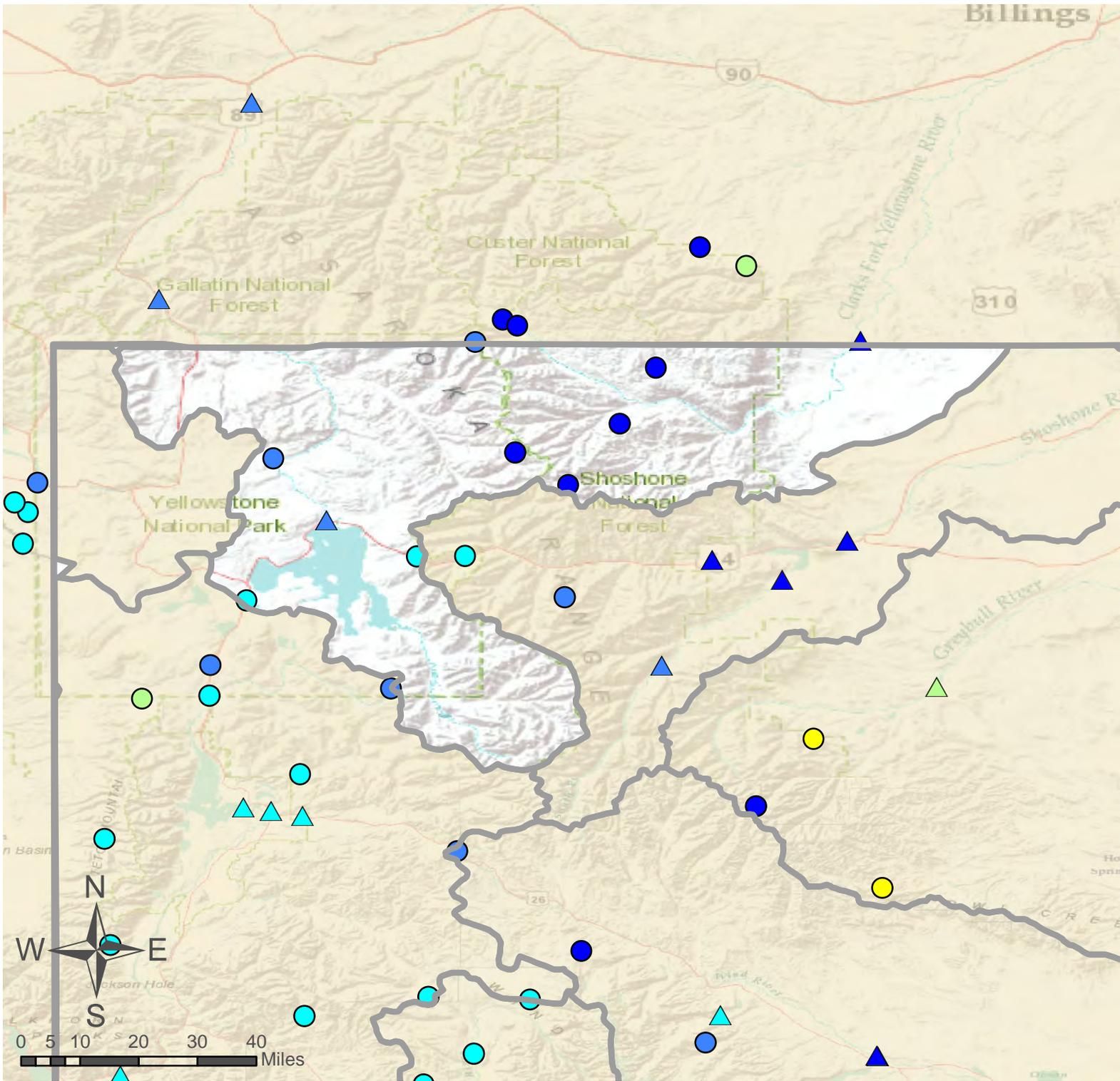
## Upper Yellowstone In Wy Basin Streamflow Forecasts - April 1, 2018

Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

UPPER YELLOWSTONE IN WY BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
<hr/>								
Yellowstone R at Yellowstone Lake Outlet	APR-JUL	685	750	790	137%	835	900	575
	APR-SEP	915	1000	1060	138%	1120	1210	770
Yellowstone R at Corwin Springs	APR-JUL	1940	2110	2220	140%	2340	2510	1590
	APR-SEP	2300	2500	2640	140%	2770	2970	1880
Clarks Fk Yellowstone R nr Belfry <sup>2</sup>	APR-JUL	750	805	845	166%	885	940	510
	APR-SEP	825	885	930	169%	970	1040	550

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
UPPER YELLOWSTONE IN WY	11	151%	144%
CLARKS FORK in WY	7	173%	148%



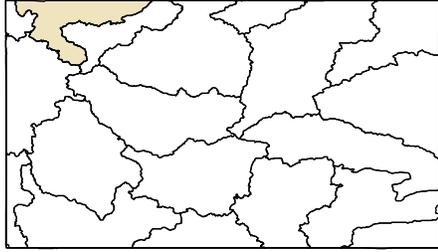
# Upper Yellowstone in Wyoming

- SNOTEL Site
- △ Forecast Point

## % of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

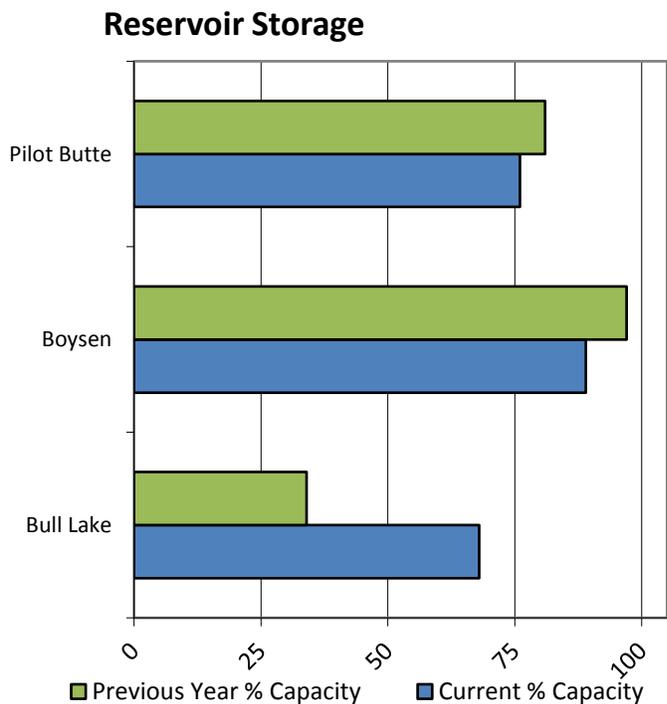
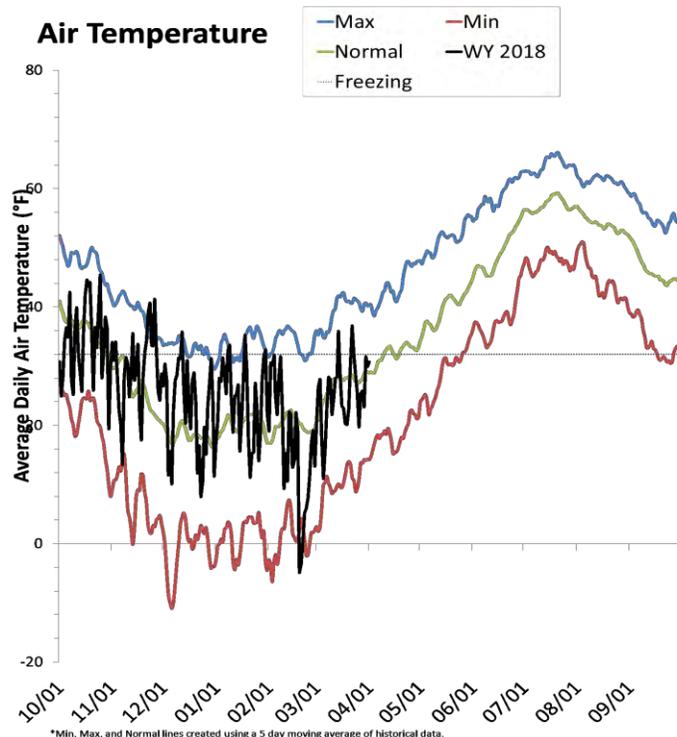
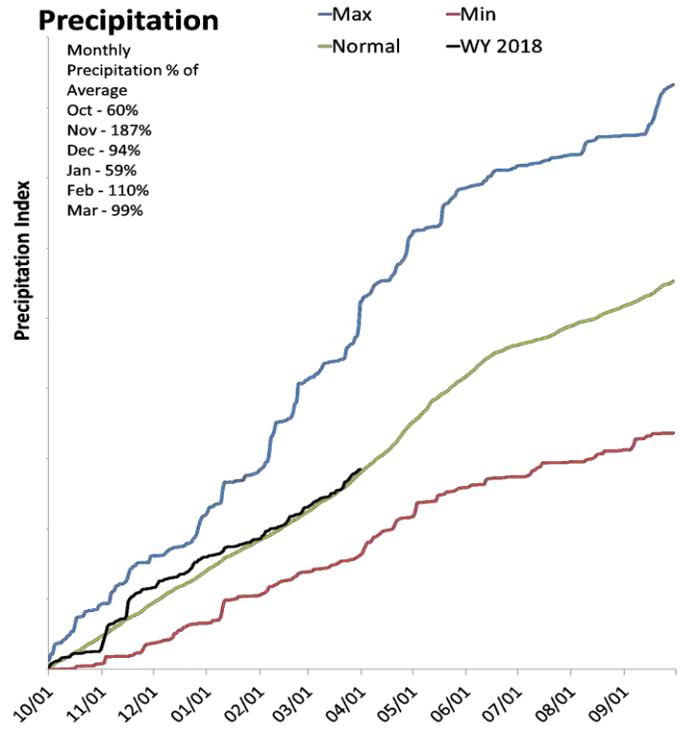
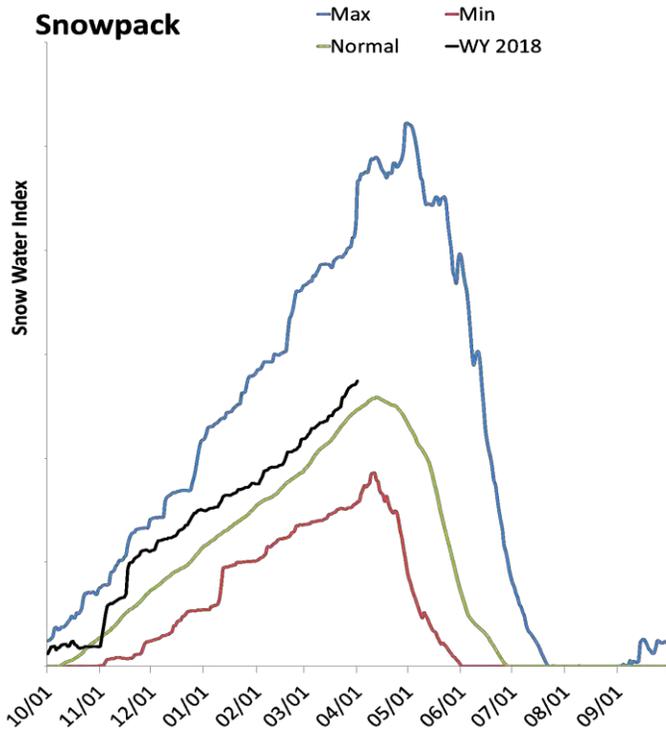
As of April 1, 2018:  
 152% of Normal SWE  
 131% of Normal Precipitation  
 109% of Normal Precipitation Last Month



# Wind River Basin

April 1, 2018

Snowpack in the Wind River Basin is above normal at 111% of normal, compared to 189% last year. Precipitation in March was near average at 99%, which brings the seasonal accumulation (Oct-Mar) to 102% of average. Reservoir storage is at 85% of capacity, compared to 84% last year. Forecast streamflow volumes range from 74% to 153% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

## Wind River Basin Streamflow Forecasts - April 1, 2018

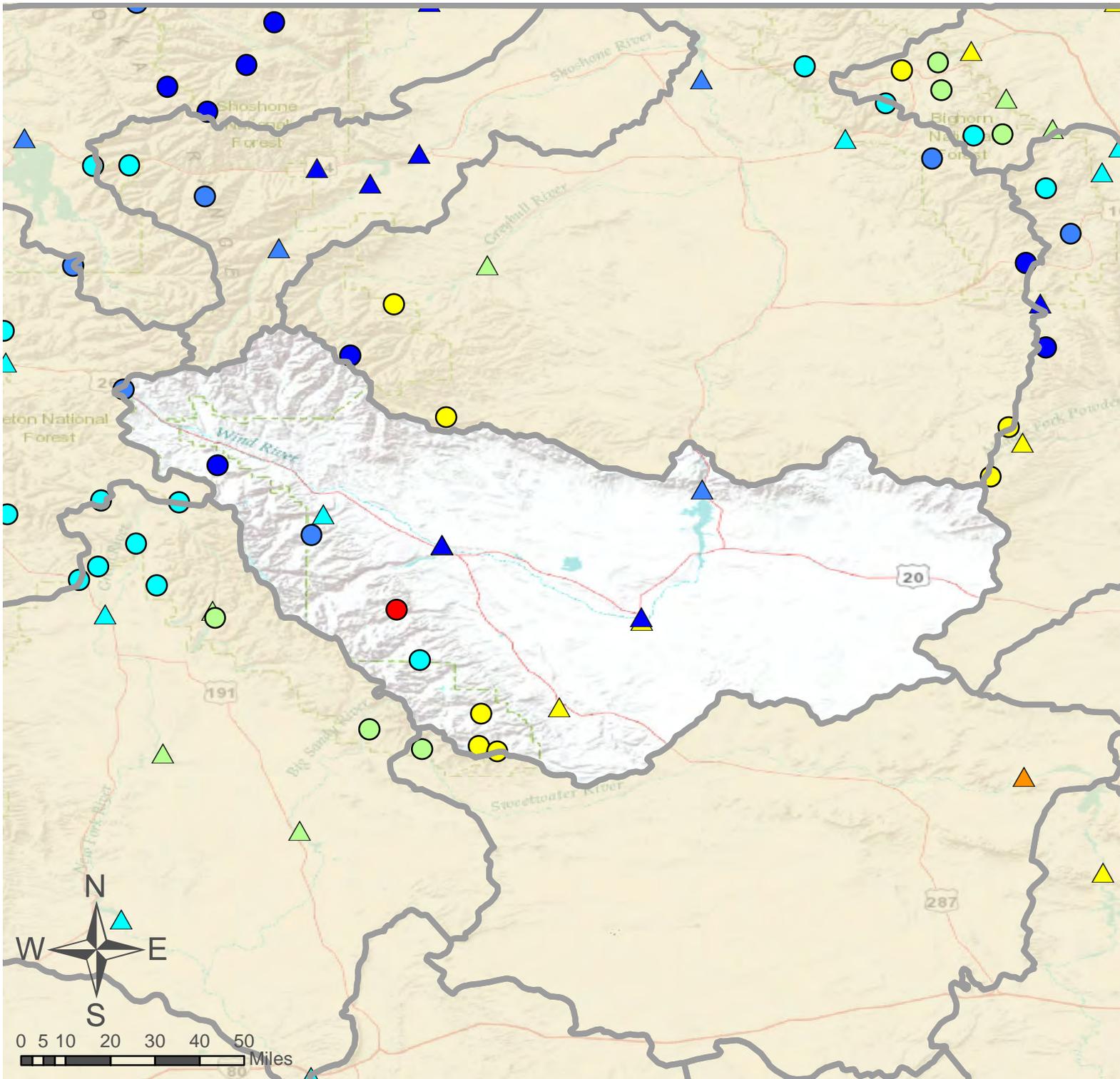
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

WIND RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Dinwoody Ck nr Burris	APR-JUL	66	74	79	120%	84	92	66
	APR-SEP	93	102	108	117%	114	123	92
Wind R Ab Bull Lake Ck	APR-JUL	540	625	685	151%	740	825	455
	APR-SEP	590	680	745	152%	810	900	490
Bull Lake Ck nr Lenore	APR-JUL	117	137	150	108%	163	183	139
	APR-SEP	140	164	180	107%	196	220	169
Wind R at Riverton	APR-JUL	570	665	725	153%	790	880	475
	APR-SEP	665	770	840	153%	910	1020	550
Little Popo Agie R nr Lander	APR-JUL	11.8	23	31	74%	39	50	42
	APR-SEP	16.7	29	37	76%	45	57	49
Little Wind R nr Riverton	APR-JUL	48	151	220	81%	290	395	270
	APR-SEP	60	168	240	81%	315	425	295
Boysen Reservoir Inflow	APR-JUL	435	645	790	130%	935	1150	610
	APR-SEP	475	700	855	129%	1010	1230	665

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Bull Lake	103.7	51.7	75.4	151.8
Boysen	531.3	578.2	489.0	596.0
Pilot Butte	24.1	25.7	24.8	31.6
Basin-wide Total	659.2	655.6	589.2	779.4
# of reservoirs	3	3	3	3

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
WIND above Dubois	6	151%	187%
LITTLE WIND	2	99%	195%
POPO AGIE	7	86%	209%
WIND RIVER	16	112%	197%



# Wind River Basin

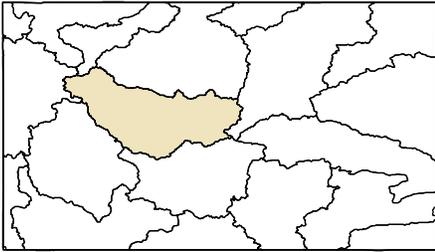
- SNOTEL Site
- △ Forecast Point

## % of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

As of April 1, 2018:

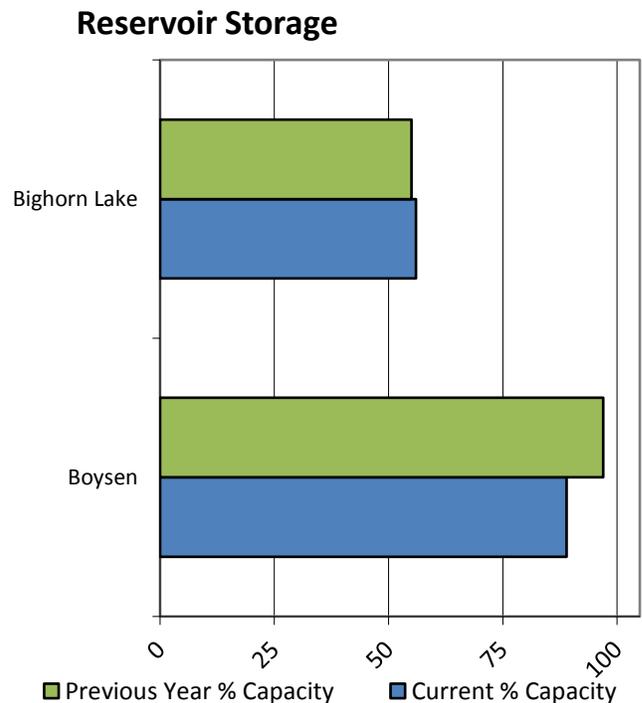
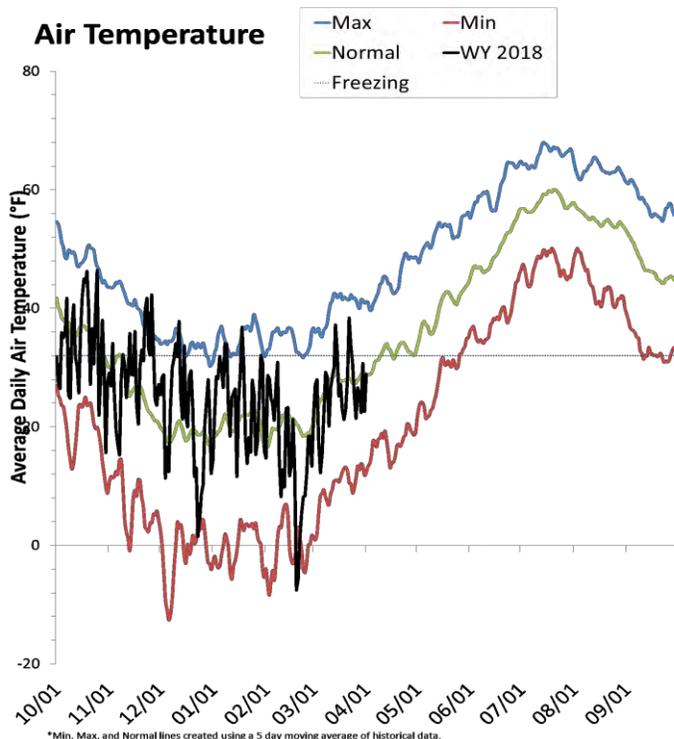
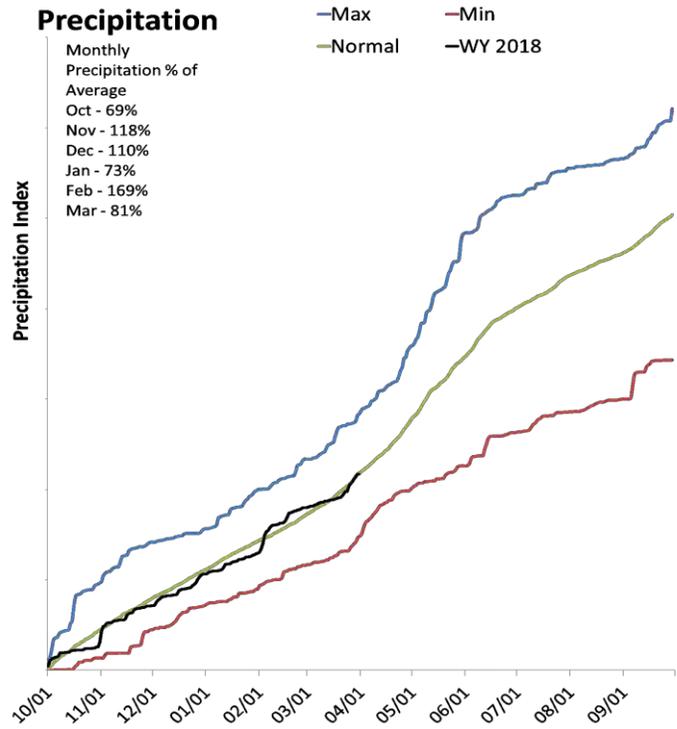
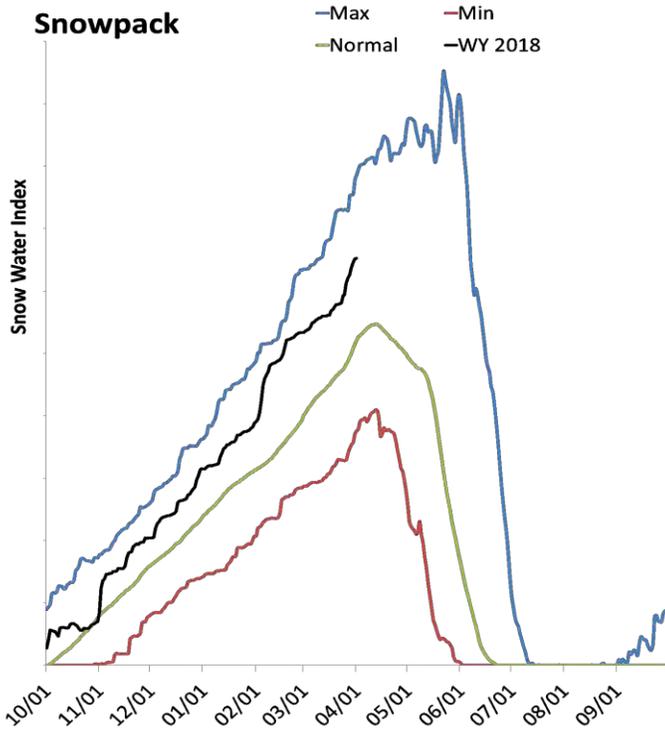
- 111% of Normal SWE
- 102% of Normal Precipitation
- 99% of Normal Precipitation Last Month



# Bighorn River Basin

April 1, 2018

Snowpack in the Bighorn River Basin is above normal at 125% of normal, compared to 115% last year. Precipitation in March was below average at 81%, which brings the seasonal accumulation (Oct-Mar) to 99% of average. Reservoir storage is at 66% of capacity, compared to 68% last year. Forecast streamflow volumes range from 105% to 131% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

## Bighorn River Basin Streamflow Forecasts - April 1, 2018

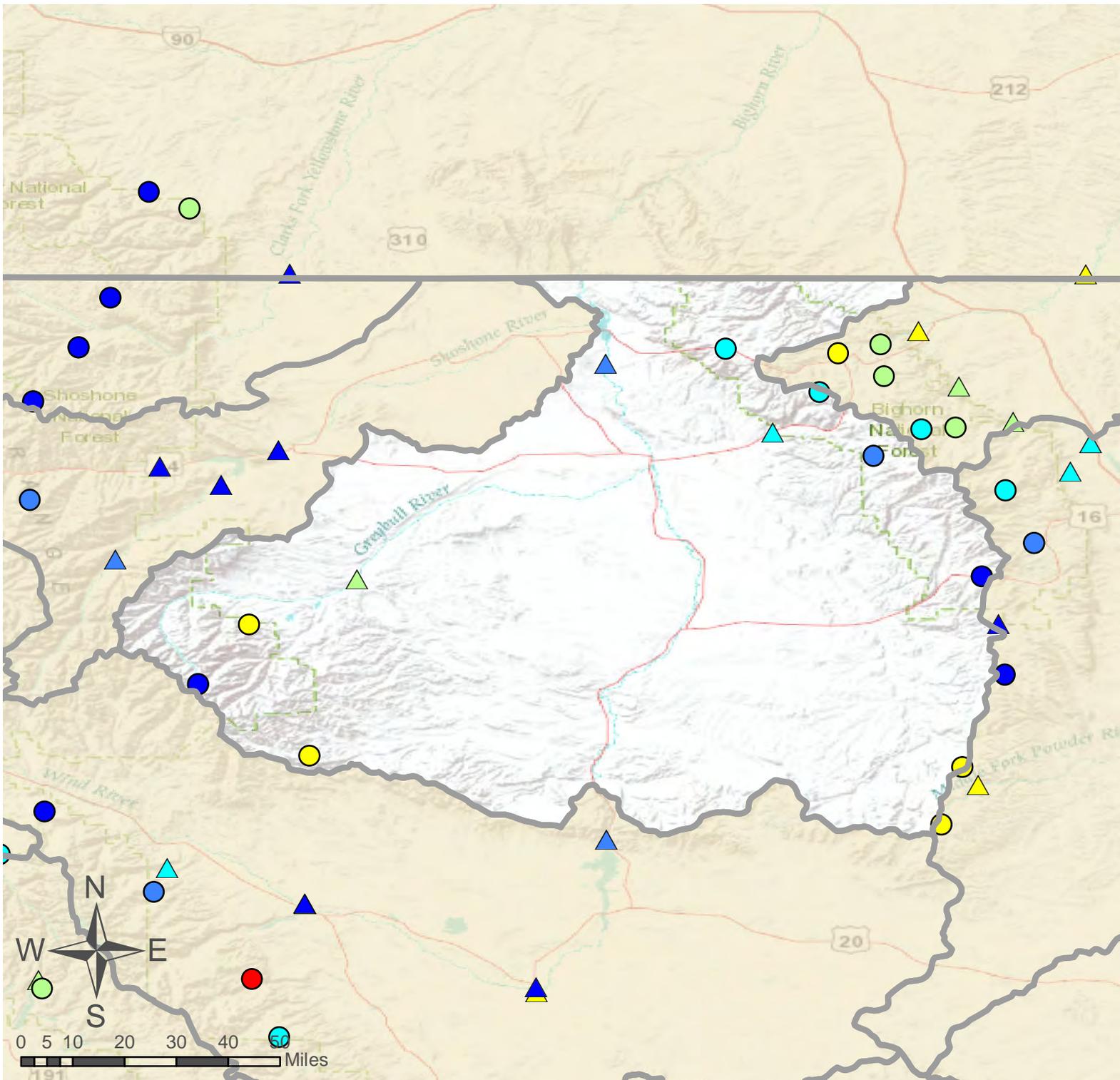
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

BIGHORN RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Boysen Reservoir Inflow	APR-JUL	435	645	790	130%	935	1150	610
	APR-SEP	475	700	855	129%	1010	1230	665
Greybull R at Meeteetse	APR-JUL	75	112	137	105%	162	198	131
	APR-SEP	111	155	185	105%	215	260	177
Shell Ck nr Shell	APR-JUL	52	61	67	122%	73	82	55
	APR-SEP	61	71	78	118%	85	95	66
Bighorn R at Kane	APR-JUL	560	880	1100	131%	1310	1630	840
	APR-SEP	605	945	1170	129%	1400	1740	905

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Boysen	531.3	578.2	489.0	596.0
Bighorn Lake	755.5	751.5	787.5	1356.0
Basin-wide Total	1286.8	1329.7	1276.5	1952.0
# of reservoirs	2	2	2	2

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
NOWOOD RIVER	7	134%	83%
GREYBULL RIVER	2	158%	207%
SHELL CREEK	4	124%	108%
BIGHORN RIVER	14	130%	110%



# Bighorn River Basin

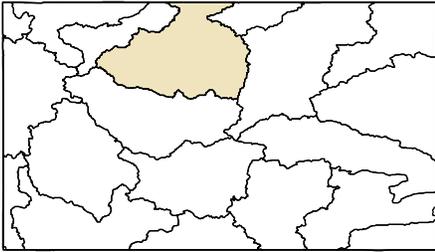
- SNOTEL Site
- △ Forecast Point

## % of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

As of April 1, 2018:

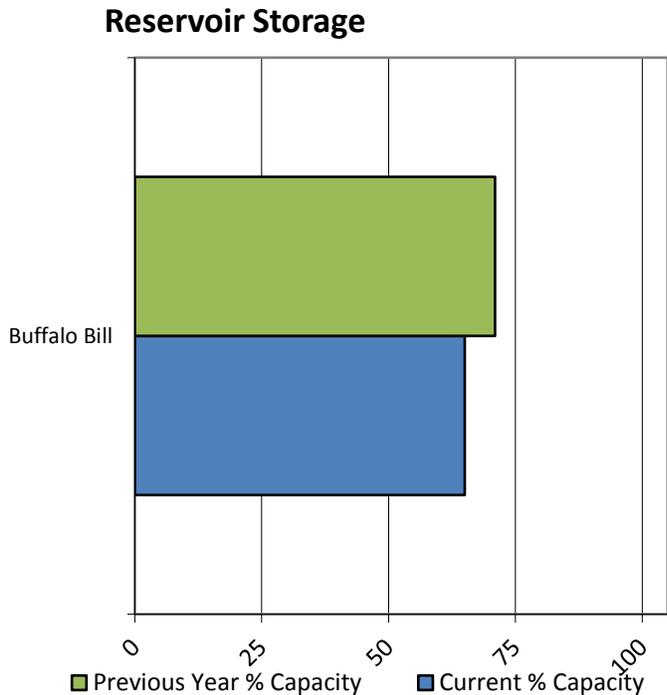
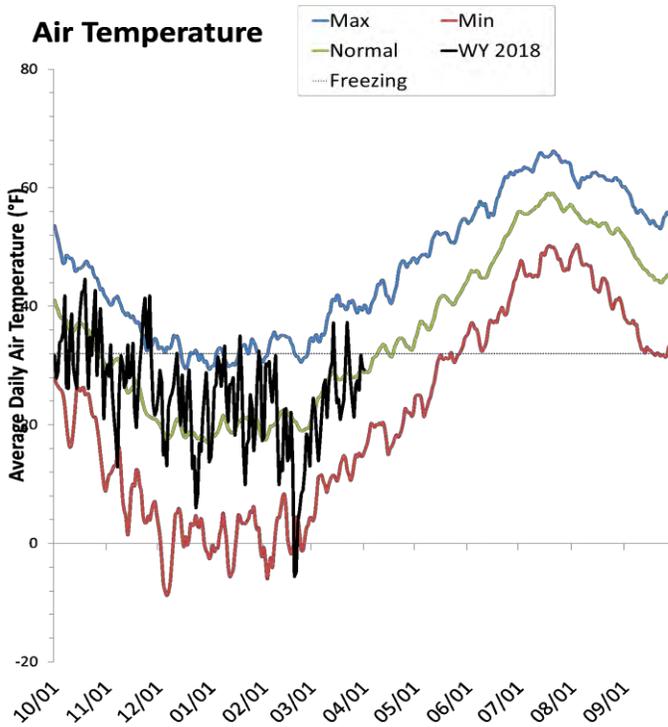
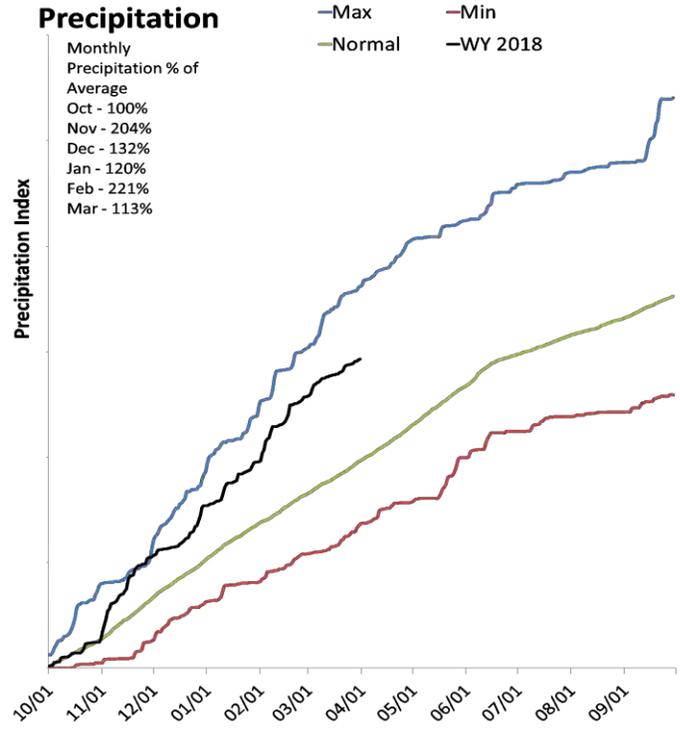
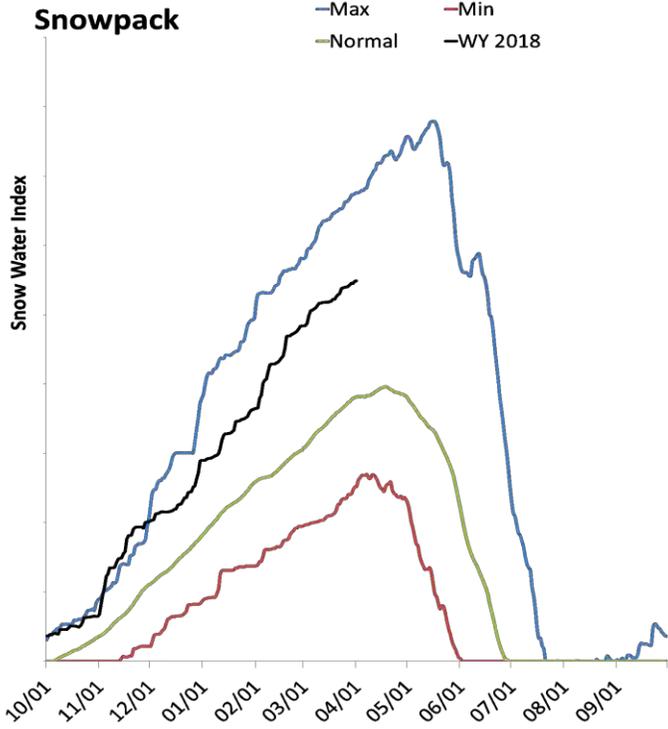
- 125% of Normal SWE
- 99% of Normal Precipitation
- 81% of Normal Precipitation Last Month



# Shoshone River Basin

April 1, 2018

Snowpack in the Shoshone River Basin is much above average at 144% of normal, compared to 141% last year. Precipitation in March was near average at 109%, which brings the seasonal accumulation (Oct-Mar) to 141% of average. Reservoir storage is at 65% of capacity, compared to 71% last year. Forecast streamflow volumes range from 149% to 171% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

## Shoshone River Basin Streamflow Forecasts - April 1, 2018

Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

SHOSHONE RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
NF Shoshone R at Wapiti	APR-JUL	625	675	710	154%	745	795	460
	APR-SEP	690	750	790	153%	830	885	515
SF Shoshone R nr Valley	APR-JUL	275	300	320	149%	340	365	215
	APR-SEP	315	350	370	151%	390	425	245
SF Shoshone R ab Buffalo Bill Reservoir	APR-JUL	260	305	330	171%	360	405	193
	APR-SEP	275	325	355	178%	385	435	200
Buffalo Bill Reservoir Inflow <sup>2</sup>	APR-JUL	900	995	1060	157%	1120	1220	675
	APR-SEP	995	1100	1170	157%	1240	1350	745

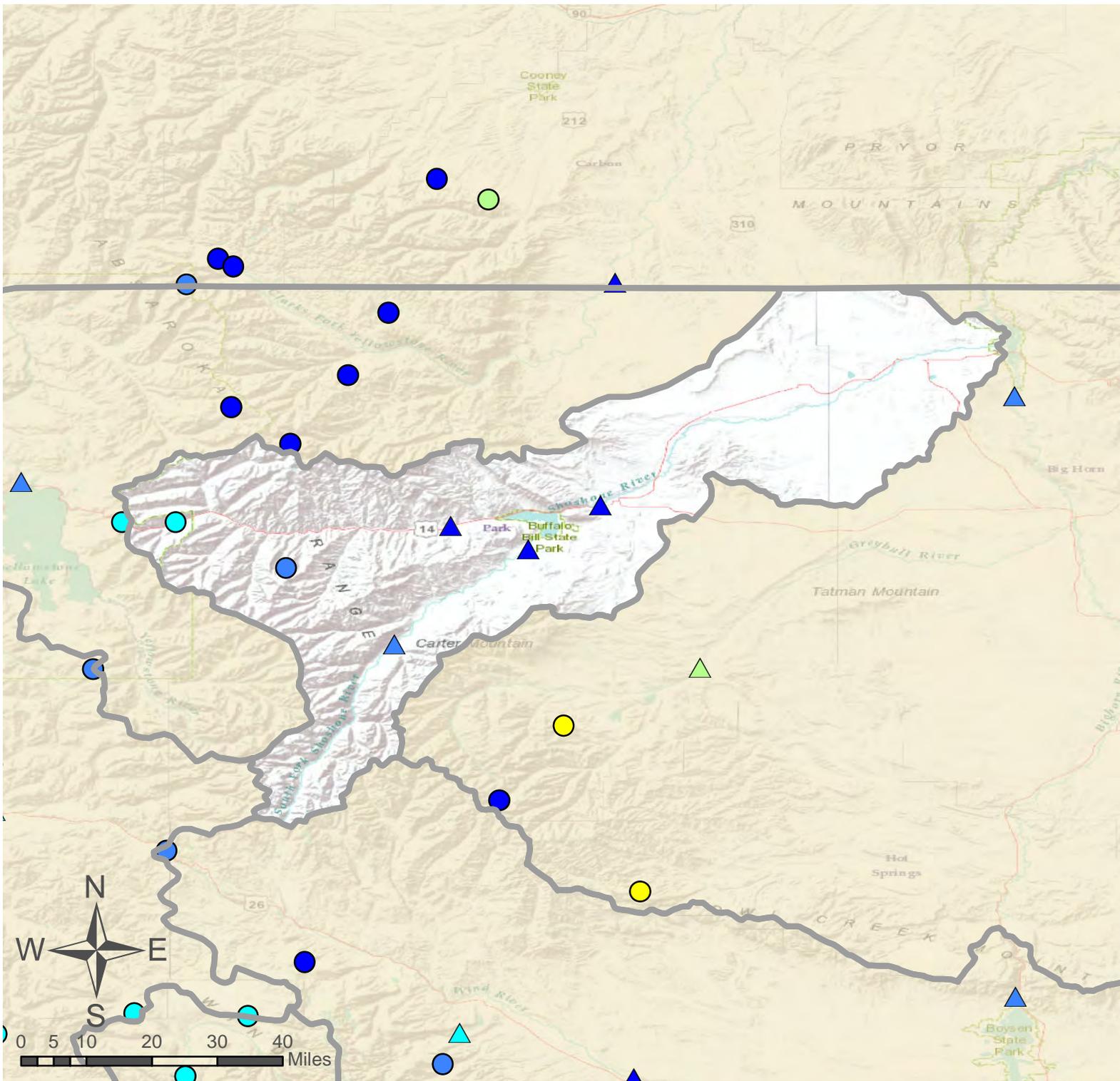
1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Buffalo Bill	423.4	457.1	348.9	646.6
Basin-wide Total	423.4	457.1	348.9	646.6
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
SHOSHONE RIVER	4	144%	141%



# Shoshone River Basin

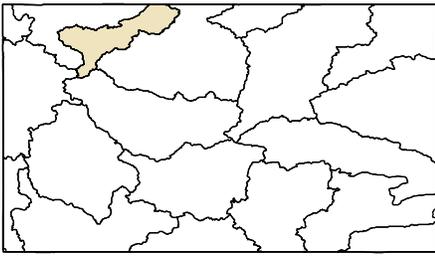
- SNOTEL Site
- △ Forecast Point

## % of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

As of April 1, 2018:

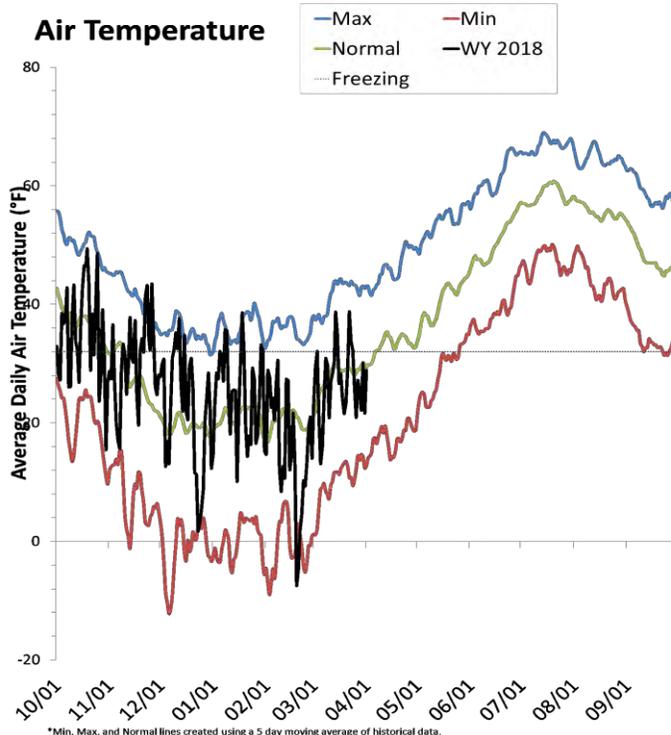
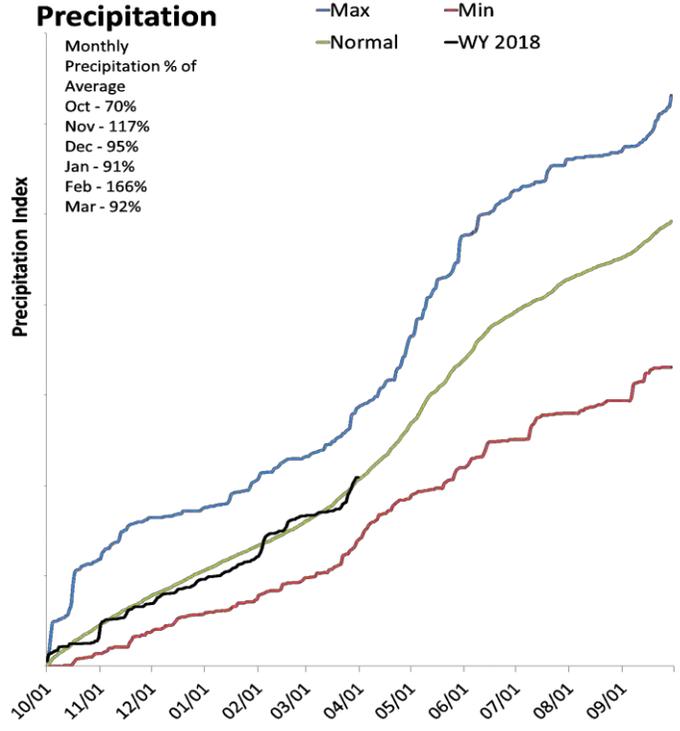
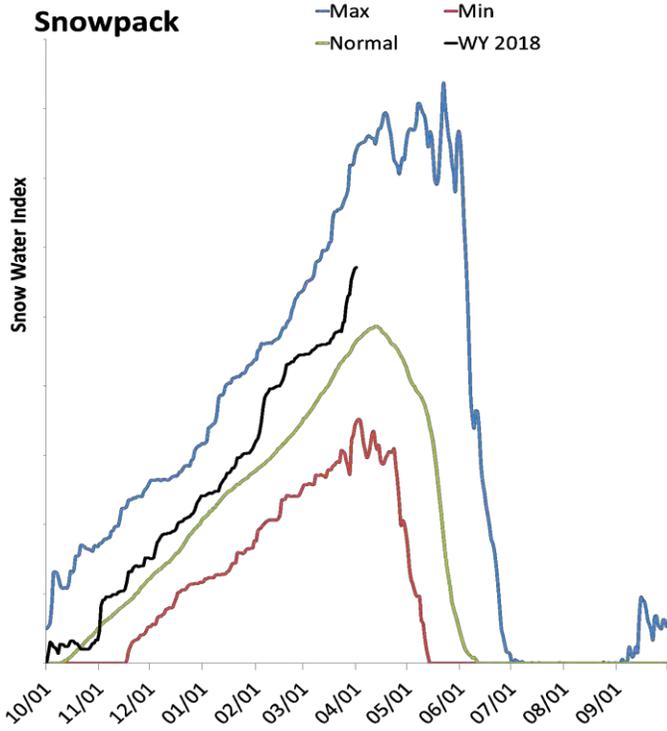
144% of Normal SWE  
 141% of Normal Precipitation  
 109% of Normal Precipitation Last Month



# Powder River Basin

April 1, 2018

Snowpack in the Powder River Basin is above normal at 123% of normal, compared to 94% last year. Precipitation in March was near average at 91%, which brings the seasonal accumulation (Oct-Mar) to 101% of average. Forecast streamflow volumes range from 70% to 157% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

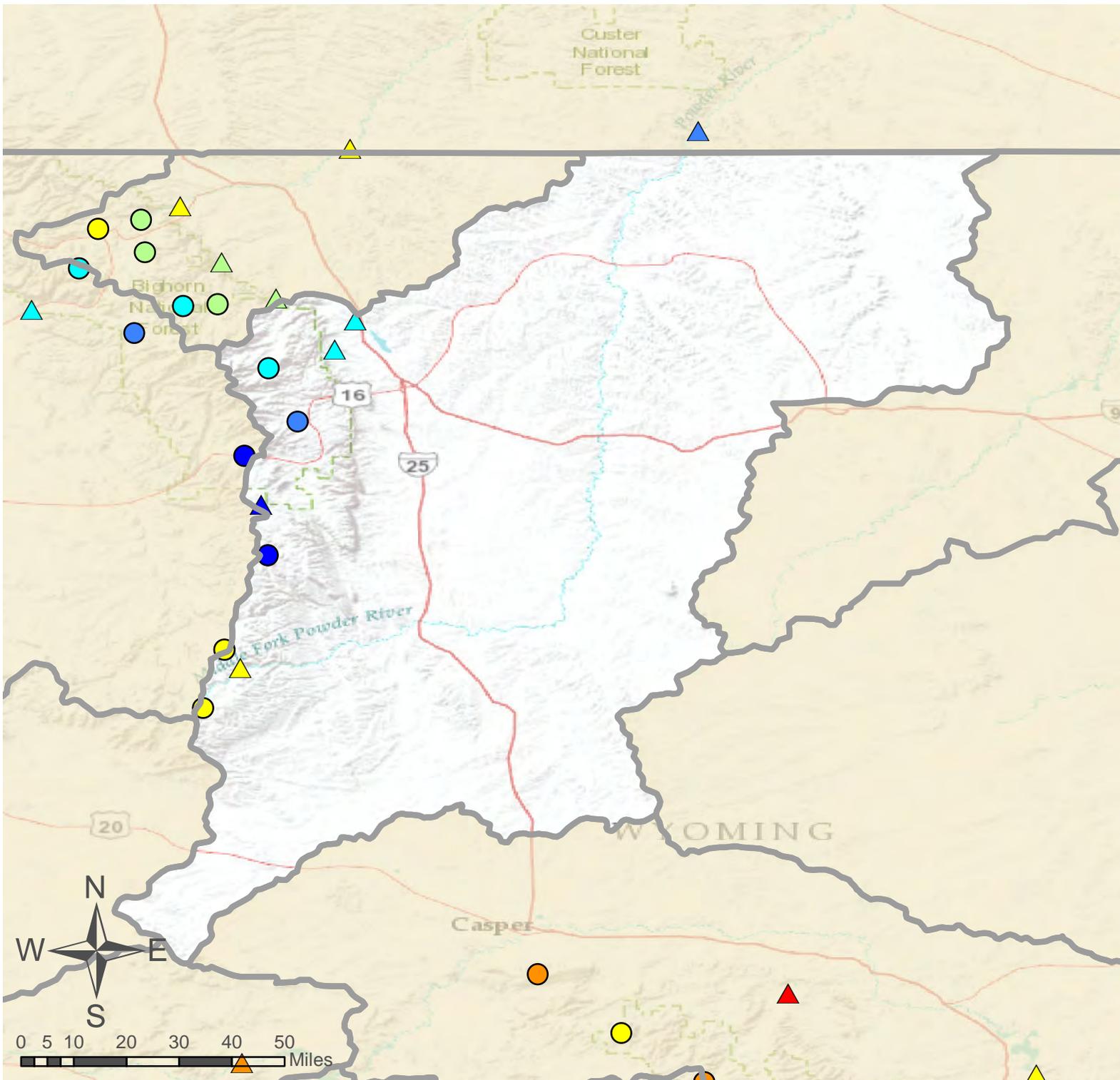
## Powder River Basin Streamflow Forecasts - April 1, 2018

Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

POWDER RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
MF Powder R nr Barnum	APR-JUL	4.8	8.7	11.3	70%	13.9	17.8	16.1
	APR-SEP	5.3	9.3	12	71%	14.7	18.7	17
NF Powder R nr Hazelton	APR-JUL	10.8	12.9	14.3	157%	15.7	17.8	9.1
	APR-SEP	11.6	13.7	15.2	154%	16.7	18.9	9.9
Rock Ck nr Buffalo	APR-JUL	14.4	20	24	129%	28	34	18.6
	APR-SEP	18.8	25	29	132%	33	39	22
Piney Ck at Kearny	APR-JUL	22	39	50	114%	61	78	44
	APR-SEP	25	42	54	115%	66	83	47
Powder R at Moorehead	APR-JUL	108	193	250	141%	305	390	177
	APR-SEP	132	215	275	140%	335	420	196

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
UPPER POWDER RIVER	5	129%	79%
CLEAR CREEK	3	117%	138%
CRAZY WOMAN CREEK	2	160%	90%
POWDER RIVER	8	125%	101%



# Powder River Basin

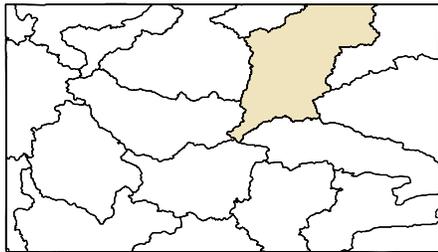
- SNOTEL Site
- △ Forecast Point

## % of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

As of April 1, 2018:

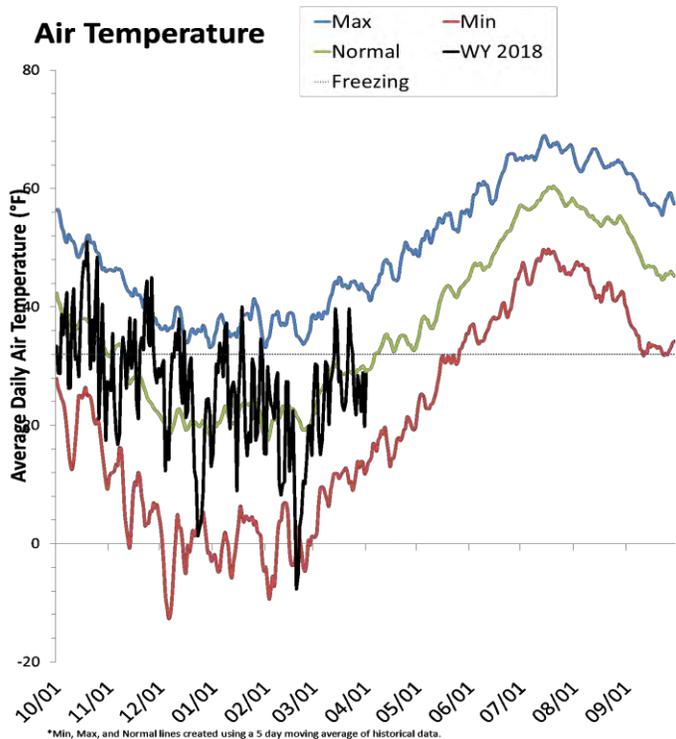
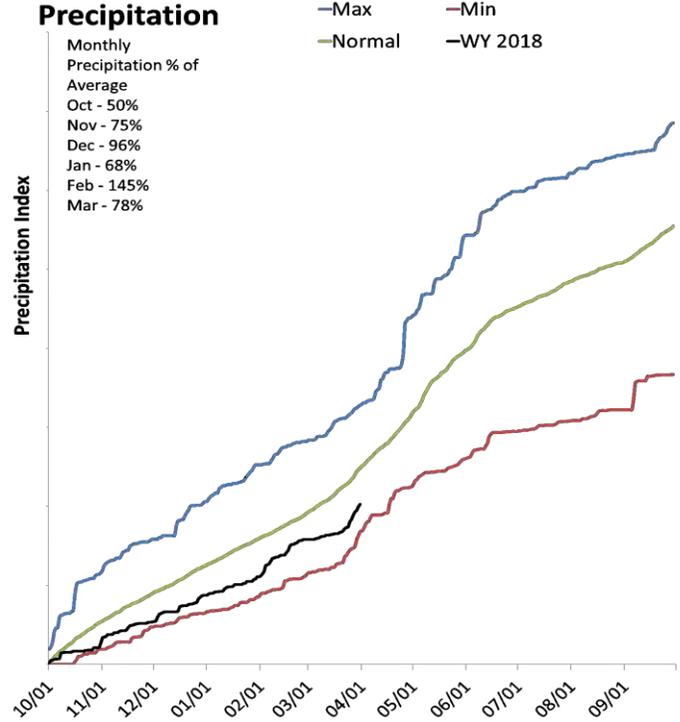
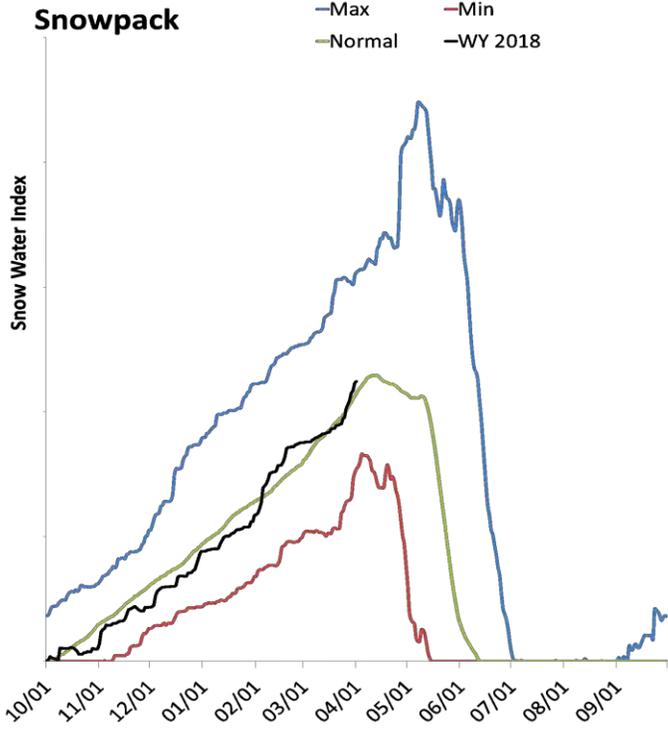
- 123% of Normal SWE
- 101% of Normal Precipitation
- 91% of Normal Precipitation Last Month



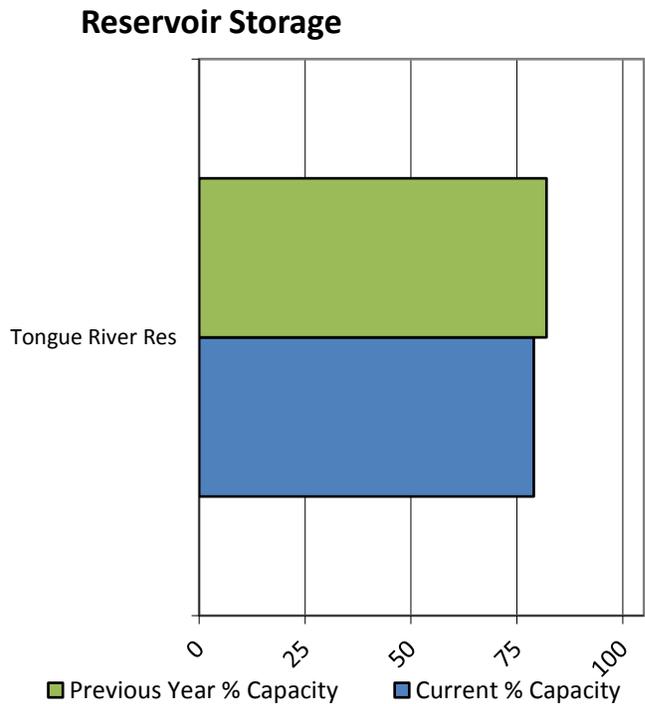
# Tongue River Basin

April 1, 2018

Snowpack in the Tongue River Basin is near normal at 105% of normal, compared to 114% last year. Precipitation in March was below average at 79%, which brings the seasonal accumulation (Oct-Mar) to 82% of average. Reservoir storage is at 79% of capacity, compared to 82% last year. Forecast streamflow volumes range from 83% to 97% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.



### Tongue River Basin Streamflow Forecasts - April 1, 2018

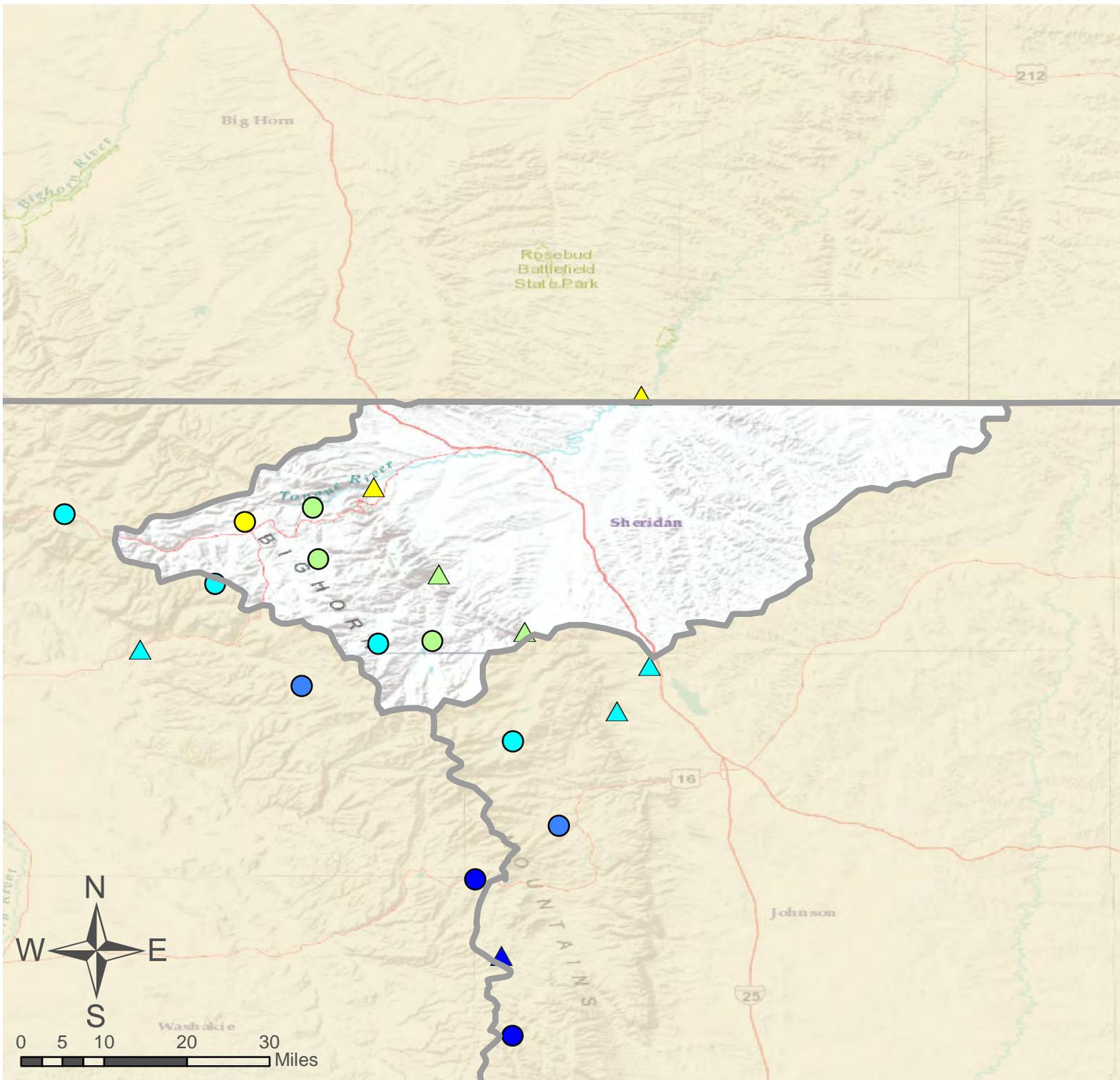
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

TONGUE RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Tongue R nr Dayton	APR-JUL	44	60	71	83%	82	98	86
	APR-SEP	52	70	82	84%	94	112	98
Big Goose Ck nr Sheridan	APR-JUL	24	36	44	96%	52	63	46
	APR-SEP	32	44	52	96%	60	72	54
Little Goose Ck nr Big Horn	APR-JUL	18.2	25	30	97%	35	42	31
	APR-SEP	25	33	38	97%	44	52	39
Tongue River Reservoir Inflow	APR-JUL	63	123	163	84%	205	265	193
	APR-SEP	78	141	184	86%	225	290	215

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Tongue River Res	62.4	64.7	32.3	79.1
Basin-wide Total	62.4	64.7	32.3	79.1
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
GOOSE CREEK	3	114%	126%
TONGUE RIVER	9	102%	111%

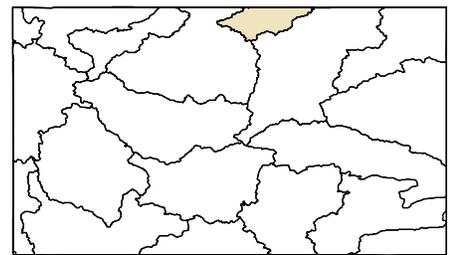


# Tongue River Basin

- SNOTEL Site
- △ Forecast Point

## % of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%



As of April 1, 2018:

105% of Normal SWE

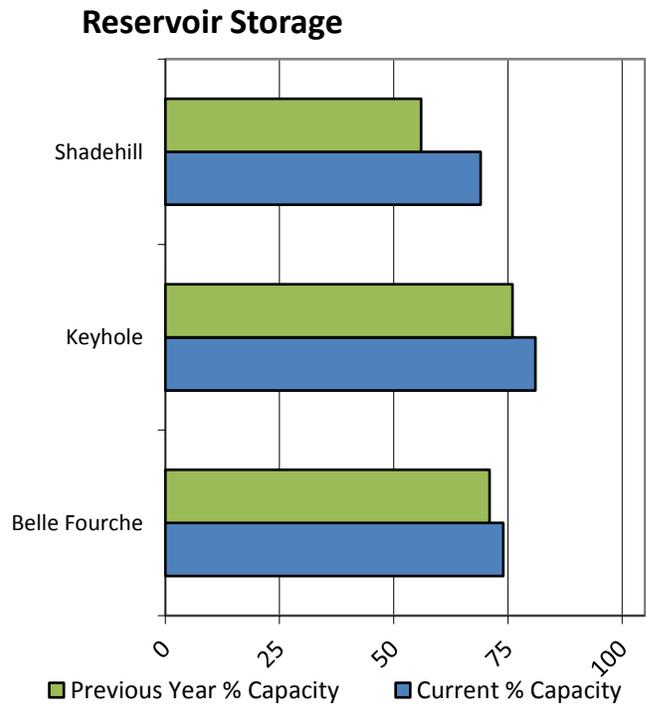
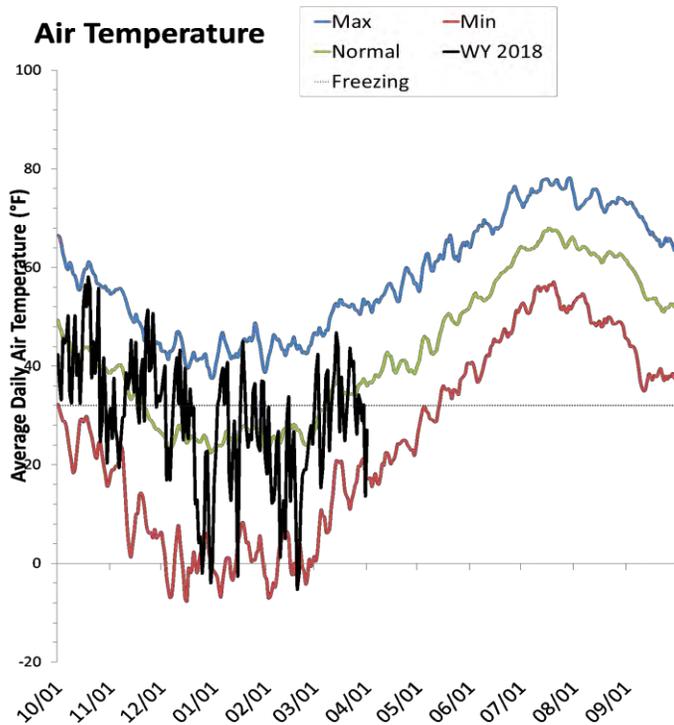
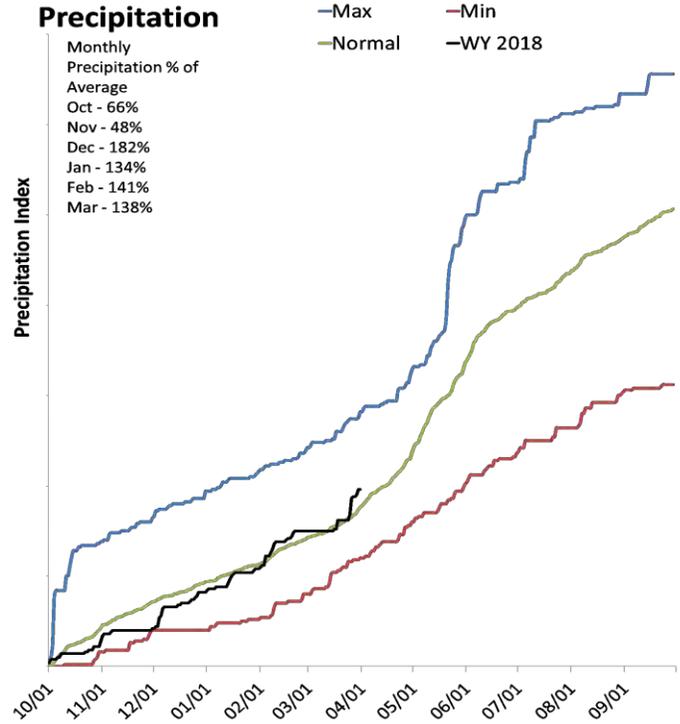
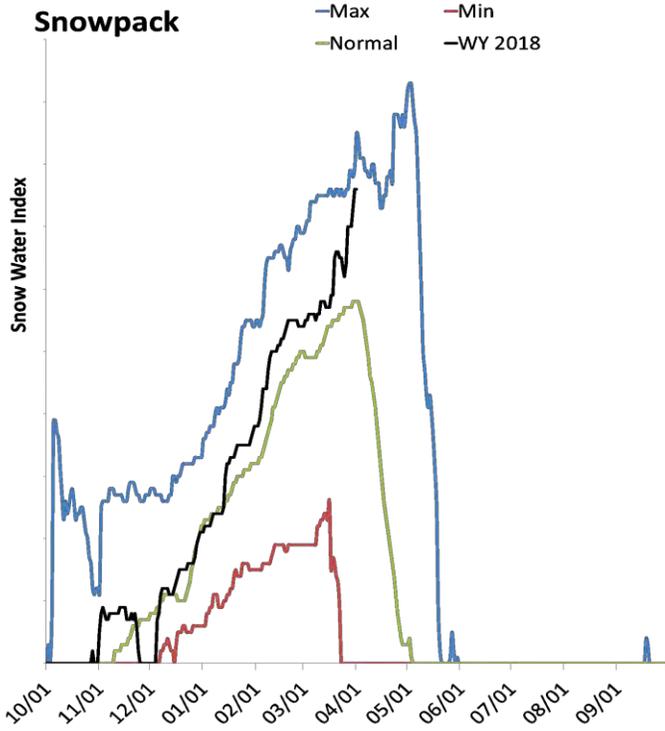
82% of Normal Precipitation

79% of Normal Precipitation Last Month

# Belle Fourche River Basin

April 1, 2018

Snowpack in the Belle Fourche River Basin is much above normal at 131% of normal, compared to 0% last year. Precipitation in March was much above average at 135%, which brings the seasonal accumulation (Oct-Mar) to 111% of average. Reservoir storage is at 76% of capacity, compared to 70% last year. Forecast streamflow volumes range from 0% to 0% of average.



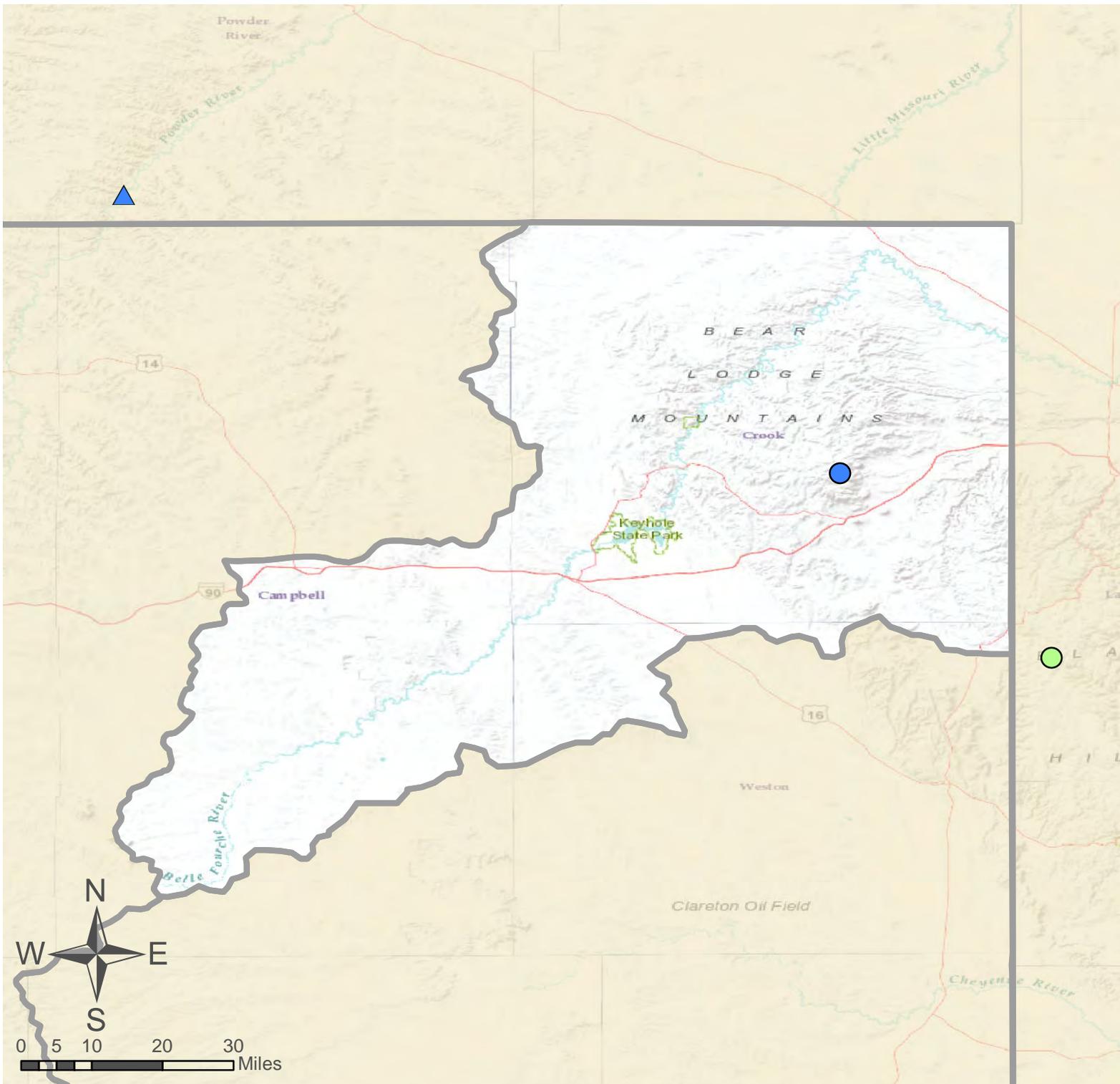
\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

Data Current as of: 4/5/2018 11:30:00 AM

## Belle Fourche River Basin - April 1, 2018

<b>Reservoir Storage End of March, 2018</b>	<b>Current (KAF)</b>	<b>Last Year (KAF)</b>	<b>Average (KAF)</b>	<b>Capacity (KAF)</b>
Belle Fourche	132.6	126.2	133.5	178.4
Keyhole	157.1	147.1	96.8	193.8
Shadehill	56.4	45.4	59.0	81.4
Basin-wide Total	346.1	318.7	289.3	453.6
# of reservoirs	3	3	3	3

<b>Watershed Snowpack Analysis April 1, 2018</b>	<b># of Sites</b>	<b>% Median</b>	<b>Last Year % Median</b>
BELLE FOURCHE RIVER	6	122%	0%



# Belle Fourche River Basin

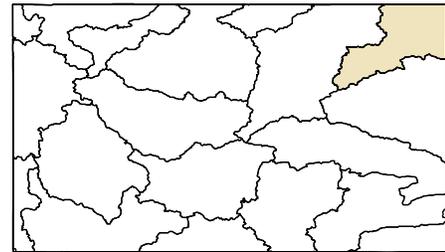
- SNOTEL Site
- △ Forecast Point

## % of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

As of April 1, 2018:

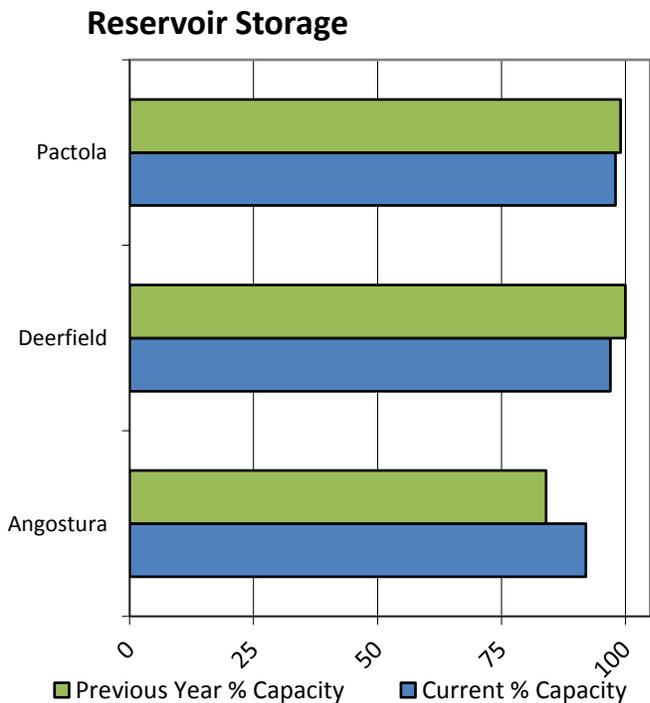
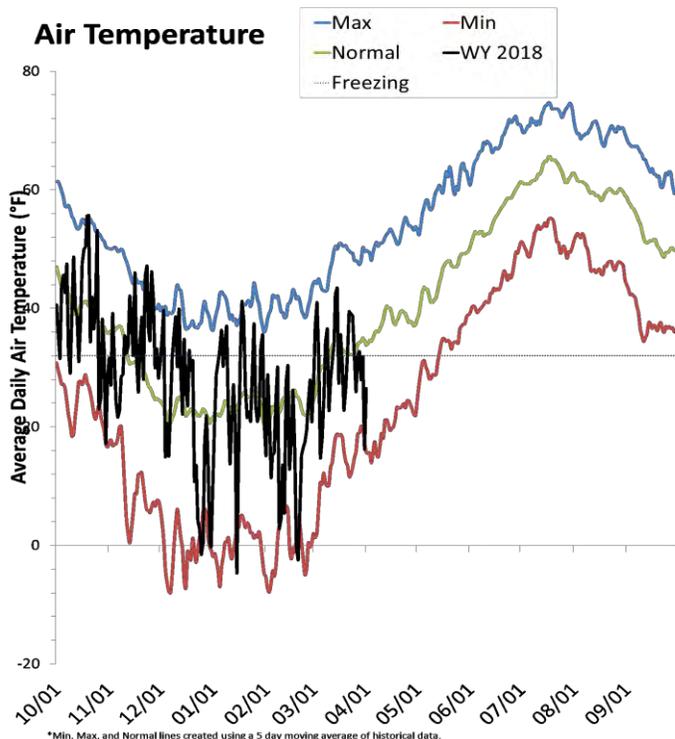
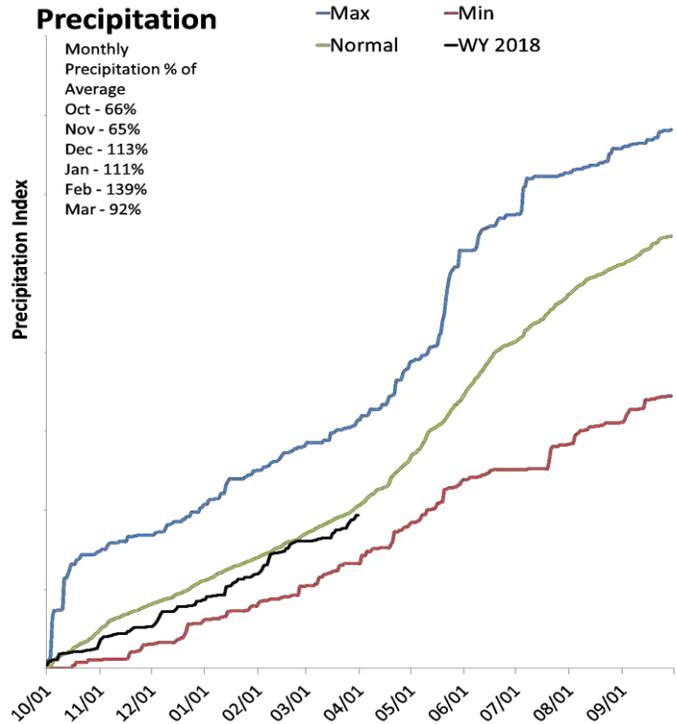
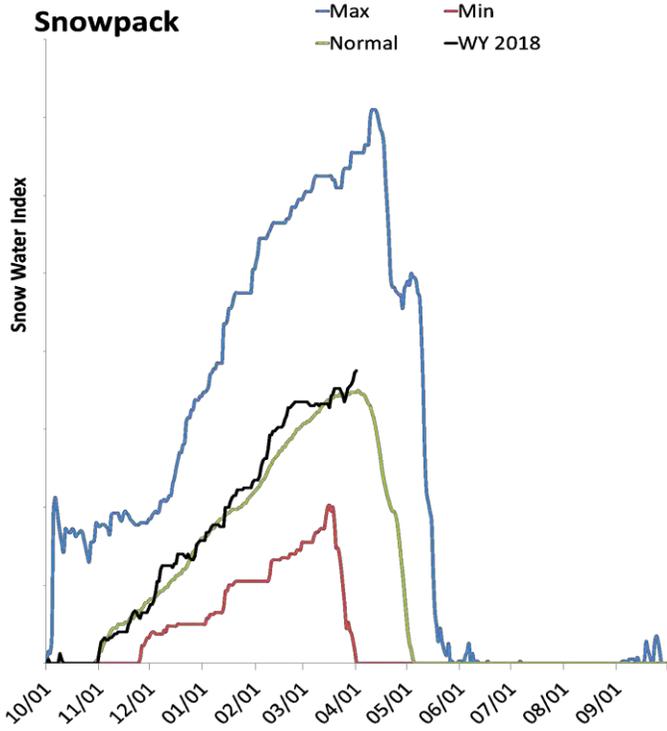
- 131% of Normal SWE
- 111% of Normal Precipitation
- 135% of Normal Precipitation Last Month



# Cheyenne River Basin

April 1, 2018

Snowpack in the Cheyenne River Basin is near normal at 108% of normal, compared to 4% last year. Precipitation in March was near average at 92%, which brings the seasonal accumulation (Oct-Mar) to 94% of average. Reservoir storage is at 94% of capacity, compared to 90% last year. Forecast streamflow volumes range from 114% to 117% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

## Cheyenne River Basin Streamflow Forecasts - April 1, 2018

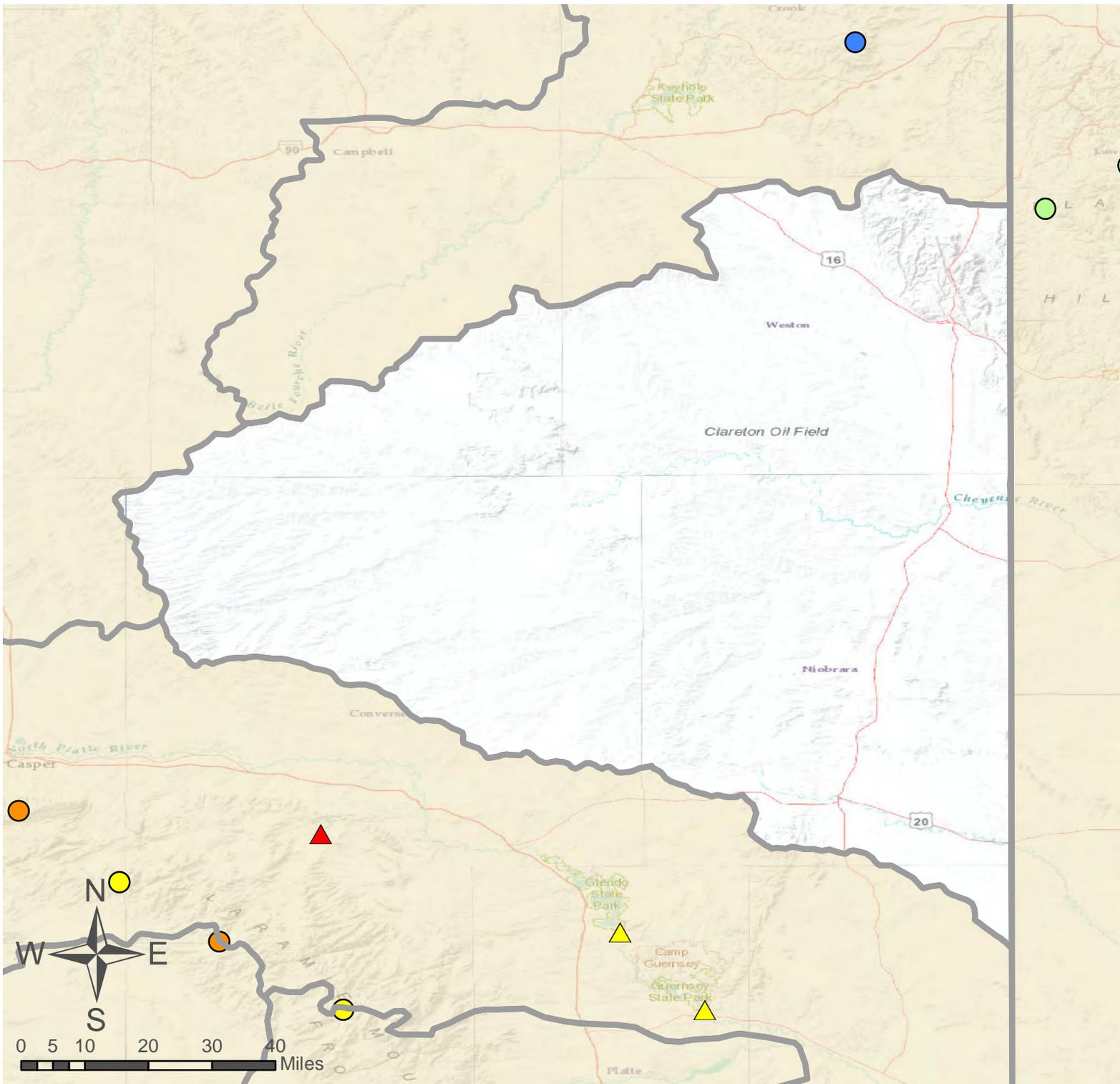
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

CHEYENNE RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Deerfield Reservoir Inflow	APR-JUL	3.1	4.9	6.1	117%	7.3	9.1	5.2
Pactola Reservoir Inflow	APR-JUL	12.1	19.7	25	114%	30	37	22

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Angostura	112.5	102.9	94.3	122.1
Deerfield	14.7	15.1	14.1	15.2
Pactola	53.7	54.2	46.4	55.0
Basin-wide Total	181.0	172.2	154.8	192.3
# of reservoirs	3	3	3	3

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
CHEYENNE RIVER	7	120%	1%



# Cheyenne River Basin

- SNOTEL Site
- △ Forecast Point

## % of Normal

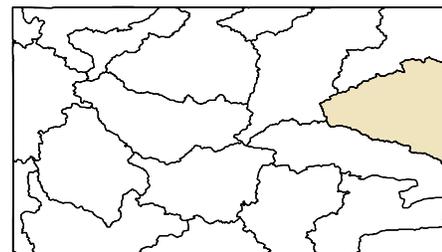
- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

As of April 1, 2018:

108% of Normal SWE

94% of Normal Precipitation

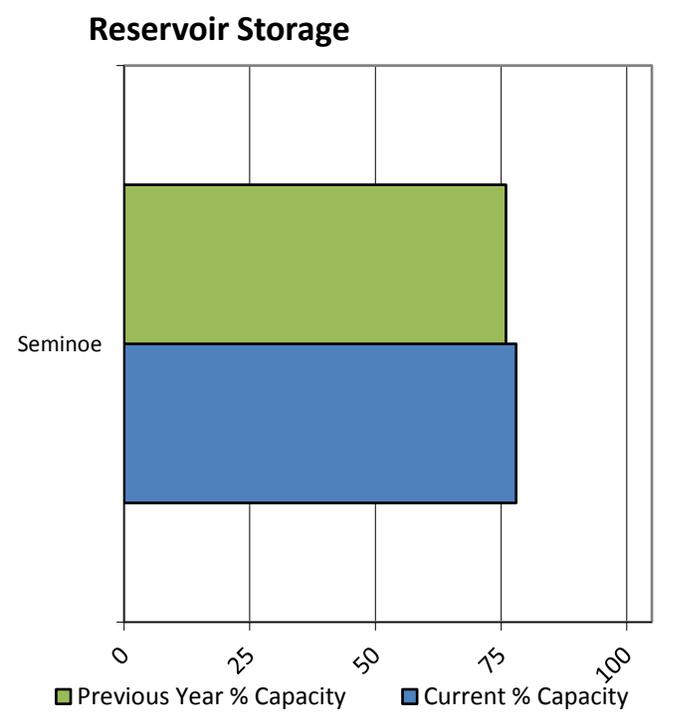
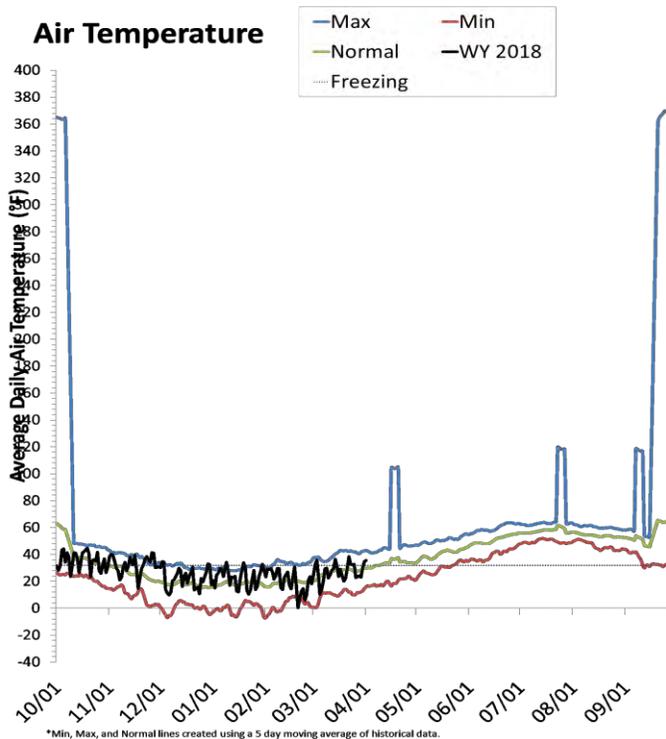
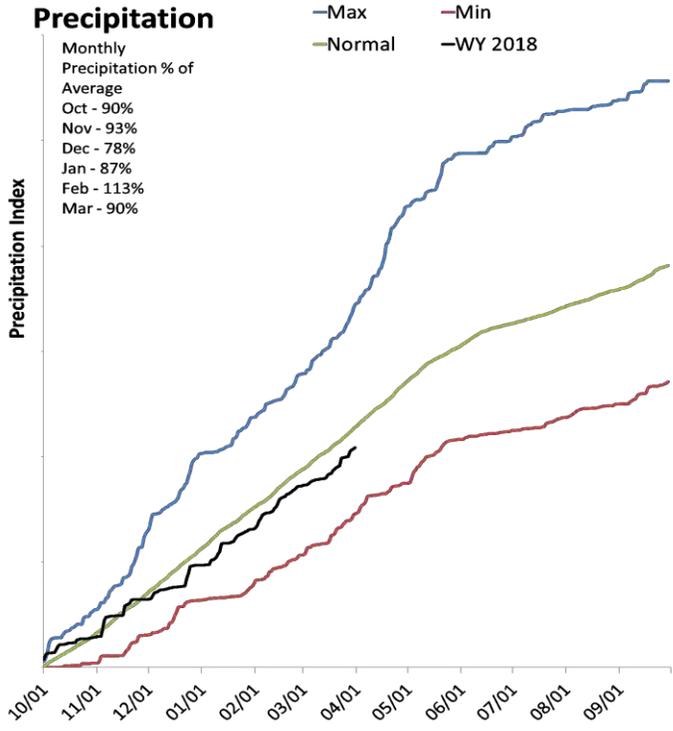
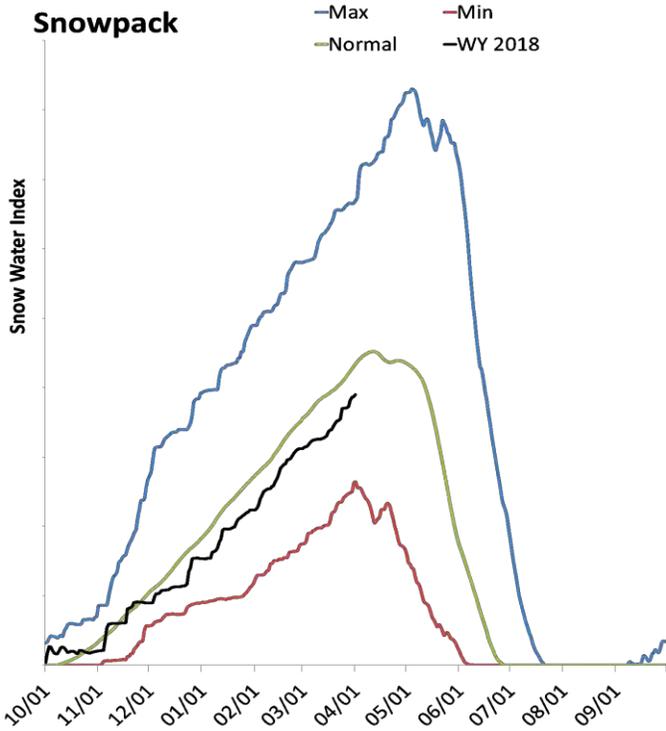
92% of Normal Precipitation Last Month



# Upper North Platte River Basin

April 1, 2018

Snowpack in the Upper North Platte River Basin is near normal at 90% of normal, compared to 98% last year. Precipitation in March was near average at 90%, which brings the seasonal accumulation (Oct-Mar) to 91% of average. Soil moisture at sites with sensors is at 53% of saturation. Reservoir storage is at 78% of capacity, compared to 76% last year. The forecast streamflow volume for Manti Creek is 86% of average.



## Upper North Platte River Basin Streamflow Forecasts - April 1, 2018

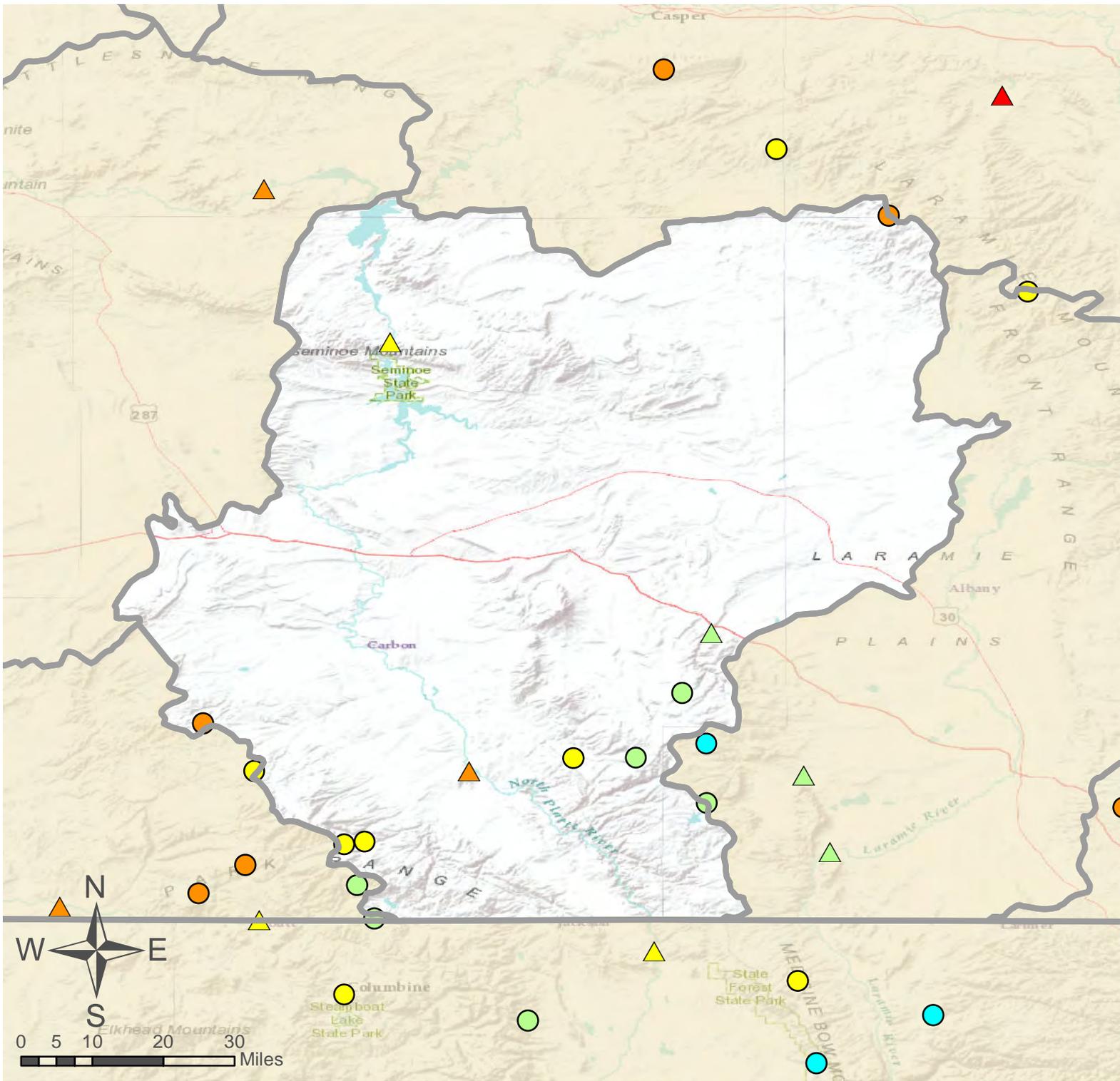
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

UPPER NORTH PLATTE RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
North Platte R nr Northgate	APR-JUL	77	147	194	86%	240	310	225
	APR-SEP	83	160	215	86%	265	345	250
Encampment R nr Encampment <sup>2</sup>	APR-JUL	29	59	81	63%	102	132	129
	APR-SEP	32	65	86	62%	108	141	138
Rock Ck ab King Canyon Cnl nr Arlington	APR-JUL	36	45	50	102%	56	64	49
	APR-SEP	38	47	53	102%	59	68	52
Sweetwater R nr Alcova	APR-JUL	0.49	19.3	32	54%	45	64	59
	APR-SEP	1.16	21	35	55%	49	69	64
Seminoe Reservoir Inflow	APR-JUL	245	440	575	80%	705	900	715
	APR-SEP	275	480	620	81%	760	965	770

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Seminoe	798.1	772.3	481.2	1016.7
Basin-wide Total	798.1	772.3	481.2	1016.7
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
N PLATTE above Northgate	11	93%	103%
ENCAMPMENT RIVER	4	84%	111%
BRUSH CREEK	5	99%	81%
MEDICINE BOW & ROCK CREEKS	3	102%	104%
UPPER NORTH PLATTE RIVER	24	92%	98%



# Upper North Platte River Basin

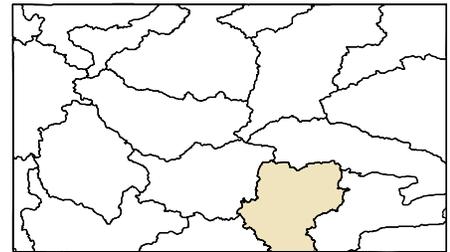
- SNOTEL Site
- △ Forecast Point

## % of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

As of April 1, 2018:

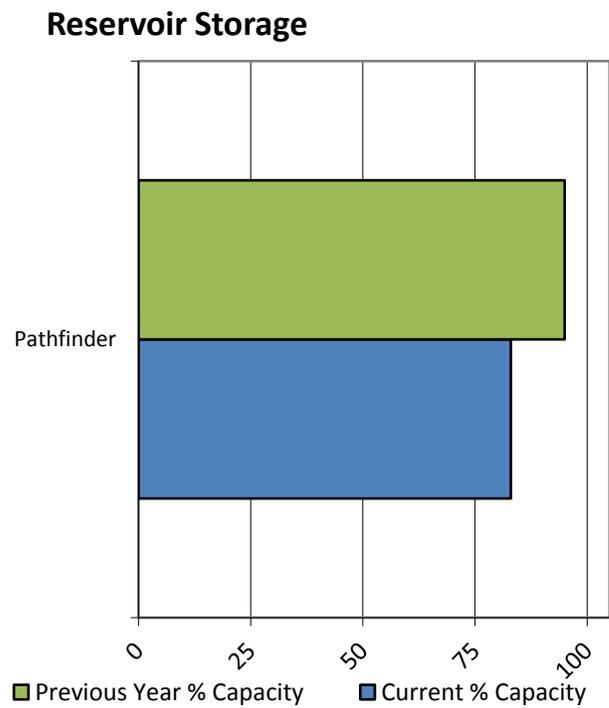
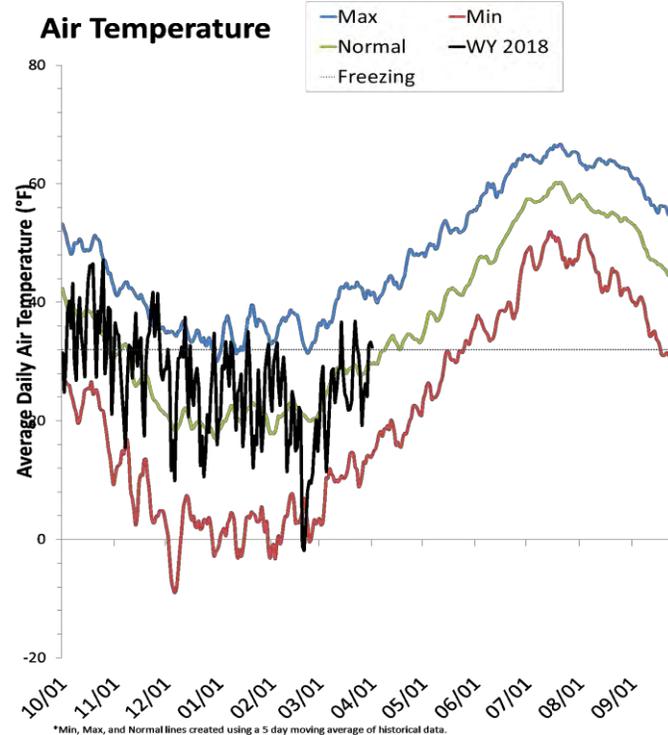
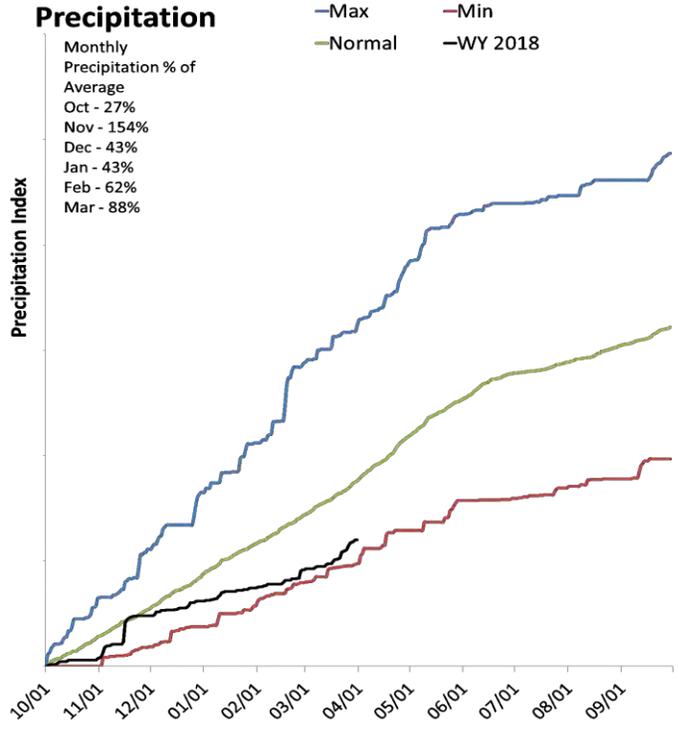
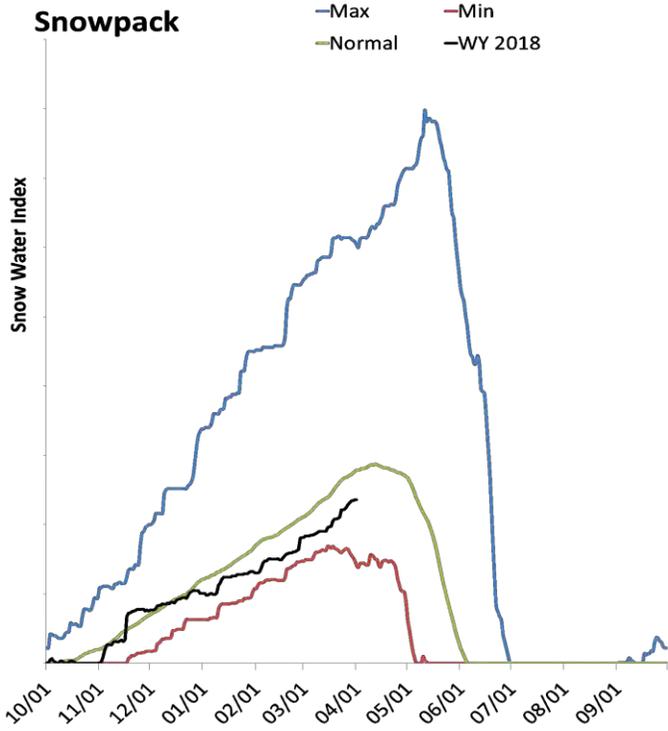
- 90% of Normal SWE
- 91% of Normal Precipitation
- 90% of Normal Precipitation Last Month



# Sweetwater River Basin

April 1, 2018

Snowpack in the Sweetwater River Basin is below normal at 85% of normal, compared to 193% last year. Precipitation in March was below average at 88%, which brings the seasonal accumulation (Oct-Mar) to 68% of average. Soil moisture at sites with sensors is at 22% of saturation. Reservoir storage is at 83% of capacity, compared to 95% last year. Forecast streamflow volumes range from 54% to 54% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

## Sweetwater River Basin Streamflow Forecasts - April 1, 2018

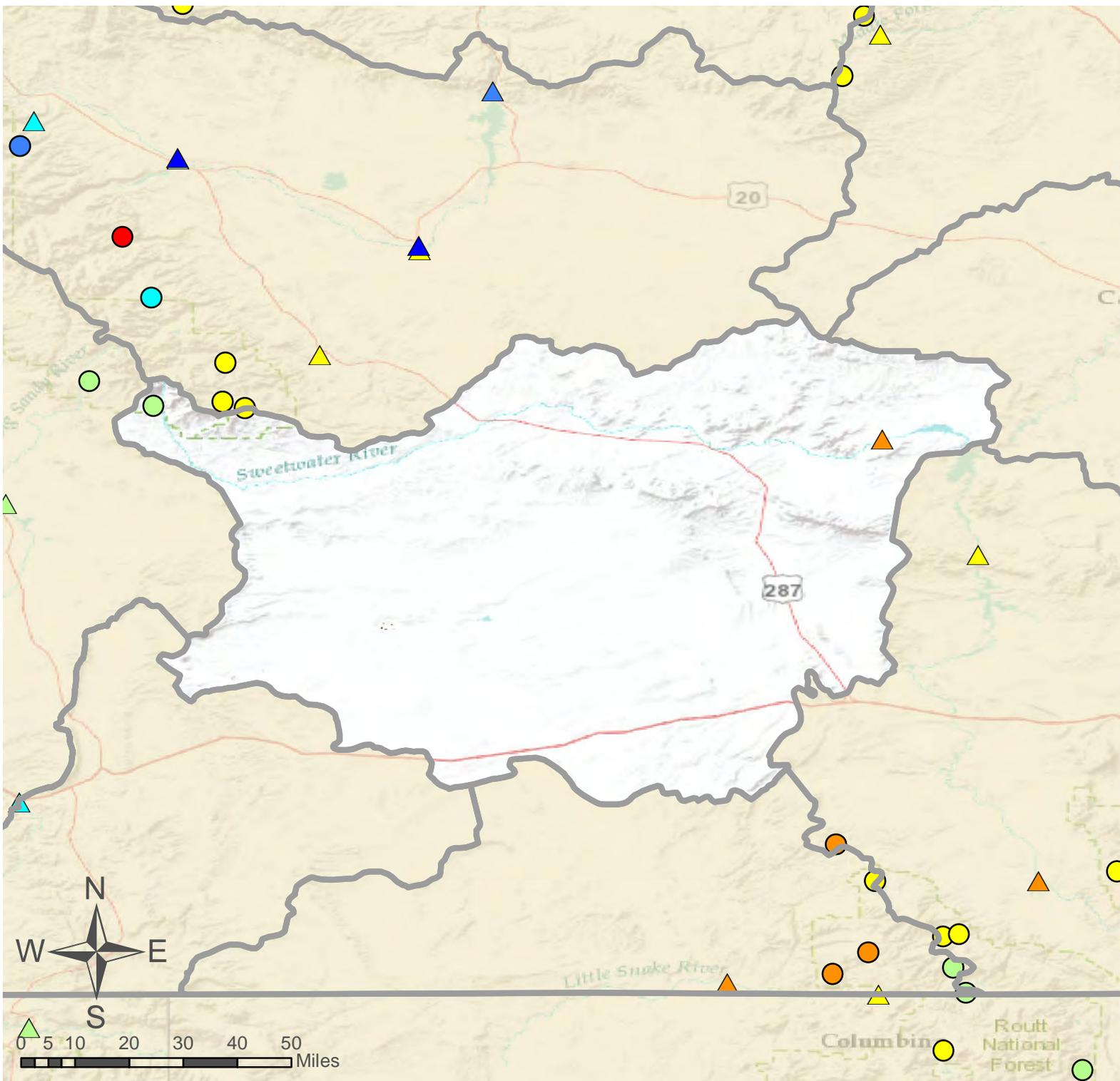
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

SWEETWATER RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Sweetwater R nr Alcova	APR-JUL	0.49	19.3	32	54%	45	64	59
	APR-SEP	1.16	21	35	55%	49	69	64

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Pathfinder	845.3	967.3	604.6	1016.5
Basin-wide Total	845.3	967.3	604.6	1016.5
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
SWEETWATER RIVER	4	83%	196%



# Sweetwater River Basin

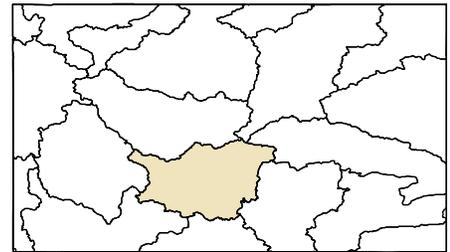
- SNOTEL Site
- △ Forecast Point

## % of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

As of April 1, 2018:

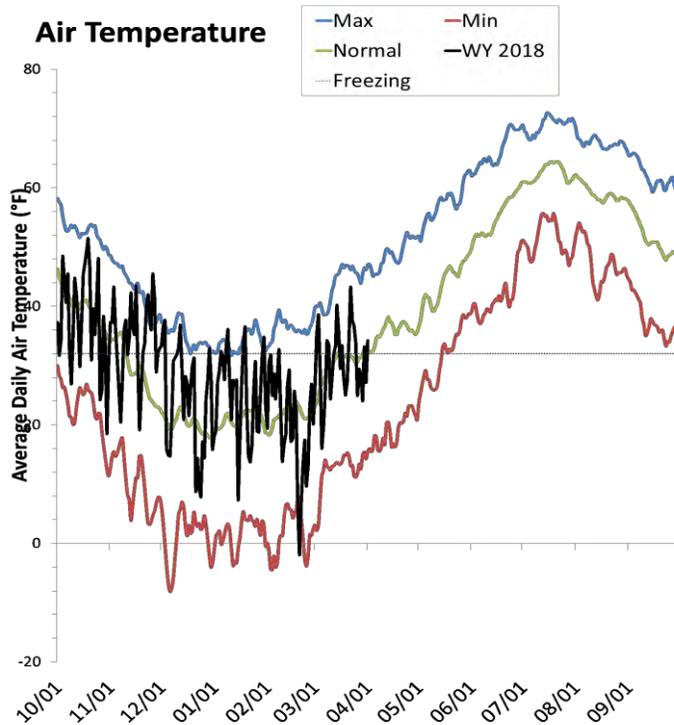
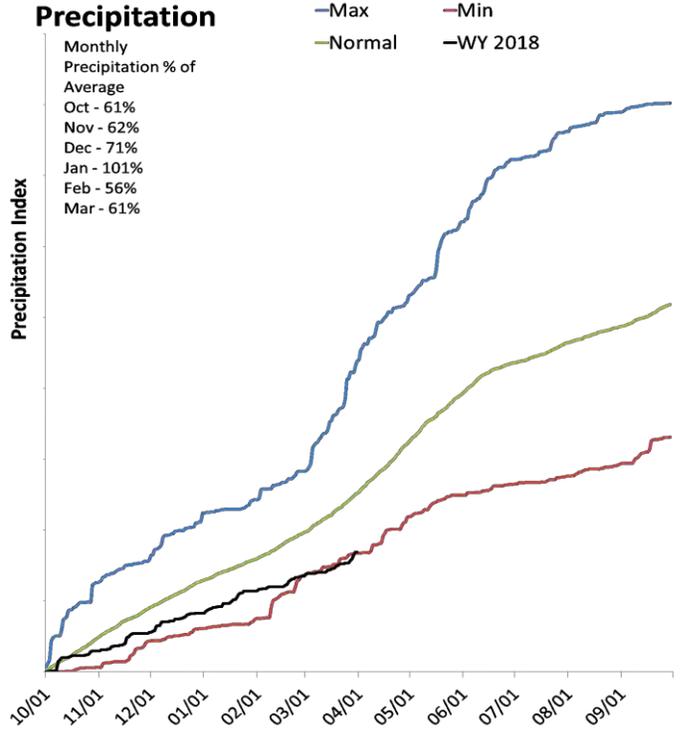
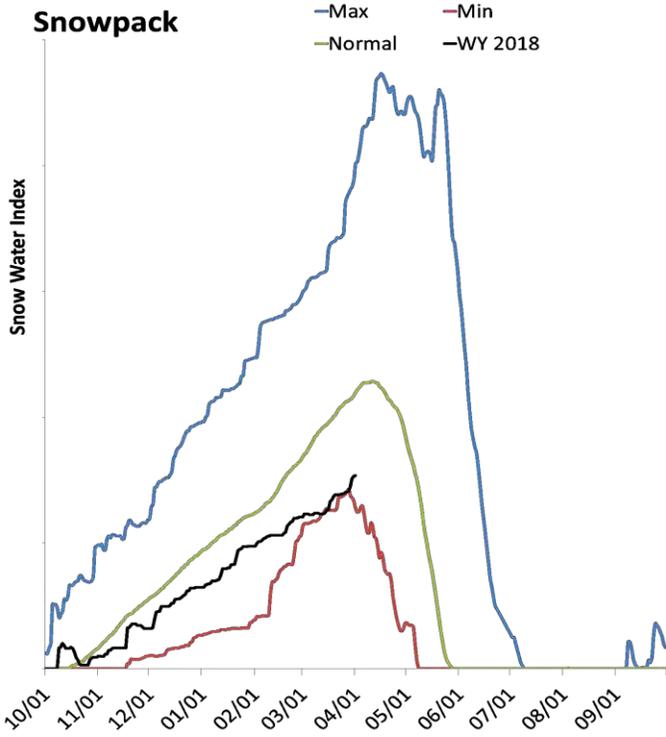
- 85% of Normal SWE
- 68% of Normal Precipitation
- 88% of Normal Precipitation Last Month



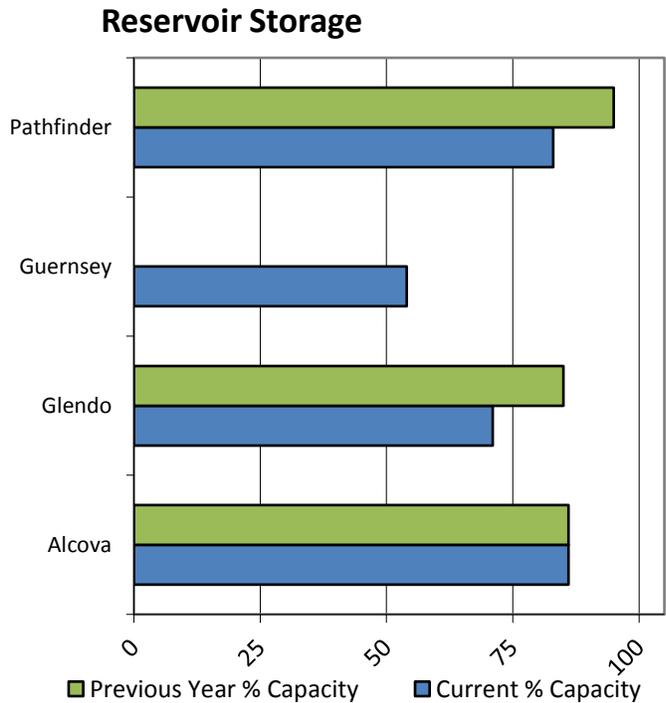
# Lower North Platte River Basin

April 1, 2018

Snowpack in the Lower North Platte River Basin is below normal at 70% of normal, compared to 95% last year. Precipitation in March was much below average at 62%, which brings the seasonal accumulation (Oct-Mar) to 67% of average. Soil moisture at sites with sensors is at 14% of saturation. Reservoir storage is at 79% of capacity, compared to 89% last year. The forecast streamflow volume for the Beaver River is 73% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.



## Lower North Platte River Basin Streamflow Forecasts - April 1, 2018

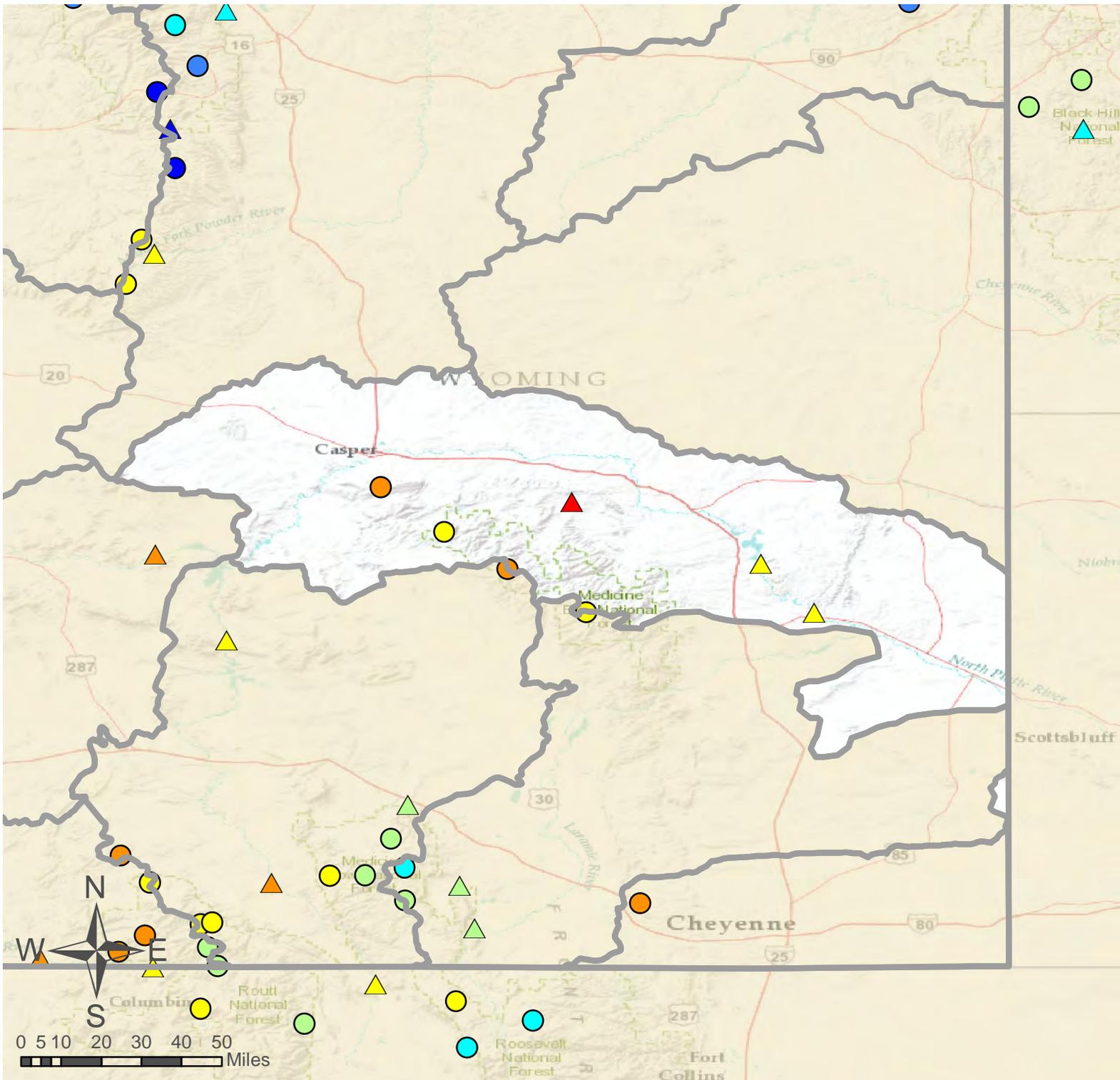
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

LOWER NORTH PLATTE RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
La Prele Ck nr Douglas	APR-JUL	0.1	1.7	4.2	21%	9.3	16.8	19.9
	APR-SEP	0.1	1.7	4.5	23%	9.8	17.5	19.9
North Platte R bl Glendo Reservoir	APR-JUL	139	410	595	73%	780	1050	820
	APR-SEP	142	420	610	72%	800	1080	850
North Platte R bl Guernsey Reservoir	APR-JUL	117	395	590	72%	780	1060	820
	APR-SEP	118	405	600	71%	800	1090	850

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Alcova	157.9	158.3	158.5	184.3
Glendo	357.4	432.5	389.4	506.4
Guernsey	24.8	0.0	20.0	45.6
Pathfinder	845.3	967.3	604.6	1016.5
Basin-wide Total	1385.5	1558.2	1172.5	1752.8
# of reservoirs	4	4	4	4

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
DEER & LaPRELE CREEKS	2	73%	100%
LOWER NORTH PLATTE RIVER	4	70%	95%



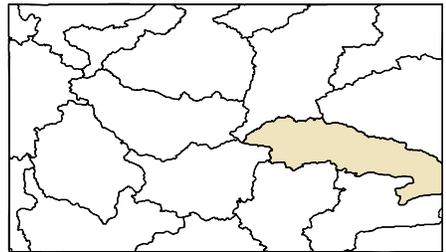
# Lower North Platte River Basin

- SNOTEL Site
- △ Forecast Point

- % of Normal**
- < 50%
  - 50 - 69%
  - 70 - 89%
  - 90 - 109%
  - 110 - 129%
  - 130 - 149%
  - > 150%

As of April 1, 2018:

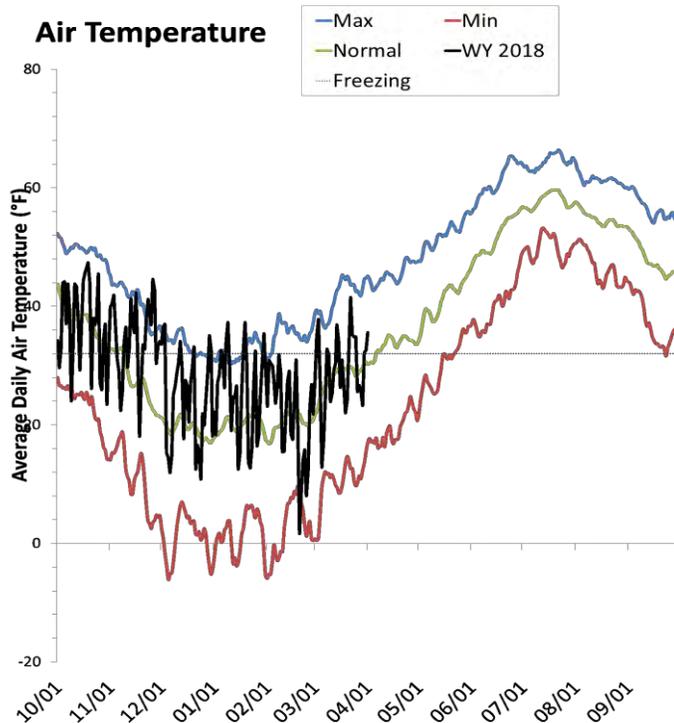
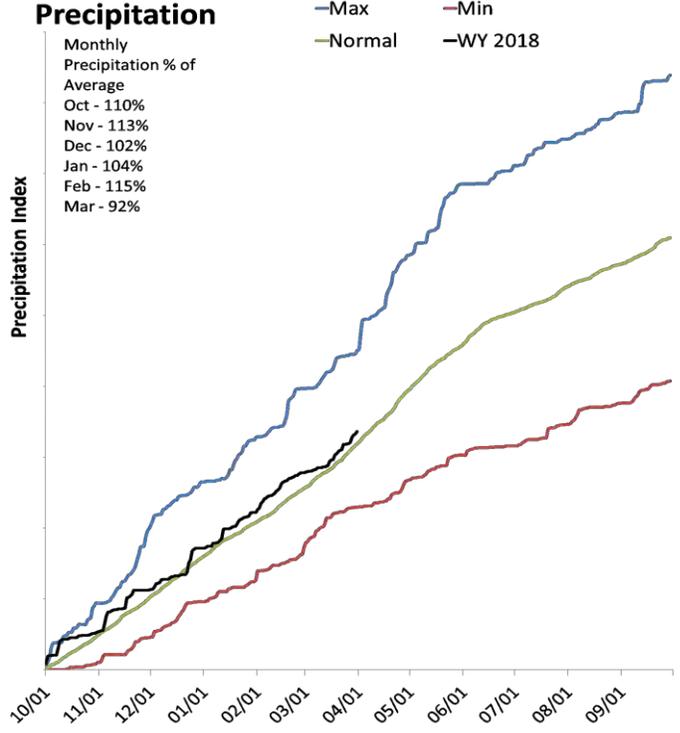
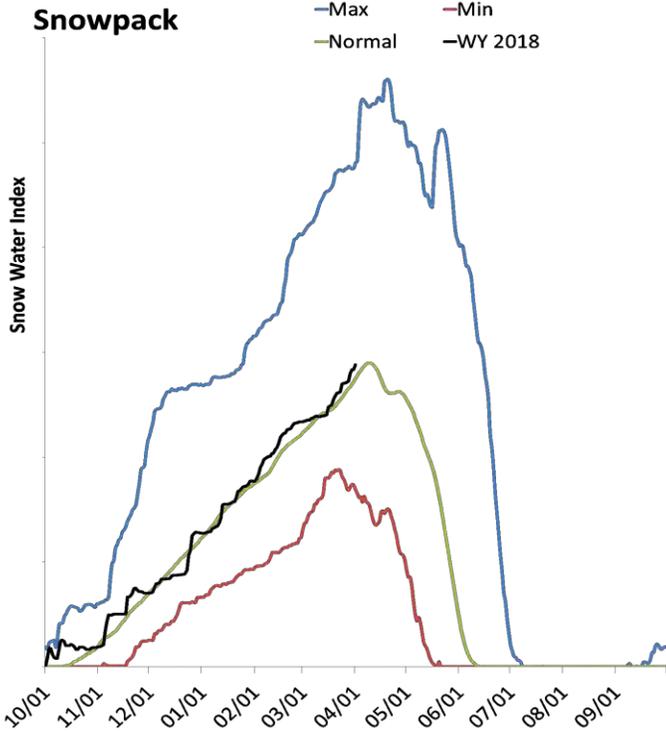
70% of Normal SWE  
 67% of Normal Precipitation  
 62% of Normal Precipitation Last Month



# Laramie River Basin

April 1, 2018

Snowpack in the Laramie River Basin is near normal at 105% of normal, compared to 97% last year. Precipitation in March was near average at 92%, which brings the seasonal accumulation (Oct-Mar) to 105% of average. Soil moisture at sites with sensors is at 41% of saturation. Reservoir storage is at 71% of capacity, compared to 66% last year. The forecast streamflow volume for the Beaver River is 106% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

## Laramie River Basin Streamflow Forecasts - April 1, 2018

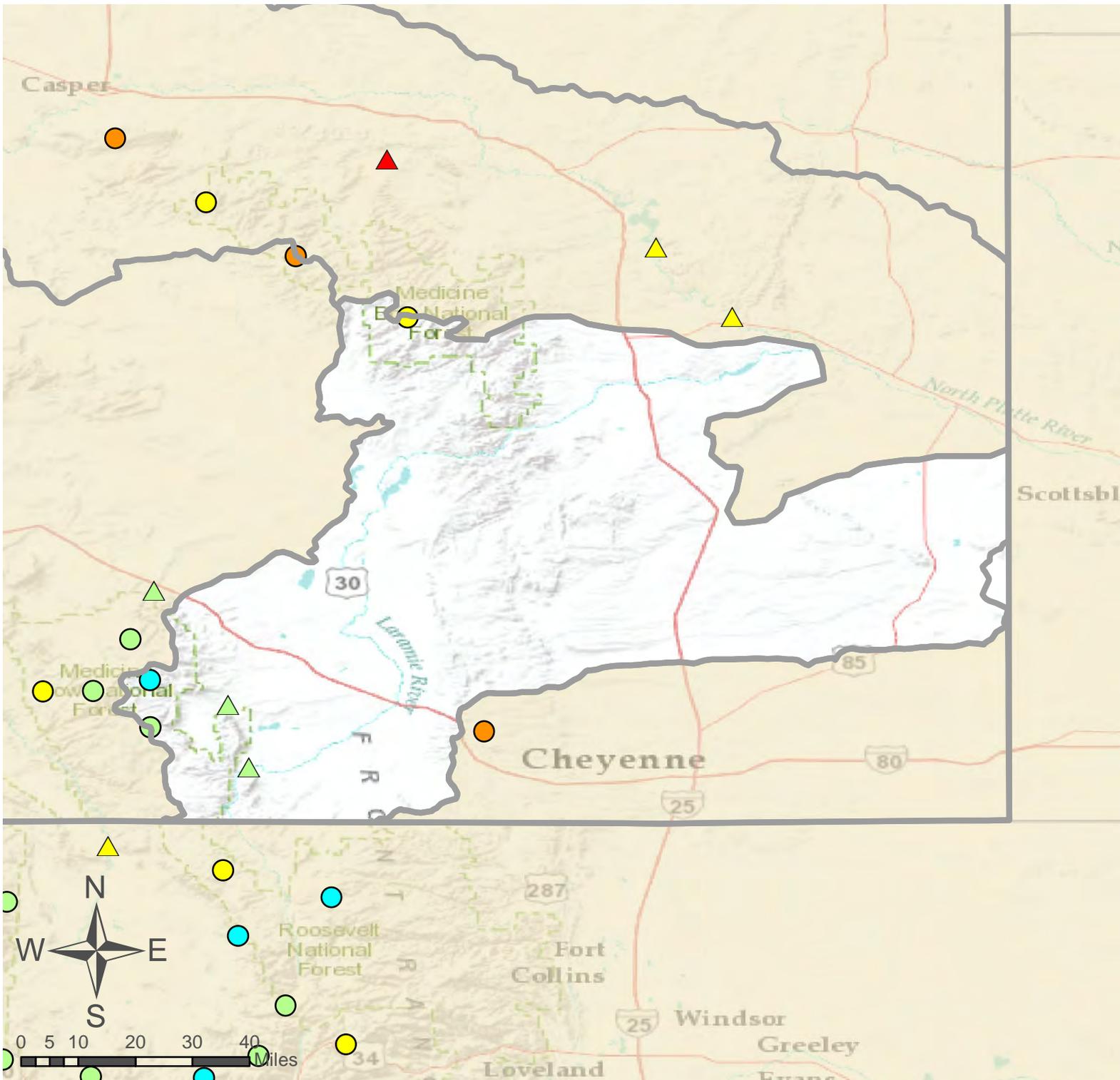
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

LARAMIE RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Laramie R and Pioneer Cnl nr Woods Lg	APR-JUL	57	87	107	93%	127	157	115
	APR-SEP	64	96	118	94%	140	172	126
Little Laramie R nr Filmore	APR-JUL	36	47	54	106%	61	72	51
	APR-SEP	38	49	57	104%	65	76	55

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Wheatland #2	69.8	65.5	51.0	98.9
Basin-wide Total	69.8	65.5	51.0	98.9
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
LARAMIE RIVER abv Laramie	7	94%	84%
LITTLE LARAMIE RIVER	5	109%	101%
LARAMIE RIVER	13	100%	93%
NORTH PLATTE TOTAL RIVER	39	91%	105%

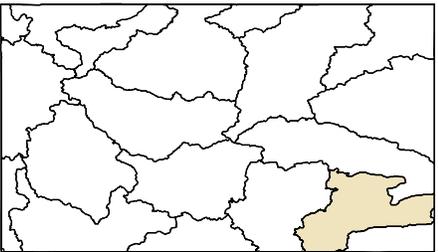


# Laramie River Basin

- SNOTEL Site
- △ Forecast Point

- % of Normal**
- < 50%
  - 50 - 69%
  - 70 - 89%
  - 90 - 109%
  - 110 - 129%
  - 130 - 149%
  - > 150%

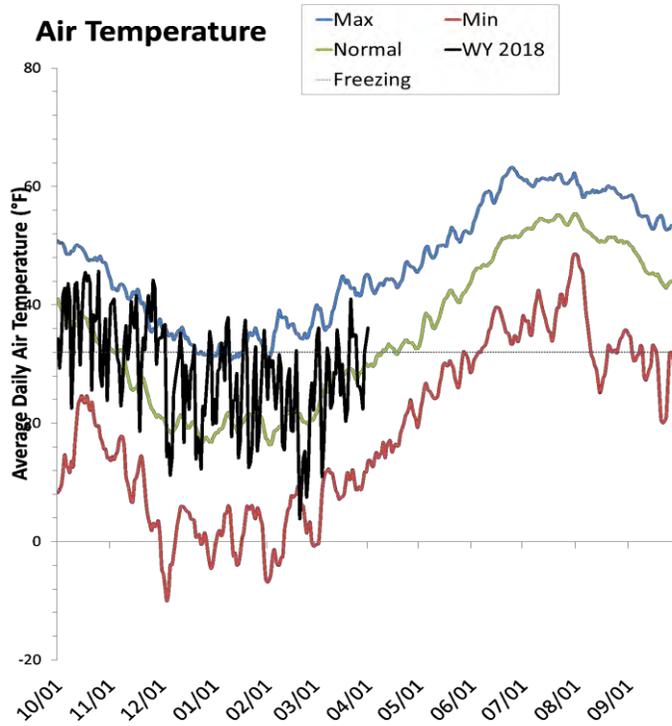
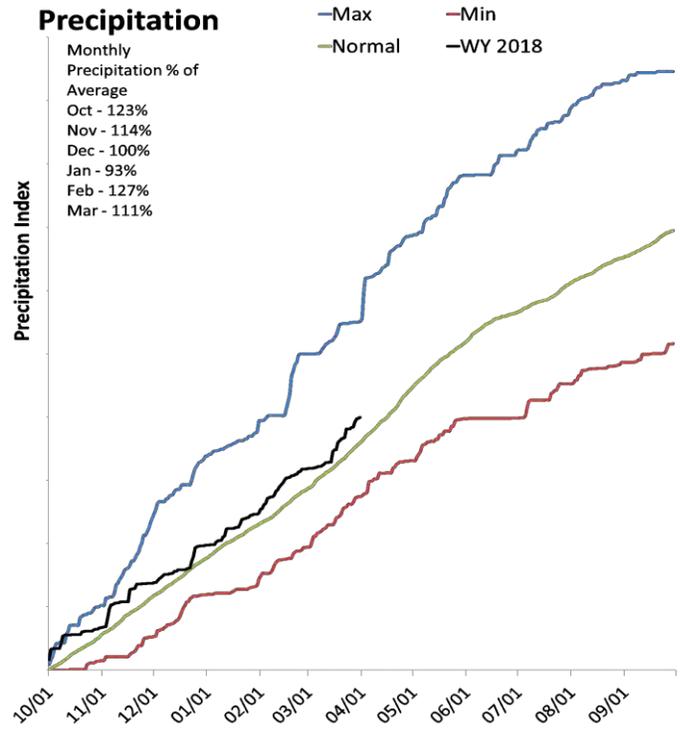
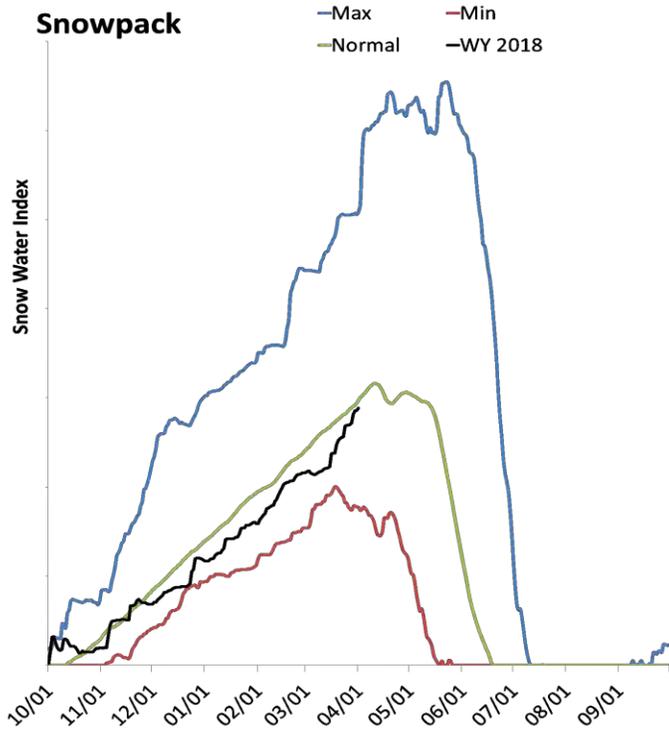
As of April 1, 2018:  
 105% of Normal SWE  
 105% of Normal Precipitation  
 92% of Normal Precipitation Last Month



# South Platte River Basin

April 1, 2018

Snowpack in the South Platte River Basin is near normal at 97% of normal, compared to 91% last year. Precipitation in March was above average at 110%, which brings the seasonal accumulation (Oct-Mar) to 111% of average. Soil moisture at sites with sensors is at 51% of saturation. Forecast streamflow volumes range from 0% to 0% of average.

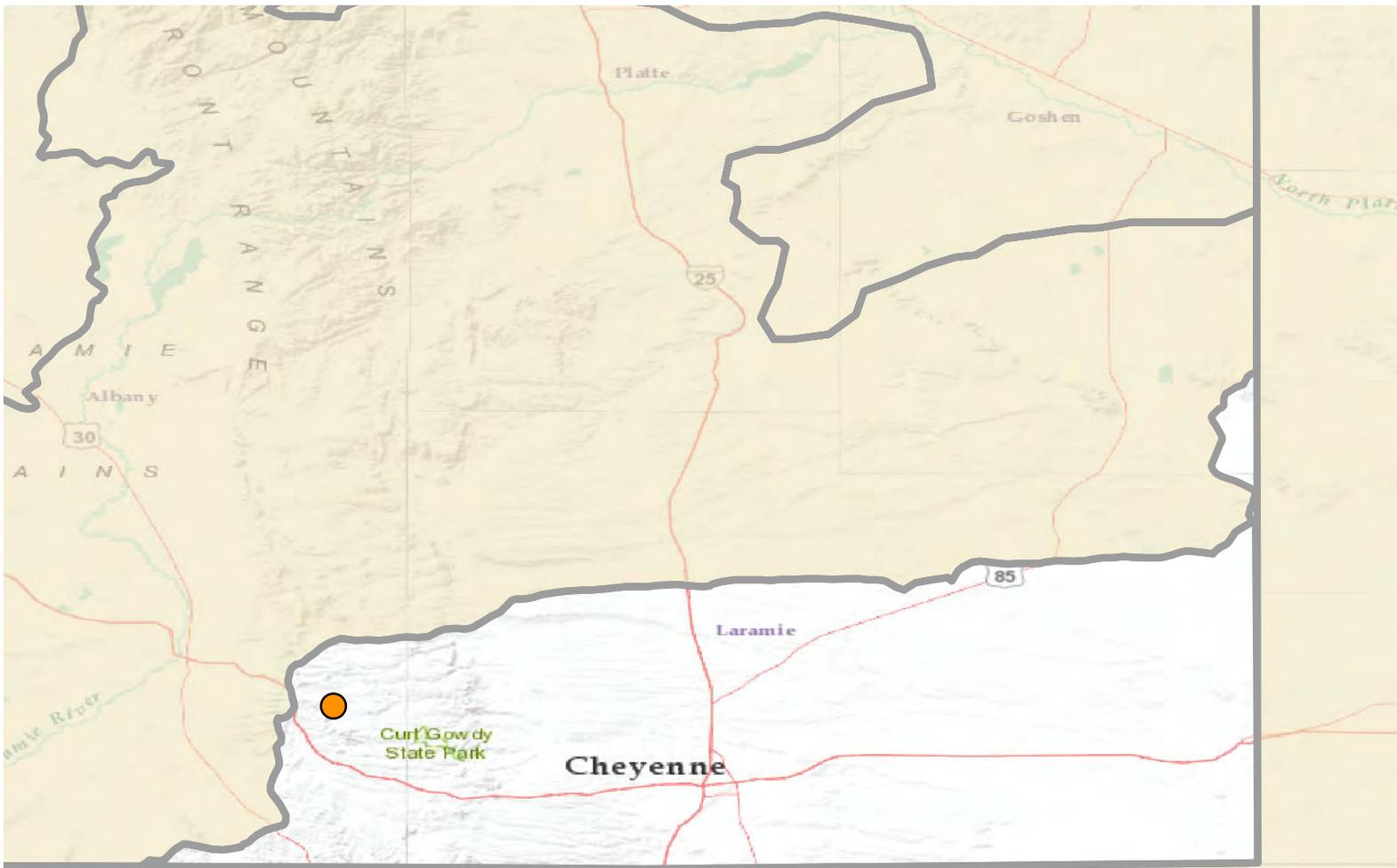


\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

Data Current as of: 4/5/2018 11:30:37 AM

## South Platte River Basin - April 1, 2018

<b>Watershed Snowpack Analysis April 1, 2018</b>	# of Sites	% Median	Last Year % Median
SOUTH PLATTE RIVER	8	99%	96%

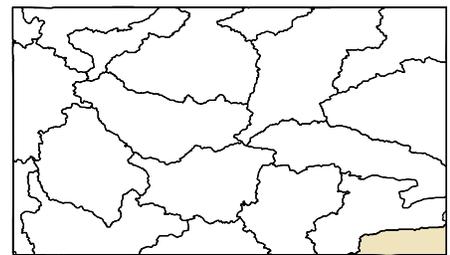


# South Platte River Basin

- SNOTEL Site
- △ Forecast Point

## % of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%



As of April 1, 2018:

97% of Normal SWE

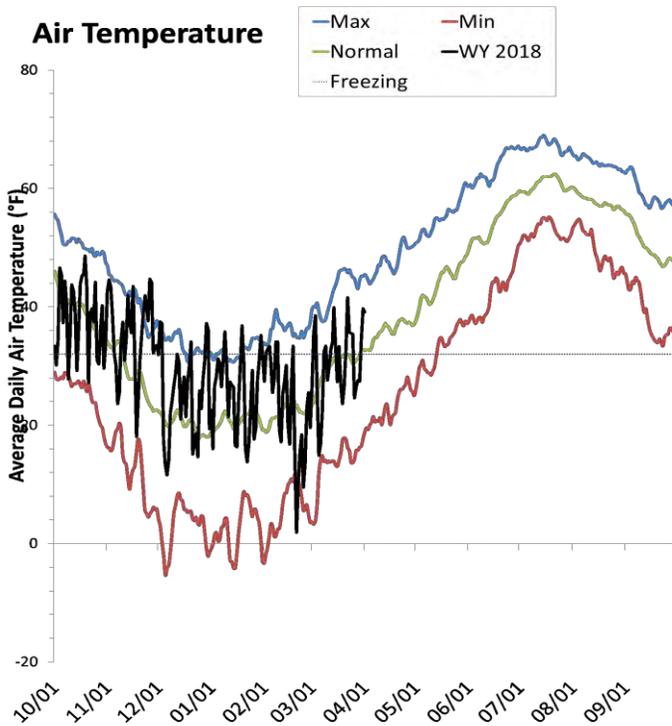
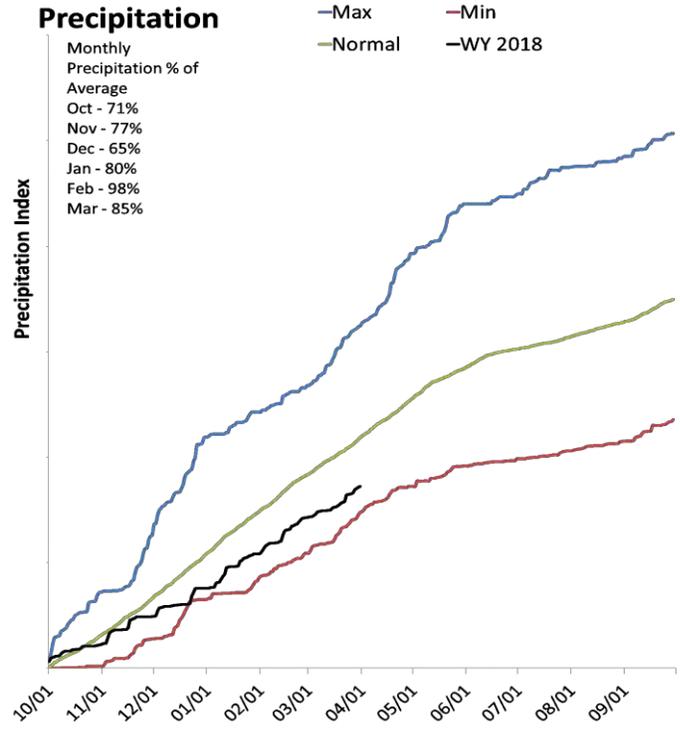
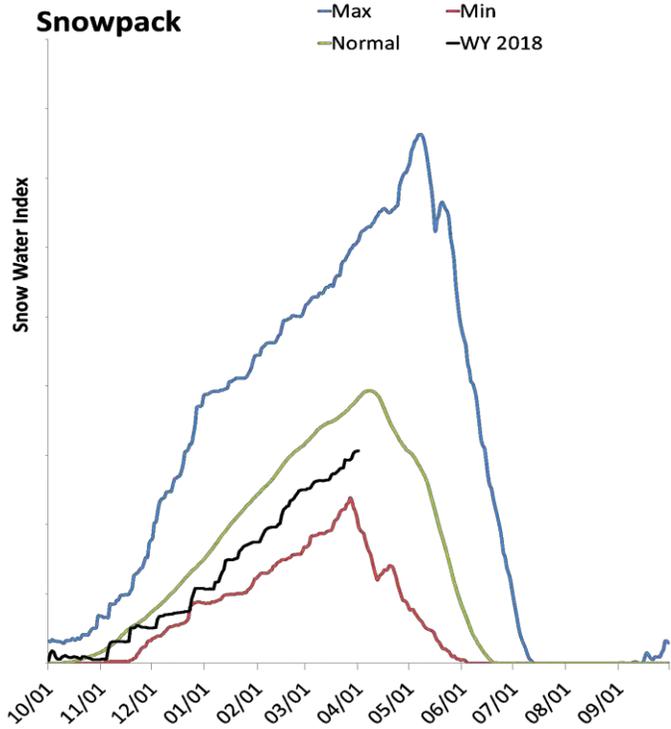
111% of Normal Precipitation

110% of Normal Precipitation Last Month

# Little Snake River Basin

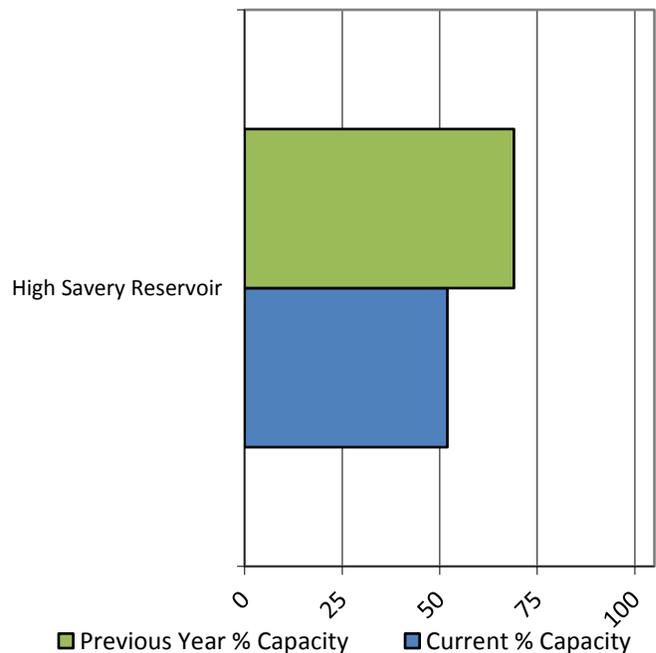
April 1, 2018

Snowpack in the Little Snake River Basin is below normal at 80% of normal, compared to 87% last year. Precipitation in March was below average at 85%, which brings the seasonal accumulation (Oct-Mar) to 79% of average. Soil moisture at sites with sensors is at 74% of saturation. Reservoir storage is at 52% of capacity, compared to 69% last year. Forecast streamflow volumes range from 51% to 71% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

### Reservoir Storage



### Little Snake River Basin Streamflow Forecasts - April 1, 2018

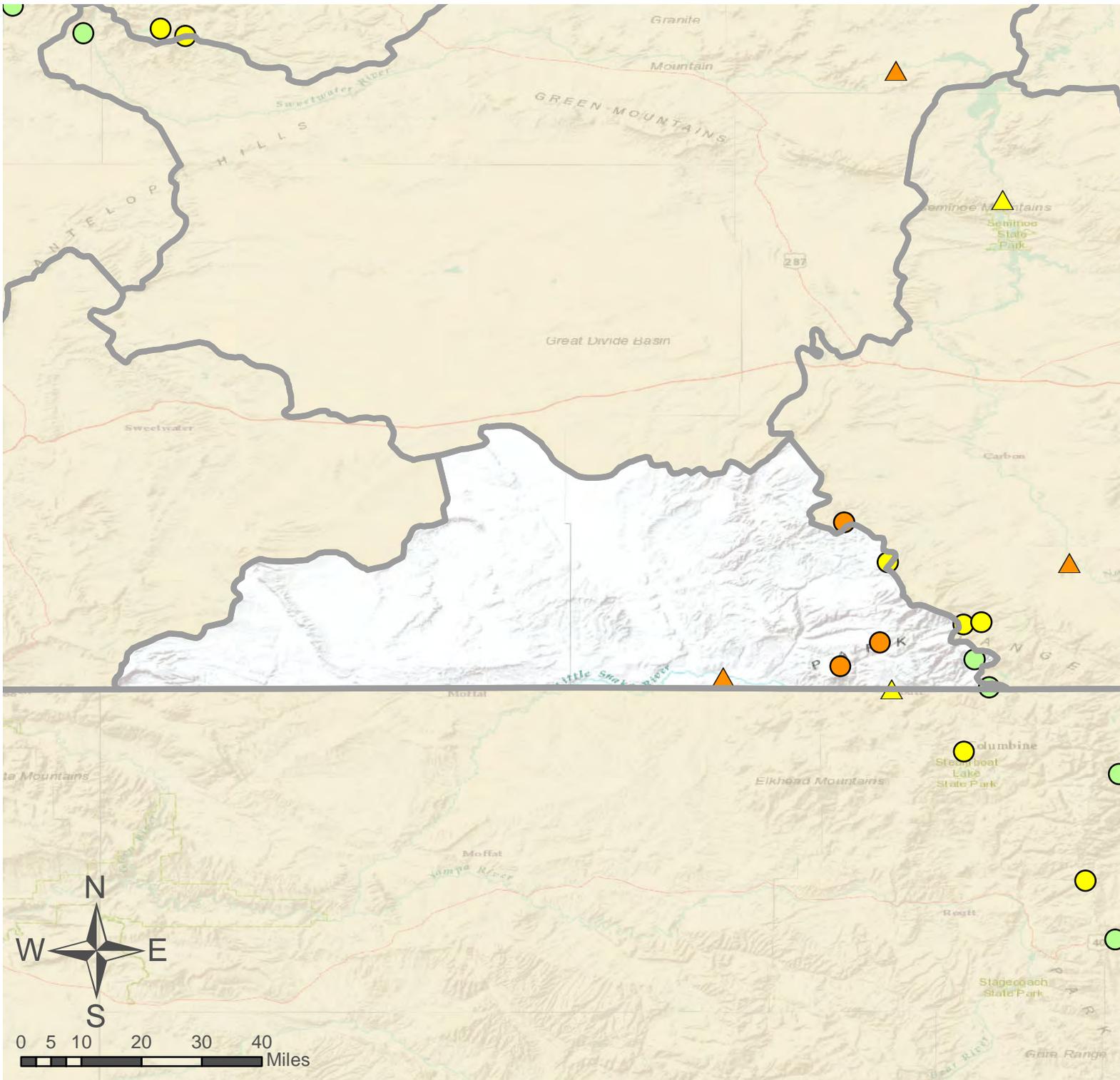
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

LITTLE SNAKE RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Little Snake R nr Slater <sup>2</sup>	APR-JUL	77	96	111	71%	127	151	156
Little Snake R nr Dixon <sup>2</sup>	APR-JUL	82	134	176	51%	225	305	345

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

<b>Reservoir Storage End of March, 2018</b>	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
High Savery Reservoir	11.7	15.5	13.1	22.4
Basin-wide Total	11.7	15.5	13.1	22.4
# of reservoirs	1	1	1	1

<b>Watershed Snowpack Analysis April 1, 2018</b>	# of Sites	% Median	Last Year % Median
LITTLE SNAKE RIVER	10	80%	90%



# Little Snake River Basin

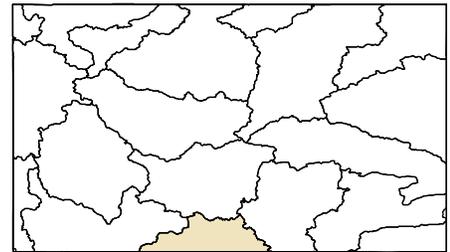
- SNOTEL Site
- △ Forecast Point

## % of Normal

- < 50%
- 50 - 69%
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- 130 - 149%
- > 150%

As of April 1, 2018:

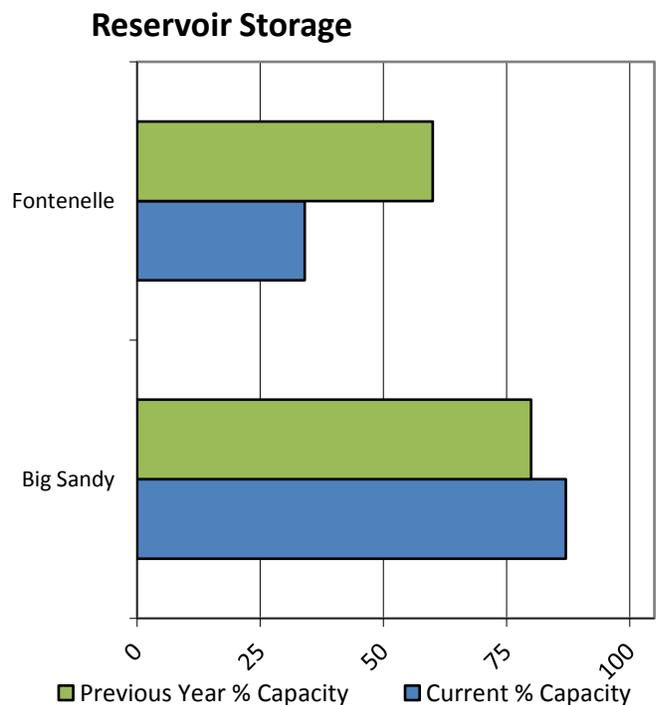
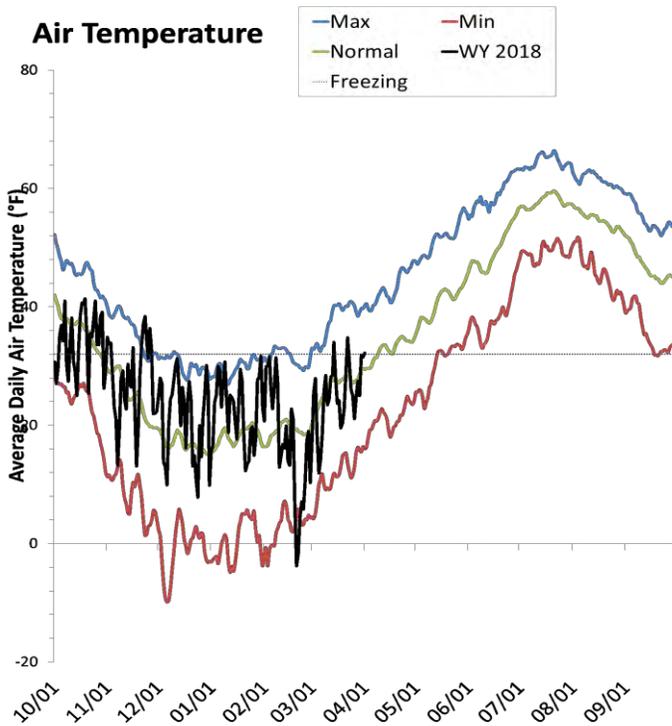
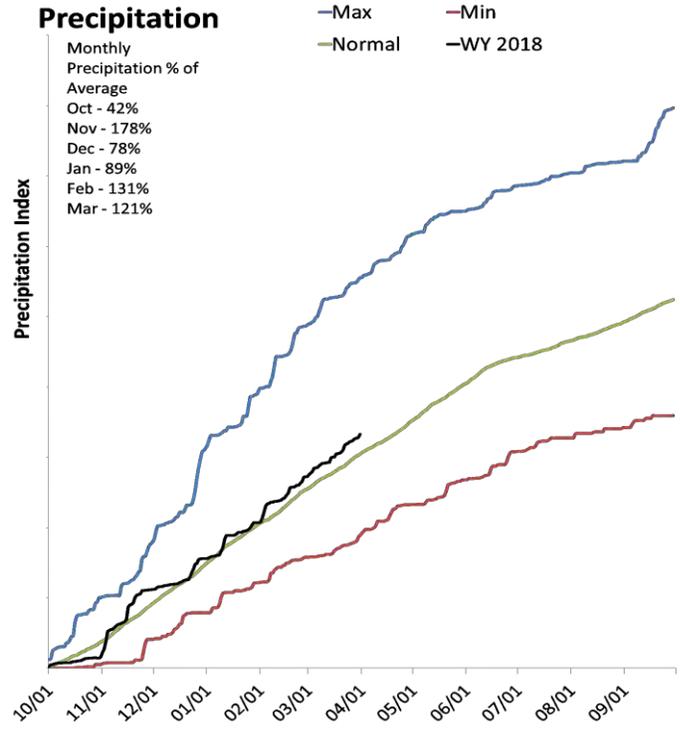
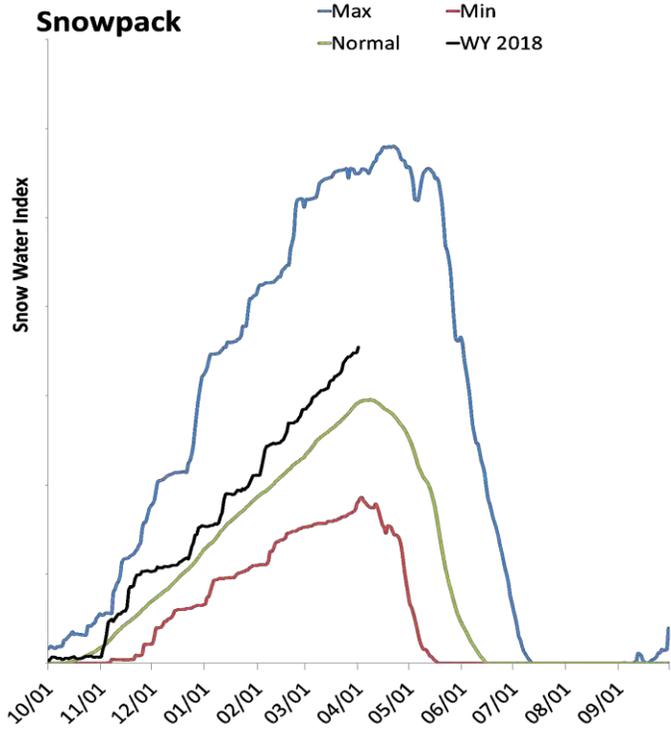
- 80% of Normal SWE
- 79% of Normal Precipitation
- 85% of Normal Precipitation Last Month



# Upper Green River Basin

April 1, 2018

Snowpack in the Upper Green River Basin is above normal at 121% of normal, compared to 169% last year. Precipitation in March was above average at 121%, which brings the seasonal accumulation (Oct-Mar) to 109% of average. Soil moisture at sites with sensors is at 46% of saturation. Reservoir storage is at 39% of capacity, compared to 62% last year. Forecast streamflow volumes range from 96% to 122% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

## Upper Green River Basin Streamflow Forecasts - April 1, 2018

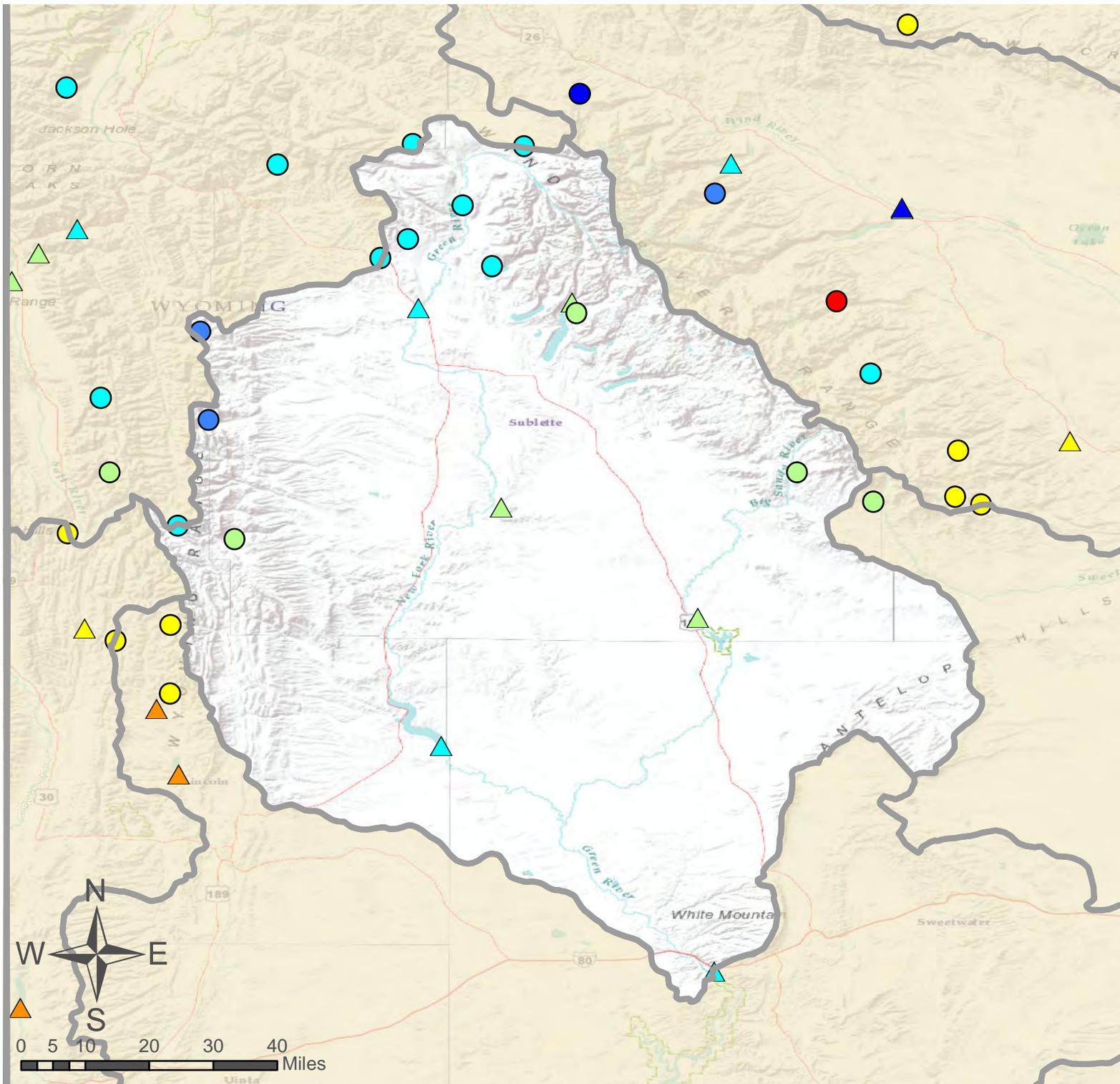
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

UPPER GREEN RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Green R at Warren Bridge	APR-JUL	255	280	300	122%	320	345	245
Pine Creek ab Fremont Lake	APR-JUL	90	98	103	105%	109	117	98
New Fork R nr Big Piney	APR-JUL	270	335	380	107%	425	490	355
Fontenelle Reservoir Inflow	APR-JUL	605	760	875	121%	1000	1190	725
Big Sandy R nr Farson	APR-JUL	34	43	50	96%	57	66	52

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Big Sandy	33.4	30.5	19.9	38.3
Fontenelle	117.4	206.8	121.7	344.8
Basin-wide Total	150.8	237.4	141.6	383.1
# of reservoirs	2	2	2	2

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
GREEN above Warren Bridge	5	122%	169%
UPPER GREEN - West Side	5	127%	173%
NEWFORK RIVER	2	106%	153%
BIG SANDY-EDEN VALLEY	2	99%	156%
GREEN above Fontenelle	14	121%	168%
UPPER GREEN RIVER	14	121%	168%



# Upper Green River Basin

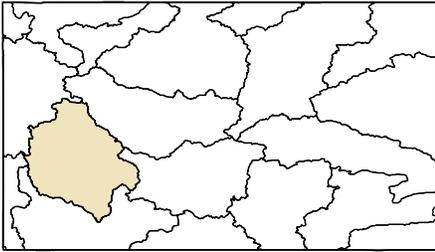
- SNOTEL Site
- △ Forecast Point

## % of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

As of April 1, 2018:

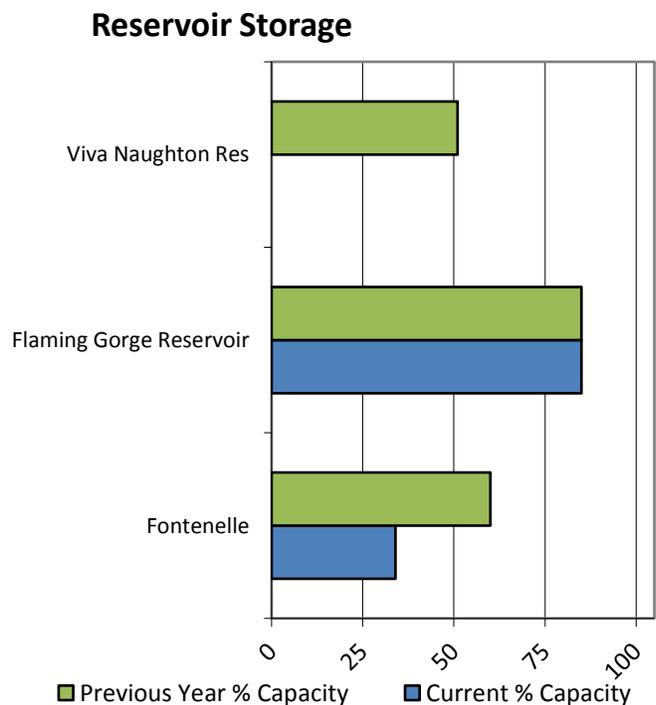
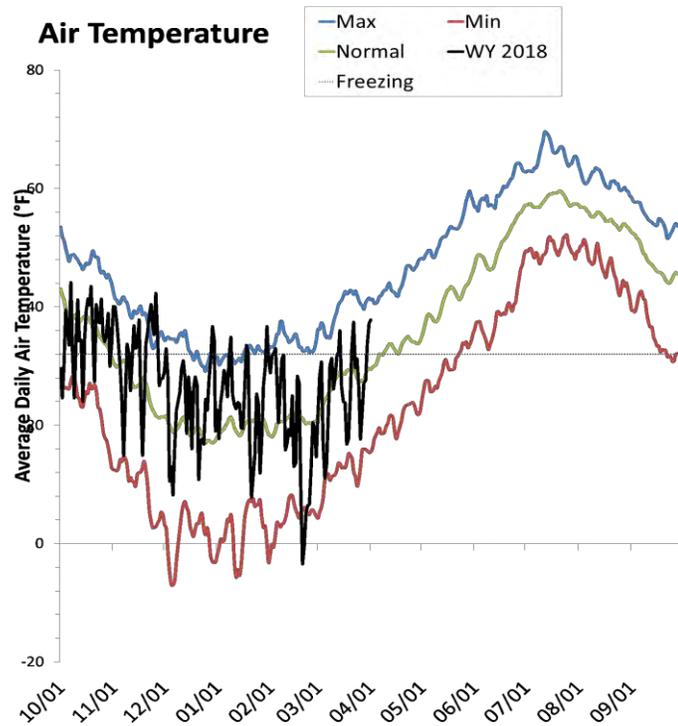
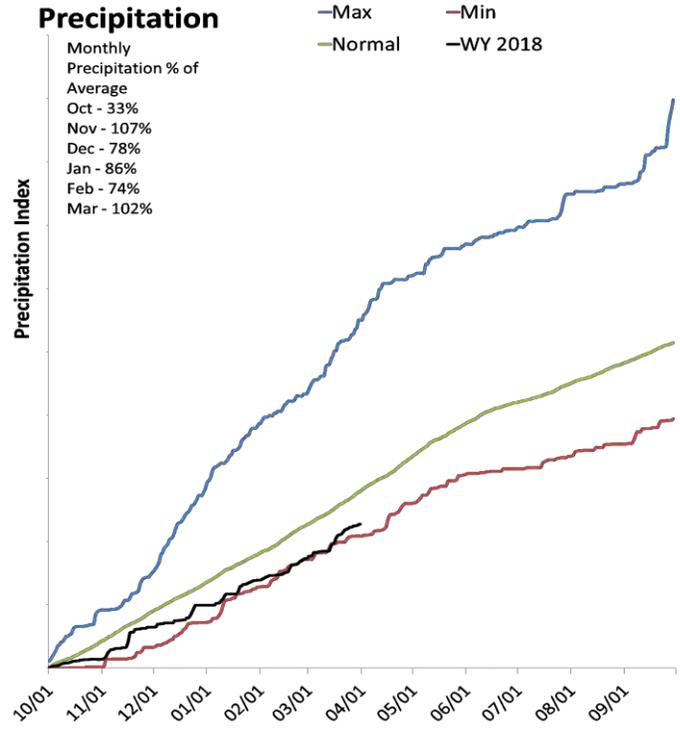
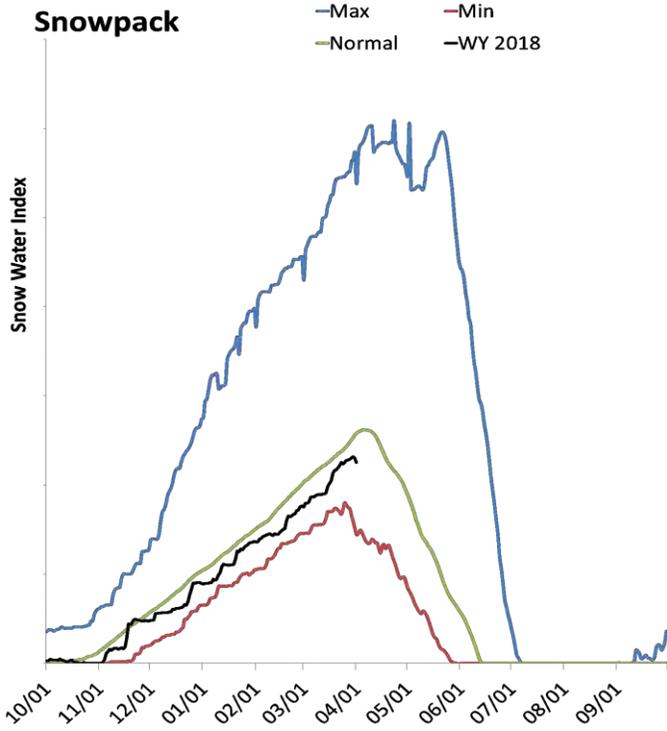
- 121% of Normal SWE
- 109% of Normal Precipitation
- 121% of Normal Precipitation Last Month



# Lower Green River Basin

April 1, 2018

Snowpack in the Lower Green River Basin is below normal at 87% of normal, compared to 138% last year. Precipitation in March was near average at 102%, which brings the seasonal accumulation (Oct-Mar) to 81% of average. Soil moisture at sites with sensors is at 57% of saturation. Reservoir storage is at 81% of capacity, compared to 82% last year. Forecast streamflow volumes range from 61% to 121% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

## Lower Green River Basin Streamflow Forecasts - April 1, 2018

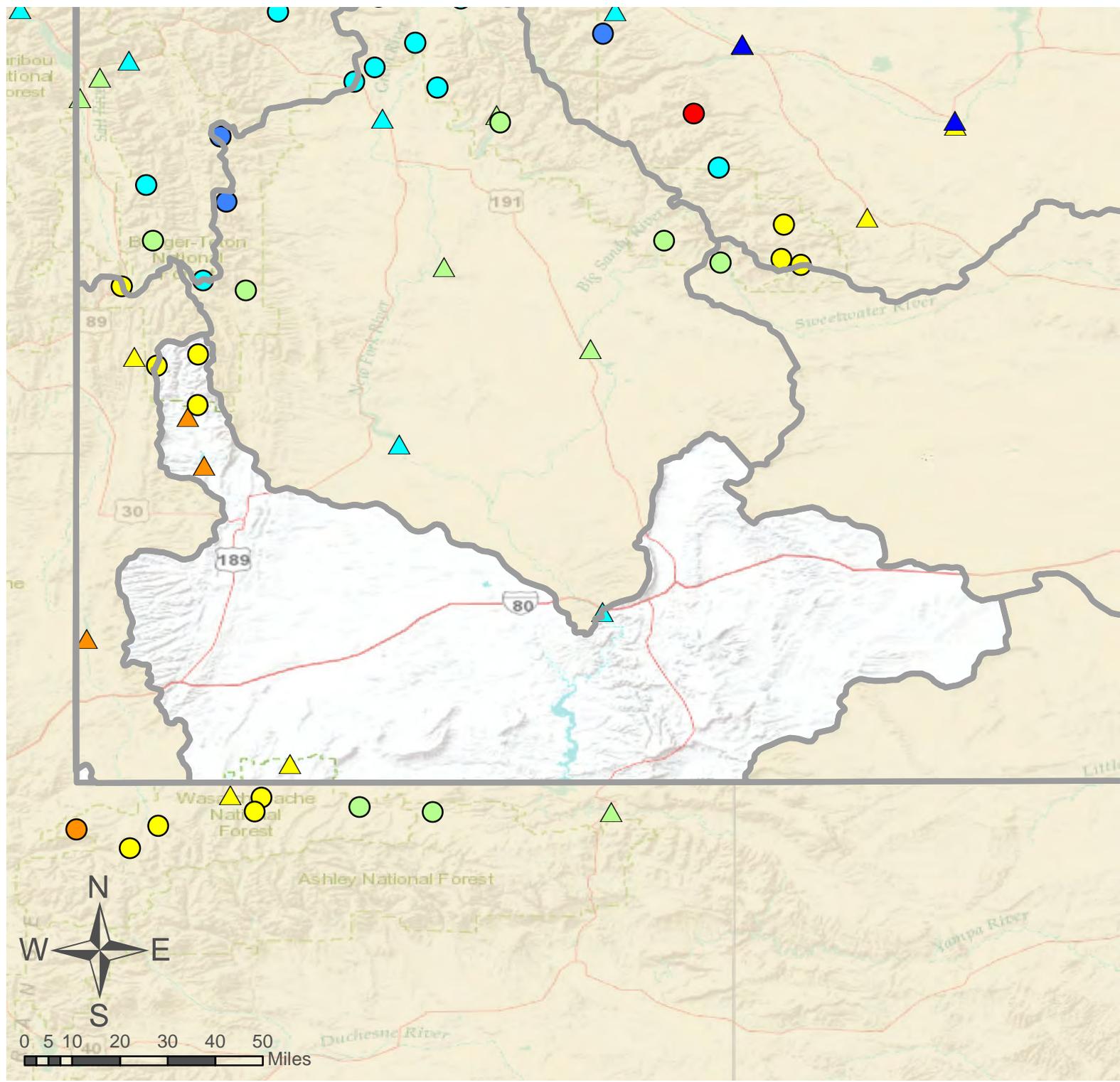
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

LOWER GREEN RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Green R nr Green River, WY <sup>2</sup>	APR-JUL	605	770	885	121%	995	1160	730
Blacks Fk nr Robertson	APR-JUL	47	59	68	79%	77	93	86
EF of Smiths Fork nr Robertson <sup>2</sup>	APR-JUL	14.5	18.8	22	81%	25	31	27
Hams Fk bl Pole Ck nr Frontier	APR-JUL	20	28	33	61%	40	50	54
Viva Naughton Reservoir Inflow	APR-JUL	25	36	45	61%	54	70	74
Flaming Gorge Reservoir Inflow <sup>2</sup>	APR-JUL	610	830	1000	102%	1190	1490	980

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Fontenelle	117.4	206.8	121.7	344.8
Flaming Gorge Reservoir	3184.3	3169.4	3020.0	3749.0
Viva Naughton Res		21.6	27.2	42.4
Basin-wide Total	3301.7	3376.3	3141.7	4093.8
# of reservoirs	2	2	2	2

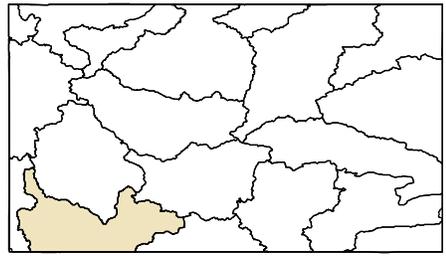
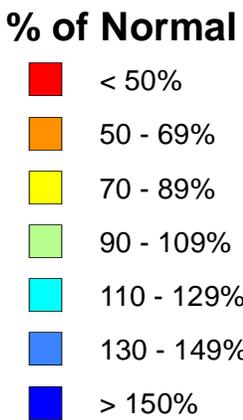
Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
HAMS FORK RIVER	4	92%	160%
BLACKS FORK	2	81%	106%
HENRYS FORK	2	97%	122%
LOWER GREEN RIVER	8	90%	141%
GREEN above FLAMING GORGE	21	111%	159%



# Lower Green River Basin

- SNOTEL Site
- △ Forecast Point

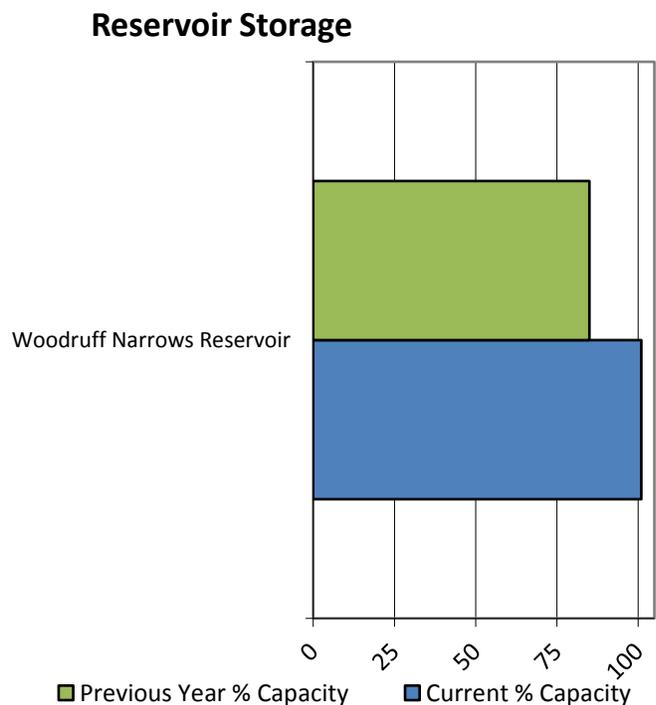
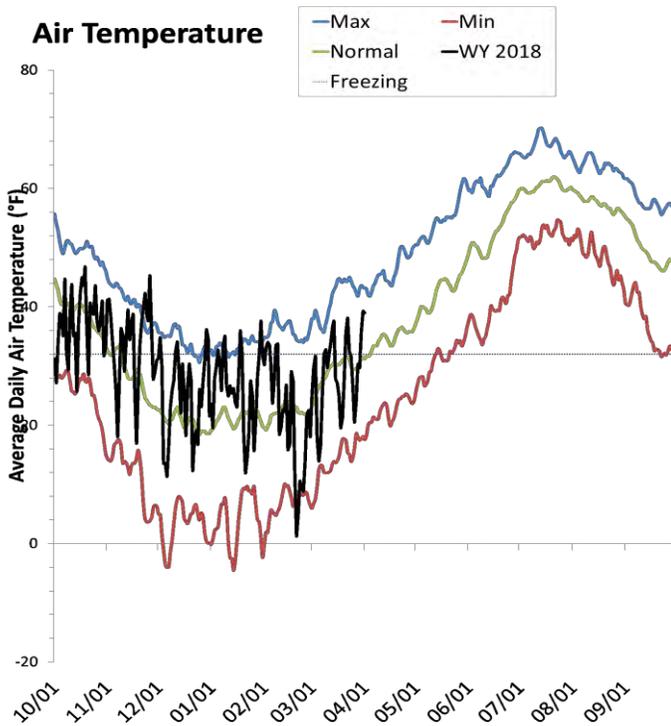
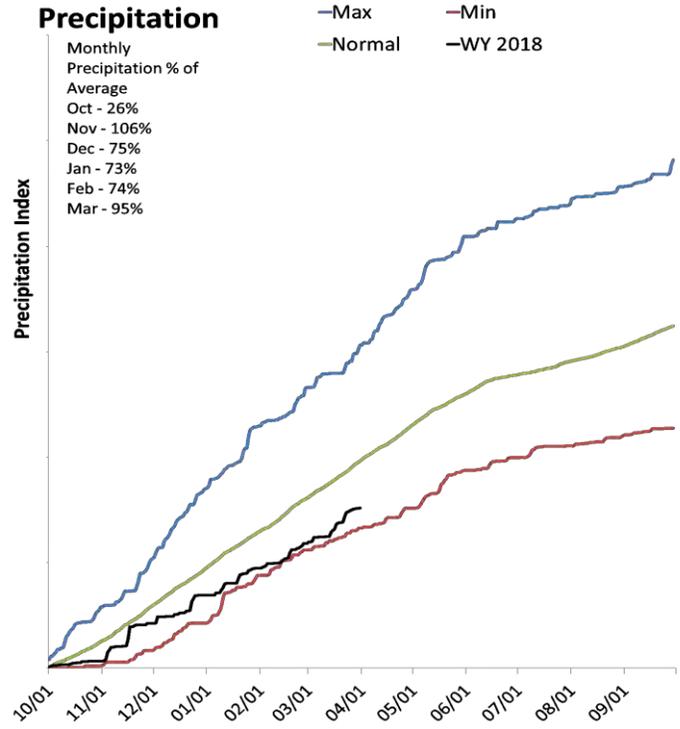
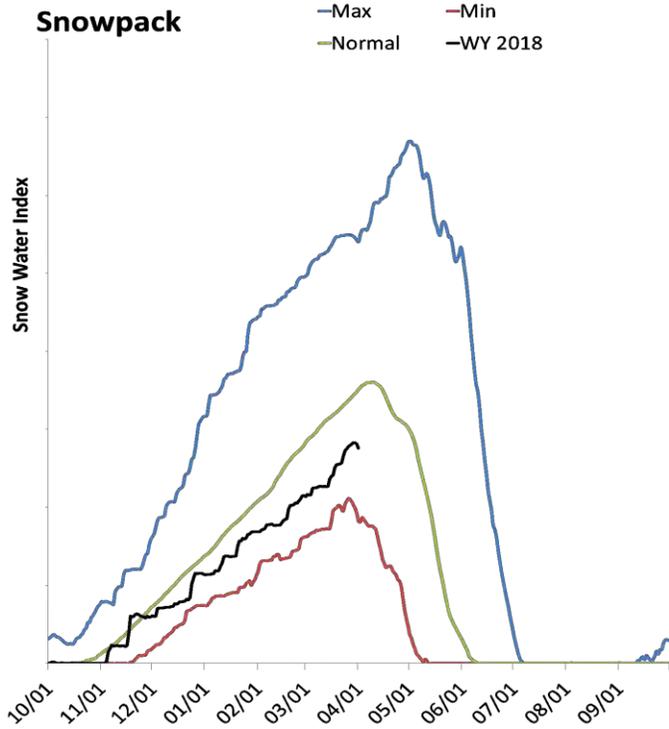
**As of April 1, 2018:**  
 87% of Normal SWE  
 81% of Normal Precipitation  
 102% of Normal Precipitation Last Month



# Upper Bear River Basin

April 1, 2018

Snowpack in the Upper Bear River Basin is below normal at 79% of normal, compared to 146% last year. Precipitation in March was near average at 96%, which brings the seasonal accumulation (Oct-Mar) to 77% of average. Soil moisture at sites with sensors is at 73% of saturation. Reservoir storage is at 101% of capacity, compared to 85% last year. Forecast streamflow volumes range from 57% to 89% of average.



\*Min, Max, and Normal lines created using a 5 day moving average of historical data.

## Upper Bear River Basin Streamflow Forecasts - April 1, 2018

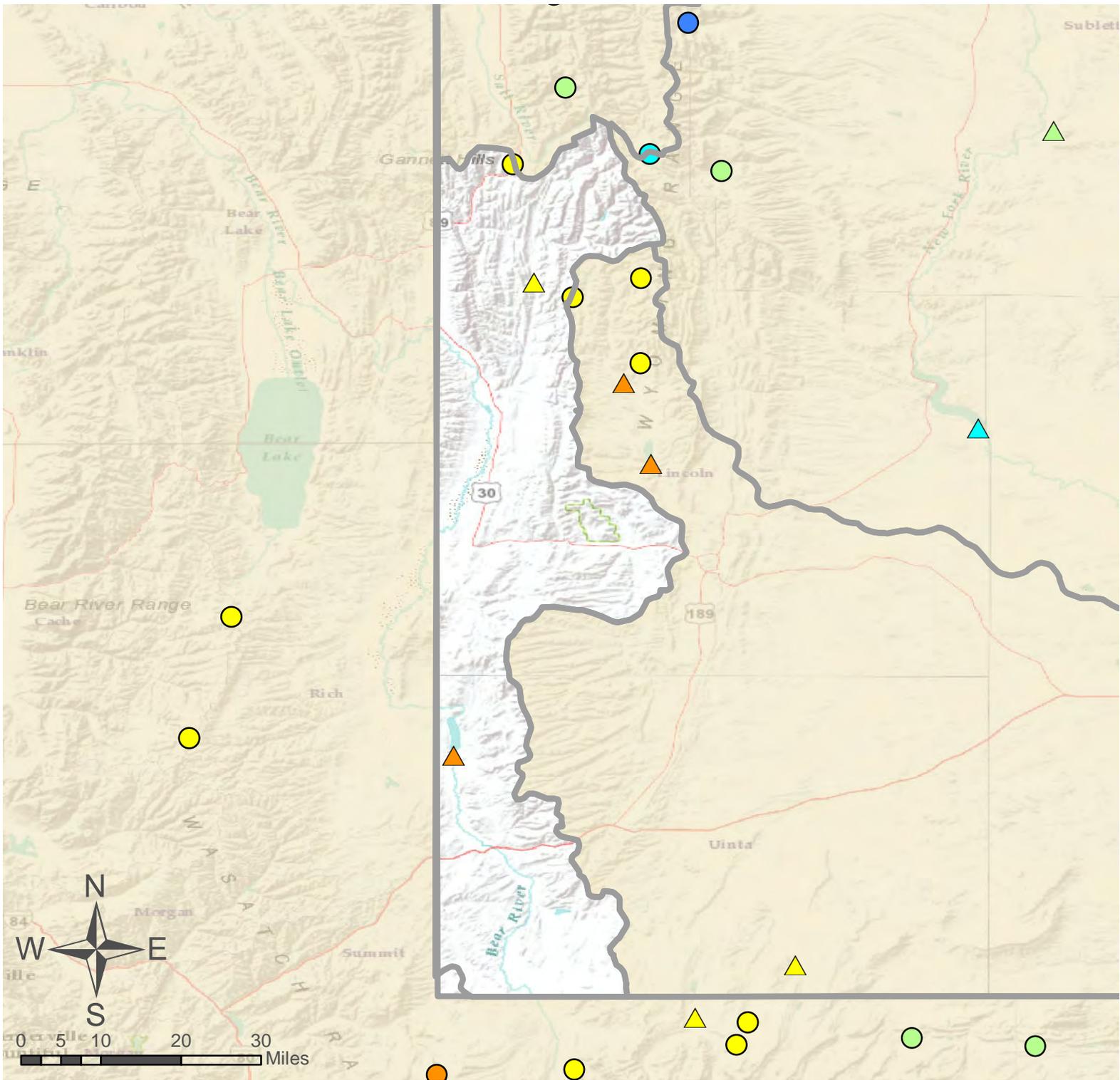
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

UPPER BEAR RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Bear R nr UT-WY State Line	APR-JUL	40	59	72	64%	85	104	112
	APR-SEP	44	65	80	65%	94	116	123
Bear R ab Resv nr Woodruff	APR-JUL	7.3	39	69	57%	99	144	121
	APR-SEP	6.4	40	73	57%	106	154	128
Smiths Fk nr Border	APR-JUL	54	69	79	89%	89	104	89
	APR-SEP	66	83	94	90%	105	122	104

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Woodruff Narrows Reservoir	57.9	48.7	38.4	57.3
Basin-wide Total	57.9	48.7	38.4	57.3
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
UPPER BEAR RIVER in Utah	3	71%	134%
SMITHS & THOMAS FORKS	4	102%	165%
UPPER BEAR RIVER	8	82%	148%



# Upper Bear River Basin

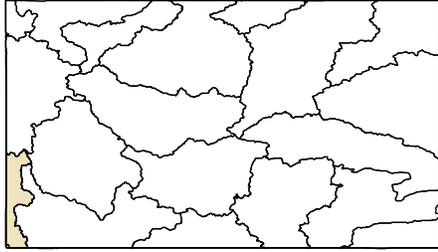
- SNOTEL Site
- △ Forecast Point

## % of Normal

- < 50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > 150%

As of April 1, 2018:

- 79% of Normal SWE
- 77% of Normal Precipitation
- 96% of Normal Precipitation Last Month



*Issued by*

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**Casper, Wyoming**



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100 East B Street  
Casper, WY 82602  
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# **Wyoming Water Supply Outlook Report**

**Natural Resources Conservation Service**  
**Casper, WY**

