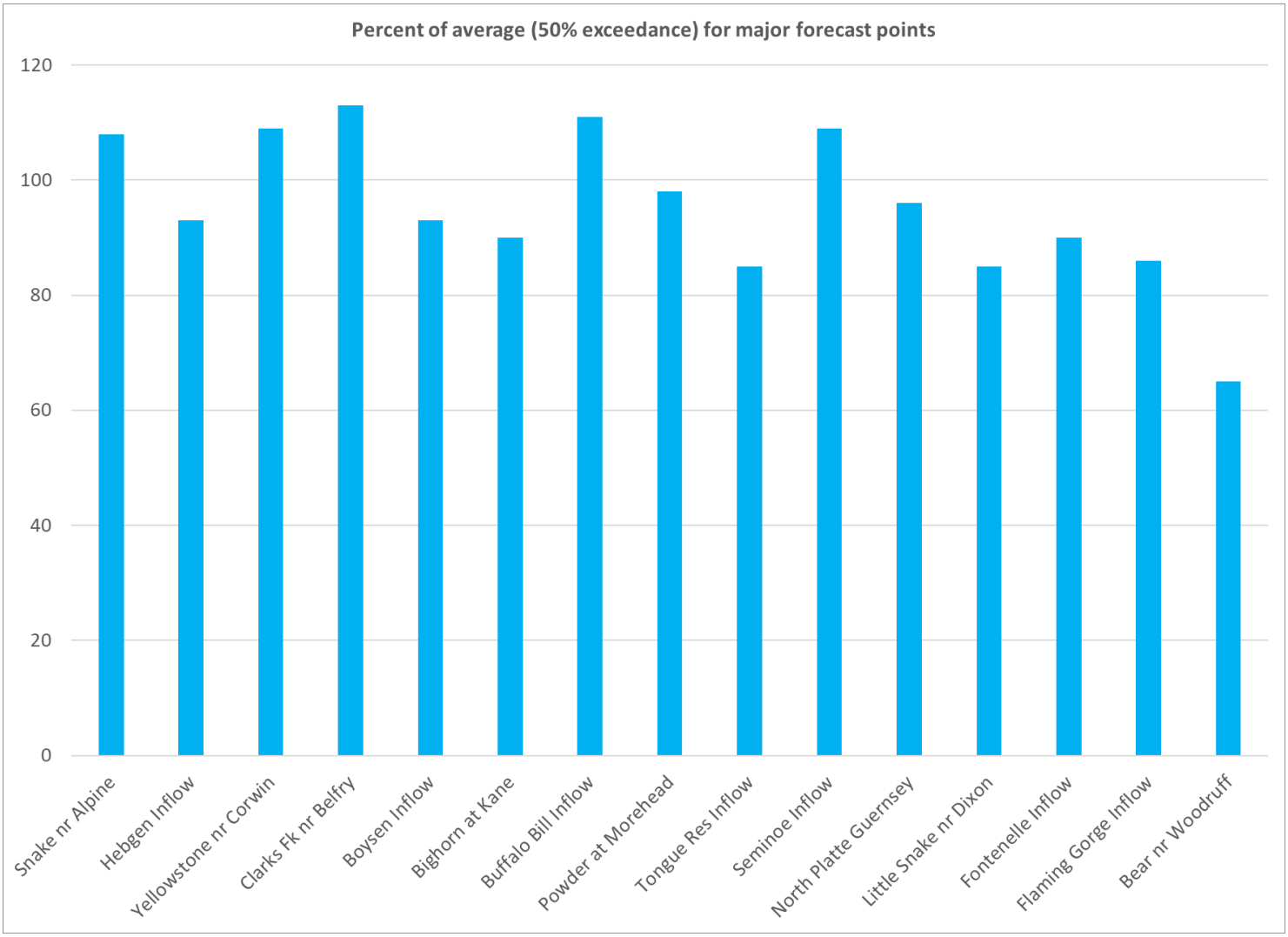
United States
Department of
Agriculture

Wyoming Basin & Water Supply Outlook Report
May 1, 2020

Natural
Resources
Conservation
Service

Geyser Snow Course, Wyoming, Photo courtesy of Wyoming State Engineer's Office

Forecasted stream flows for May 1st, 2020



Basin Outlook Reports
And
Federal - State - Private Cooperative Snow Surveys

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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.

Wyoming Basin & Water Supply Outlook Report

Snowpack

Snow water equivalent (SWE)across Wyoming for May 1st was at 107% of median. SWE in the Belle Fourche River Basin was the highest at 433% of median, while SWE in the Cheyenne River Basin was the lowest at 0% of median. *See the map on page 5 and the Appendix for further information.*

Precipitation

The Snake River Basin had the highest precipitation for the month at 115% of average. The Lower Green River Basin had the lowest precipitation amount at 56% of average. The following table displays the major river basins and their departure from average for last month.

See Appendix for further information.

Basin	Departure from average	Basin	Departure from average
Snake River	+15%	Upper North Platte River	-20%
Madison-Gallatin	-34%	Sweetwater River	-8%
Yellowstone River	-10%	Lower North Platte River	-25%
Wind River	-8%	Laramie River	-20%
Bighorn River	-28%	North Platte River (Total)	-19%
Shoshone River	-2%	South Platte River	-19%
Powder River	-40%	Little Snake River	-33%
Tongue River	-30%	Upper Green River	+9%
Belle Fourche River	-42%	Lower Green River	-44%
Cheyenne River	-43%	Upper Bear River	-42%

Streams

Forecast stream flow yields for May thru September across Wyoming average 101%. The Snake River, Madison, and Upper Yellowstone River Basins should yield about 106%, 93% and 110% of average, respectively. Yields from the Wind and Bighorn River Basins should be about 97% and 92% of average. Yields from the Shoshone and Clarks Fork River Basins of Wyoming should be about 109% and 113% of average. Yields from the Powder and Tongue River Basins should be about 98% and 89% of average. Yield for the Cheyenne River Basin should be about 104% of average. Yields for the Sweetwater, Upper North Platte, Lower North Platte, and Laramie Rivers of Wyoming should be about 44%, 104%, 97%, and 106% of average, respectively. Yields for the Little Snake, Green River, Bear River, and Smith's Fork of Wyoming should be 88%, 88%, 73%, and 99% respectively.

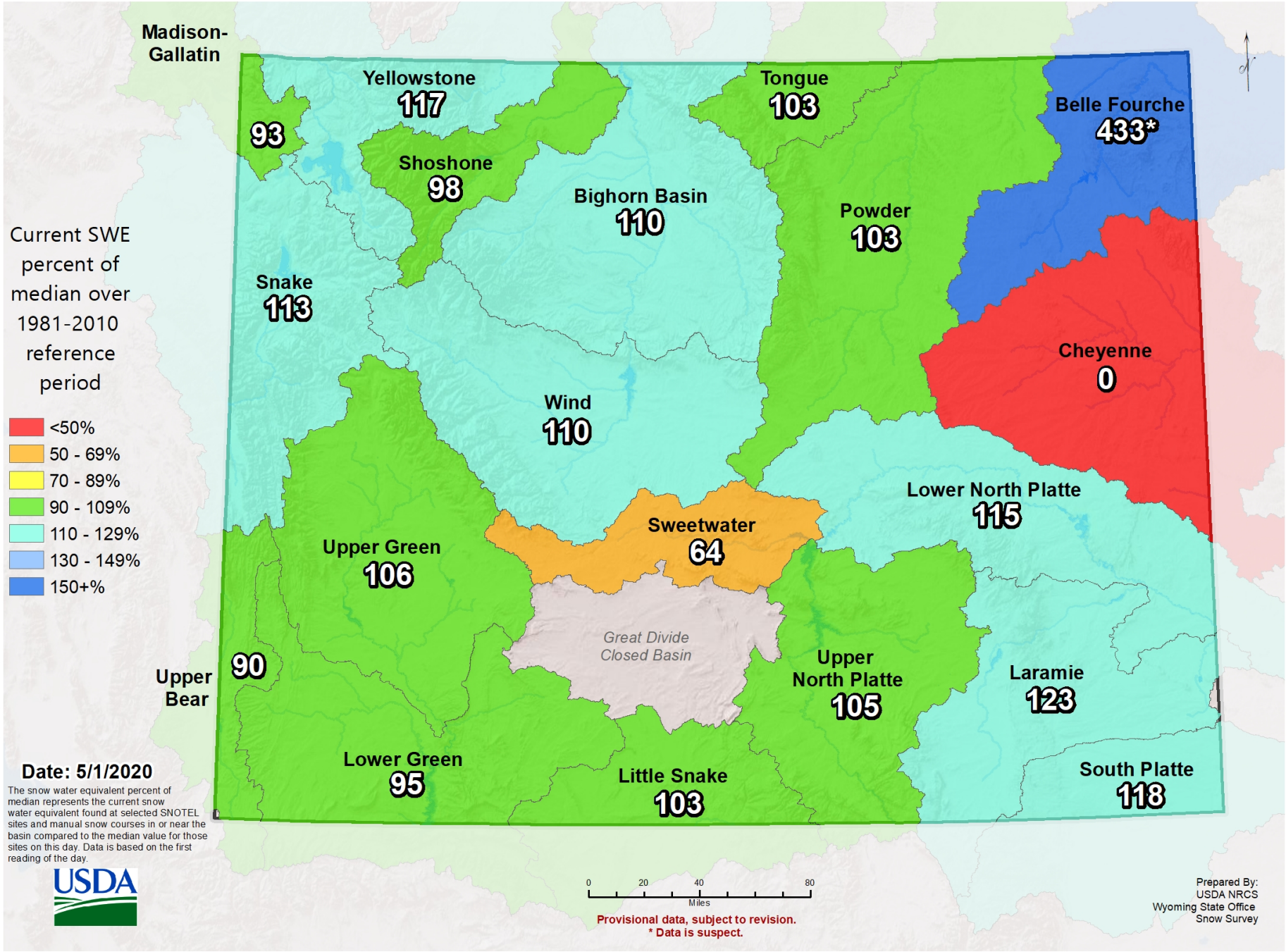
Reservoirs

Reservoir storage was above average at 112% across the entire state. Reservoirs in the Snake River Basin are above average at 118%. Reservoirs in the Madison-Gallatin Basin were not reported this month. Reservoirs in the Wind River Basin are near average at 103%. Reservoirs on the Big Horn are average at 98%. The Buffalo Bill Reservoir on the Shoshone is well above average at 117%. The Tongue River Basin Reservoir was not reported. Reservoirs in the Belle Fourche and Cheyenne River Basins are above average at 133% and 111% respectively. Reservoirs on the Upper and Lower North Platte River are above average at 134% and 127% respectively. Reservoirs on the Upper Green River are above average at 116%. Reservoirs on the Lower Green River Basin are near average at 106% and are above average on the Upper Bear River Basin at 128%. *See below for further information.*

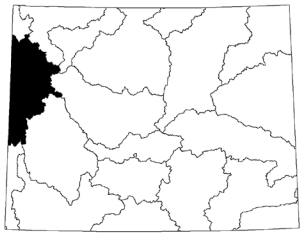
Wyoming Reservoir Levels

	Reservoir Storage Summary for the end of April 2020								
	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Alcova	180.6	179.8	178.9	184.3	98%	98%	97%	101%	100%
Angostura	108.2	113.5	97.6	122.1	89%	93%	80%	111%	116%
Belle Fourche	150.2	155.8	144.5	178.4	84%	87%	81%	104%	108%
Big Sandy	26.7	22.0	23.1	38.3	70%	58%	60%	116%	95%
Bighorn Lake	752.1	773.9	773.6	1356.0	55%	57%	57%	97%	100%
Boysen	478.4	536.3	476.4	596.0	80%	90%	80%	100%	113%
Boysen	478.4	536.3	476.4	596.0	80%	90%	80%	100%	113%
Buffalo Bill	394.6	396.8	336.3	646.6	61%	61%	52%	117%	118%
Bull Lake	93.2	84.1	75.1	151.8	61%	55%	49%	124%	112%
Deerfield	15.3	15.4	14.2	15.2	101%	102%	93%	108%	109%
Ennis Lake		34.3	32.4	41.0		84%	79%		106%
Flaming Gorge Reservoir	3207.0	3302.6	3039.0	3749.0	86%	88%	81%	106%	109%
Fontenelle	145.1	136.6	125.0	344.8	42%	40%	36%	116%	109%
Glendo	374.4	464.3	434.5	506.4	74%	92%	86%	86%	107%
Grassy Lake	13.6	13.7	12.8	15.2	90%	90%	84%	106%	107%
Guernsey	28.5	28.3	29.9	45.6	63%	62%	66%	95%	95%
Hebgen Lake		281.8	276.7	378.8		74%	73%		102%
High Savery Reservoir			15.3	22.4			68%		
Jackson Lake	643.1	654.2	445.7	847.0	76%	77%	53%	144%	147%
Keyhole	178.8	176.5	98.1	193.8	92%	91%	51%	182%	180%
PactoLa	54.1	54.6	47.7	55.0	98%	99%	87%	113%	115%
Palisades Reservoir	964.8	853.5	911.7	1400.0	69%	61%	65%	106%	94%
Pathfinder	1024.2	680.7	617.9	1016.5	101%	67%	61%	166%	110%
Pilot Butte	25.7	26.2	26.1	31.6	81%	83%	83%	99%	100%
Seminoe	659.6	673.1	492.5	1016.7	65%	66%	48%	134%	137%
Shadehill	75.4	80.5	61.2	81.4	93%	99%	75%	123%	131%
Tongue River Res		73.4	34.7	79.1		93%	44%		211%
Viva Naughton Res	33.0	34.9	31.6	42.4	78%	82%	75%	104%	110%
Wheatland #2			55.6	98.9			56%		
Woodruff Narrows Reservoir	58.3	58.0	45.5	57.3	102%	101%	79%	128%	127%

Wyoming Basins Snow Water Equivalent (SWE) % of Median - Includes Manual Snow Course



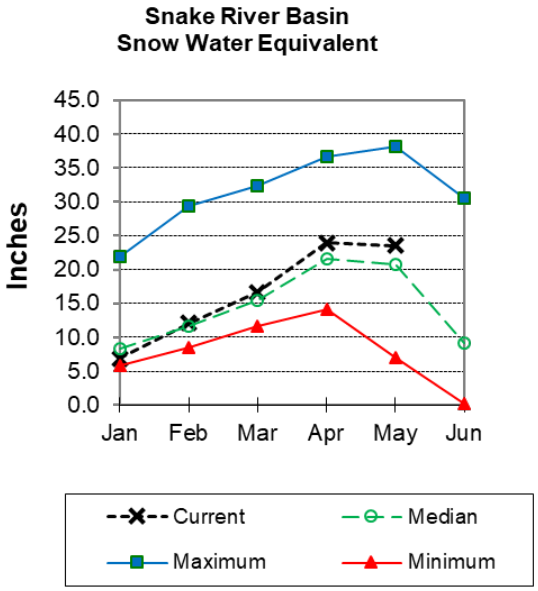
Snake River Basin

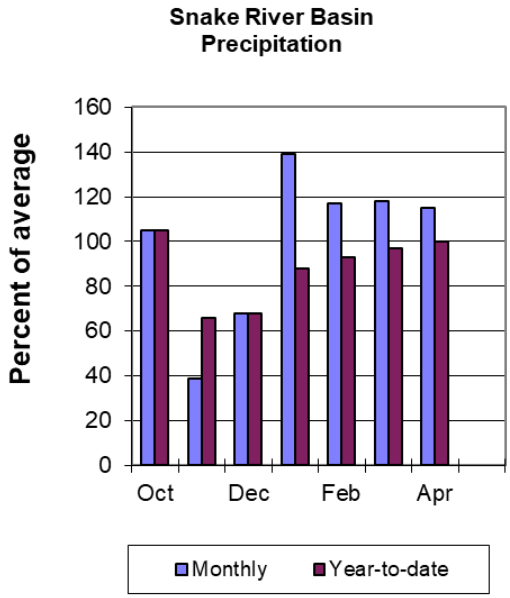


Snow

The overall Snake River Basin SWE (portion above Palisades dam) is 113% of median. SWE in the Snake River Basin above Jackson Lake is 107% of median. Pacific Creek Basin SWE is 119% of median. Buffalo Fork SWE is 108% of median. Gros Ventre River Basin SWE is 118% of median. SWE in the Hoback River drainage is 128% of median. SWE in the Greys River drainage is 136% of median. Salt River Basin SWE is 149% of median.

See Appendix at the end of this report for a detailed listing of snow course information.





Precipitation

Last month's precipitation for the Snake River Basin was 115% of average. Water-year-to-date precipitation is 100% of average.

Reservoirs

Current reservoir storage is 118% of average for the three storage reservoirs in the basin.

	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Grassy Lake	13.6	13.7	12.8	15.2	90%	90%	84%	106%	107%
Jackson Lake	643.1	654.2	445.7	847.0	76%	77%	53%	144%	147%
Palisades Reservoir	964.8	853.5	911.7	1400.0	69%	61%	65%	106%	94%
Basin-wide Total	1621.6	1521.4	1370.2	2262.2	72%	67%	61%	118%	111%
# of reservoirs	3	3	3	3	3	3	3	3	3

Streamflow

The 50% exceedance forecasts for May through September are slightly above average for this basin. The Snake near Moran yield is 92% of average. Snake River above Reservoir near Alpine will yield about 108%. Pacific Creek near Moran Yield will be around 102%. Buffalo

Fork above Lava near Moran yield will be around 105% of average. Greys River above Palisades Reservoir yield about 110%. Salt River near Etna yield will be about 108%.

See the following table for further information.

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Snake R nr Moran (2)	MAY-SEP	595	665	715	92%	765	835	775
Snake R ab Reservoir nr Alpine (2)	MAY-SEP	2170	2340	2460	108%	2580	2760	2280
Snake R nr Irwin (2)	MAY-SEP	2900	3180	3380	107%	3570	3850	3150
Snake R nr Heise (2)	MAY-SEP	3140	3430	3630	107%	3830	4130	3390
Pacific Ck at Moran	MAY-SEP	119	147	165	102%	184	210	161
Buffalo Fk ab Lava Ck nr Moran	MAY-SEP	265	300	320	105%	340	375	305
Greys R ab Reservoir nr Alpine	MAY-SEP	290	320	345	110%	365	400	315
Salt R ab Reservoir nr Etna	MAY-SEP	245	300	335	108%	370	425	310

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

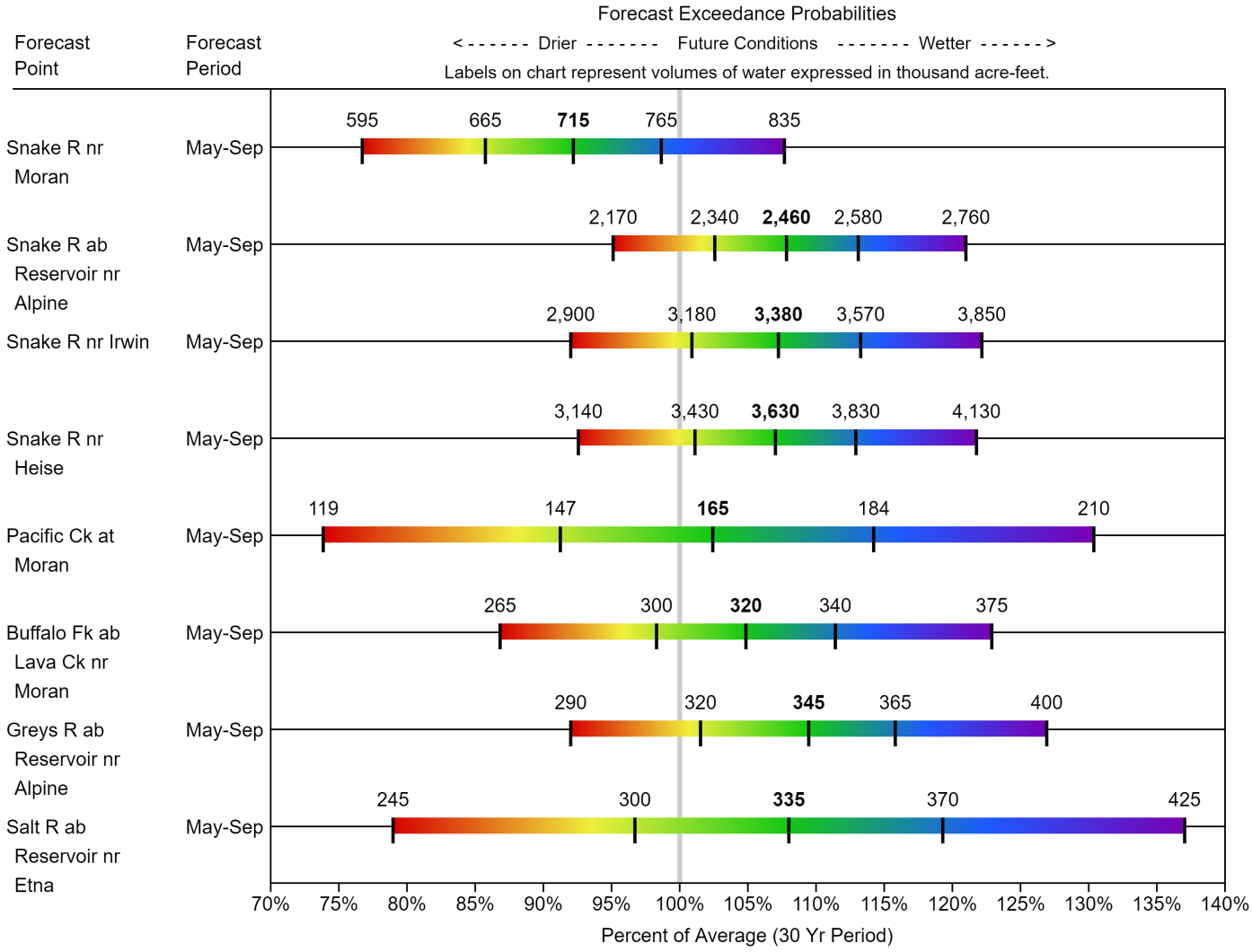
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

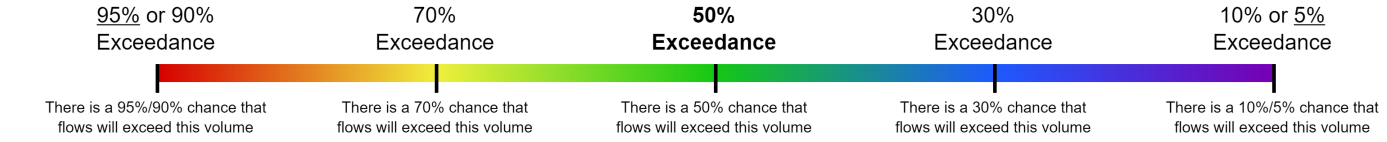
SNAKE RIVER BASIN

Water Supply Forecasts

May 1, 2020



Legend



When selected, the following historic streamflow values and statistics will be shown.

Period of Record Minimum Streamflow KAF (Year)

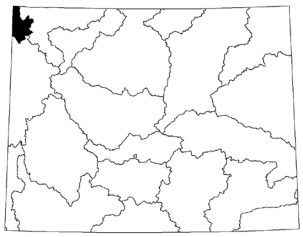
1981-2010 Normal Streamflow KAF

Observed Streamflow KAF

Period of Record Maximum Streamflow KAF (Year)

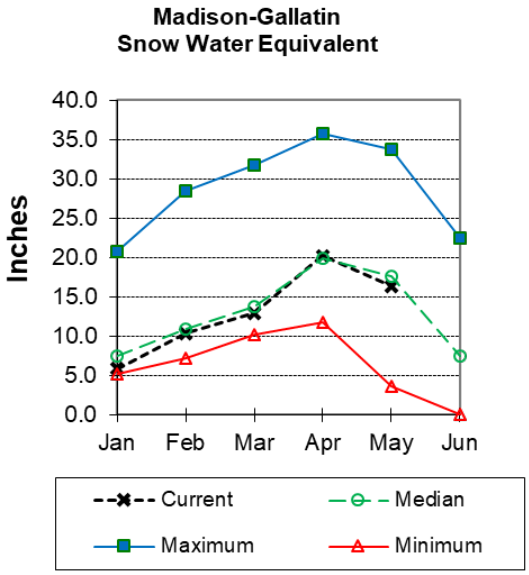
Some forecasts may be for volumes that are regulated or influenced by diversions and water management.

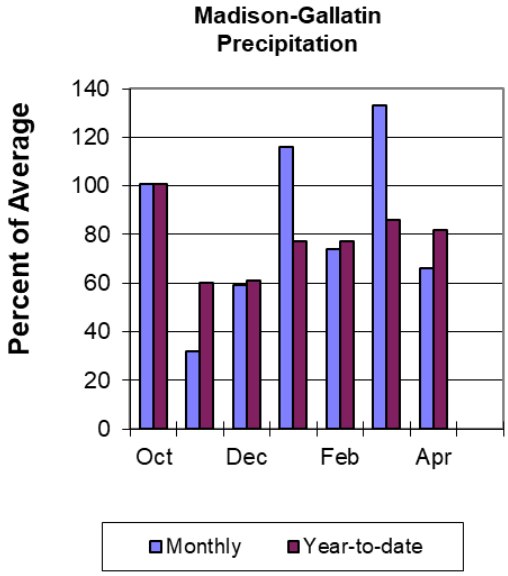
Madison-Gallatin Rivers Basin



Snow

SWE is 93% of median in the Madison-Gallatin drainage. *See Appendix at the end of this report for a detailed listing of snow course information.*





Precipitation

Last month precipitation in the Madison-Gallatin drainage was 66% of average. Water-year-to-date precipitation is at 82% of average.

Reservoirs

There is no reservoir data for this basin.

Streamflow

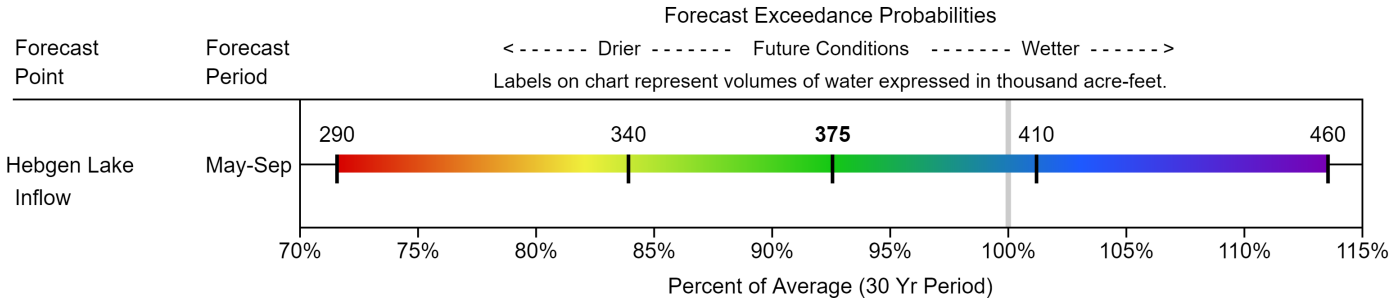
The 50% exceedance forecast for May through September is slightly below average for the basin. Hebgen Reservoir inflow is 93% of average. *See below for detailed runoff volumes.*

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

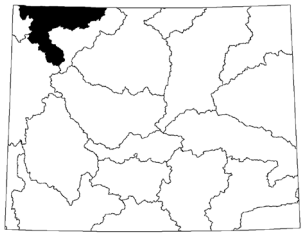
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Hebgen Reservoir Inflow	MAY-SEP	290	340	375	93%	410	460	405

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

MADISON-GALLATIN RIVER BASINS
Water Supply Forecasts
May 1, 2020

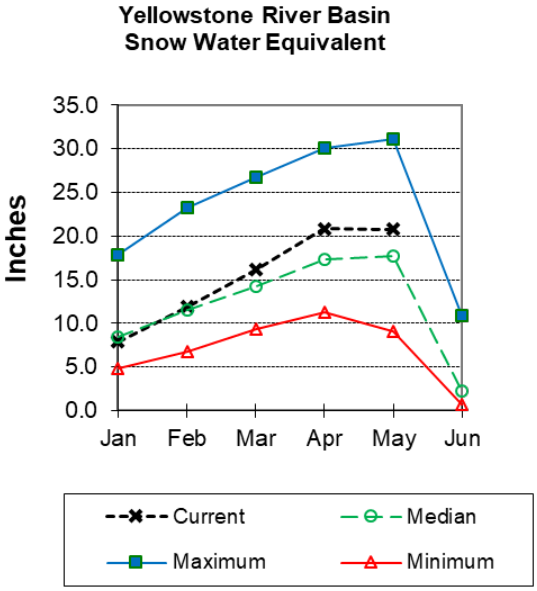


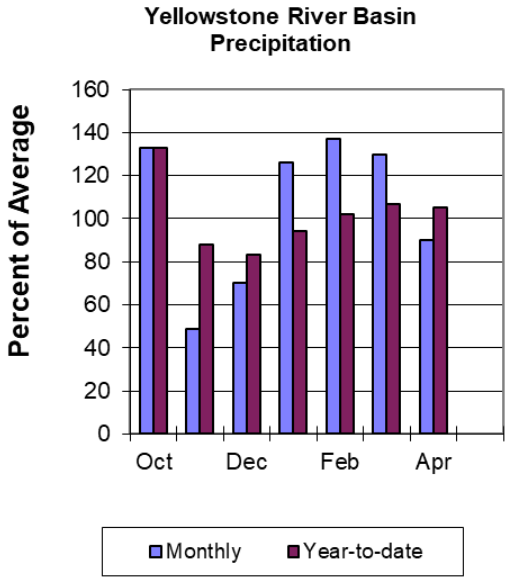
Yellowstone River Basin



Snow

SWE in the Yellowstone River Basin is 117% of median. SWE in the Clarks Fork Drainage of the Yellowstone River Basin in Wyoming is 121% of median. *See Appendix at the end of this report for a detailed listing of snow course information.*





Precipitation

Last month's precipitation in the Yellowstone River Basin was 90% of average. Water-year-to-date precipitation is 105% of average.

Reservoirs

No reservoir data.

Streamflow

The 50% exceedance forecasts for May through September are above average for the basin. Yellowstone at Lake Outlet will yield around 108% of average. Yellowstone at Corwin Springs will yield around 109%. Clarks Fork of the Yellowstone near Belfry will yield around 113%.

See the following for further information.

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Yellowstone R at Yellowstone Lake Outlet	MAY-SEP	665	745	795	108%	845	925	735
Yellowstone R at Corwin Springs	MAY-SEP	1640	1810	1930	109%	2050	2220	1770
Yellowstone R at Livingston	MAY-SEP	1840	2050	2200	109%	2350	2560	2010
Clarks Fk Yellowstone R nr Belfry (2)	MAY-SEP	500	555	595	113%	630	685	525

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

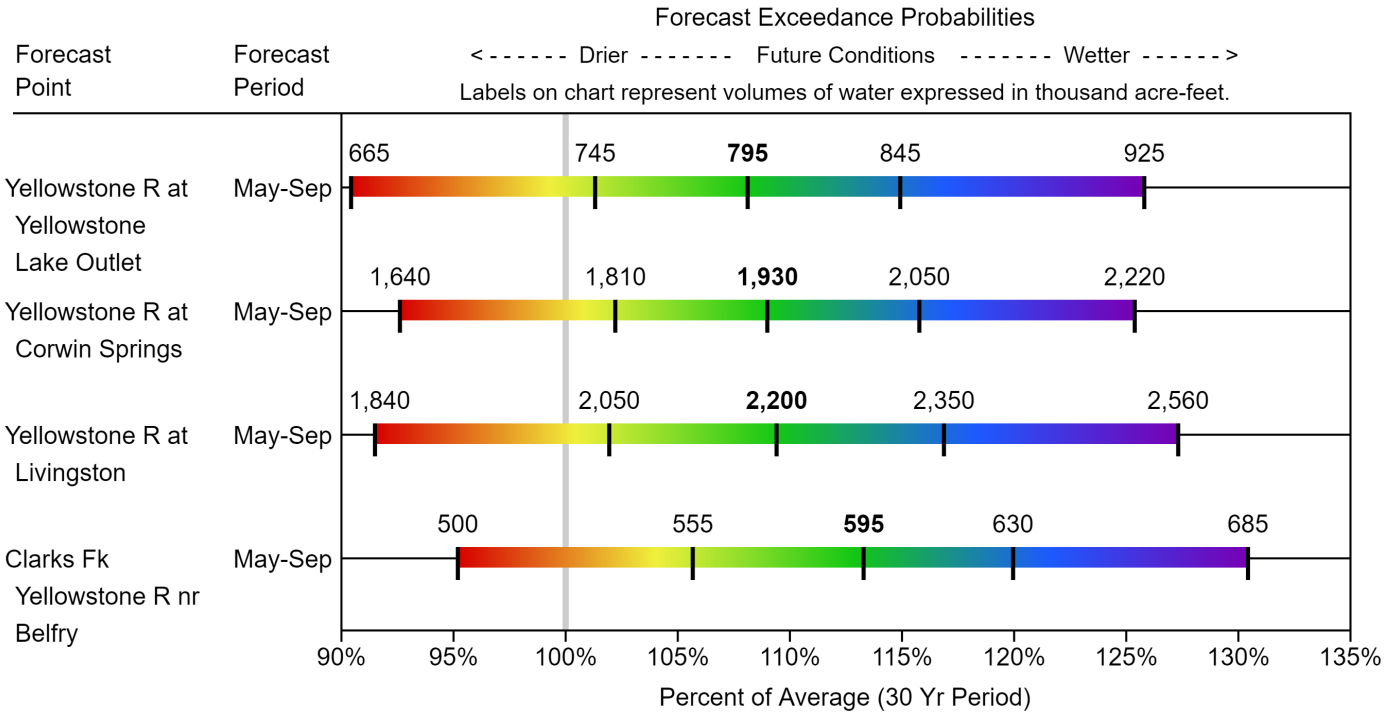
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

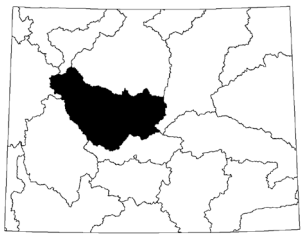
YELLOWSTONE RIVER BASIN

Water Supply Forecasts

May 1, 2020

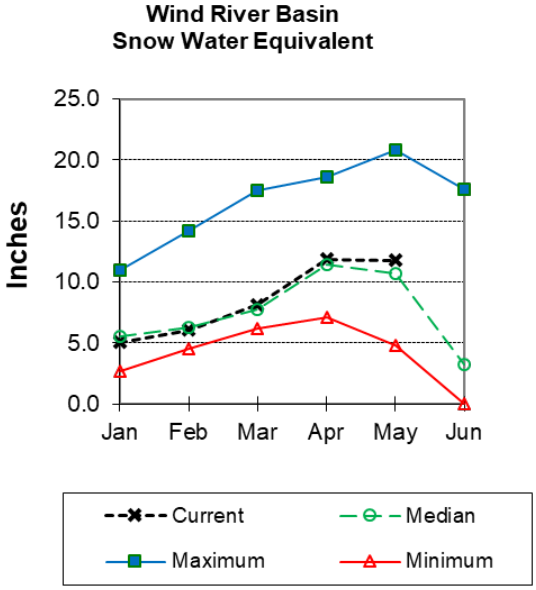


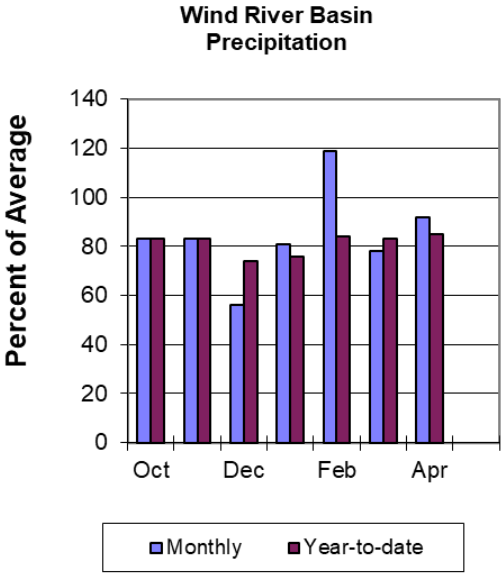
Wind River Basin



Snow

Wind River Basin SWE (above Boysen Reservoir) is 110% of median. SWE in the Wind River above Dubois is 139% of median. Little Wind SWE is 77% of median, and Popo Agie drainage SWE is 92% of median. *See Appendix at the end of this report for a detailed listing of snow course information.*





Precipitation

February precipitation for the basin was 92% of average. Water year-to-date precipitation is 85% of average.

Reservoirs

Current storage is 103% of average in the basin.

	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Bull Lake	93.2	84.1	75.1	151.8	61%	55%	49%	124%	112%
Boysen	478.4	536.3	476.4	596.0	80%	90%	80%	100%	113%
Pilot Butte	25.7	26.2	26.1	31.6	81%	83%	83%	99%	100%
Basin-wide Total	597.4	646.6	577.6	779.4	77%	83%	74%	103%	112%
# of reservoirs	3	3	3	3	3	3	3	3	3

Streamflow

The 50% exceedance forecasts for the May through September runoff period are below average for the Wind River. The Wind River above Bull Lake Creek will yield about 105% of average. Little Popo Agie River near Lander should yield around 78% of average. Little Wind River near Riverton will yield around 80% of average. Boysen Reservoir inflow will yield about 93% of average. *See the following table for detailed runoff volumes.*

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Dinwoody Ck nr Burris	MAY-SEP	78	85	90	99%	95	102	91
Wind R Ab Bull Lake Ck	MAY-SEP	375	445	490	105%	535	605	465
Bull Lake Ck nr Lenore	MAY-SEP	122	137	148	89%	159	174	166
Wind R at Riverton	MAY-SEP	440	505	550	105%	595	665	525
Little Popo Agie R nr Lander	MAY-SEP	24	31	36	78%	41	49	46
Little Wind R nr Riverton	MAY-SEP	110	175	220	80%	265	330	275
Boysen Reservoir Inflow	MAY-SEP	340	480	575	93%	670	810	615

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

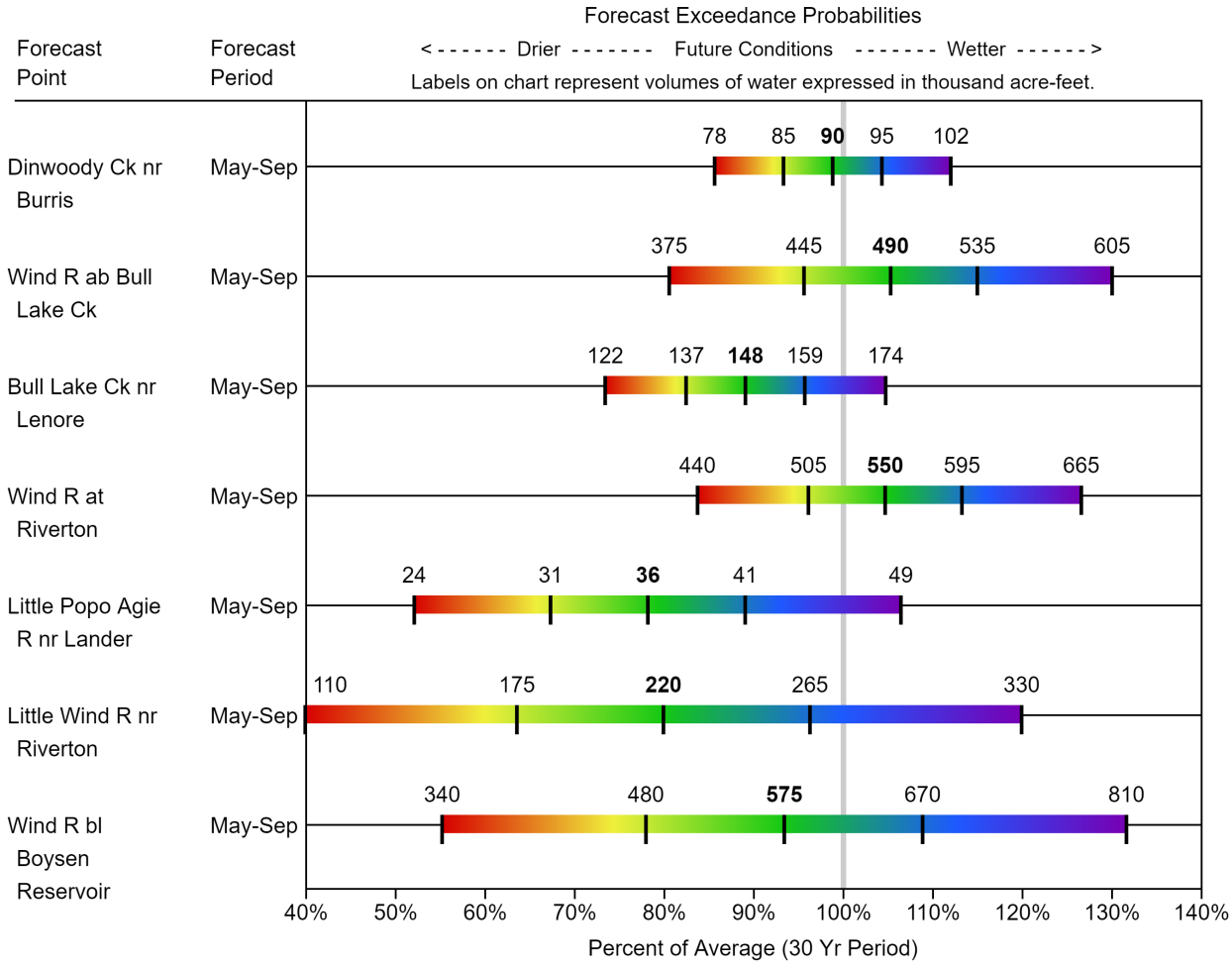
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

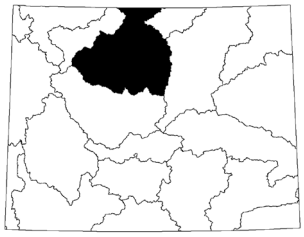
WIND RIVER BASIN

Water Supply Forecasts

May 1, 2020

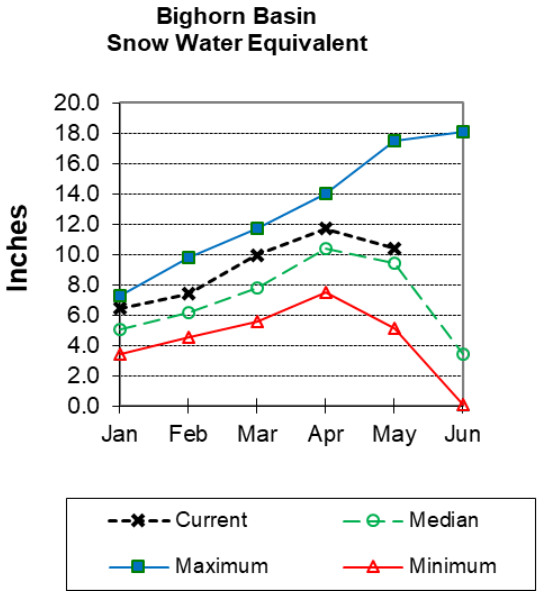


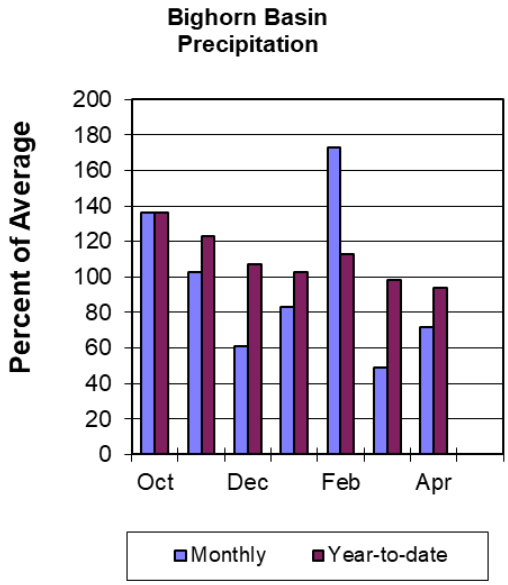
Bighorn River Basin



Snow

The Bighorn River Basin SWE (above Bighorn Reservoir) is 110% of median. The Nowood River is at 111% of median. The Greybull River SWE is at 92% of median. Shell Creek SWE is at 114% of median. *See Appendix at the end of this report for a detailed listing of snow course information.*





Precipitation

Last month's precipitation was 72% of average. Year-to-date precipitation is 94% of average.

Reservoirs

Current reservoir storage in the basin is 98% of average.

	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Boysen	478.4	536.3	476.4	596.0	80%	90%	80%	100%	113%
Bighorn Lake	752.1	773.9	773.6	1356.0	55%	57%	57%	97%	100%
Basin-wide Total	1230.6	1310.2	1250.0	1952.0	63%	67%	64%	98%	105%
# of reservoirs	2	2	2	2	2	2	2	2	2

Streamflow

The 50% exceedance forecasts for the May through September runoffs are below average. Boysen Reservoir inflow has a forecasted yield 93% of average; the Greybull River near Meeteetse yielding around 87% of average; Shell Creek near Shell yielding around 100% of average and the Bighorn River at Kane to yield around 90% of average.

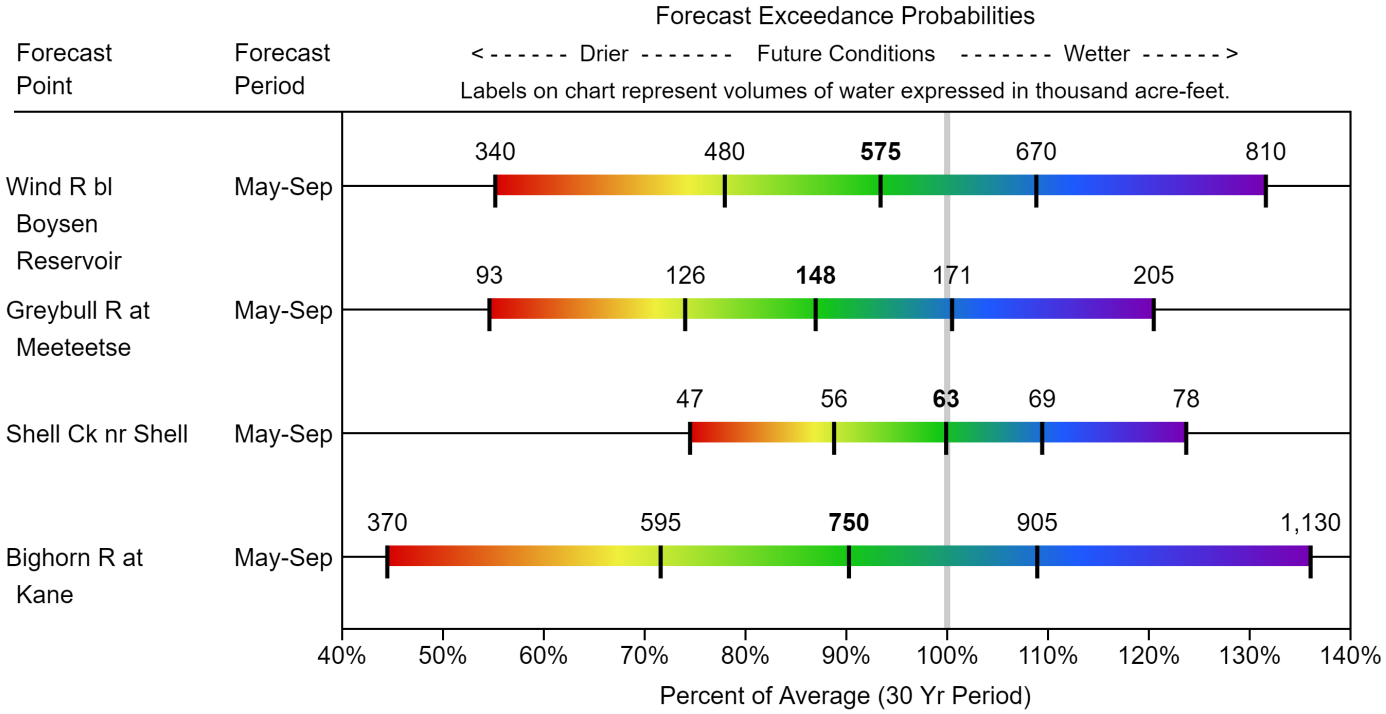
See the following for detailed runoff volumes.

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

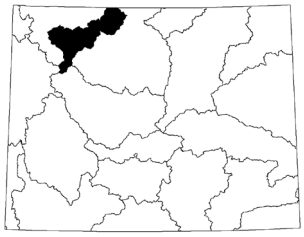
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Boysen Reservoir Inflow	MAY-SEP	340	480	575	93%	670	810	615
Greybull R nr Meeteetse	MAY-SEP	93	126	148	87%	171	205	170
Shell Ck nr Shell	MAY-SEP	47	56	63	100%	69	78	63
Bighorn R at Kane	MAY-SEP	370	595	750	90%	905	1130	830

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

BIGHORN RIVER BASIN
Water Supply Forecasts
May 1, 2020

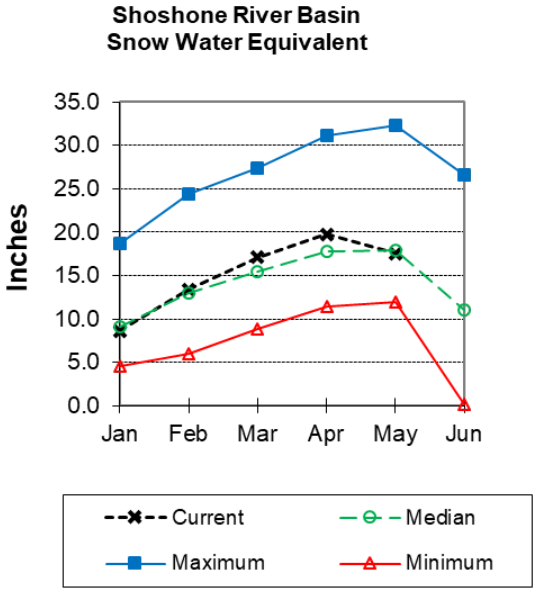


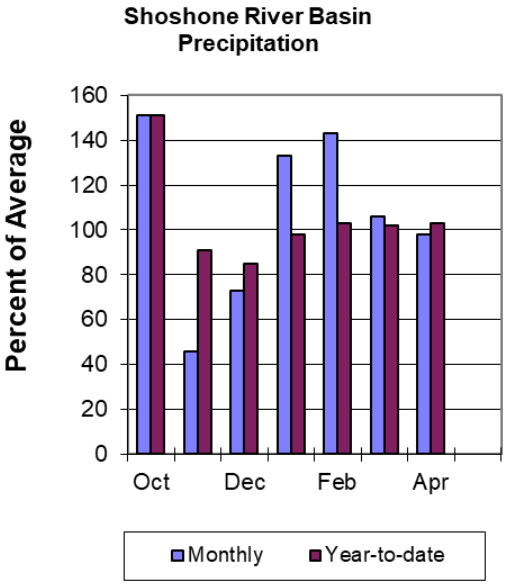
Shoshone River Basin



Snow

Snow Water Equivalent (SWE) is 98% of median in this basin. *See Appendix at the end of this report for a detailed listing of snow course information.*





Precipitation

Precipitation for last month was 98% of average. The basin year-to-date precipitation is now 103% of average.

Reservoirs

Current storage in Buffalo Bill Reservoir is about 117% of average.

	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Buffalo Bill	394.6	396.8	336.3	646.6	61%	61%	52%	117%	118%
Basin-wide Total	394.6	396.8	336.3	646.6	61%	61%	52%	117%	118%
# of reservoirs	1	1	1	1	1	1	1	1	1

Streamflow

The 50% exceedance forecasts for the May through September period are above average for the basin. The North Fork Shoshone River at Wapiti will yield 107% of average. The South Fork of the Shoshone River near Valley would yield 109% of average. The Buffalo Bill Reservoir inflow to yield 111%. *See the following for detailed runoff volumes.*

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
NF Shoshone R at Wapiti	MAY-SEP	425	480	520	107%	560	615	485
SF Shoshone R nr Valley	MAY-SEP	210	235	255	109%	270	300	235
SF Shoshone R ab Buffalo Bill Reservoir	MAY-SEP	152	188	210	109%	235	275	192
Buffalo Bill Reservoir Inflow (2)	MAY-SEP	635	725	780	111%	840	925	700

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

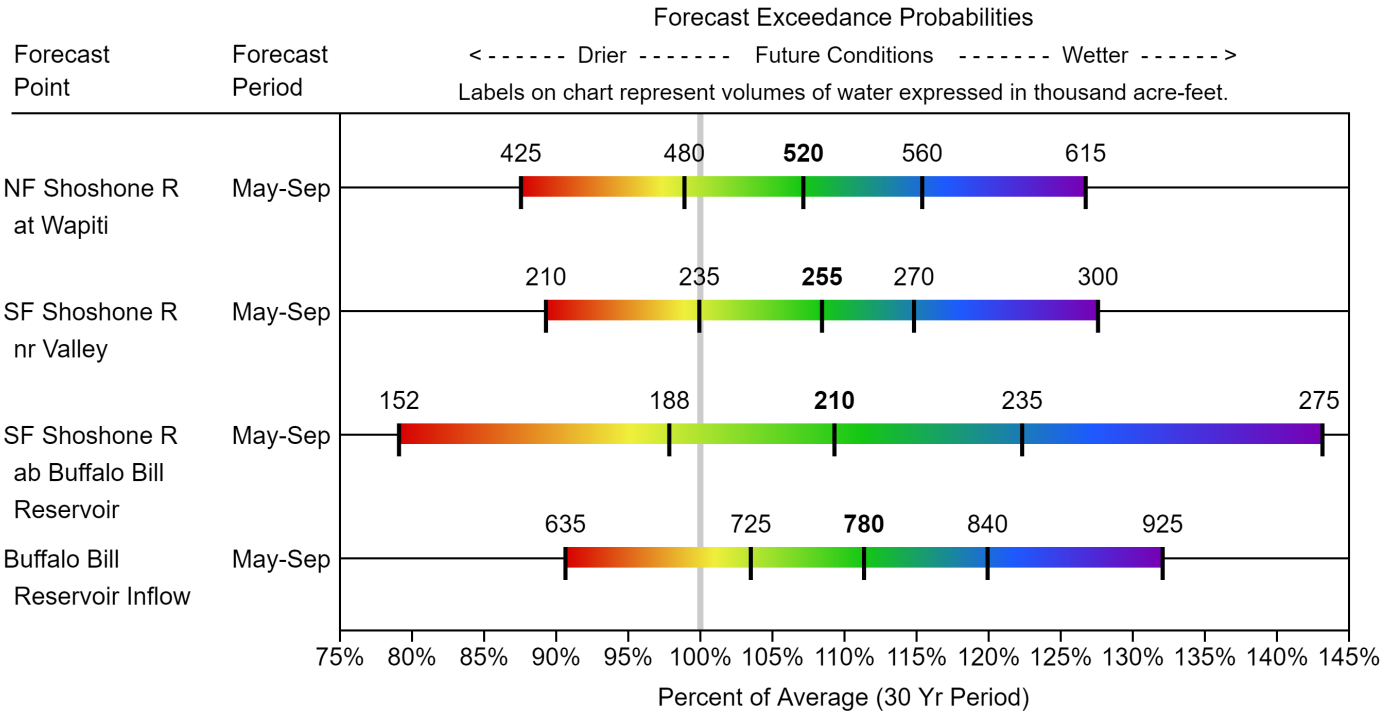
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

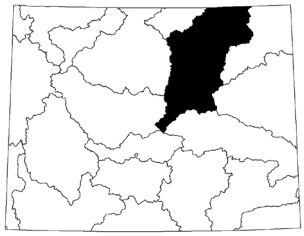
SHOSHONE RIVER BASIN

Water Supply Forecasts

May 1, 2020

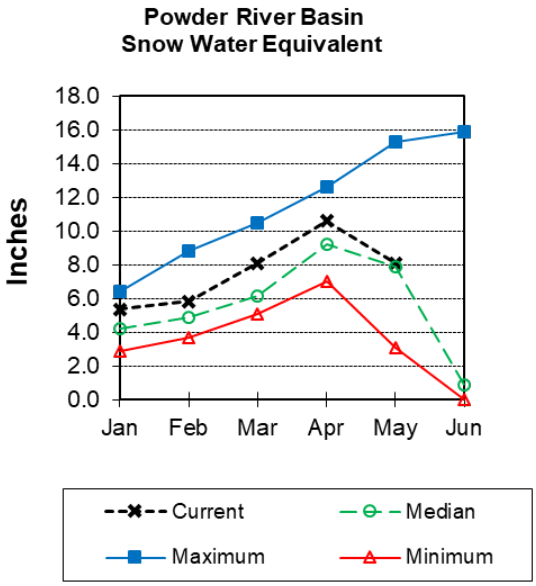


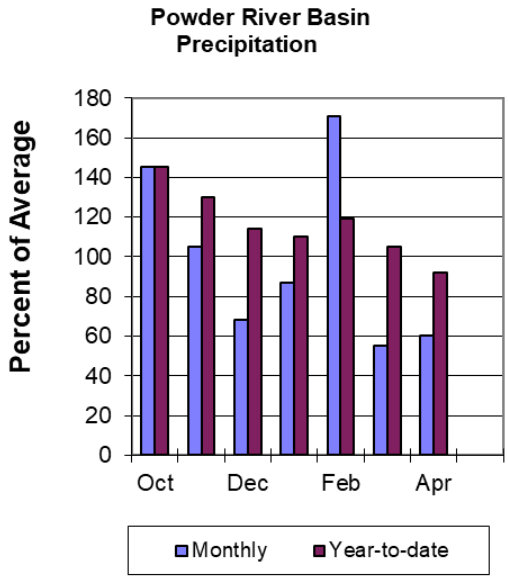
Powder River Basin



Snow

Powder River Basin SWE is at 103% of median. Upper Powder River drainage is 105% of median. SWE in the Clear Creek drainage is 101% of median. Crazy Woman Creek drainage SWE is at 115%. *See appendix at the end of this report for a detailed listing of snow course information.*





Precipitation

Last month's precipitation was 60% of average in the basin. Year-to-date precipitation is 92% of average.

Reservoirs

No reservoir data for this basin.

Streamflow

The 50% exceedance forecasts for the May through September period are average for the basin. The Middle Fork of the Powder River near Barnum should yield around 91% of average. The North Fork of the Powder River near Hazelton to yield around 104%. The Powder River near Morehead to yield around 98% of average. *See the following for detailed runoff volumes.*

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

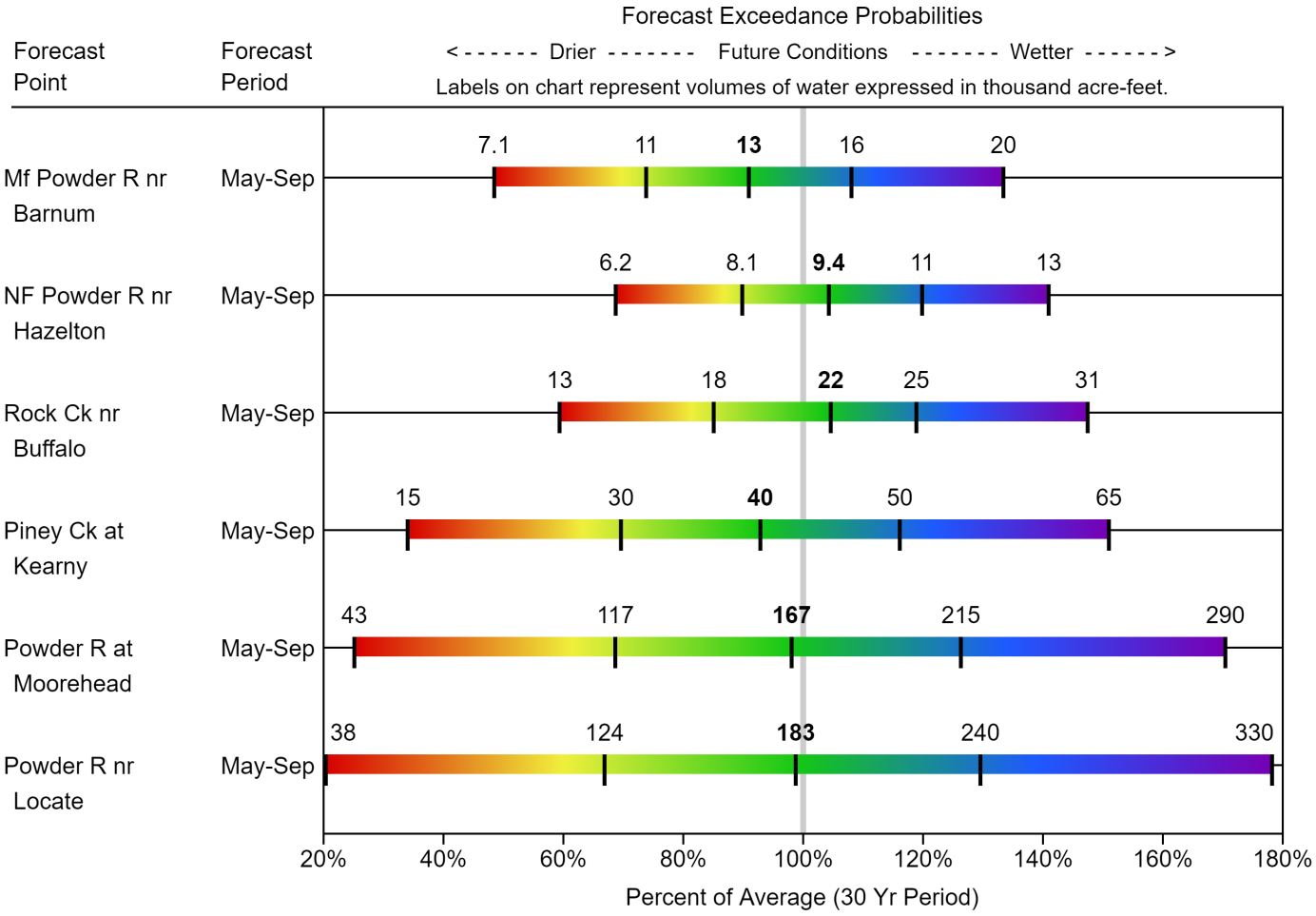
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
MF Powder R nr Barnum	MAY-SEP	7.1	10.8	13.3	91%	15.8	19.5	14.6
NF Powder R nr Hazelton	MAY-SEP	6.2	8.1	9.4	104%	10.8	12.7	9
Rock Ck nr Buffalo	MAY-SEP	12.5	17.9	22	105%	25	31	21
Piney Ck at Kearny	MAY-SEP	14.7	30	40	93%	50	65	43
Powder R at Moorehead	MAY-SEP	43	117	167	98%	215	290	170
Powder R nr Locate	MAY-SEP	38	124	183	99%	240	330	185

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

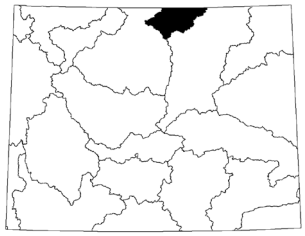
POWDER RIVER BASIN

Water Supply Forecasts

May 1, 2020

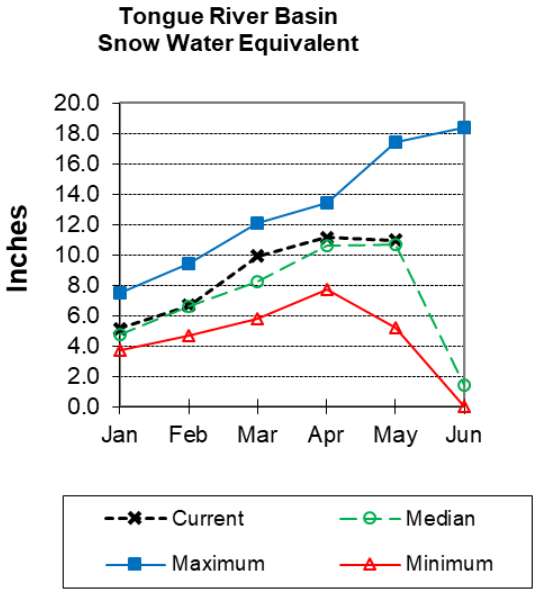


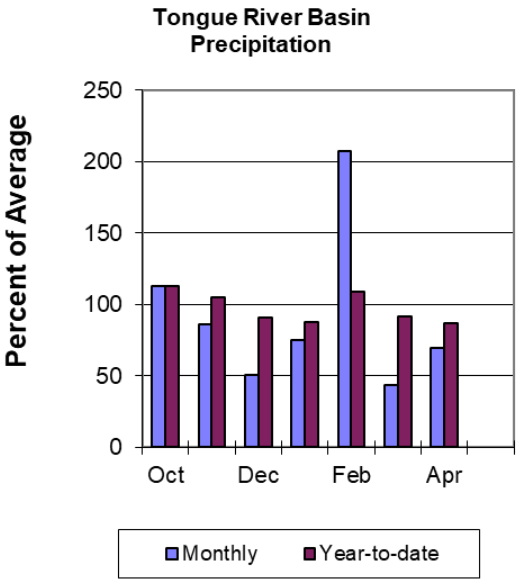
Tongue River Basin



Snow

Upper Tongue River drainage SWE is at 103% of median. The Goose Creek drainage SWE is 106% of median. *See Appendix at the end of this report for a detailed listing of snow course information.*





Precipitation

Last month's precipitation was 70% of average. Year-to-date precipitation is 87% of average in the basin.

Reservoirs

There is no data for the Tongue River Reservoir.

Streamflow

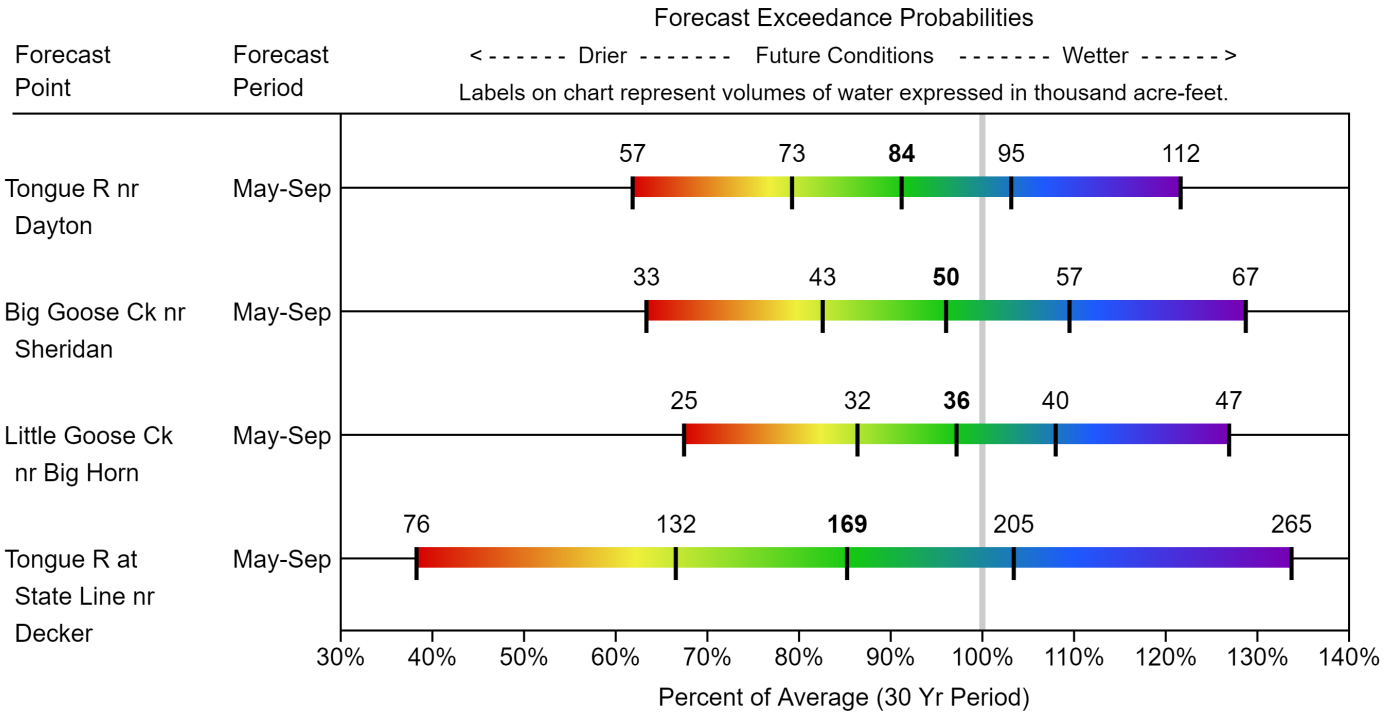
The 50% exceedance forecasts for the May through September period are below average for the basin. The yield for Tongue River near Dayton is forecasted to be 91% of average. Big Goose Creek near Sheridan to yield around 96%. Little Goose Creek near Bighorn yielding 97% of average. The Tongue River Reservoir Inflow will be about 85% of average. *See below for detailed runoff volumes.*

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

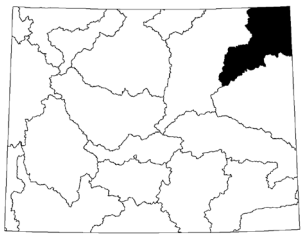
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Tongue R nr Dayton	MAY-SEP	57	73	84	91%	95	112	92
Big Goose Ck nr Sheridan	MAY-SEP	33	43	50	96%	57	67	52
Little Goose Ck nr Bighorn	MAY-SEP	25	32	36	97%	40	47	37
Tongue River Reservoir Inflow	MAY-SEP	76	132	169	85%	205	265	198

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

TONGUE RIVER BASIN
Water Supply Forecasts
May 1, 2020

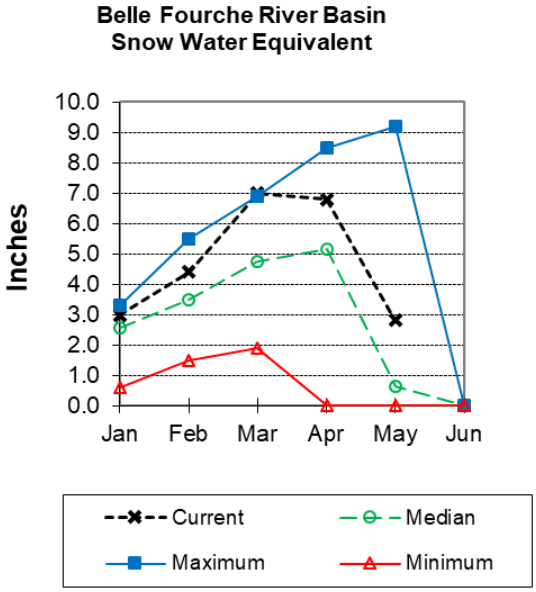


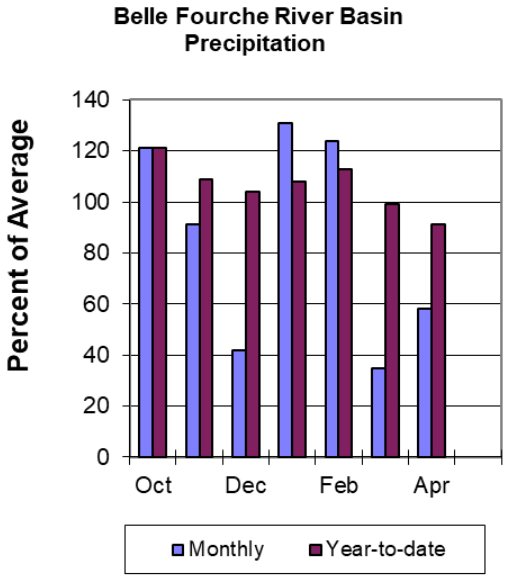
Belle Fourche River Basin



Snow

Belle Fourche River Basin SWE is at 433% of median. *See Appendix at the end of this report for a detailed listing of snow course information.*





Precipitation

Precipitation for last month was 58% of average in the Belle Fourche basin. Year-to-date precipitation is 91% of average.

Reservoirs

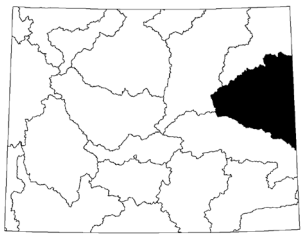
Combined storage for the 3 reservoirs in the basin is at 133% of average.

	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Belle Fourche	150.2	155.8	144.5	178.4	84%	87%	81%	104%	108%
Keyhole	178.8	176.5	98.1	193.8	92%	91%	51%	182%	180%
Shadehill	75.4	80.5	61.2	81.4	93%	99%	75%	123%	131%
Basin-wide Total	404.3	412.8	303.8	453.6	89%	91%	67%	133%	136%
# of reservoirs	3	3	3	3	3	3	3	3	3

Streamflow

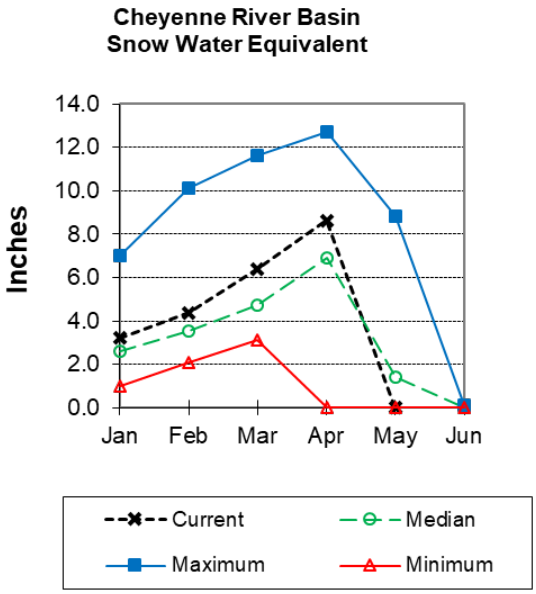
There are no streamflow forecast points for the basin.

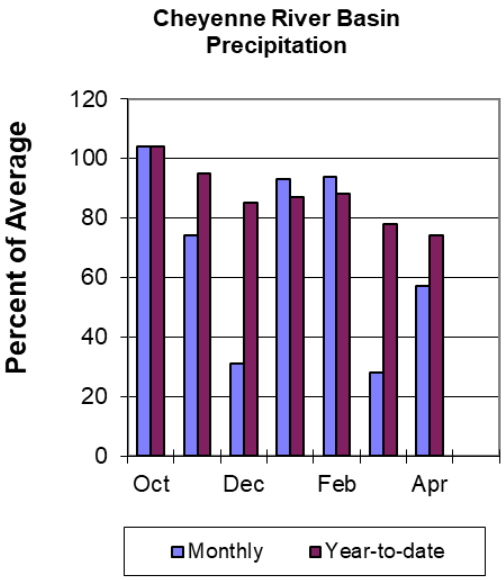
Cheyenne River Basin



Snow

Cheyenne River Basin SWE is at 0% of median. *See Appendix at the end of this report for a detailed listing.*





Precipitation

Precipitation for last month was 57% of average. Year-to-date precipitation is 74%.

Reservoirs

Combined storage for the 3 reservoirs in the basin is at 111% of average.

	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Angostura	108.2	113.5	97.6	122.1	89%	93%	80%	111%	116%
Deerfield	15.3	15.4	14.2	15.2	101%	102%	93%	108%	109%
PactoLa	54.1	54.6	47.7	55.0	98%	99%	87%	113%	115%
Basin-wide Total	177.5	183.5	159.5	192.3	92%	95%	83%	111%	115%
# of reservoirs	3	3	3	3	3	3	3	3	3

Streamflow

The Deerfield Reservoir Inflow yield is forecasted at 108% of average. Pactola Reservoir Inflow yield is 104% of average. *See the following for detailed runoff volumes.*

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

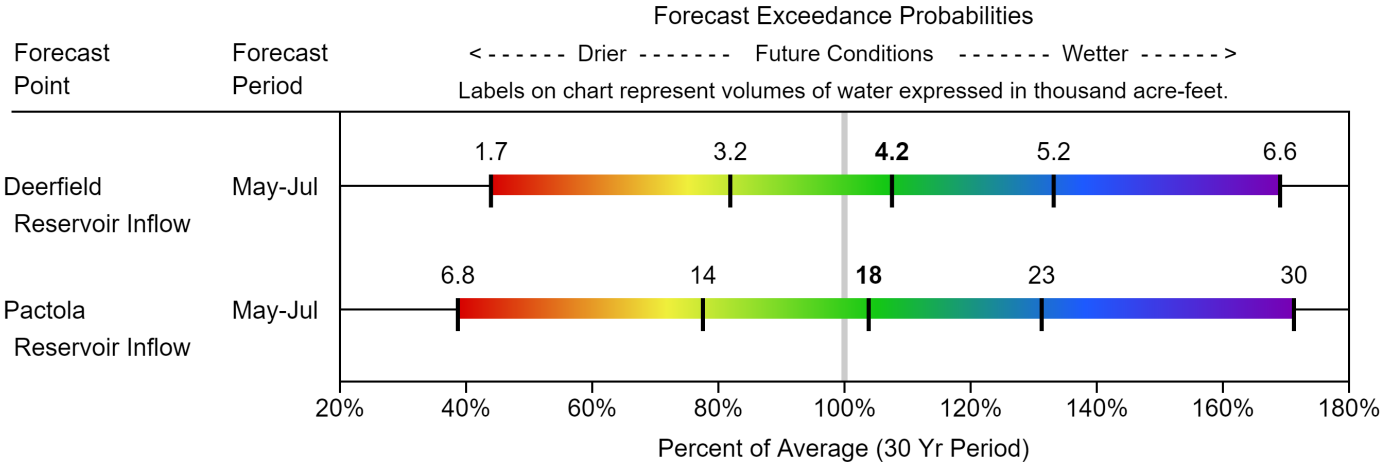
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Deerfield Reservoir Inflow	MAY-JUL	1.7	3.2	4.2	108%	5.2	6.6	3.9
Pactola Reservoir Inflow	MAY-JUL	6.8	14	18	104%	23	30	18

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

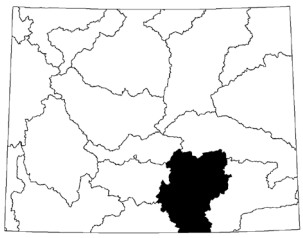
CHEYENNE RIVER BASIN

Water Supply Forecasts

May 1, 2020



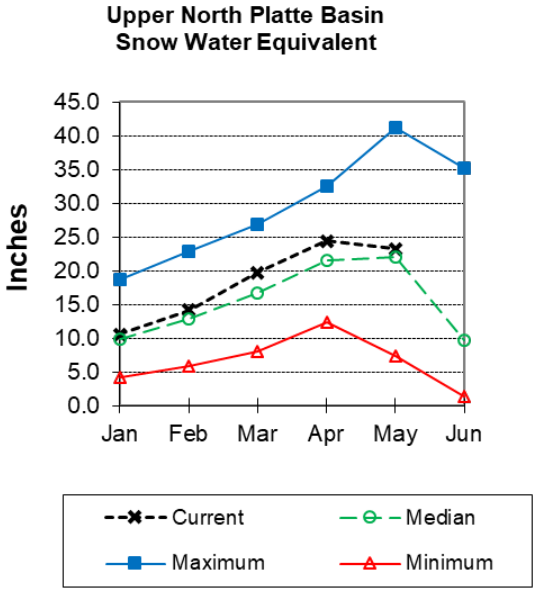
Upper North Platte River Basin

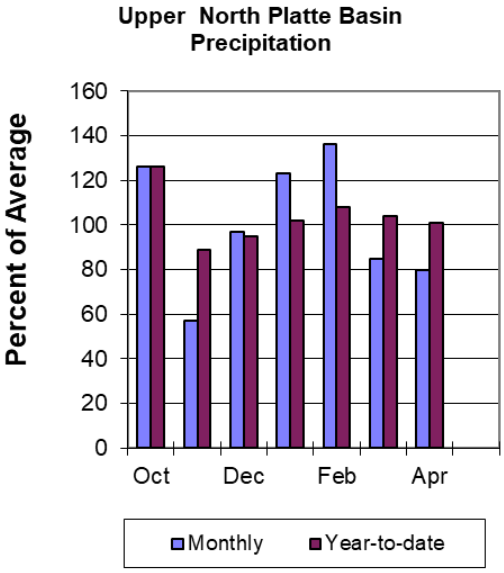


Snow

The Upper North Platte River Basin SWE above Seminoe Reservoir is 105% of median. North Platte above Northgate SWE is 103% of median. Encampment River SWE is 97% of median. Brush Creek SWE is 113% of median. Medicine Bow and Rock Creek SWE are 110% of median.

See Appendix at the end of this report for a detailed listing of snow course information.





Precipitation

Last month's precipitation was 80% of average. Total water-year-to-date precipitation is 101% of average.

Reservoirs

Seminoe Reservoir storage is at 134% of average.

	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Seminoe	659.6	673.1	492.5	1016.7	65%	66%	48%	134%	137%
Basin-wide Total	659.6	673.1	492.5	1016.7	65%	66%	48%	134%	137%
# of reservoirs	1	1	1	1	1	1	1	1	1

Streamflow

The 50% exceedance forecasts for the May through September period are average for the Upper North Platte River Basin. The yield for the North Platte River near Northgate will be around 107% of average. The Encampment River near Encampment yield will be about 94%. Rock Creek near Arlington yield will be around 118%. Seminoe Reservoir inflow should be about 109%.

See the following page for more detailed information on projected runoff.

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
North Platte R nr Northgate	MAY-SEP	118	181	225	107%	265	330	210
Encampment R nr Encampment (2)	MAY-SEP	76	102	120	94%	137	163	127
Rock Ck nr Arlington	MAY-SEP	47	54	59	118%	64	72	50
Sweetwater R nr Alcova	MAY-SEP	-3.3	11.8	22	44%	32	47	50
Seminoe Reservoir Inflow	MAY-SEP	475	625	730	109%	830	980	670

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

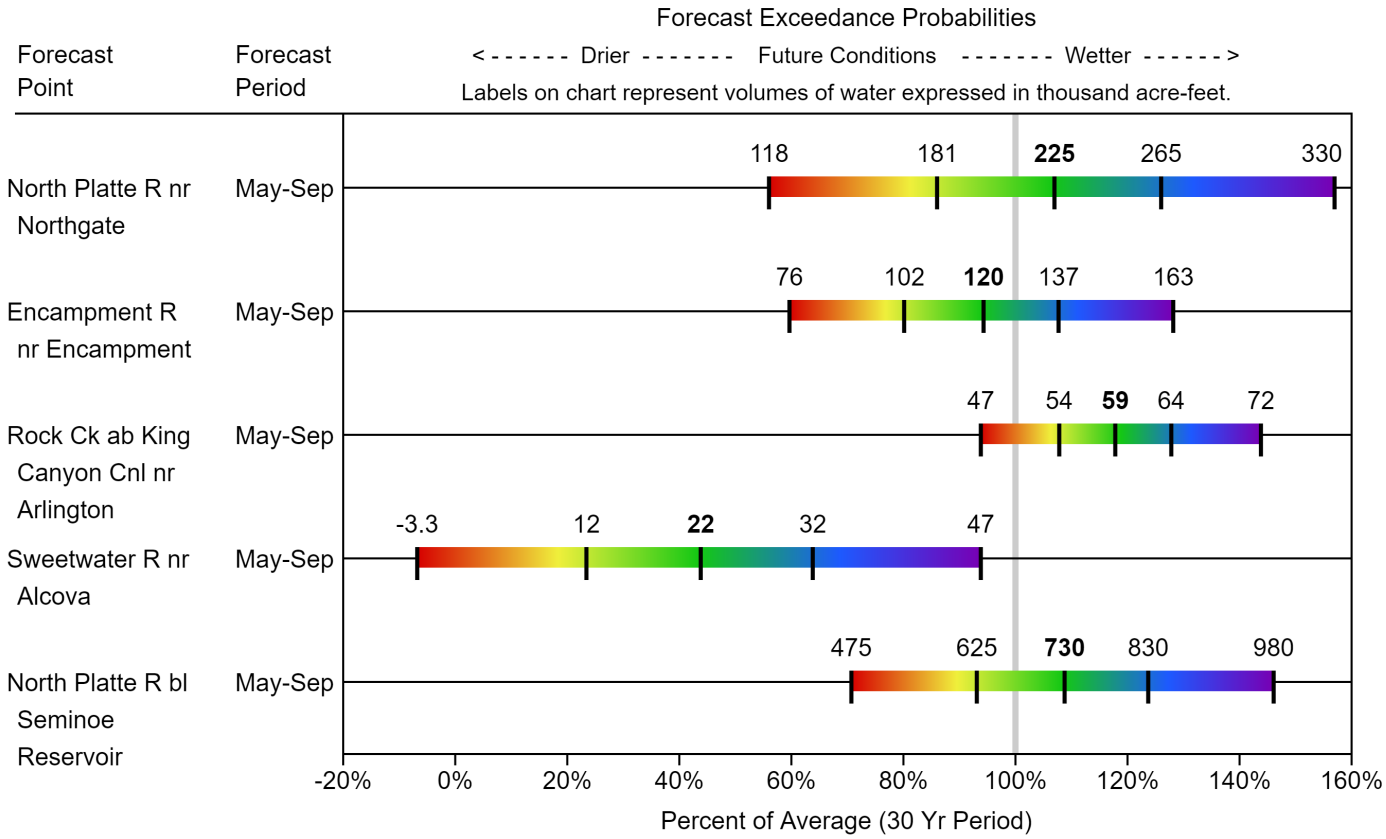
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

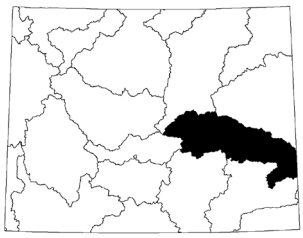
UPPER NORTH PLATTE RIVER BASIN

Water Supply Forecasts

May 1, 2020

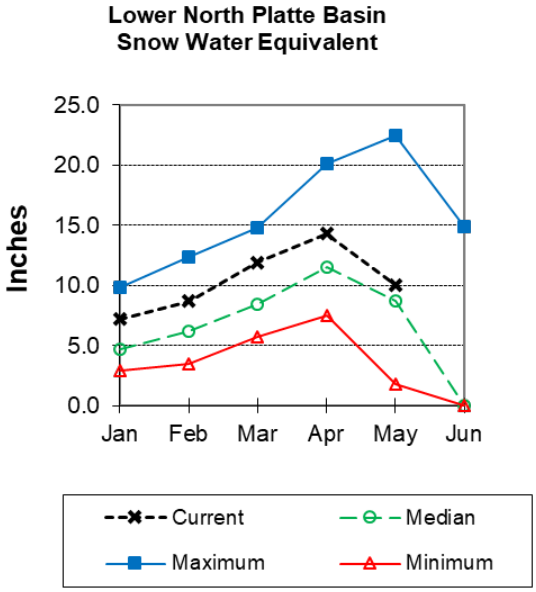


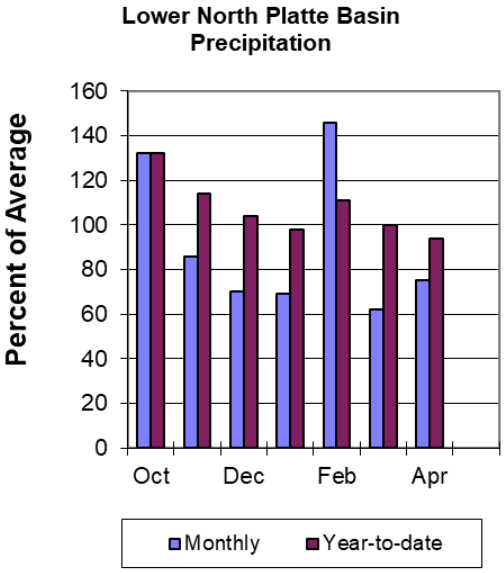
Lower North Platte River Basin



Snow

Lower North Platte River Basin SWE is 115% of median. Deer Creek and LaPrele Creek SWE is at 125%. SWE total for the entire North Platte River Basin above Torrington, WY is 106% of median. *See Appendix at the end of this report for a detailed listing of snow course information.*





Precipitation

Last month's precipitation was 75% of average. The water year-to-date precipitation for the basin is currently 94% of average.

Reservoirs

Combined storage for the 4 reservoirs in the basin is at 127% of average.

	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Alcova	180.6	179.8	178.9	184.3	98%	98%	97%	101%	100%
Glendo	374.4	464.3	434.5	506.4	74%	92%	86%	86%	107%
Guernsey	28.5	28.3	29.9	45.6	63%	62%	66%	95%	95%
Pathfinder	1024.2	680.7	617.9	1016.5	101%	67%	61%	166%	110%
Basin-wide Total	1607.8	1353.0	1261.2	1752.8	92%	77%	72%	127%	107%
# of reservoirs	4	4	4	4	4	4	4	4	4

Streamflow

The 50% exceedance forecasts for the May through September period will be average. LaPrele Creek above LaPrele Reservoir is forecasted to yield 104% of average. North Platte River below Guernsey Reservoir to yield around 96% of average. *See the following for more detailed information on projected runoff.*

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
La Prele Ck ab La Prele Reservoir	MAY-SEP	7.5	12	15	104%	19	23	15
North Platte R bl Glendo Reservoir	MAY-SEP	335	535	675	96%	810	1010	700
North Platte R bl Guernsey Reservoir	MAY-SEP	325	530	675	96%	815	1020	700

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

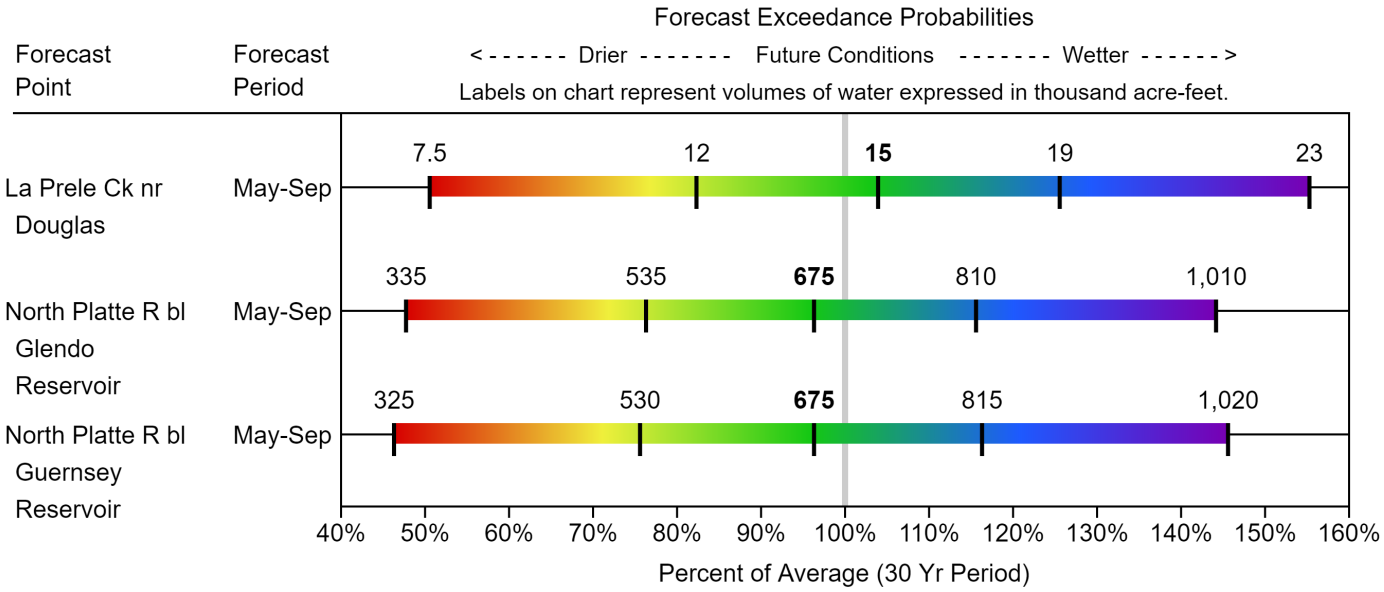
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

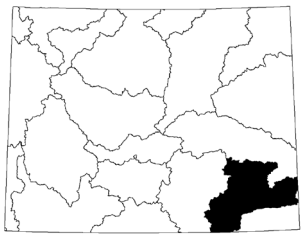
LOWER NORTH PLATTE RIVER BASIN

Water Supply Forecasts

May 1, 2020

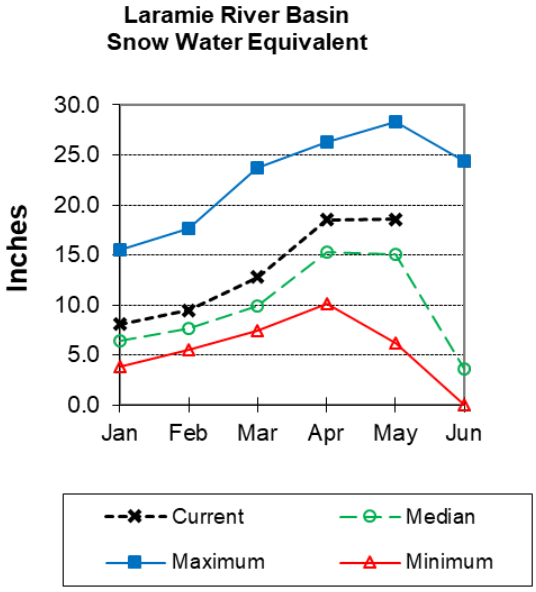


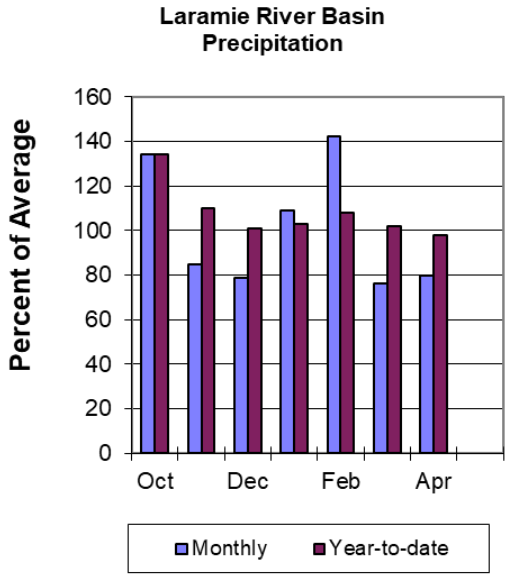
Laramie River Basin



Snow

SWE for the entire Laramie River Basin (above mouth entering North Platte) is 123% of median. SWE for the Laramie River above Laramie is 113% of median. SWE for the Little Laramie River is 131% of median. ***See Appendix at the end of this report for a detailed listing of snow course information.***





Precipitation

Last month's precipitation was 80% of average. The water year-to-date precipitation for the basin is currently 98% of average.

Reservoirs

No reservoir data for this basin.

Streamflow

The 50% exceedance forecasts for the May through September period at Laramie River near Woods Landing should yield around 94% of average. The Little Laramie near Filmore should produce about 135% of average.

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Laramie R nr Woods	MAY-SEP	70	95	112	94%	129	154	119
Little Laramie R nr Filmore	MAY-SEP	53	63	70	135%	77	87	52

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

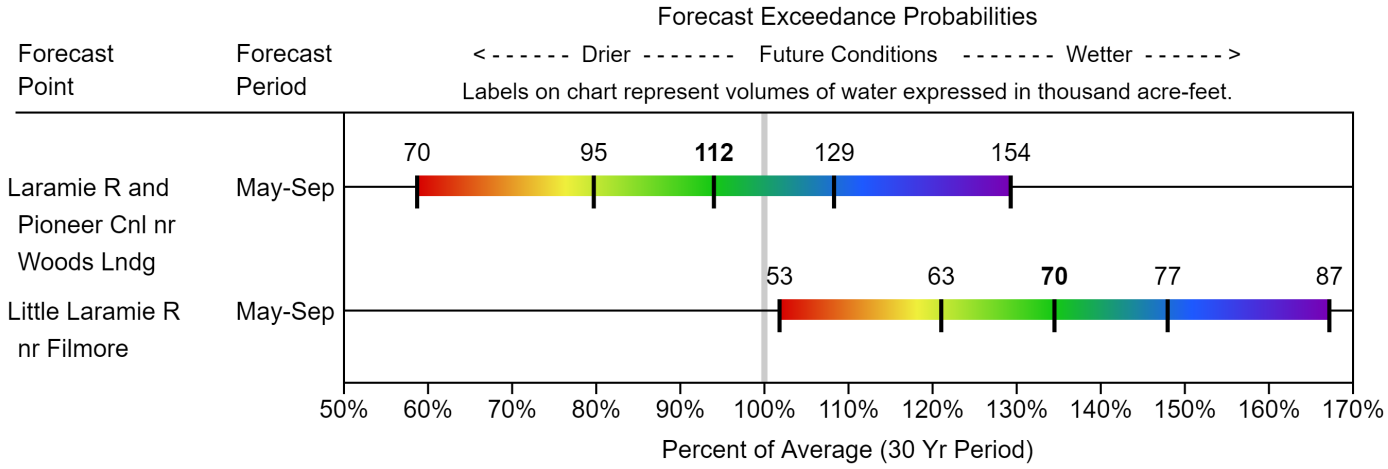
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

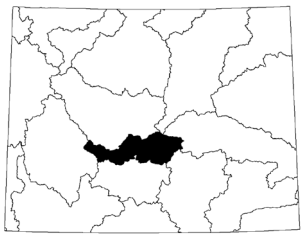
LARAMIE RIVER BASIN

Water Supply Forecasts

May 1, 2020

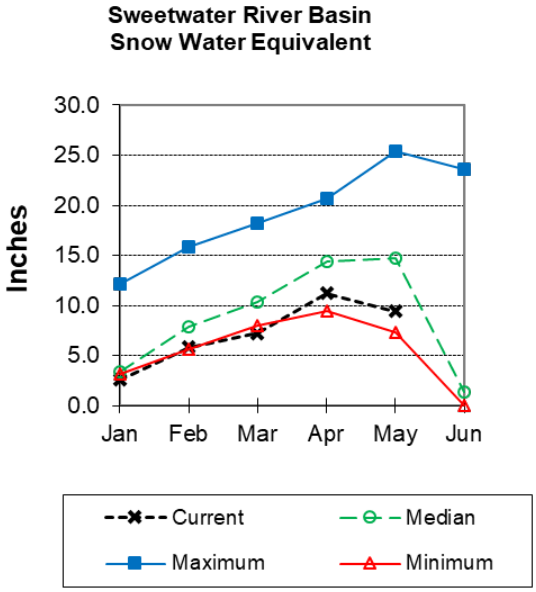


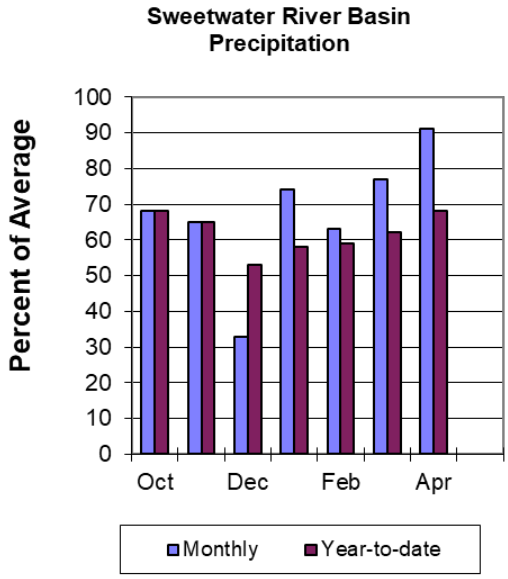
Sweetwater River Basin



Snow

Sweetwater River Basin SWE is at 64% of median. *See Appendix at the end of this report for a detailed listing of snow course information.*





Precipitation

Last month's precipitation was 91% of average. The water year-to-date precipitation for the basin is currently 68% of average.

Reservoirs

Pathfinder is storing at 166% of average for this time of year.

	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Pathfinder	1024.2	680.7	617.9	1016.5	101%	67%	61%	166%	110%
Basin-wide Total	1024.2	680.7	617.9	1016.5	101%	67%	61%	166%	110%
# of reservoirs	1	1	1	1	1	1	1	1	1

Streamflow

The following is the streamflow forecast for the May through September period. The Sweetwater River near Alcova will yield about 44% of average. *See below for detailed information on projected runoff.*

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

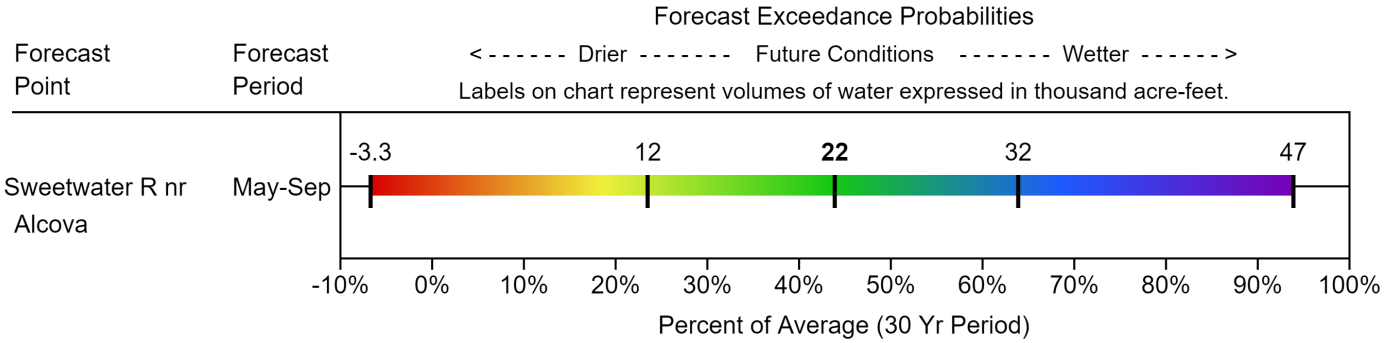
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Sweetwater R nr Alcova	MAY-SEP	-3.3	12	22	44%	32	47	50

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

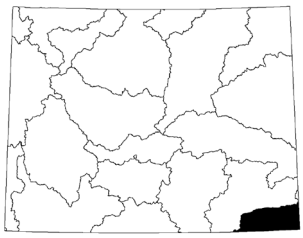
SWEETWATER RIVER BASIN

Water Supply Forecasts

May 1, 2020

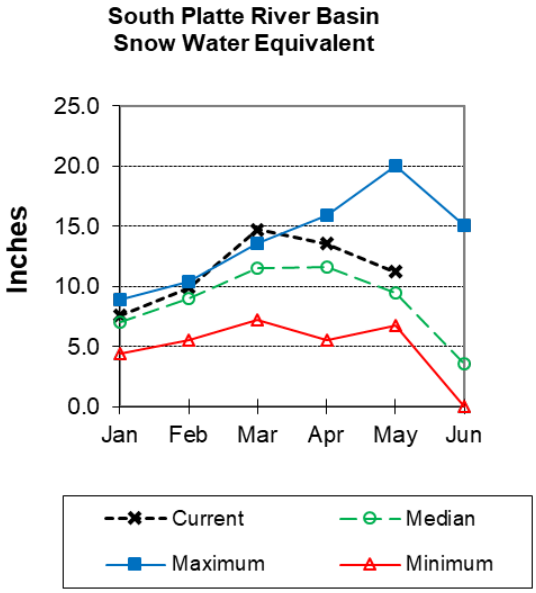


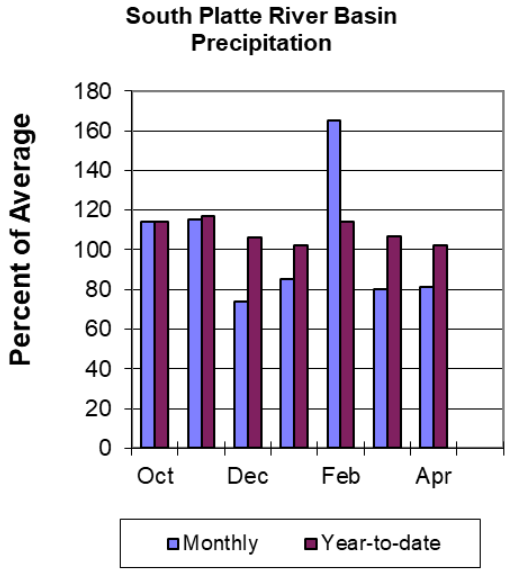
South Platte River Basin (WY)



Snow

South Platte River Basin SWE in WY is 118% of median. *See Appendix at the end of this report for a detailed listing of snow course information.*





Precipitation

Last month's precipitation was 81% of average. The water year-to-date precipitation for the basin is currently 102%.

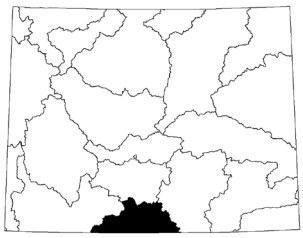
Reservoirs

No reservoir data for the basin.

Streamflow

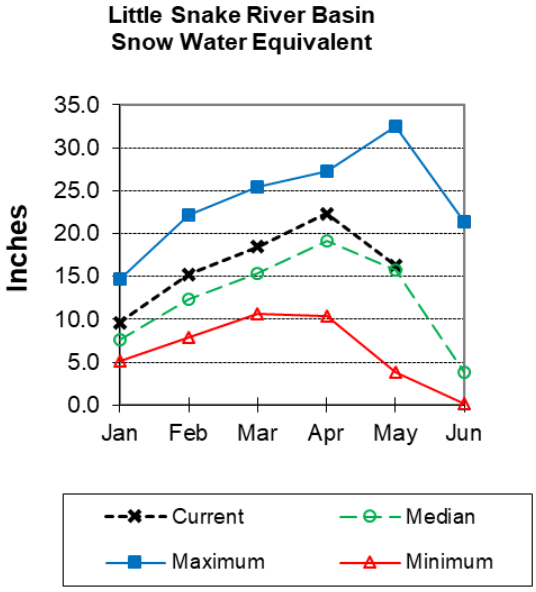
There are no streamflow forecast points for the basin.

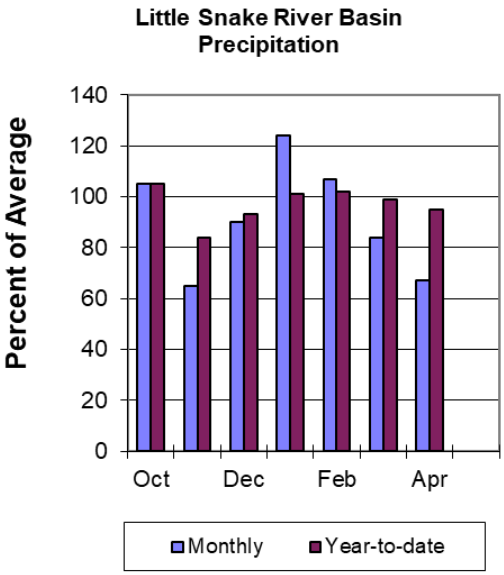
Little Snake River Basin



Snow

Little Snake River drainage SWE is 103% of median. See *Appendix at the end of this report for a detailed listing of snow course information.*





Precipitation

Precipitation across the basin was 67% of average. The Little Snake River Basin water-year-to-date precipitation is currently 95% of average.

Reservoirs

No reservoir data for the basin.

Streamflow

The 50% exceedance forecasts for the May through July period will be below average. The Little Snake River near Slater is forecasted to yield around 93% of average. *See below for detailed information on projected runoff.*

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

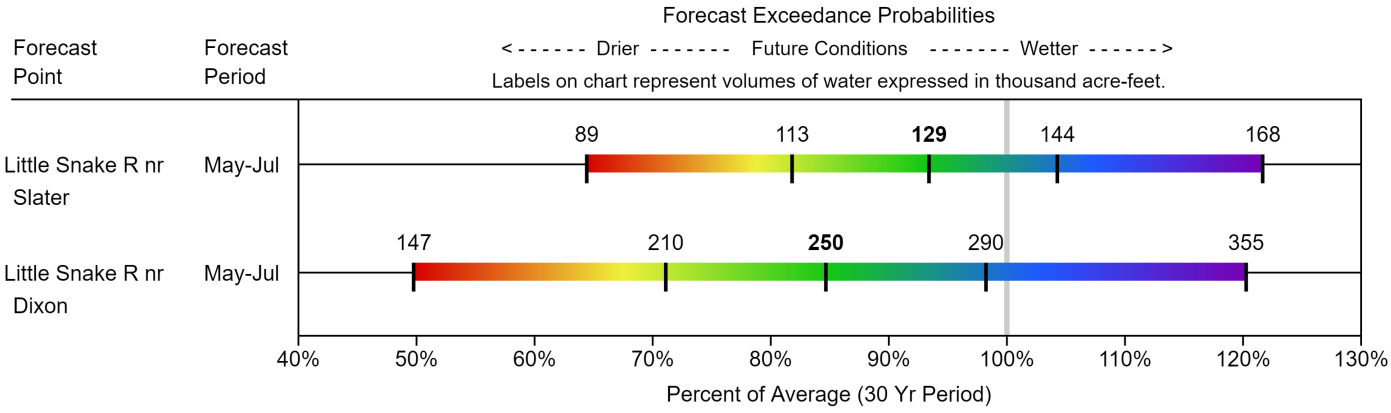
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Little Snake R nr Slater (2)	MAY-JUL	89	113	129	93%	144	168	138
Little Snake R nr Dixon (2)	MAY-JUL	147	210	250	85%	290	355	295

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

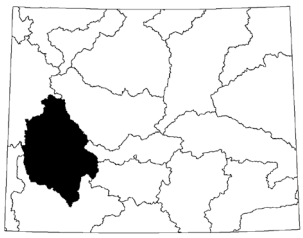
LITTLE SNAKE RIVER BASIN

Water Supply Forecasts

May 1, 2020

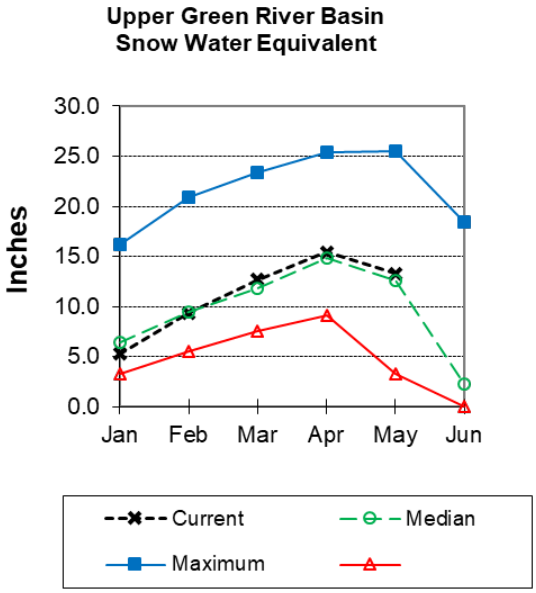


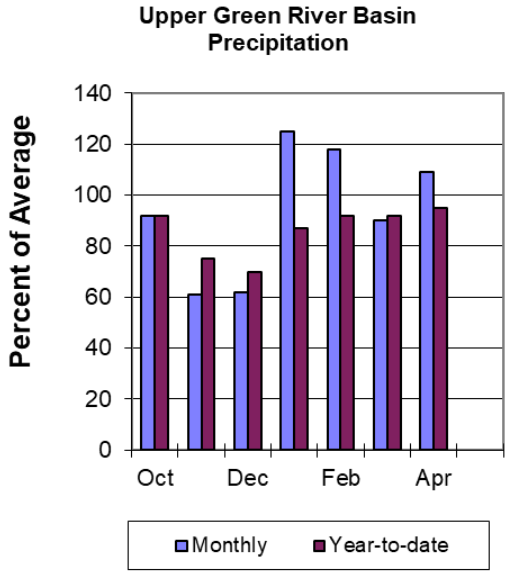
Upper Green River Basin



Snow

The Upper Green River Basin SWE (above Fontenelle Reservoir) is 106% of median. Green River Basin above Warren Bridge SWE is 108% of median. West Side of Upper Green River Basin SWE is 116% of median. New Fork River SWE is 87% of median. Big Sandy-Eden Valley Basin SWE is 41% of median. *See Appendix at the end of this report for a detailed listing of snow course information.*





Precipitation

Precipitation for sites in the basin was 109% of average last month. Water year-to-date precipitation is 95% of average.

Reservoir

Combined water storage in the basin was at 116% of average for the 2 reservoirs.

	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Big Sandy	26.7	22.0	23.1	38.3	70%	58%	60%	116%	95%
Fontenelle	145.1	136.6	125.0	344.8	42%	40%	36%	116%	109%
Basin-wide Total	171.8	158.6	148.1	383.1	45%	41%	39%	116%	107%
# of reservoirs	2	2	2	2	2	2	2	2	2

Streamflow

The 50% exceedance forecasts for the May through July period will be below average. The yield on the Green River at Warren Bridge is about 102% of average. New Fork River near Big Piney yield will be around 79% of average. Fontenelle Reservoir Inflow is estimated to be about 90% of average. *See the following for a more detailed forecast.*

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Green R at Warren Bridge	MAY-JUL	186	210	230	102%	245	270	225
Pine Creek ab Fremont Lake	MAY-JUL	70	78	83	86%	88	96	96
New Fork R nr Big Piney	MAY-JUL	174	225	260	79%	295	345	330
Fontenelle Reservoir Inflow	MAY-JUL	390	500	575	90%	650	760	640
Big Sandy R nr Farson	MAY-JUL	15	23	28	58%	33	41	48

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

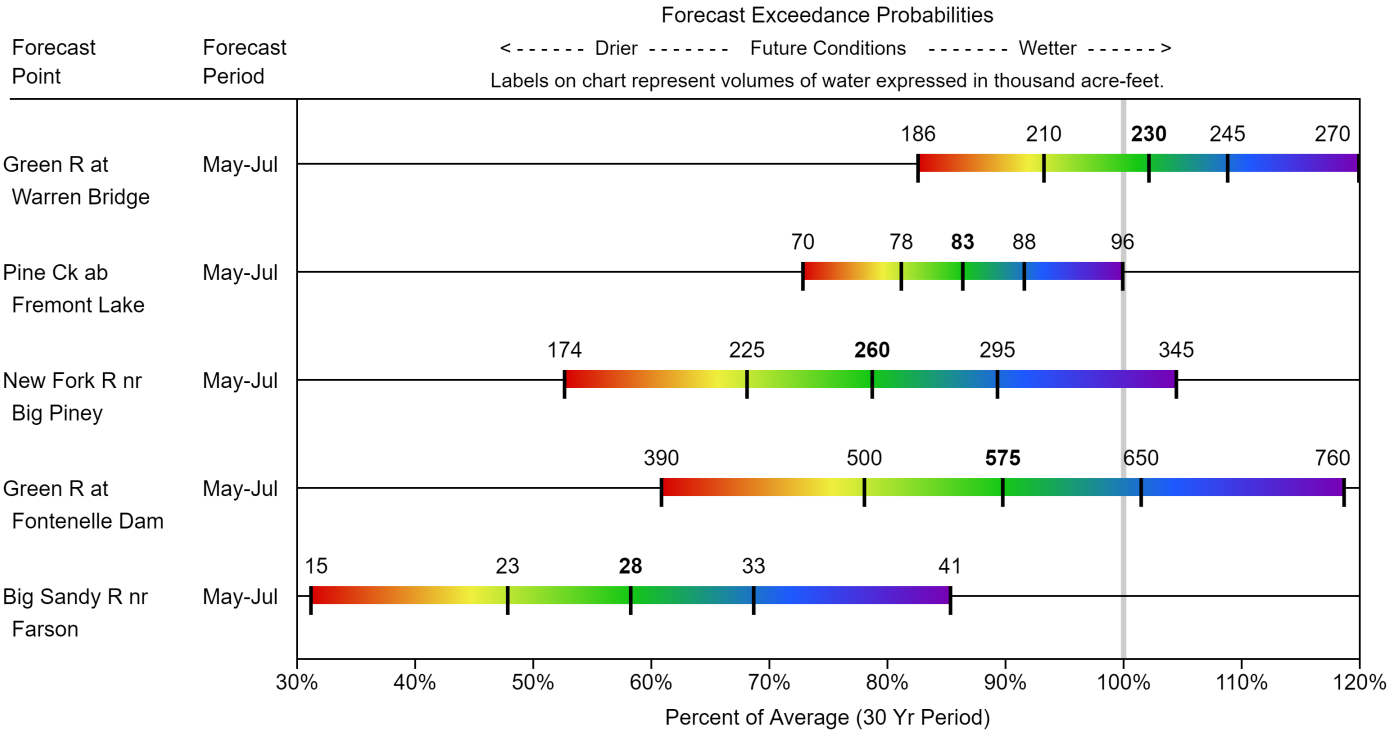
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

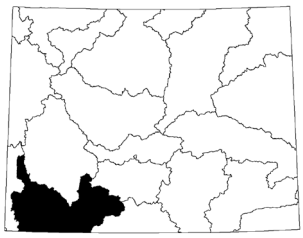
UPPER GREEN RIVER BASIN

Water Supply Forecasts

May 1, 2020



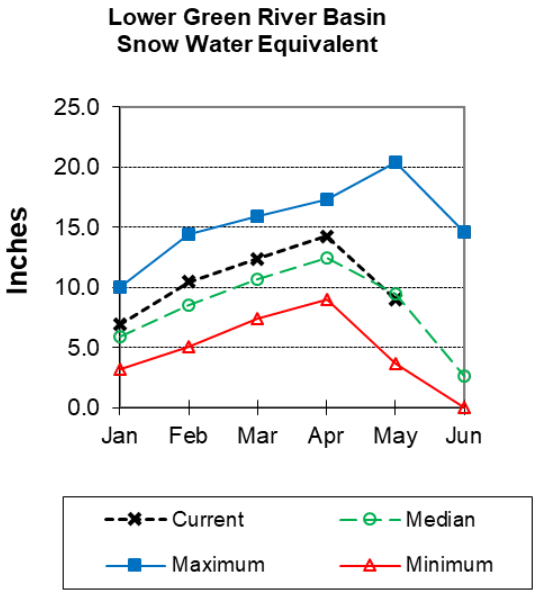
Lower Green River Basin

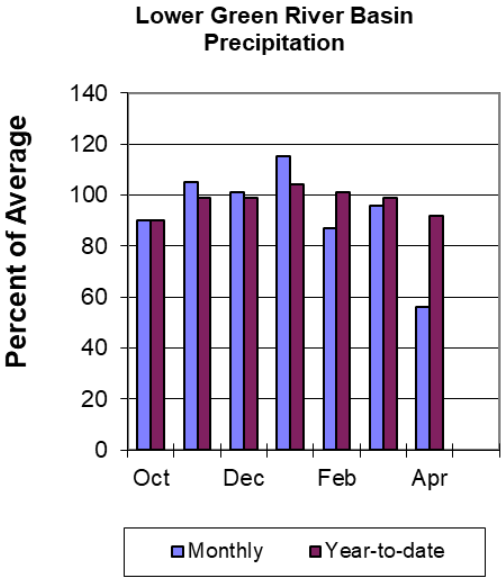


Snow

Lower Green River Basin SWE is at 95% of median. Hams Fork drainage SWE is 92% of median. Blacks Fork drainage SWE is 100% of median. Henrys Fork SWE is 101% of median. SWE for the entire Green River Basin (above Flaming Gorge) is at 104% of median.

See Appendix at the end of this report for a detailed listing of snow course information.





Precipitation

Precipitation for the basin last month was 56% of average. The basin year-to-date precipitation is currently 92% of average.

Reservoirs

Combined storage for the 3 reservoirs in the basin was at 106% of average at the end of last month.

	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Fontenelle	145.1	136.6	125.0	344.8	42%	40%	36%	116%	109%
Flaming Gorge Reservoir	3207.0	3302.6	3039.0	3749.0	86%	88%	81%	106%	109%
Viva Naughton Res	33.0	34.9	31.6	42.4	78%	82%	75%	104%	110%
Basin-wide Total	3385.1	3474.0	3195.6	4136.2	82%	84%	77%	106%	109%
# of reservoirs	3	3	3	3	3	3	3	3	3

Streamflow

The following are the 50% exceedance forecasts for the May through July period. The Green River near Green River will yield about 92% of average. The Flaming Gorge Reservoir inflow will be about 86% of average. *See the following page for more detailed information on projected runoff.*

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Green R nr Green River, WY (2)	MAY-JUL	395	510	590	92%	670	785	640
Blacks Fk nr Robertson	MAY-JUL	56	67	75	91%	83	94	82
EF of Smiths Fork nr Robertson (2)	MAY-JUL	16	21	25	96%	29	35	26
Hams Fk bl Pole Ck nr Frontier	MAY-JUL	25	32	37	77%	42	49	48
Viva Naughton Reservoir Inflow	MAY-JUL	23	37	46	74%	55	69	62
Flaming Gorge Reservoir Inflow (2)	MAY-JUL	420	600	725	86%	845	1020	845

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

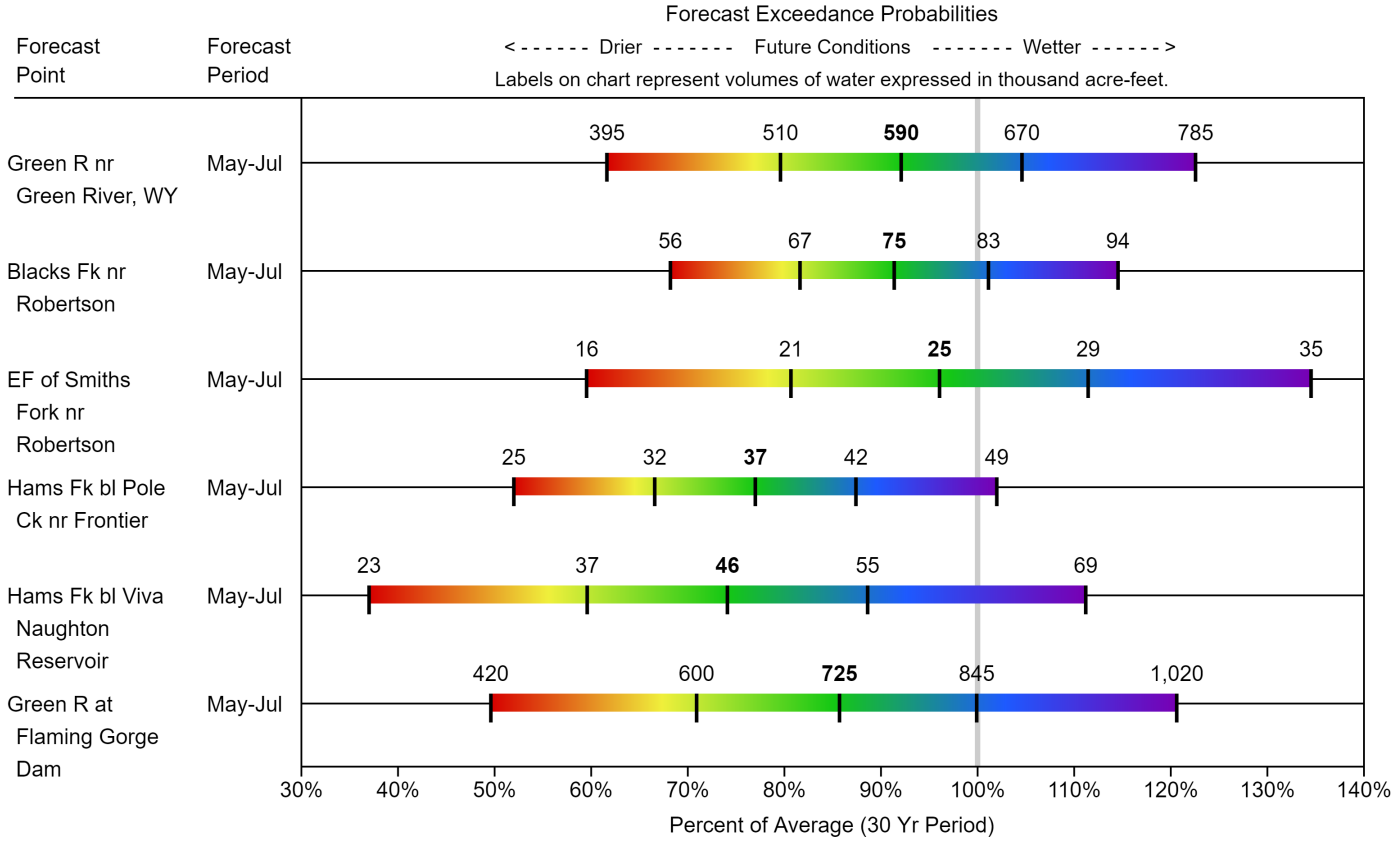
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

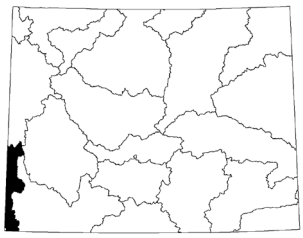
LOWER GREEN RIVER BASIN

Water Supply Forecasts

May 1, 2020



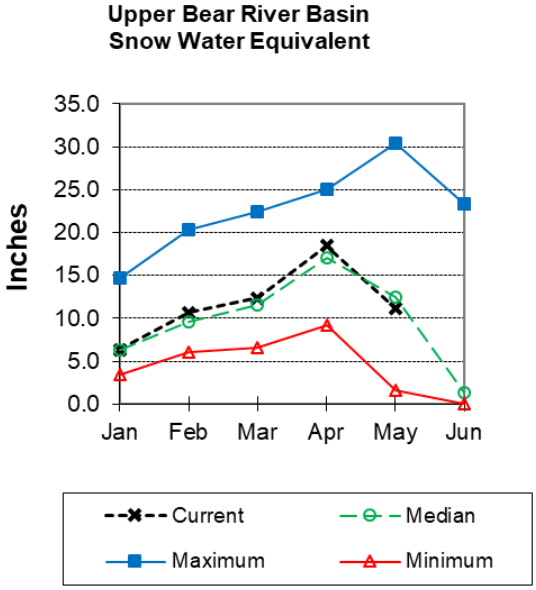
Upper Bear River Basin

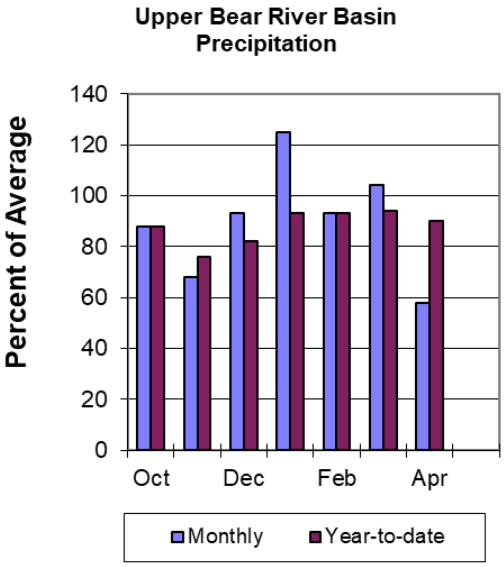


Snow

SWE in the Upper Bear River Basin of Utah is 73% of median. SWE in the Wyoming portion of the Bear River drainage (Smiths and Thomas Forks) is 104% of median.

See Appendix at the end of this report for a detailed listing of snow course information.





Precipitation

Precipitation for last month was 58% of average in the basin. The year-to-date precipitation for the basin is 90% of average.

Reservoirs

Storage in Woodruff Narrows Reservoir was at 128% of average for the end of last month.

	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Woodruff Narrows Reservoir	58.3	58.0	45.5	57.3	102%	101%	79%	128%	127%
Basin-wide Total	58.3	58.0	45.5	57.3	102%	101%	79%	128%	127%
# of reservoirs	1	1	1	1	1	1	1	1	1

Streamflow

The 50% exceedance forecasts for the May through September period will be below average. The Bear River above Reservoir near Woodruff to yield around 65% of average. The Smiths Fork River near Border Jct. will yield around 99%. *See below for detailed information on projected runoff.*

Streamflow Forecast Summary: May 1, 2020 (averages based on 1981-2010 reference period)

		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Bear R nr UT-WY State Line	MAY-SEP	70	84	93	80%	103	117	116
Bear R ab Resv nr Woodruff	MAY-SEP	18	50	72	65%	95	127	111
Smiths Fk nr Border	MAY-SEP	75	86	94	99%	102	113	95

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

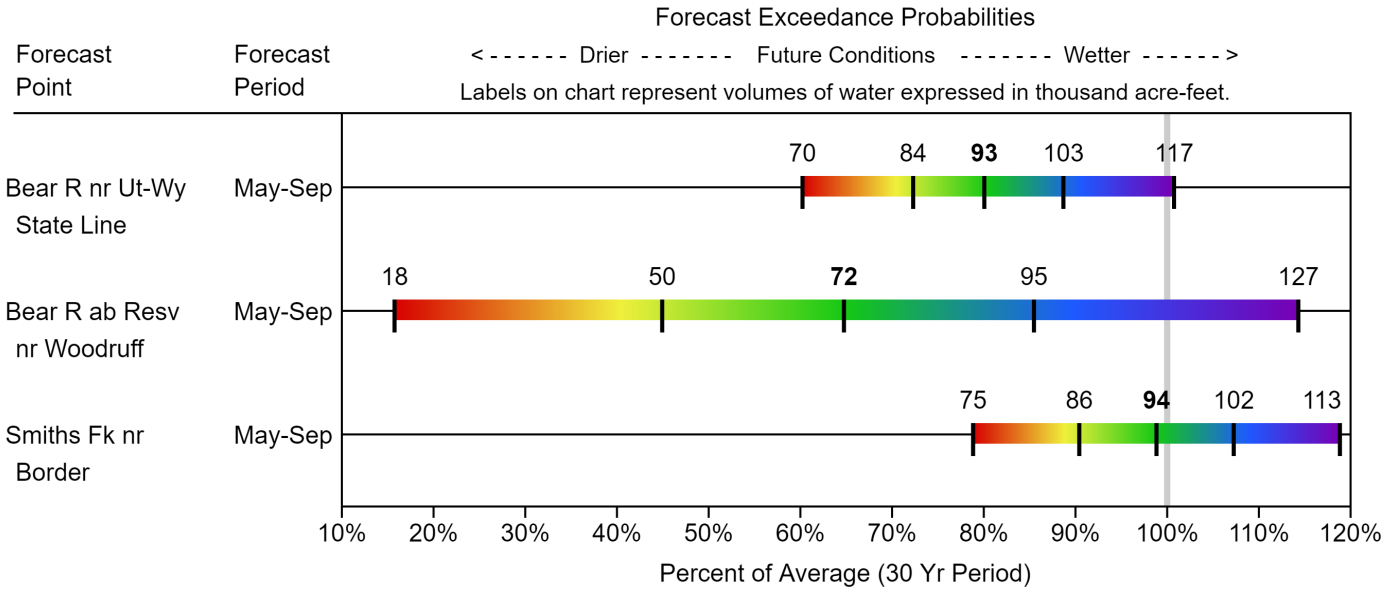
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

UPPER BEAR RIVER BASIN

Water Supply Forecasts

May 1, 2020



Appendix - Snowpack Data

Appendix - Precipitation Data

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The Following Agencies and Organizations Cooperate with the Natural Resources Conservation Service on the Snow Survey Work.

FEDERAL:

United States Department of the Interior (National Park Service) United States Department of Agriculture

(Forest Service)

United States Department of the Interior (Bureau of Reclamation)

United States Department of Commerce NOAA (National Weather Service)

State:

The Wyoming State Engineer's Office

The University of Wyoming

Local:

The City of Cheyenne

The City of Rawlins