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Colorado Basin Outlook Report APRIL 1, 2003



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

For more water supply and resource management information, contact:

Michael A. Gillespie
Data Collection Office Supervisor
USDA, Natural Resources Conservation Service
655 Parfet St., Rm E200C
Lakewood, CO 80215-5517
Phone (720) 544-2852

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. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. 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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COLORADO

WATER SUPPLY OUTLOOK REPORT

APRIL 1, 2003

Summary

The blizzard, which pounded Colorado's Front Range, dominated the weather pattern for the month of March. It brought extremely beneficial moisture and a significant improvement to the water supplies for those areas favored by the storm. Elsewhere across the state, water supplies see little to no improvement this month. Even with the impact of the blizzard, most of the state can continue to expect below average summer runoff. With the existing poor reservoir storage, most water users can expect continued shortages, especially during the late summer months. While additional moisture can continue to improve water supplies, a significantly wet spring is certainly the exception, rather than the rule.

Snowpack

The blizzard which hit the Front Range during March 17 – 20th brought as much as seven feet of snow to several foothill locations. While a storm of this magnitude effects everyone's daily routine, the biggest benefit lies in the improved streamflows that will result, along with the improved soil moisture across an extremely dry portion of the state. This month's snow surveys show the impact of the March blizzard with an excellent recovery to above average snowpack readings along the Front Range tributaries of the South Platte River. Even a few basins in the upper reaches of the Colorado River and along the Arkansas River benefited from the storm and are now above average. The statewide snowpack improved to 94% of average this month, up from last month's 83% of average. As expected, the South Platte and Arkansas basins increased the most from last month, with increases of 35% and 17% of average, respectively. The state can now boast of average to slightly above average snowpack readings in the South Platte, Arkansas and Colorado basins. Slightly below average totals were measured across the Yampa, White, and North Platte basins. With the southwestern portion of the state missing out entirely on the blizzard's bonanza, snowpack percentages continue to lag considerably below average in these basins. The state's lowest basinwide percentage is only 75% of average in the San Juan, Animas, Dolores, and San Miguel basins. This is followed closely by the 76% of average snowpack measured in the Rio Grande Basin. This year's April 1 snowpack is now 1.5 to 2 times that measured last year at this time, with a statewide total of 179% of last year.

Precipitation

Most of Colorado's March precipitation arrived in the single mid-month blizzard. This storm increased the monthly totals to above average in all basins except the Gunnison and the San Juan, Animas, Dolores, and San Miguel. As expected, the biggest winner was the South Platte Basin, which reported 204% of its average for the month. The Arkansas and Colorado basins followed with 139% and 131% of average, respectively. For the state, precipitation was 123% of average in March. The storm also improved the water year totals in those favored basins. The South Platte Basin's water year total is now 113% of average. Other basins reporting at least 90% of average for the water year include the Arkansas, Yampa and White, and Colorado. Of the six months that have lapsed in the 2003 water year, only December and January have been well below average, while November was just slightly below average. Statewide water year totals are 94% of average.

Reservoir Storage

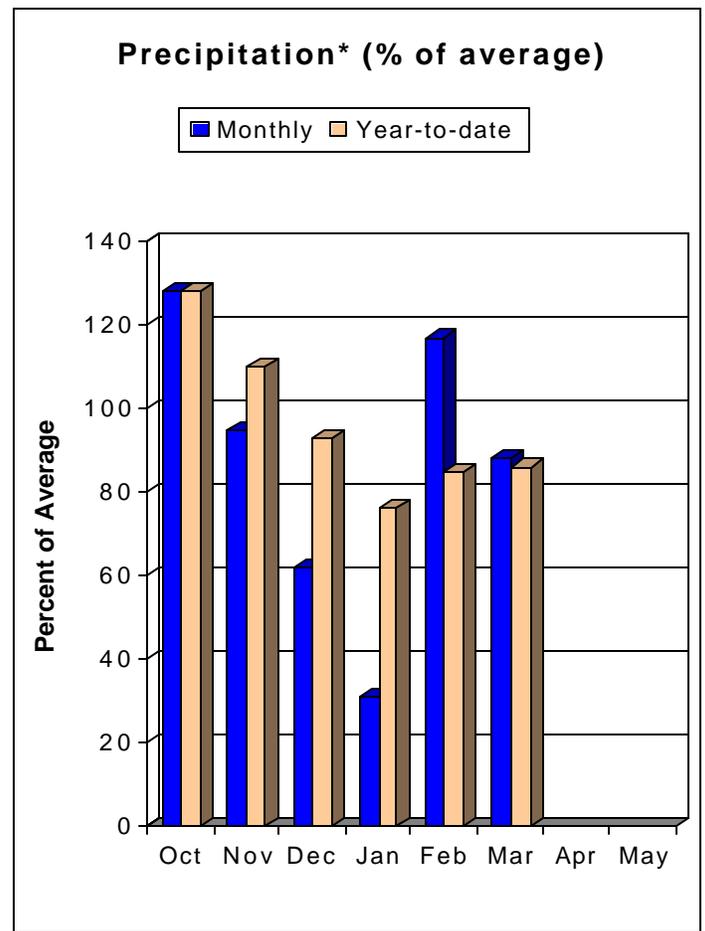
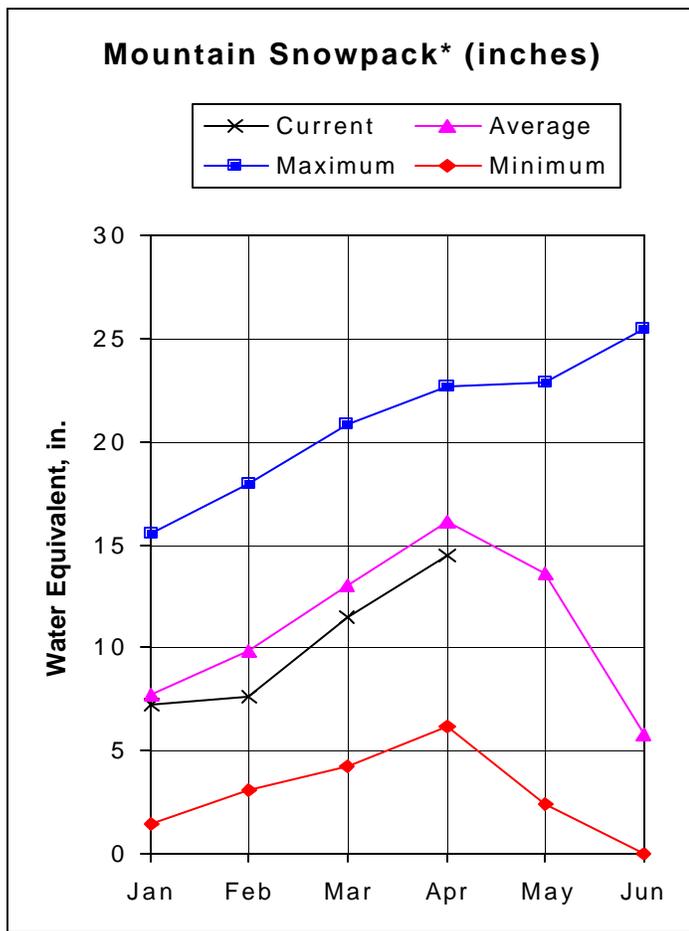
Reservoir storage continues to track at well below average volumes across the state. Last year's extremely low inflows, coupled with heavy summer demands, brought storage volumes to levels that will most likely require several above average runoff years to restore. Unfortunately, even with the improved runoff forecasts, it remains unlikely that significant progress will be made in recovering storage volumes this year. As of April 1, the state's reservoir storage remains at only 57% of average and is only 64% of last year's storage on this date. Only the Gunnison Basin has significantly recovered from last summer's depletions and is now 81% of average. The state's lowest volumes, as a percent of average, were measured in the Colorado Basin, at only 36% of average. Since last July, when storage volumes bottomed out for the year, the state's deficit has improved by nearly 500,000 acre-feet. However, it would require an increase of nearly three-times that amount to bring storage volumes back to average.

Streamflow

Streamflow forecasts improved nearly statewide this month. Those locations affected by the blizzard improved the most, with an improvement of about 20% from last month's forecasts. However, even with those large improvements, most locations can continue to expect below average runoff for the summer season. Those basins where the forecasts improved the most include the South Platte tributaries along the Front Range, the entire Arkansas Basin, and the upper reaches of the Colorado Basin. For the most part, streamflow volumes in these basins are expected to be between 90% to 110% of average. Towards the southwest, forecasts drop off significantly and remain well below average. Across the San Juan, Animas, Dolores, San Miguel and Upper Rio Grande basins, forecasts range from only 50% to 70% of average. Water users in those basins will most certainly face water shortages again this year.

GUNNISON RIVER BASIN

as of April 1, 2003



*Based on selected stations

The April 1 snowpack measurements in the Gunnison Basin are very similar to the March 1 measurements. The amounts are about 86% of average this month, which is only 1% of average higher than last month. Unless this spring season is unusually wet, the snowpack measurements are unlikely to improve significantly between now and when the meltout begins. The snowpack measurements are relatively uniform ranging from 81% of average in the Uncompahgre Watershed, to 88% of average in the Upper Gunnison Watershed. Precipitation during March was 88% of average, and the water year total is now 86% of average. There has been 29% more precipitation this water year compared to last water year by this time. Reservoir storage has begun to improve slightly, and now is 81% of average. There is only 71% of the amount there was last year at this time. Unfortunately, most of the streamflow forecasts have not improved since last month. All of the forecasts remain well below average and many have decreased since last month. They range from only 56% of average on the Uncompahgre River at Colona, to 84% of average on Tomichi Creek at Sargents.

GUNNISON RIVER BASIN
Streamflow Forecasts - April 1, 2003

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<===== Drier =====>>		Future Conditions		===== Wetter =====>>		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
Taylor River blw Taylor Park Resv	APR-JUL	52	67	77	75	87	102	103
Slate River nr Crested Butte	APR-JUL	50	59	65	73	71	80	89
East River at Almont	APR-JUL	104	129	145	76	161	186	192
Gunnison River nr Gunnison	APR-JUL	185	235	270	69	305	355	390
Tomichi Creek at Sargents	APR-JUL	15.0	22	27	84	32	39	32
Cochetopa Creek blw Rock Creek	APR-JUL	2.6	7.3	10.4	60	13.5	18.2	17.3
Tomichi Creek at Gunnison	APR-JUL	35	49	60	74	72	92	81
Lake Fork at Gateview	APR-JUL	48	71	86	68	101	124	126
Blue Mesa Reservoir Inflow	APR-JUL	315	430	510	71	590	705	720
Paonia Reservoir Inflow	MAR-JUN	46	58	68	68	78	95	100
	APR-JUL	40	57	70	69	84	108	102
N.F. Gunnison River nr Somerset	APR-JUL	159	194	220	72	247	291	305
Surface Creek nr Cedaredge	APR-JUL	8.6	10.5	12.0	70	13.7	16.8	17.1
Ridgway Reservoir Inflow	APR-JUL	50	60	67	66	75	89	102
Uncompahgre River at Colona	APR-JUL	50	66	78	56	91	112	139
Gunnison River nr Grand Junction	APR-JUL	635	885	1050	67	1220	1460	1560

GUNNISON RIVER BASIN
Reservoir Storage (1000 AF) - End of March

GUNNISON RIVER BASIN
Watershed Snowpack Analysis - April 1, 2003

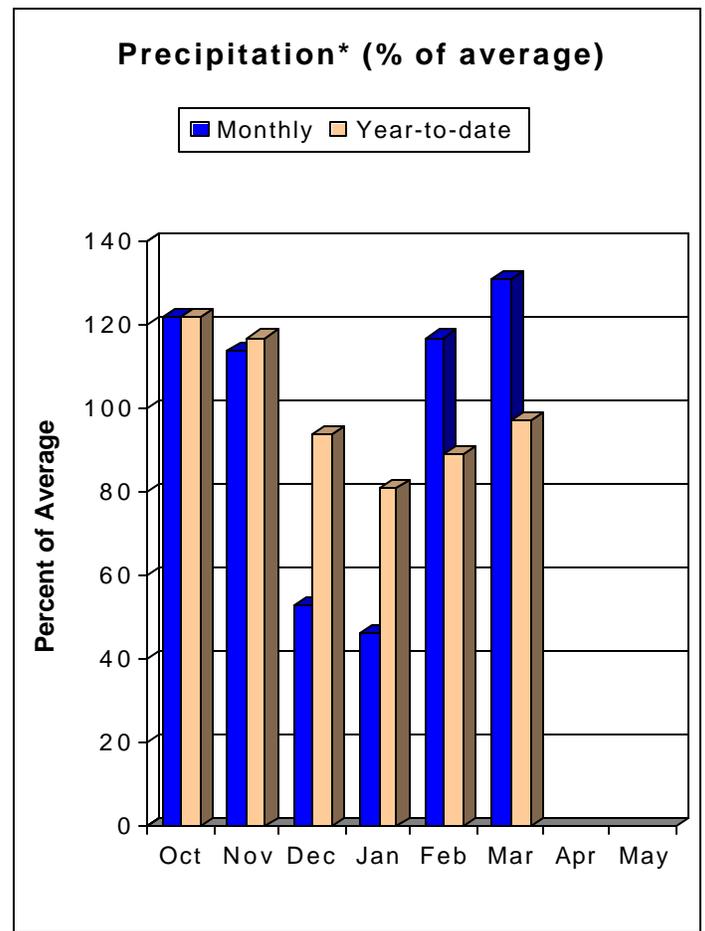
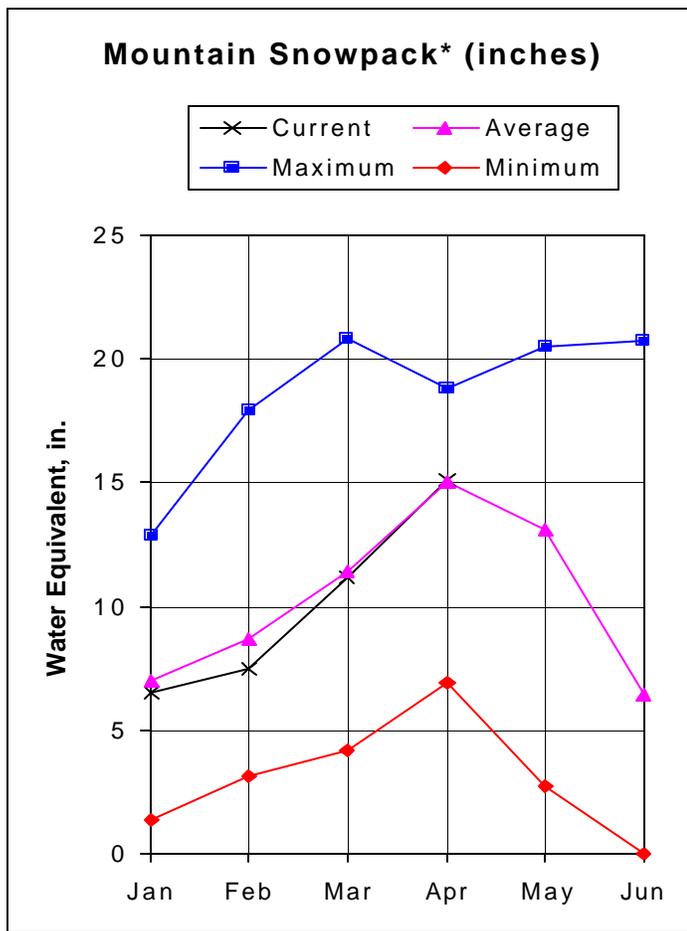
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BLUE MESA	830.0	310.3	513.2	404.5	UPPER GUNNISON BASIN	11	146	88
CRAWFORD	14.3	5.4	4.1	10.8	SURFACE CREEK BASIN	2	160	85
FRUITGROWERS	4.3	2.5	2.4	4.0	UNCOMPAGRE BASIN	4	166	81
FRUITLAND	9.2	1.2	1.6	2.5	TOTAL GUNNISON RIVER BASIN	15	151	86
MORROW POINT	121.0	108.0	108.7	113.6				
PAONIA	18.0	7.9	3.7	4.6				
RIDGWAY	83.2	64.9	68.5	60.9				
TAYLOR PARK	106.0	39.2	62.5	61.9				

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

UPPER COLORADO RIVER BASIN as of April 1, 2003



*Based on selected stations

Snowfall during March was very similar to the amounts that fell during February, improving the measurements to just above average on April 1 in the Colorado Basin. While these measurements are extremely welcome, they are still below the amounts needed to significantly reduce the recent water shortages. Unfortunately, the snowpack is not likely to improve further unless this spring season is unusually wet. Measurements in the basin range from 85% of average in the Plateau Creek Watershed, to 122% of average in the Willow Creek Watershed. Precipitation during March was 131% of average, which was the largest monthly accumulation this water year. The water year total is now 97% of average. Reservoirs in the basin remain extremely low for this time of year at only 36% of average storage for the end of March. Most of the stream forecasts have improved from last month, and many are at or near average. They range from 78% of average on the Roaring Fork at Glenwood Springs, to 108% of average at the inflow to Willow Creek Reservoir.

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UPPER COLORADO RIVER BASIN
Streamflow Forecasts - April 1, 2003

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Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
Lake Granby Inflow	APR-JUL	172	202	225	100	251	294	225
Willow Creek Reservoir Inflow	APR-JUL	38	48	55	108	63	75	51
Williams Fork Reservoir inflow	APR-JUL	79	91	100	105	109	124	95
Dillon Reservoir Inflow	APR-JUL	121	150	170	102	191	221	167
Green Mountain Reservoir inflow	APR-JUL	254	281	300	107	320	349	280
Muddy Creek blw Wolford Mtn. Resv.	APR-JUL	34	44	52	87	62	79	60
Eagle River blw Gypsum	APR-JUL	207	251	285	85	324	392	335
Colorado River nr Dotsero	APR-JUL	930	1210	1400	97	1590	1870	1440
Ruedi Reservoir Inflow	APR-JUL	84	101	115	82	130	157	141
Roaring Fork at Glenwood Springs	APR-JUL	409	490	550	78	613	712	710
Colorado River nr Cameo	APR-JUL	1420	1850	2150	89	2450	2880	2420

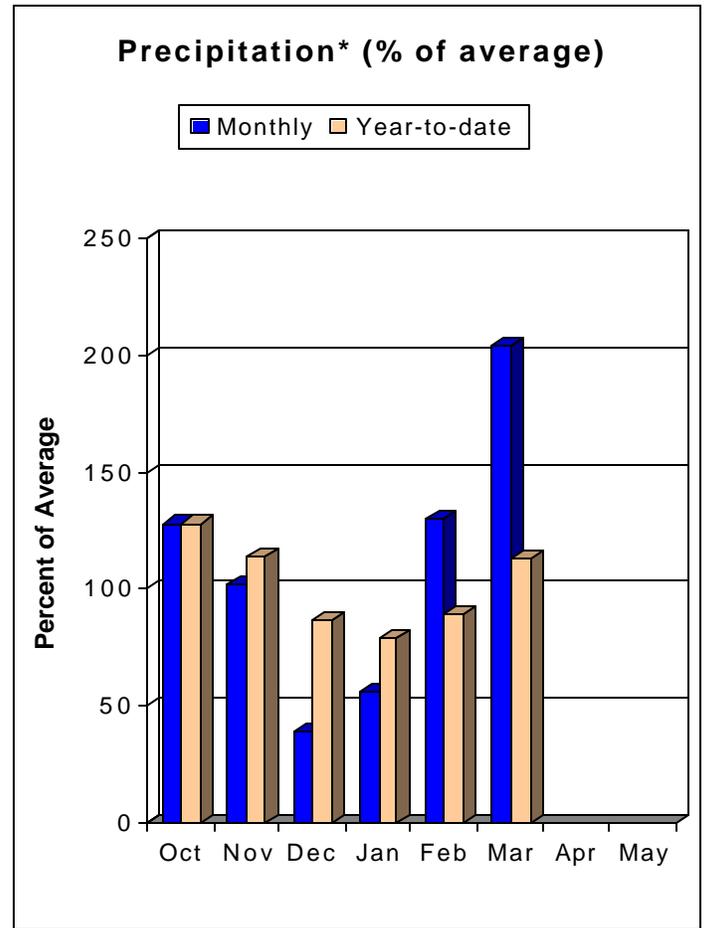
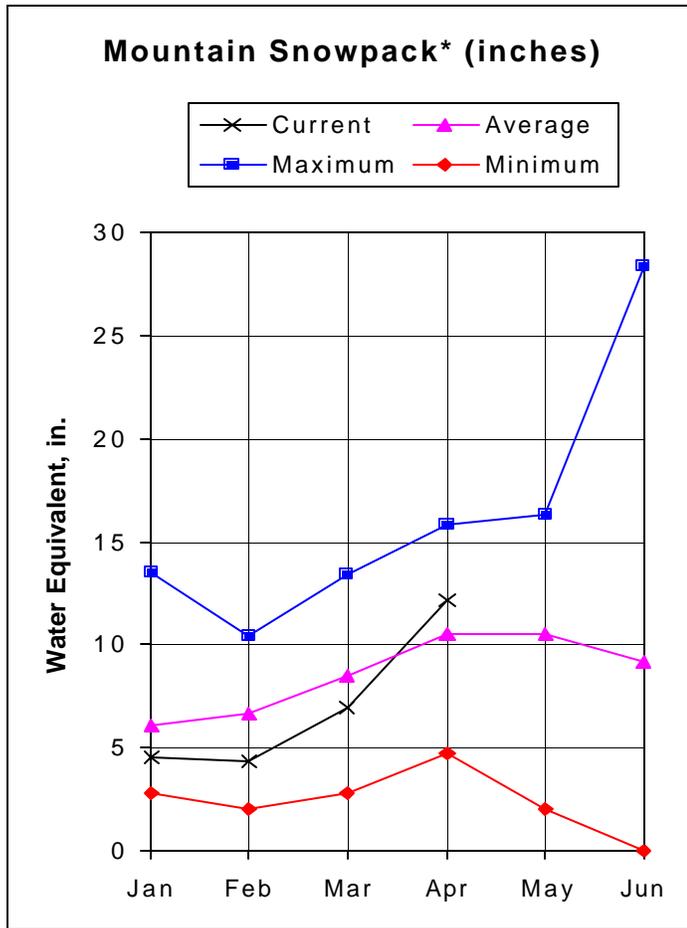
Reservoir	UPPER COLORADO RIVER BASIN Reservoir Storage (1000 AF) - End of March				UPPER COLORADO RIVER BASIN Watershed Snowpack Analysis - April 1, 2003			
	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
DILLON	250.8	120.8	194.9	214.5	BLUE RIVER BASIN	8	165	113
LAKE GRANBY	465.6	15.4	167.6	263.7	UPPER COLORADO RIVER BASIN	33	169	108
GREEN MOUNTAIN	139.0	29.4	64.8	59.8	MUDDY CREEK BASIN	4	137	92
HOMESTAKE	43.0	17.0	25.0	22.5	PLATEAU CREEK BASIN	2	160	85
RUEDI	102.0	46.1	62.5	61.9	ROARING FORK BASIN	7	133	85
VEGA	32.0	5.1	10.2	13.1	WILLIAMS FORK BASIN	4	183	113
WILLIAMS FORK	96.8	7.7	53.4	54.8	WILLOW CREEK BASIN	4	191	122
WILLOW CREEK	9.0	7.5	7.1	6.8	TOTAL COLORADO RIVER BASIN	42	161	101

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

SOUTH PLATTE RIVER BASIN as of April 1, 2003



*Based on selected stations

Snowpack conditions in the South Platte Basin have improved in one of the most dramatic fashions in history. Measurements on April 1 are at 114% of average, which is 35% of average higher than the March 1 measurements. Most of the increased snowpack occurred in a very short span of only three days in mid-March, when blizzard conditions all along the Colorado Front Range delivered record amounts of snow. There is well over two times the amount of snow there was last year at this time. Precipitation during March was 204% of average, which is by far the highest monthly measurement this water year. The water year total is now 113% of average. Reservoirs in the basin remain extremely low for this time of year, at only 58% of average storage. There is only 68% of the amount of storage there was last year at this time. The streamflow forecasts have improved significantly from last month's forecasts. Forecasts range from only 42% of average at the inflow to Antero Reservoir, to 102% of average on Boulder Creek near Orodell.

SOUTH PLATTE RIVER BASIN
Streamflow Forecasts - April 1, 2003

Forecast Point	Forecast Period	Future Conditions					30-Yr Avg. (1000AF)	
		<<===== Drier =====>> <===== Wetter =====>>						
		Chance Of Exceeding *						
	90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)		
Antero Reservoir Inflow	APR-JUL	2.8	4.2	5.4	42	7.0	10.3	13.0
Spinney Mountain Reservoir Inflow	APR-JUL	18.9	25	30	75	36	48	40
Elevenmile Canyon Reservoir Inflow	APR-JUL	18.1	25	30	73	35	42	41
Cheesman Lake Inflow	APR-JUL	46	56	65	73	75	92	89
South Platte River at South Platte	APR-SEP	111	152	180	78	208	248	230
Bear Creek at Morrison	APR-SEP	13.2	19.0	23	74	27	33	31
Clear Creek at Golden	APR-SEP	78	103	120	90	137	162	134
St. Vrain Creek at Lyons	APR-SEP	53	65	73	87	81	93	84
Boulder Creek nr Orodell	APR-SEP	42	49	54	102	59	66	53
South Boulder nr Eldorado Spgs	APR-SEP	31	37	42	91	47	53	46
Big Thompson River at mouth nr Drake	APR-SEP	83	99	110	94	121	137	117
Cache La Poudre at Canyon Mouth	APR-SEP	177	230	265	96	300	355	275

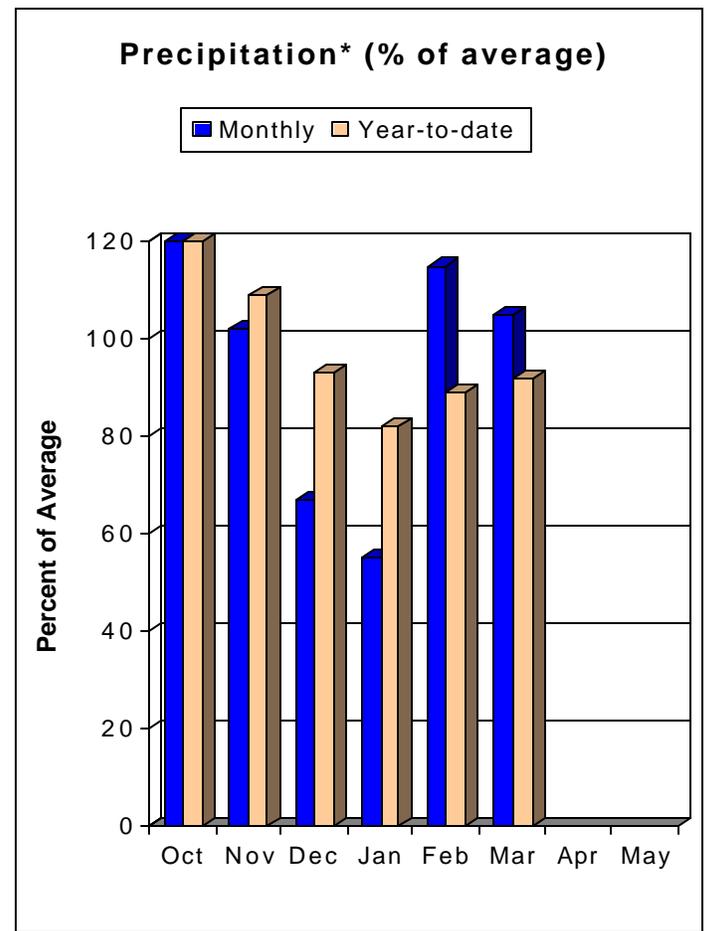
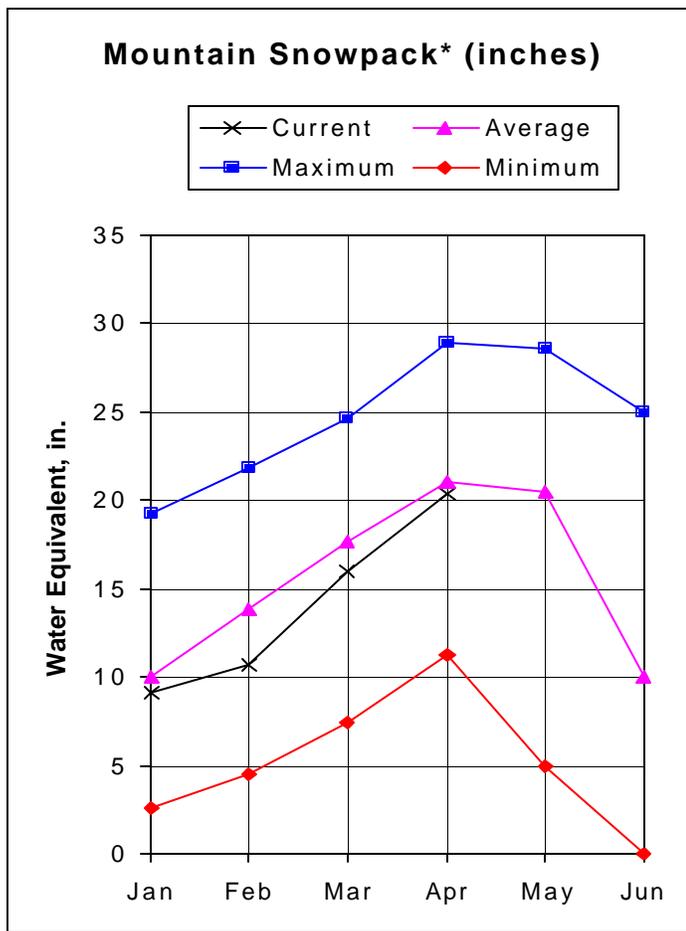
SOUTH PLATTE RIVER BASIN Reservoir Storage (1000 AF) - End of March	SOUTH PLATTE RIVER BASIN Watershed Snowpack Analysis - April 1, 2003
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Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ANTERO	20.0	0.0	20.0	15.9	BIG THOMPSON BASIN	6	202	122
BARR LAKE	32.0	20.7	27.4	27.9	BOULDER CREEK BASIN	5	261	130
BLACK HOLLOW	8.0	2.0	2.7	4.0	CACHE LA POUFRE BASIN	8	177	116
BOYD LAKE	49.0	6.0	20.5	33.0	CLEAR CREEK BASIN	4	219	116
CACHE LA POUFRE	10.0	3.5	4.2	8.6	SAINT VRAIN BASIN	4	238	126
CARTER	108.9	99.9	107.5	100.9	UPPER SOUTH PLATTE BASIN	15	204	93
CHAMBERS LAKE	9.0	1.7	4.0	3.3	TOTAL SOUTH PLATTE BASIN	41	211	114
CHEESMAN	79.0	46.2	59.0	60.8				
COBB LAKE	34.0	2.5	6.8	13.9				
ELEVEN MILE	97.8	44.9	99.6	96.4				
EMPIRE	38.0	26.4	33.7	31.8				
FOSSIL CREEK	12.0	8.3	9.9	7.9				
GROSS	41.8	16.5	19.2	23.9				
HALLIGAN	6.4	3.8	3.5	4.7				
HORSECREEK	16.0	1.4	14.5	13.9				
HORSETOOTH	149.7	29.9	26.5	119.1				
JACKSON	35.0	24.7	26.1	29.9				
JULESBURG	28.0	21.7	18.2	20.8				
LAKE LOVELAND	14.0	8.5	10.3	9.0				
LONE TREE	9.0	8.5	8.7	7.2				
MARIANO	6.0	0.5	3.2	4.5				
MARSHALL	10.0	4.9	5.0	6.0				
MARSTON	13.0	9.7	7.7	13.3				
MILTON	24.0	4.9	21.2	18.3				
POINT OF ROCKS	70.0	38.1	68.2	68.8				
PREWITT	33.0	8.9	21.2	25.0				
RIVERSIDE	63.1	46.4	55.6	58.2				
SPINNEY MOUNTAIN	48.7	12.6	23.3	32.1				
STANDLEY	42.0	20.7	31.1	34.6				
TERRY LAKE	8.0	2.5	5.1	5.4				
UNION	13.0	6.3	9.6	11.1				
WINDSOR	19.0	0.8	6.5	12.4				

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table. The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

YAMPA, WHITE, NORTH PLATTE AND LARAMIE RIVER BASINS as of April 1, 2003



*Based on selected stations

All of these basins have received good snowfall amounts during March, but some basins were far more fortunate than others. Measurements have ranged from slight increases in percent of average, to some of the largest monthly increases in the state. The largest increase was in the Laramie Basin, which received enough snow during March to boost the measurements from only 66% of average on March 1, to 100% of average on April 1. Measurements in the other basins range from 85% of average in the White River Basin, to 100% of average in the North Platte Basin. Precipitation measurements during March were 105% of average. The water year total is now 92% of average. There has been 131% of the precipitation there was last water year by this time. Reservoirs in the basin have 92% of their average storage for this time of year. There is 91% of last year's storage amount. Streamflow forecasts remain nearly the same as last month at well below average for most of the sites. They range from 62% of average on the White River near Meeker, to 90% of average on the Yampa River at Steamboat Springs.

YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS
Streamflow Forecasts - April 1, 2003

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>					30-Yr Avg. (1000AF)	
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)		10% (1000AF)
NORTH PLATTE RIVER nr Northgate	APR-SEP	102	160	200	74	240	300	270
LARAMIE RIVER nr Woods	APR-SEP	37	74	100	74	126	163	135
Yampa R abv Stagecoach Res	APR-JUL	16.1	22	26	90	30	36	29
Yampa River at Steamboat Springs	APR-JUL	180	220	245	88	270	310	280
Elk River nr Milner	APR-JUL	158	210	250	77	293	363	325
Elkhead Creek nr Elkhead	APR-JUL	15.7	23	30	77	39	57	39
ELKHEAD CREEK blw Maynard Gulch	APR-JUL	30	42	50	85	58	70	59
Fortification Ck nr Fortification	MAR-JUN	2.20	4.70	6.40	85	8.10	10.60	7.50
Yampa River nr Maybell	APR-JUL	515	700	820	83	945	1125	990
Little Snake River nr Slater	APR-JUL	85	108	126	79	145	175	159
LITTLE SNAKE R nr Dixon	APR-JUL	150	215	260	79	305	370	330
LITTLE SNAKE R nr Lily	APR-JUL	171	240	285	78	330	400	365
White River nr Meeker	APR-JUL	127	156	180	62	207	255	290

YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS
Reservoir Storage (1000 AF) - End of March

YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS
Watershed Snowpack Analysis - April 1, 2003

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
STAGECOACH	33.3	26.0	26.8	24.6	LARAMIE RIVER BASIN	4	177	100
YAMCOLO	9.1	3.0	5.1	6.9	NORTH PLATTE RIVER BASIN	9	152	98
					TOTAL NORTH PLATTE BASIN	12	158	98
					ELK RIVER BASIN	2	121	89
					YAMPA RIVER BASIN	11	137	95
					WHITE RIVER BASIN	4	133	85
					TOTAL YAMPA AND WHITE RIV	14	135	91
					LITTLE SNAKE RIVER BASIN	8	133	96

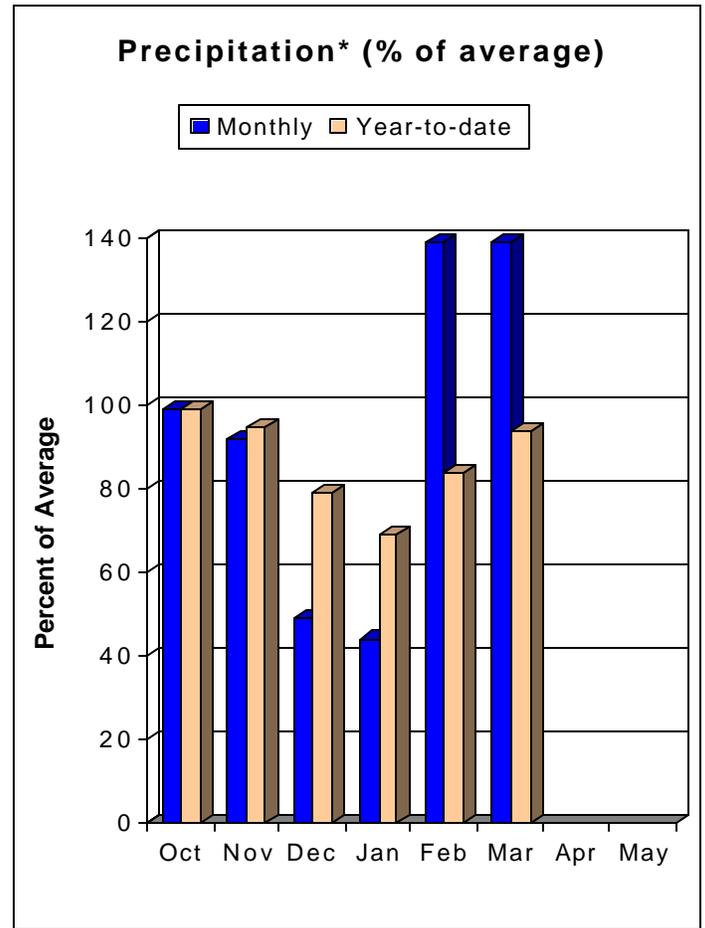
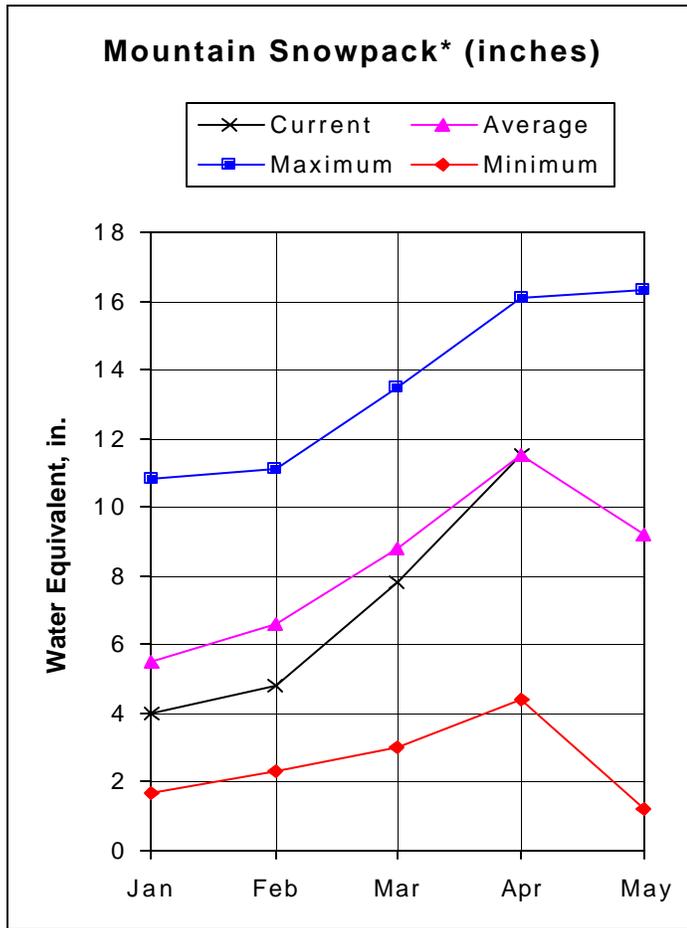
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The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

ARKANSAS RIVER BASIN

as of April 1, 2003



*Based on selected stations

The Arkansas Basin received a huge amount of snow during March, thanks mostly to a large storm that dropped record amounts of snow on the Colorado Front Range during three days in the middle of the month. The basin-wide snowpack measurements are 100% of average on April 1, which is 209% of the amount of snow there was last year at this time. The measurements range from 93% of average in the Upper Arkansas Watershed, to 110% of average in the Purgatoire Watershed. Precipitation measurements for the month of March were 139% of average, and the water year total is now 94% of average. There has been about 151% of the precipitation there was last water year by this time. Reservoirs in the basin have only 46% of their average storage amount for the end of March. There is only 60% of the storage there was last year at the end of March. Streamflow forecasts have improved significantly from last month and are approaching average volumes on many of the forecast points. They range from 85% of average at the inflow to Pueblo Reservoir, to 96% of average on the Huerfano River near Redwing.

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ARKANSAS RIVER BASIN
Streamflow Forecasts - April 1, 2003

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Forecast Point	Forecast Period	Future Conditions					Wetter		30-Yr Avg. (1000AF)
		Chance Of Exceeding *					30%	10%	
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF) (% AVG.)		(1000AF)			
Chalk Creek nr Nathrop	APR-SEP	12.1	20	25	93	30	38	27	
Arkansas River at Salida	APR-SEP	177	230	270	87	310	365	310	
Grape Creek nr Westcliffe	APR-SEP	6.5	11.2	18.0	92	25	35	19.6	
Pueblo Reservoir Inflow	APR-SEP	235	315	365	85	415	495	430	
Huerfano River nr Redwing	APR-SEP	7.4	11.8	14.8	96	17.9	22	15.5	
Cucharas River nr La Veta	APR-SEP	4.8	9.0	11.8	91	14.6	18.8	13.0	
Trinidad Lake Inflow	APR-SEP	12.0	30	42	96	54	72	44	

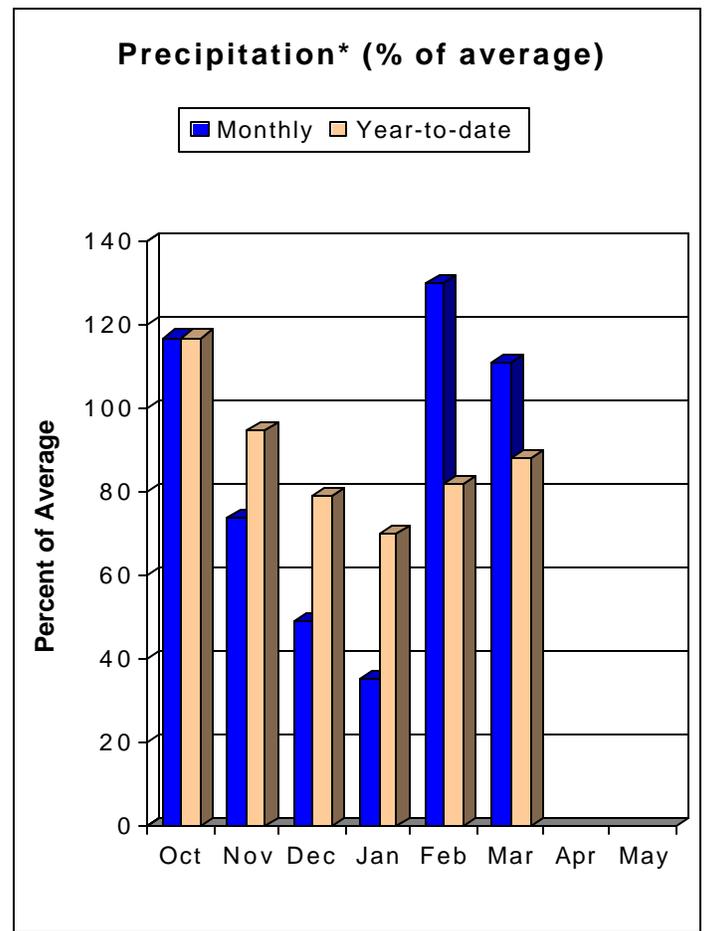
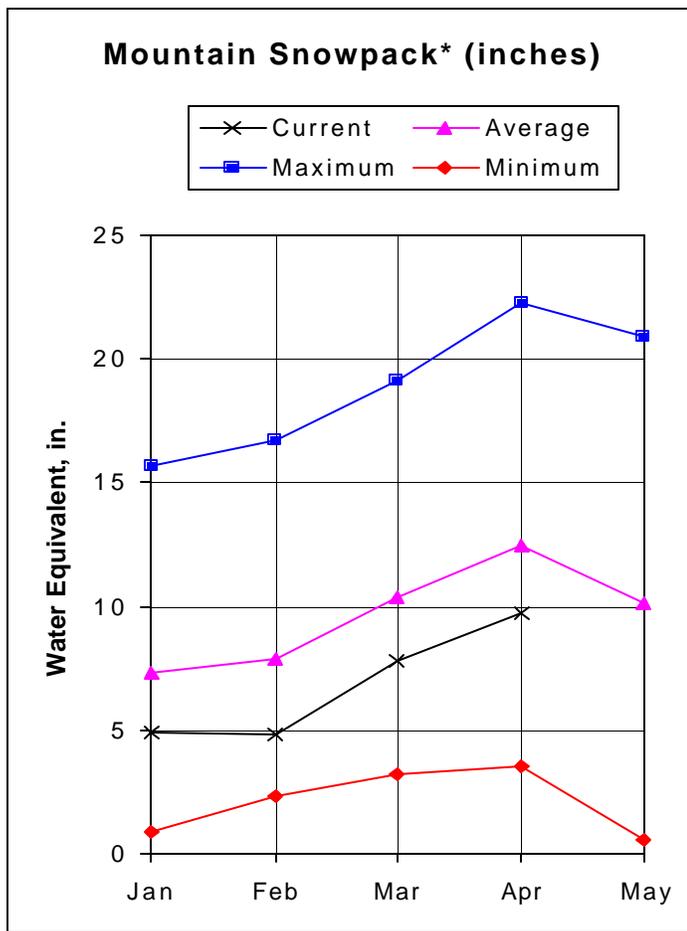
ARKANSAS RIVER BASIN Reservoir Storage (1000 AF) - End of March					ARKANSAS RIVER BASIN Watershed Snowpack Analysis - April 1, 2003				
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of		
		This Year	Last Year	Avg			Last Yr	Average	
ADOBE	70.0	0.0	31.2	37.0	UPPER ARKANSAS BASIN	3	155	93	
CLEAR CREEK	11.0	7.0	6.5	6.7	CUCHARAS & HUERFANO RIVER	4	272	103	
GREAT PLAINS	150.0	2.8	22.8	41.9	PURGATOIRE RIVER BASIN	2	391	110	
HOLBROOK	7.0	2.9	6.1	4.9	TOTAL ARKANSAS RIVER BASIN	8	209	100	
HORSE CREEK	28.0	0.0	0.0	12.6					
JOHN MARTIN	335.7	43.7	91.3	137.3					
LAKE HENRY	8.0	6.5	6.3	6.7					
MEREDITH	42.0	17.7	24.7	19.0					
PUEBLO	236.7	111.4	143.6	173.3					
TRINIDAD	72.3	17.5	18.2	27.5					
TURQUOISE	126.6	32.3	53.9	74.0					
TWIN LAKES	86.0	28.3	45.2	42.5					

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

UPPER RIO GRANDE RIVER BASIN as of April 1, 2003



*Based on selected stations

Snowpack measurements in some locations in the Rio Grande Basin have improved significantly over the month of March, but much of the basin received little or no additional snow during the month causing an extremely variable snowpack throughout the basin. The basin-wide April 1 snowpack measurements are at 76% of average, which is only 3% of average higher than last month's measurements. The spotty coverage of snowfall has measurements ranging from only 40% of average in the Alamosa Creek Watershed, to 134% of average in the Culebra and Trinchera Creek watersheds. Precipitation was 111% of average during March, and the water year total is now 88% of average. Reservoirs in the basin contain only 61% of their average storage amount for this time of year, which is only 80% of the storage amount there was last year at this time. Most of the forecasts remain much below average, ranging from only 49% of average at La Jara Creek near Capulin, to 70% of average at Saguache Creek near Saguache. As a striking contrast, Culebra, Costilla and Trinchera creeks forecasts are near to above average.

UPPER RIO GRANDE BASIN
Streamflow Forecasts - April 1, 2003

Forecast Point	Forecast Period	Future Conditions				Wetter		30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
Rio Grande at Thirty Mile Bridge	APR-SEP	56	67	77	57	88	107	136
Rio Grande Reservoir Inflow	APR-JUL	51	60	67	57	75	88	118
Rio Grande at Wagon Wheel Gap	APR-SEP	80	146	190	55	235	300	345
South Fork Rio Grande at South Fork	APR-SEP	39	60	75	57	90	111	132
Rio Grande nr Del Norte	APR-SEP	123	220	285	54	350	445	531
Saguache Creek nr Saguache	APR-SEP	8.4	17.0	23	70	29	38	33
Alamosa Creek abv Terrace Reservoir	APR-SEP	16.9	28	35	50	42	53	70
La Jara Creek nr Capulin	MAR-JUL	1.34	2.50	4.30	49	6.10	8.80	8.70
Trinchera Water Supply	APR-SEP	20	32	40	100	48	60	40
Platoro Reservoir Inflow	APR-JUL	27	35	40	63	45	53	64
	APR-SEP	31	39	45	63	51	59	71
Conejos River nr Mogote	APR-SEP	77	107	127	64	147	177	200
San Antonio River at Ortiz	APR-SEP	5.7	8.1	10.0	61	12.1	15.5	16.4
Los Pinos River nr Ortiz	APR-SEP	25	36	43	58	50	61	74
Culebra Creek at San Luis	APR-SEP	13.4	21	27	117	33	41	23
Costilla Reservoir inflow	MAR-JUL	6.9	9.3	11.0	104	12.7	15.1	10.6
Costilla Creek nr Costilla	MAR-JUL	17.0	23	27	104	31	37	26

UPPER RIO GRANDE BASIN
Reservoir Storage (1000 AF) - End of March

UPPER RIO GRANDE BASIN
Watershed Snowpack Analysis - April 1, 2003

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CONTINENTAL	15.0	3.7	4.0	5.9	ALAMOSA CREEK BASIN	2	161	40
PLATORO	53.7	8.0	16.8	24.5	CONEJOS & RIO SAN ANTONIO	4	196	77
RIO GRANDE	51.0	19.0	13.8	19.3	CULEBRA & TRINCHERA CREEK	5	295	134
SANCHEZ	103.0	12.5	24.3	24.9	UPPER RIO GRANDE BASIN	12	159	58
SANTA MARIA	45.0	10.8	7.7	10.8	TOTAL UPPER RIO GRANDE BA	23	200	76
TERRACE	13.1	2.7	4.0	7.6				

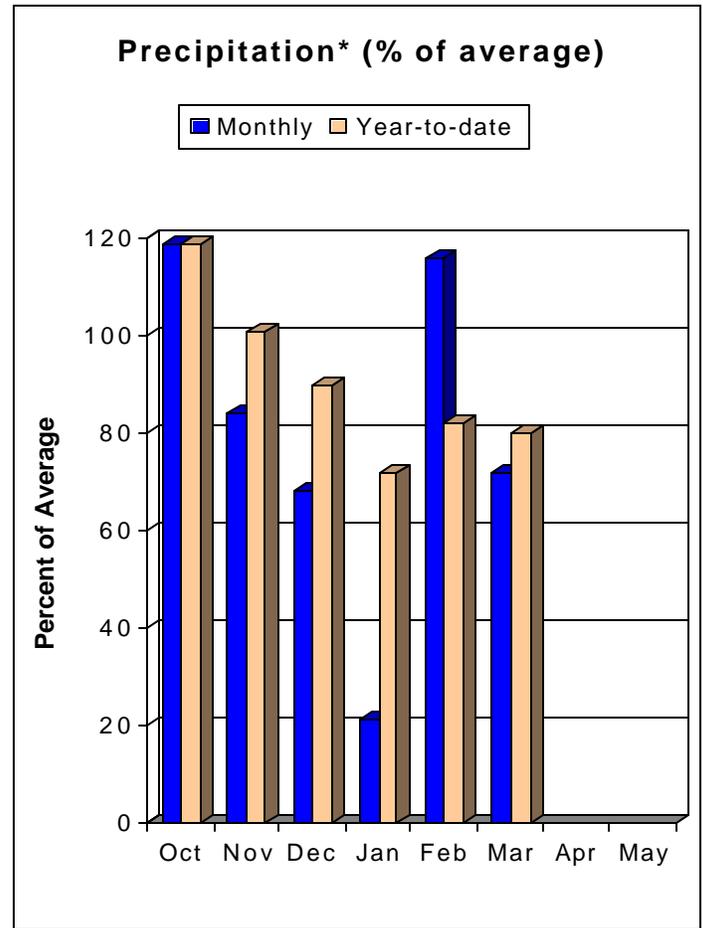
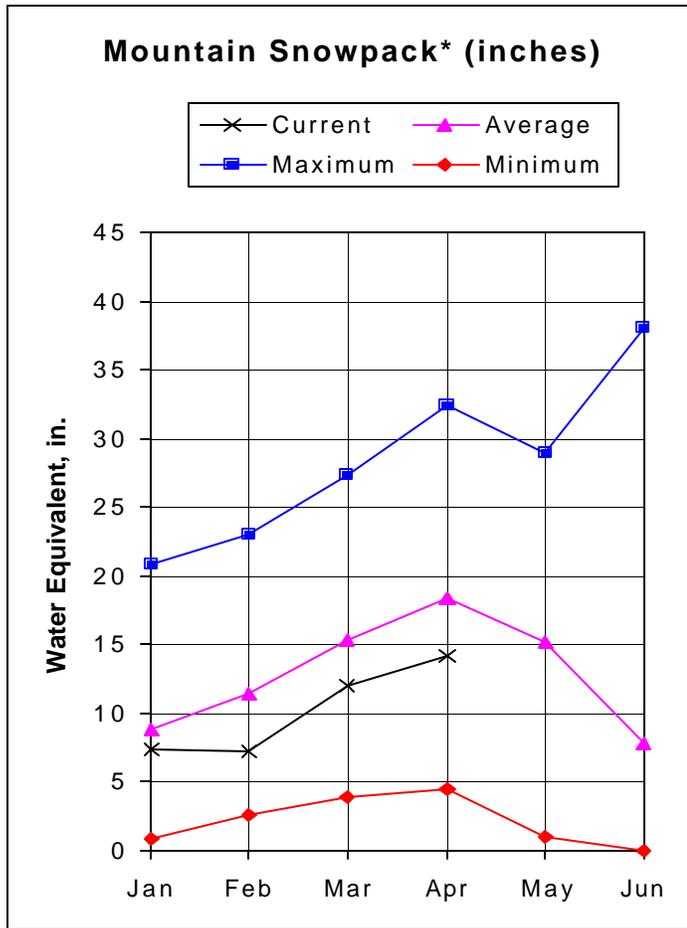
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The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural volume - actual volume may be affected by upstream water management.

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS as of April 1, 2003



*Based on selected stations

These basins have missed out on nearly all of the storm activity that much of the rest of the state has benefited from. Basin-wide snowpack measurements for these basins combined are only 75% of average on April 1, which is 2% of average lower than last month. It is the only basin-wide measurement in the state that is lower this month compared to last month's measurement. All of the basins are much below average, ranging from only 70% of average in the Animas Basin, to 85% of average in the San Miguel Basin. Precipitation during March was only 72% of average, and the water year total is only 80% of average. There has been 160% of the amount of precipitation last water year by this time. Reservoirs in these basins have only 60% of their average storage amount for this time of year, which is only 75% of last year's storage. Most of the streamflow forecasts remain similar to last months', and are still well below average. They range from only 48% of average on the Piedra River near Arboles, to 72% of average on the San Miguel River near Placerville.

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS
Streamflow Forecasts - April 1, 2003

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>				30-Yr Avg. (1000AF)		
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF) (% AVG.)	30% (1000AF)		10% (1000AF)	
Dolores River at Dolores	APR-JUL	82	140	180	68	220	280	265
McPhee Reservoir inflow	APR-JUL	101	166	210	66	255	320	320
San Miguel River nr Placerville	APR-JUL	45	75	95	72	115	145	132
Gurley Reservoir Inlet	APR-JUL	7.2	9.7	11.5	70	13.3	15.8	16.5
	APRIL			1.50	90			1.66
	MAY			6.30	71			8.83
	JUNE			3.10	66			4.67
	JULY			0.60	46			1.32
Cone Reservoir Inlet	APR-JUL	1.64	2.20	2.50	71	2.80	3.40	3.53
	APRIL			0.42	91			0.46
	MAY			1.22	74			1.64
	JUNE			0.68	65			1.04
	JULY			0.18	47			0.38
Lilylands Reservoir Inlet	APR-JUL	1.00	1.60	2.00	70	2.40	3.00	2.86
	APRIL			0.36	90			0.40
	MAY			0.95	72			1.32
	JUNE			0.57	66			0.87
	JULY			0.12	44			0.27
Rio Blanco at Blanco Diversion	APR-JUL	17.0	27	34	64	41	51	53
Navajo River at Oso Diversion	APR-JUL	19.0	32	41	59	50	63	69
San Juan River nr Carracus	APR-JUL	135	194	240	59	291	375	405
Piedra River nr Arboles	APR-JUL	49	85	110	48	135	171	230
Vallecito Reservoir Inflow	APR-JUL	55	91	115	56	139	175	205
Navajo Reservoir Inflow	APR-JUL	125	290	400	50	510	675	800
Animas River at Durango	APR-JUL	154	220	265	60	310	375	440
Lemon Reservoir Inflow	APR-JUL	11.0	23	31	53	39	51	58
La Plata River at Hesperus	APR-JUL	9.8	13.8	16.5	66	18.8	23	25
Mancos River nr Mancos	APR-JUL	7.4	18.0	25	63	32	43	40
	APRIL			5.00	86			5.80
	MAY			10.4	65			15.9
	JUNE			7.5	55			13.7
	JULY			2.10	46			4.60

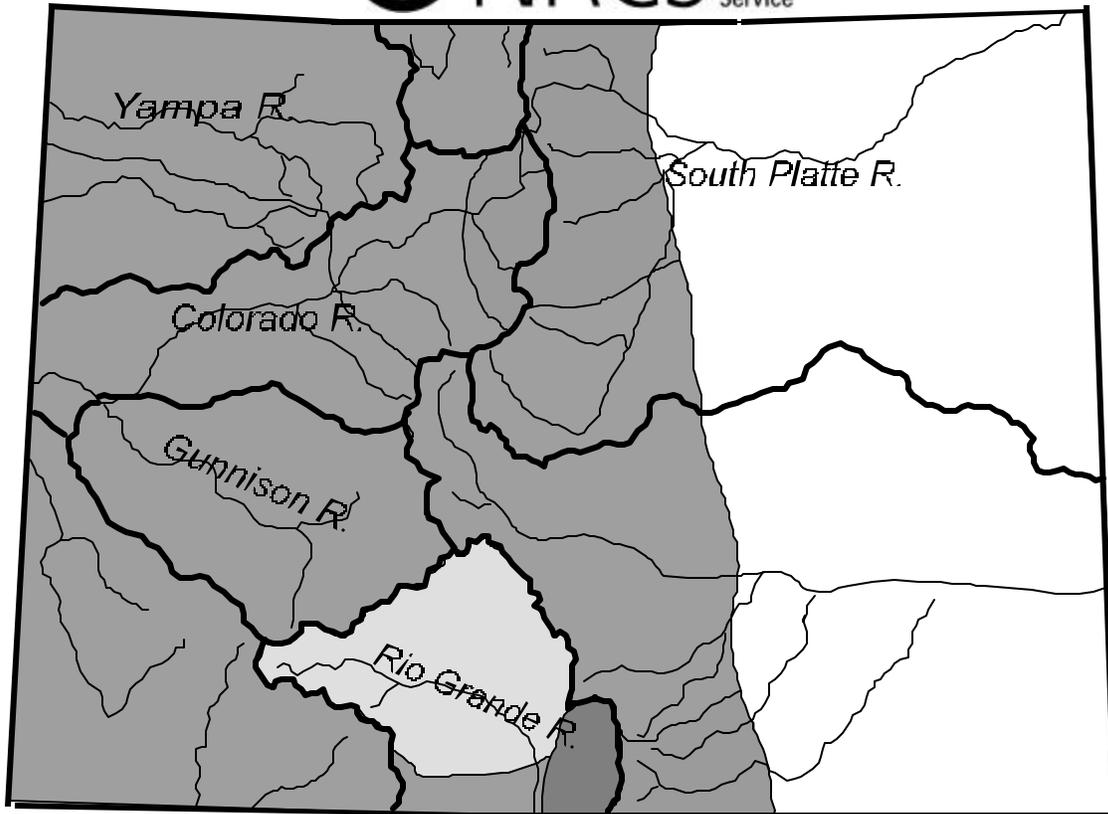
SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS
Reservoir Storage (1000 AF) - End of March

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS
Watershed Snowpack Analysis - April 1, 2003

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
GROUNDHOG	21.7	3.8	11.1	12.2	ANIMAS RIVER BASIN	9	199	70
JACKSON GULCH	10.0	4.5	2.3	5.1	DOLORES RIVER BASIN	7	254	81
LEMON	40.0	6.3	13.0	21.2	SAN MIGUEL RIVER BASIN	5	186	85
MCPHEE	381.2	168.0	206.7	273.6	SAN JUAN RIVER BASIN	3	267	73
NARRAGUINNEP	19.0	7.9	17.6	15.5	TOTAL SAN MIGUEL, DOLORES	23	219	75
VALLECITO	126.0	41.8	57.2	62.0	AN JUAN RIVER BASINS			

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table. The average is computed for the 1971-2000 base period.

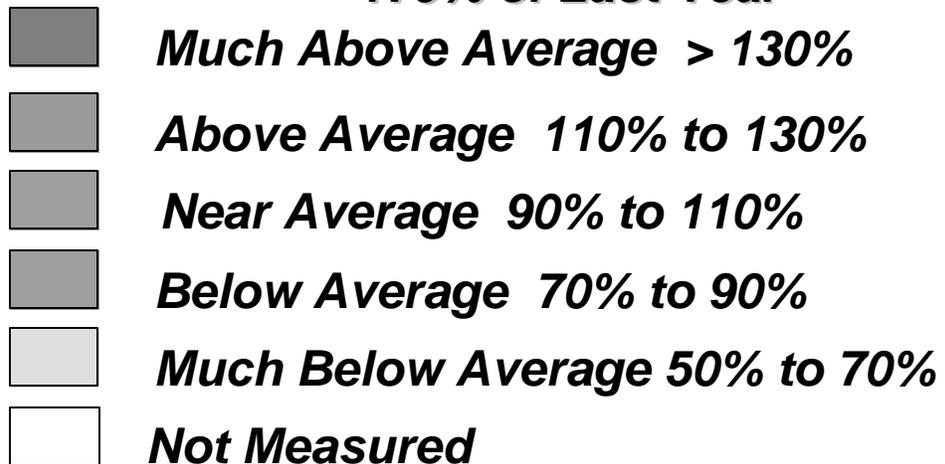
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**Snowpack
April 1, 2003**

Statewide: 94% of Average

179% of Last Year





655 Parfet Street, Room E200C
Lakewood, CO 80215-5517

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

Issued by

Released by

Bruce Knight
Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Allen Green
State Conservationist
Natural Resources Conservation Service
Lakewood, Colorado



Colorado
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Lakewood, CO

