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Department of
Agriculture

**Natural
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Colorado Basin Outlook Report FEBRUARY 1, 2003



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. 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

FEBRUARY 1, 2003

Summary

Colorado experienced another dry month in January, which took its toll on the state's snowpack statistics. Sizeable decreases in snowpack percents of average were observed across the state during January. While this year's snowpack is consistently below average across the state, it remains higher than last year's readings on this date. The decreases in snowpack percentages also took a toll on this month's streamflow forecasts. These latest forecasts call for significantly less runoff than was forecast last month. These below average runoff forecasts, coupled with our existing poor soil moisture and well below average reservoir storage, leave little optimism that the state can improve the existing drought conditions during 2003.

Snowpack

February 1 snowpack readings are below average statewide. The statewide snowpack percentage dropped to 71% of average on February 1, down from last month's 85% of average. January's dry weather patterns had the greatest impact on the lower elevation snowpack where the largest decreases in percentages were observed. Above normal temperatures during the month contributed to some snowmelt at these lower elevations. Currently, the state's lowest snowpack percentages are measured in the Rio Grande Basin, at only 60% of average. This basin is closely followed by the combined San Juan, Animas, Dolores and San Miguel basins, and the South Platte Basin, at only 63% of average. The state's highest snowpack percentages were measured in the Colorado Basin, at 82% of average. Now, with 60% of the winter snow accumulation season past, there remains only two months remaining in the season. Given our current snowpack, it is now estimated that average snowfall during February and March would only increase the statewide snowpack to 85% of average. Additionally, it will require 140% of average snowfall for the next two months to bring the state's snowpack to average by April 1. Unfortunately, statistics show there is only a 10% chance of receiving at least this amount of snowfall. With a bleak outlook such as this, the state's water users need to prepare now for short water supplies in 2003. Without significantly improved snowfall in the coming months, many locations in the state could expect conditions to be as poor as in 2002.

Precipitation

January's dry weather patterns added another month of well below average precipitation to what's become a long dry period. In fact, Colorado SNOTEL precipitation has been below average 15 of the last 17 months. Of those 17 months, precipitation was less than 60% of average in 10 of those months. January's precipitation added to that list with a statewide total of only 43% of average. Precipitation in the South Platte and combined Yampa and White basins was the highest in the state at only 56% and 55% of average, respectively. The remaining basins are all reporting less than 50% of average for the month. Southwestern Colorado was particularly dry, with the San Juan, Animas, Dolores, and San Miguel basins only reporting 21% of their monthly average. Water year (since October 1, 2002) totals are below average statewide, and range from only 69% of average in the Arkansas Basin, to 82% of average in the Yampa and White basins.

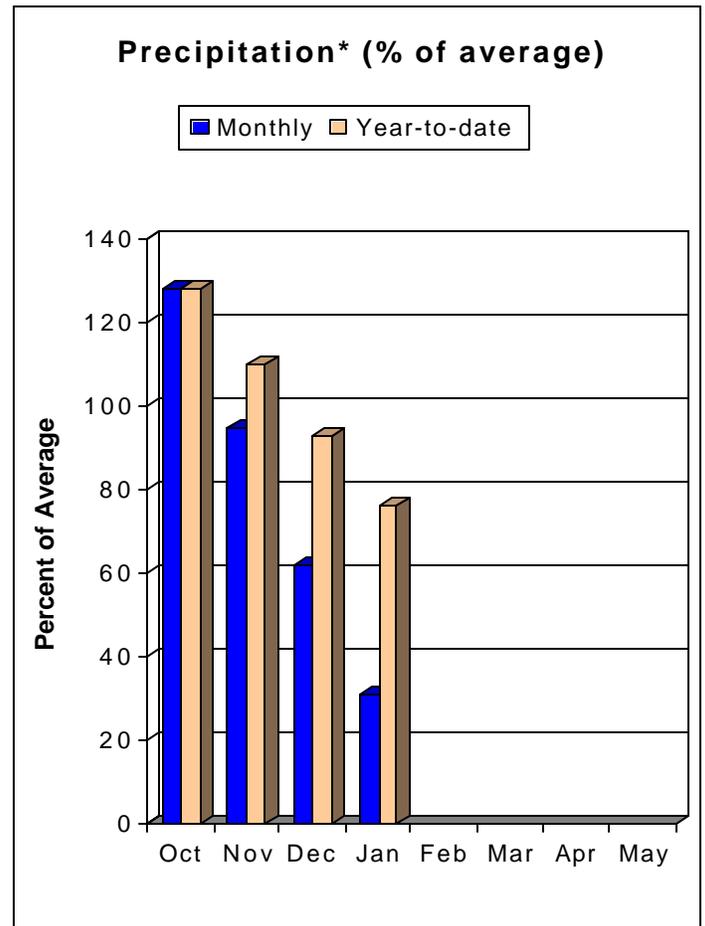
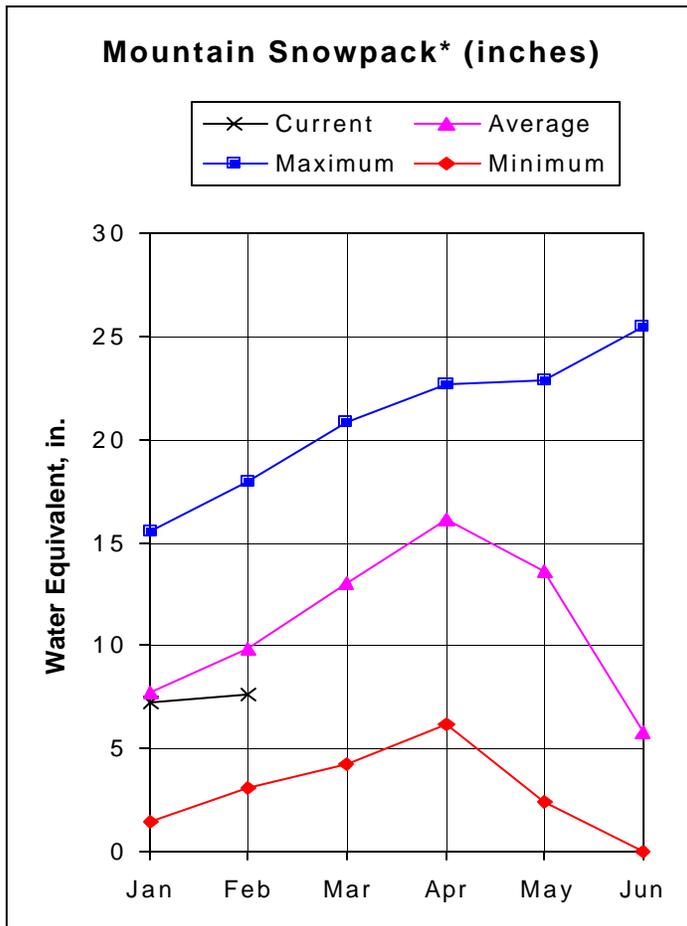
Reservoir Storage

The drought of 2002 has heavily impacted reservoir storage across the state, and with the current outlook, there remains little hope for significant improvements this year. Statewide storage is only 52% of average and is only 60% of last year's storage. The current statewide volumes have dipped to more than 1.6 million acre-feet below the average for this date, and are nearly 1.2 million acre-feet less than last year's storage. The lowest volumes, as a percent of the average, were measured in the Colorado and Arkansas basins, at 36% and 46% of average, respectively. However, the Gunnison Basin has made good winter storage improvements. This basin's volumes have improved from a deficit of 451,000 acre-feet last August, to a current deficit of 238,000 acre-feet.

Streamflow

This month's runoff forecasts have decreased from last month's forecasts statewide. All forecasts are below to well below average. In some of the drier areas, runoff volumes of less than 50% of average are forecast. Those basins include some of the tributary streams to the Arkansas and South Platte rivers. Across most of the state, volumes of 50% to 70% of average are forecast. Some of the highest forecasted volumes, as a percent of average, occur in the upper reaches of the Colorado River. These forecasts range from 75% to 80% of average. For the most part, the Colorado River Basin is the only basin with forecasts that exceed 70% of average. Forecasts east of the Continental Divide, are consistently lower than those west of the Divide. With the chances of snowpack recovery so slim, the state's water users should begin planning for very short water supplies in 2003. In many locations we stand a good chance of seeing conditions that mirror last year's.

GUNNISON RIVER BASIN as of February 1, 2003



*Based on selected stations

Any relief to the drought conditions in the Gunnison Basin will need to occur between now and when the snowmelt begins. The month of January was nearly a complete loss providing very little addition to the snowpack amounts, allowing the accumulated percent of average to drop from an encouraging 93% of average on January 1, to only 74% of average on February 1. To reach average levels by April 1, the existing snowpack amount will need to be more than doubled. The measurements are relatively uniform throughout the basin, ranging from 68% of average in the Surface Creek Watershed, to 76% of average in the Uncompahgre Watershed. Precipitation during January was a dismal 31% of average, which is the lowest monthly accumulation this season. The total precipitation so far this water year is now only 76% of average. Reservoirs in the basin have only 68% of their average storage for this time of year, which is only 65% of last year's storage. The streamflow forecasts are down from last month's forecasts by about 10% of average. They range from 59% of average on Surface Creek near Cedaredge, to 73% of average on the East River at Almont.

GUNNISON RIVER BASIN
Streamflow Forecasts - February 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)	
Taylor River blw Taylor Park Resv	APR-JUL	34	56	72	70	88	113	103
Slate River nr Crested Butte	APR-JUL	37	51	60	67	69	83	89
East River at Almont	APR-JUL	80	116	140	73	164	200	192
Gunnison River nr Gunnison	APR-JUL	134	212	265	68	318	396	390
Tomichi Creek at Sargents	APR-JUL	3.9	13.5	20	63	27	36	32
Cochetopa Creek blw Rock Creek	APR-JUL	2.6	7.6	11.0	64	14.4	19.4	17.3
Tomichi Creek at Gunnison	APR-JUL	17.7	35	50	62	68	99	81
Lake Fork at Gateview	APR-JUL	29	62	84	67	106	139	126
Blue Mesa Reservoir Inflow	APR-JUL	184	363	485	67	607	786	720
Paonia Reservoir Inflow	MAR-JUN	21	44	65	65	90	133	100
	APR-JUL	17.0	42	66	65	95	148	102
N.F. Gunnison River nr Somerset	APR-JUL	92	170	210	69	254	326	305
Surface Creek nr Cedaredge	APR-JUL	6.5	8.4	10.0	59	11.9	15.4	17.1
Ridgway Reservoir Inflow	APR-JUL	40	60	70	69	81	101	102
Uncompahgre River at Colona	APR-JUL	54	70	85	61	102	129	139
Gunnison River nr Grand Junction	APR-JUL	341	704	950	61	1196	1559	1560

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

GUNNISON RIVER BASIN
Watershed Snowpack Analysis - February 1, 2003

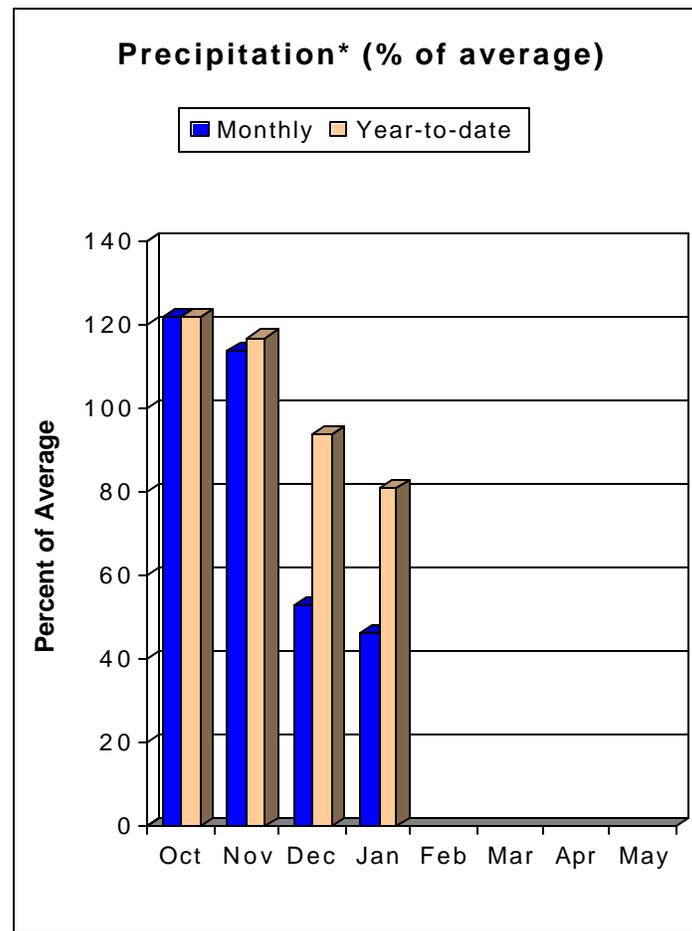
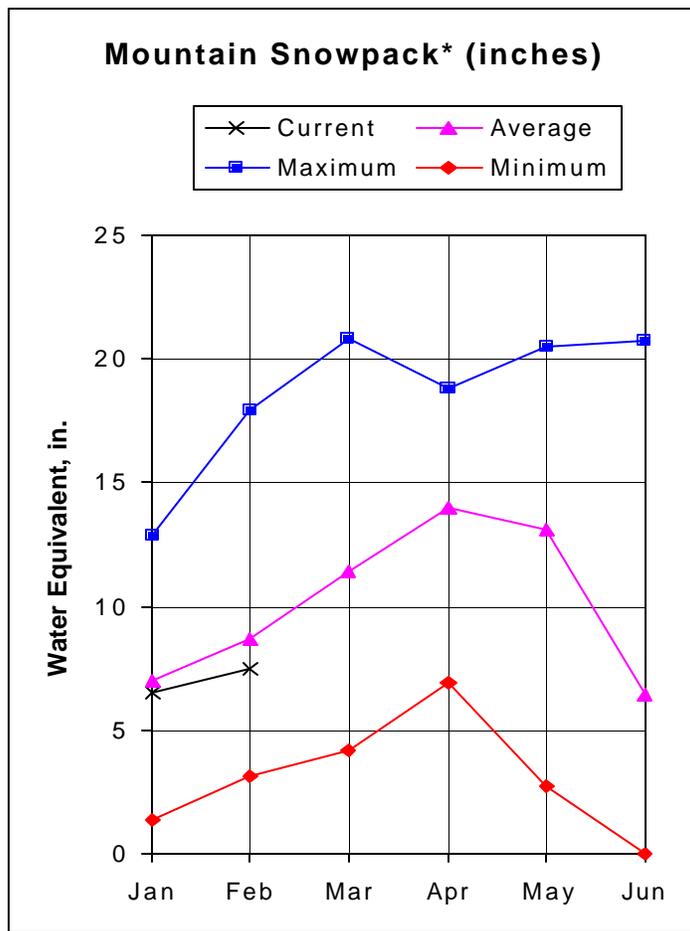
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BLUE MESA	830.0	290.9	533.9	493.3	UPPER GUNNISON BASIN	11	117	73
CRAWFORD	14.3	4.0	3.4	8.2	SURFACE CREEK BASIN	2	125	68
FRUITGROWERS	4.3	1.4	3.4	3.4	UNCOMPAGRE BASIN	4	116	76
FRUITLAND	9.2	0.5	1.0	1.8	TOTAL GUNNISON RIVER BASIN	15	117	74
MORROW POINT	121.0	110.4	111.4	113.4				
PAONIA	18.0	4.5	2.8	4.7				
RIDGWAY	83.2	61.3	68.4	60.2				
TAYLOR PARK	106.0	40.5	64.8	66.7				

* 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 February 1, 2003



*Based on selected stations

New snow amounts during January in the Colorado Basin were far less than hoped for. Snowpack conditions have diminished from the promising 93% of average on January 1, to only 82% of average on February 1. Although, a snowpack that is well above average by April 1 is becoming less likely, if weather conditions do turn wet from this point on, this basin could easily reach near average levels before the meltout begins. The snowpack ranges from only 68% of average in the Plateau Creek Watershed, to 90% of average in the Willow Creek Watershed. Precipitation was only 46% of average during January, and the water year total is now only 81% of average. There has been 26% more precipitation compared to this time last water year. Reservoirs in the basin have only 36% of their average storage for this time of year, and there is only 43% last year's amount. All of the stream forecasts remain well below average and are about 10% lower than last month. Forecasts range from 67% of average on the Muddy Creek below Wolford Mtn. Reservoir, to 80% of average at the inflow to Green Mountain Reservoir.

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UPPER COLORADO RIVER BASIN
Streamflow Forecasts - February 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	122	149	170	76	194	237	225
Willow Creek Reservoir Inflow	APR-JUL	26	34	40	78	46	57	51
Williams Fork Reservoir inflow	APR-JUL	55	66	75	79	84	99	95
Dillon Reservoir Inflow	APR-JUL	63	103	130	78	157	197	167
Green Mountain Reservoir inflow	APR-JUL	172	203	225	80	248	285	280
Muddy Creek blw Wolford Mtn. Resv.	APR-JUL	23	32	40	67	50	70	60
Eagle River blw Gypsum	APR-JUL	170	222	265	79	317	412	335
Colorado River nr Dotsero	APR-JUL	504	847	1080	75	1313	1656	1440
Ruedi Reservoir Inflow	APR-JUL	77	95	110	78	127	157	141
Roaring Fork at Glenwood Springs	APR-JUL	385	480	550	78	625	744	710
Colorado River nr Cameo	APR-JUL	916	1442	1800	74	2158	2684	2420

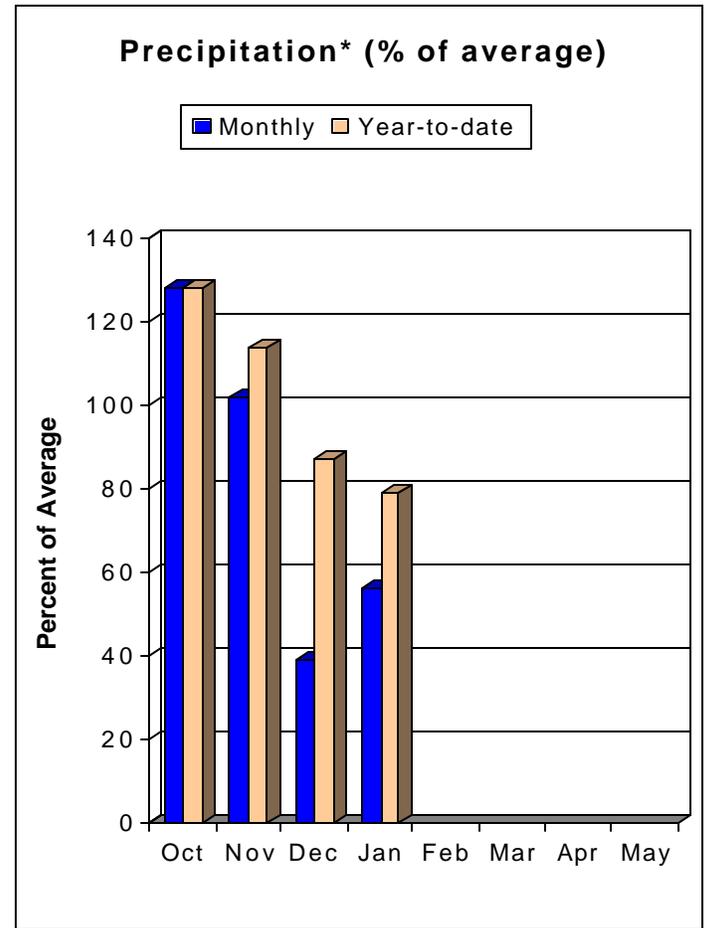
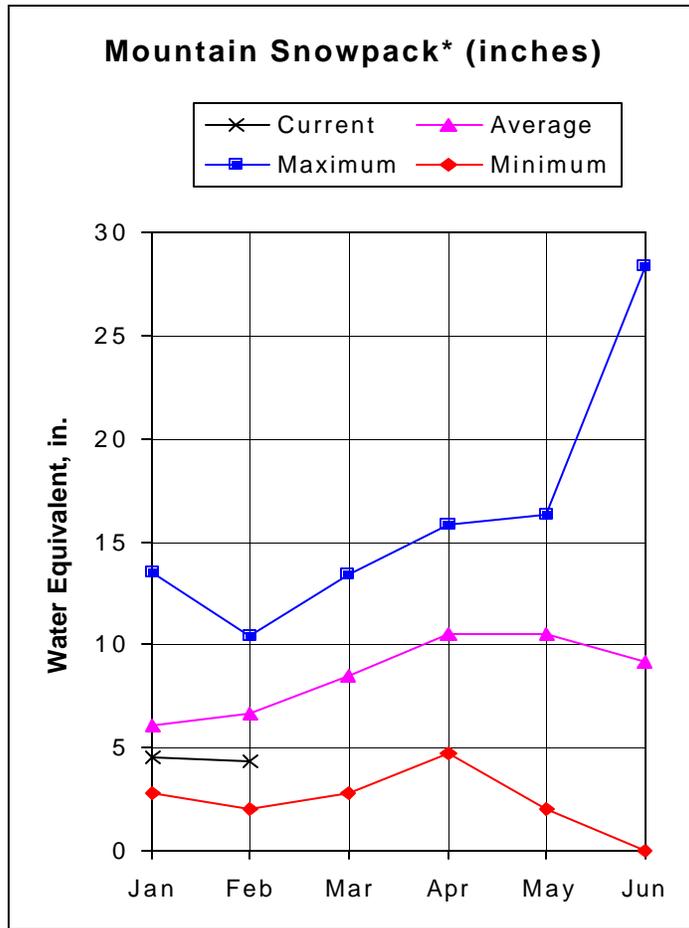
UPPER COLORADO RIVER BASIN Reservoir Storage (1000 AF) - End of January					UPPER COLORADO RIVER BASIN Watershed Snowpack Analysis - February 1, 2003				
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of		
		This Year	Last Year	Avg			Last Yr	Average	
DILLON	250.8	133.3	206.4	221.3	BLUE RIVER BASIN	8	115	86	
LAKE GRANBY	465.6	35.1	218.5	300.7	UPPER COLORADO RIVER BASIN	34	119	84	
GREEN MOUNTAIN	139.0	33.1	69.1	80.3	MUDDY CREEK BASIN	4	121	75	
HOMESTAKE	43.0	17.0	28.4	27.7	PLATEAU CREEK BASIN	2	125	68	
RUEDI	102.0	46.8	65.0	73.7	ROARING FORK BASIN	7	105	77	
VEGA	32.0	4.0	9.2	11.6	WILLIAMS FORK BASIN	4	113	85	
WILLIAMS FORK	96.8	7.5	56.8	59.5	WILLOW CREEK BASIN	4	144	90	
WILLOW CREEK	9.0	6.9	6.6	6.4	TOTAL COLORADO RIVER BASIN	43	116	82	

* 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 February 1, 2003



*Based on selected stations

The February 1 snowpack measurements in the South Platte Basin are far under the levels that will be required to relieve the drought conditions to any extent this season. Down from 73% of average on January 1, to only 63% of average on February 1, the probability of an above average snowpack by April 1, is quickly becoming unlikely. Measurements range from only 57% of average in the Upper South Platte Watershed, to 77% of average in the Clear Creek Watershed. Precipitation was only 56% of average for the month of January, and the water year total is only 79% of average. There has been 37% more precipitation this water year compared to this time last water year. Reservoirs in the basin have only 51% of their average storage for this time of year. There is only 63% of last year's storage amount. The streamflow forecasts remain much below average at this time and are slightly lower than last month's forecasts. Forecasts range from only 35% of average at the inflow to Antero Reservoir, to 70% of average on Boulder Creek near Orodell.

SOUTH PLATTE RIVER BASIN
Streamflow Forecasts - February 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)	
Antero Reservoir inflow	APR-JUL	2.0	3.3	4.5	35	6.2	10.0	13.0
Spinney Mountain Reservoir inflow	APR-JUL	12.3	17.4	22	55	28	39	40
Elevenmile Canyon Reservoir inflow	APR-JUL	5.3	15.9	23	56	30	41	41
Cheesman Lake inflow	APR-JUL	31	41	49	55	59	78	89
South Platte River at South Platte	APR-SEP	40	100	140	61	180	240	230
Bear Creek at Morrison	APR-SEP	5.6	13.0	18.0	58	23	31	31
Clear Creek at Golden	APR-SEP	49	70	85	63	100	121	134
St. Vrain Creek at Lyons	APR-SEP	25	40	50	60	60	75	84
Boulder Creek nr Orodell	APR-SEP	23	31	37	70	43	51	53
South Boulder Creek nr Eldorado Spri	APR-SEP	8.9	21	30	65	39	51	46
Big Thompson River at mouth nr Drake	APR-SEP	45	63	75	64	87	105	117
Cache La Poudre at Canyon Mouth	APR-SEP	62	94	115	42	166	239	275

SOUTH PLATTE RIVER BASIN
Reservoir Storage (1000 AF) - End of January

SOUTH PLATTE RIVER BASIN
Watershed Snowpack Analysis - February 1, 2003

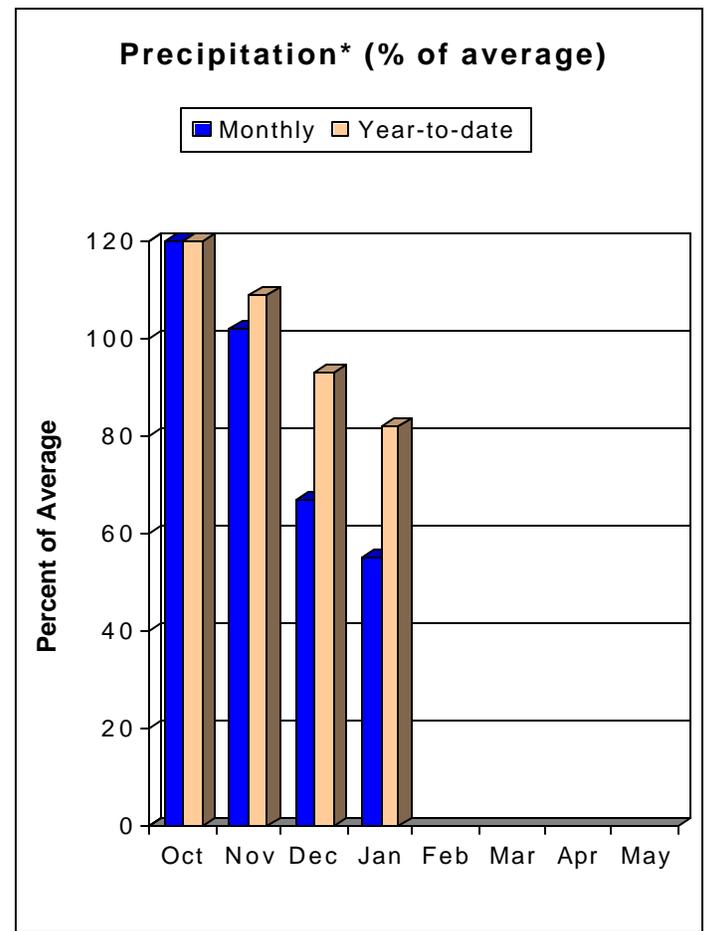
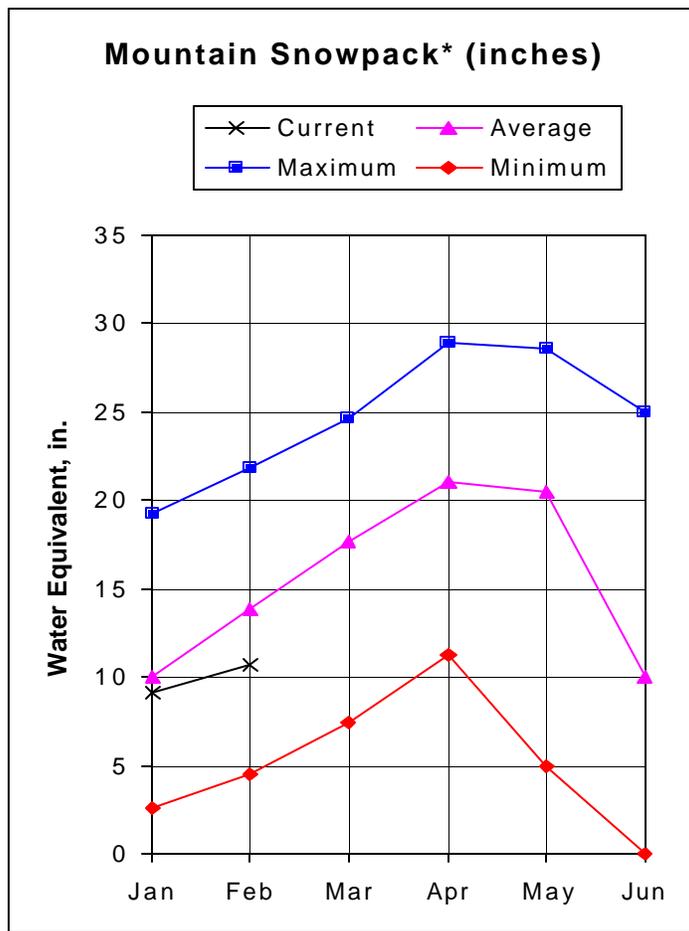
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
		ANTERO	20.0	0.0			20.0	16.4
BARR LAKE	32.0	15.0	24.8	24.0	BOULDER CREEK BASIN	5	121	61
BLACK HOLLOW	8.0	2.1	2.8	3.9	CACHE LA POUFRE BASIN	8	130	65
BOYD LAKE	49.0	6.0	20.4	32.1	CLEAR CREEK BASIN	4	130	77
CACHE LA POUFRE	10.0	2.2	2.4	7.2	SAINT VRAIN BASIN	4	107	59
CARTER	108.9	94.1	77.2	84.6	UPPER SOUTH PLATTE BASIN	15	142	57
CHAMBERS LAKE	9.0	2.6	3.1	3.0	TOTAL SOUTH PLATTE BASIN	41	129	63
CHEESMAN	79.0	48.2	57.8	59.7				
COBB LAKE	34.0	2.5	6.9	13.9				
ELEVEN MILE	97.8	44.5	99.6	95.9				
EMPIRE	38.0	15.2	30.3	22.8				
FOSSIL CREEK	12.0	5.0	7.1	6.8				
GROSS	41.8	17.8	22.5	26.0				
HALLIGAN	6.4	2.5	4.3	4.3				
HORSECREEK	16.0	1.1	11.9	11.6				
HORSETOOTH	149.7	15.5	13.4	99.0				
JACKSON	35.0	24.1	20.0	26.1				
JULESBURG	28.0	15.8	14.7	18.8				
LAKE LOVELAND	14.0	8.0	10.3	8.7				
LONE TREE	9.0	5.9	8.5	6.4				
MARIANO	6.0	0.5	1.5	4.2				
MARSHALL	10.0	3.3	4.8	5.1				
MARSTON	13.0	4.8	9.4	12.8				
MILTON	24.0	3.0	16.5	15.5				
POINT OF ROCKS	70.0	18.9	45.9	57.0				
PREWITT	33.0	2.3	17.9	19.3				
RIVERSIDE	63.1	18.0	42.6	41.7				
SPINNEY MOUNTAIN	48.7	14.5	22.1	33.3				
STANDLEY	42.0	19.8	32.6	33.1				
TERRY LAKE	8.0	1.4	5.1	5.3				
UNION	13.0	5.6	9.2	10.6				
WINDSOR	19.0	0.4	5.5	10.8				

* 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 February 1, 2003



*Based on selected stations

Snowpack measurements in these basins are some of the most encouraging measurements in the state at this time. Although they received well below the average snowfall during January, they did receive more new snow during the month, than anywhere else in the state. The basins measurements range from only 60% of average in the Laramie Basin, to 80% of average in the Yampa Basin. There is about 20% more snow this year compared to last year at this time. Precipitation was only 55% of average during January, which is the lowest monthly amount this season. The water year total is 82% of average. There has been about 19% more precipitation this water year compared to last water year by this time. Reservoirs in the basin have only 89% of their average storage for this time of year. There is only 86% of last year's storage amount. All of the stream forecasts remain well below average, and are about 10% less than last month. They range from 62% of average on Elkhead Creek near Elkhead, to 71% of average on the Yampa River at Steamboat Springs.

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

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<===== Drier =====>>		Chance Of Exceeding *		===== Wetter =====>>		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
North Platte River nr Northgate	APR-SEP	36	103	148	55	195	260	270
Laramie River nr Woods	APR-SEP	31	50	62	46	89	128	135
Yampa R abv Stagecoach Res	APR-JUL	7.6	15.0	20	69	25	32	29
Yampa River at Steamboat Springs	APR-JUL	119	167	200	71	233	281	280
Elk River nr Milner	APR-JUL	130	178	215	66	255	321	325
Elkhead Creek nr Elkhead	APR-JUL	13.1	18.8	24	62	31	44	39
ELKHEAD CREEK blw Maynard Gulch	APR-JUL	6.2	23	35	59	47	64	59
Fortification Ck nr Fortification	MAR-JUN	0.75	2.42	4.10	55	5.78	8.24	7.50
Yampa River nr Maybell	APR-JUL	322	517	650	66	783	978	990
Little Snake River nr Slater	APR-JUL	64	84	100	63	117	144	159
LITTLE SNAKE R nr Dixon	APR-JUL	89	161	210	64	259	331	330
LITTLE SNAKE R nr Lily	APR-JUL	110	184	235	64	286	360	365
White River nr Meeker	APR-JUL	131	163	190	66	221	276	290

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

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

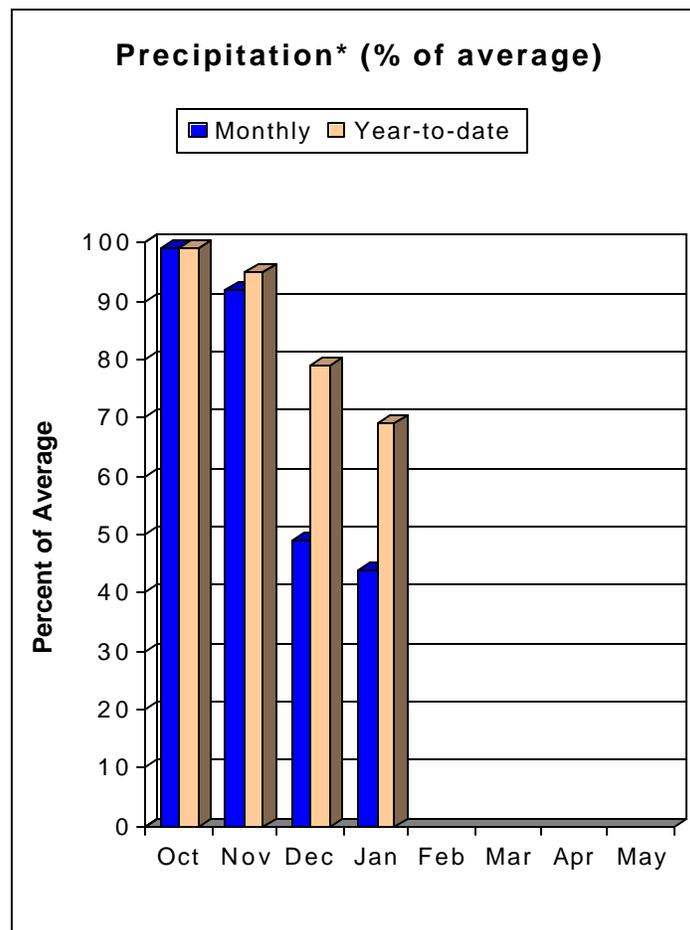
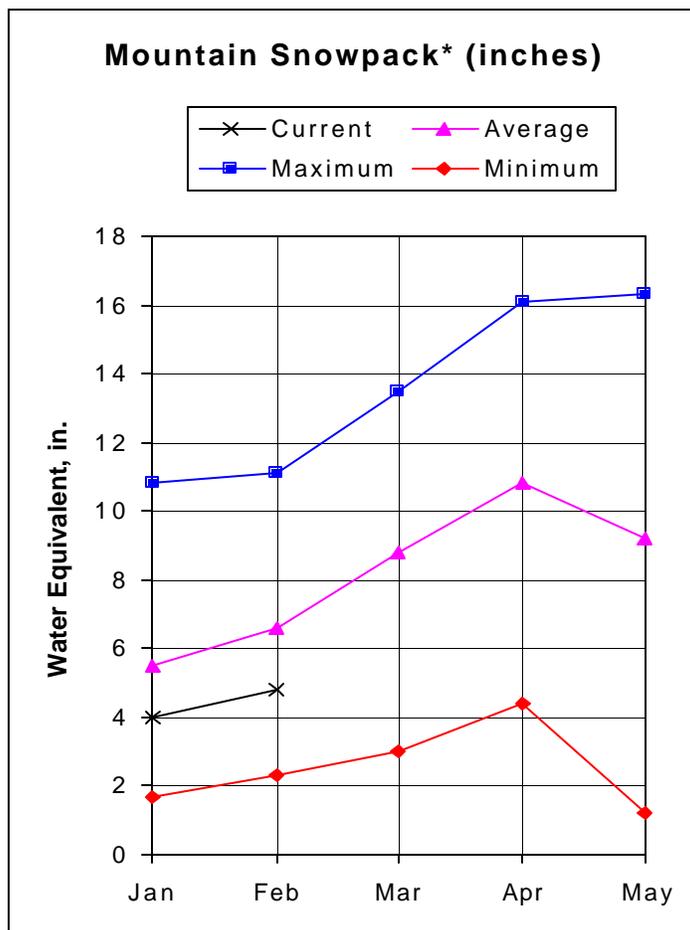
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
STAGECOACH	33.3	25.4	28.2	25.1	LARAMIE RIVER BASIN	3	138	60
YAMCOLO	9.1	2.5	4.2	6.2	NORTH PLATTE RIVER BASIN	9	126	76
					TOTAL NORTH PLATTE BASIN	11	125	73
					ELK RIVER BASIN	2	121	73
					YAMPA RIVER BASIN	11	120	80
					WHITE RIVER BASIN	4	111	72
					TOTAL YAMPA AND WHITE RIV	14	117	78
					LITTLE SNAKE RIVER BASIN	8	113	76

* 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.

ARKANSAS RIVER BASIN as of February 1, 2003



*Based on selected stations

On average, January is not one of the biggest snow accumulation months in the Arkansas Basin, and this year was no exception. There was enough new snowfall during the month so that the February 1 measurements only fell to 68% of average, which is only 4% of average less than last month, the smallest decrease in percent of average in the state. Measurements range from only 57% of average in the Cucharas and Huerfano watersheds, to 77% of average in the Upper Arkansas Watershed above Salida. Precipitation during January was only 44% of average, and the water year total is only 69% of average. There has only been about 8% more precipitation this water year compared to last water year by this time. Reservoirs in the basin have only 46% of their average storage amount for this time of year. There is only 58% of the storage there was last year on February 1. Streamflow forecasts remain much below average at all of the forecasted points. They are about 10% lower than last month, ranging from only 36% of average on the Cucharas River near La Veta, to 73% of average on the Arkansas River at Salida.

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ARKANSAS RIVER BASIN
Streamflow Forecasts - February 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)		
Chalk Creek nr Nathrop	APR-SEP	5.7	11.0	18.0	67	25	35	27
Arkansas River at Salida	APR-SEP	107	175	225	73	275	345	310
Grape Creek nr Westcliffe	APR-SEP	0.4	4.9	8.5	43	16.8	29	19.6
Pueblo Reservoir Inflow	APR-SEP	107	205	270	63	335	435	430
Huerfano River nr Redwing	APR-SEP	3.4	6.9	9.3	60	13.4	18.9	15.5
Cucharas River nr La Veta	APR-SEP	0.1	2.7	4.7	36	9.4	16.3	13.0
Trinidad Lake Inflow	APR-SEP	2.2	10.7	21	48	36	51	44

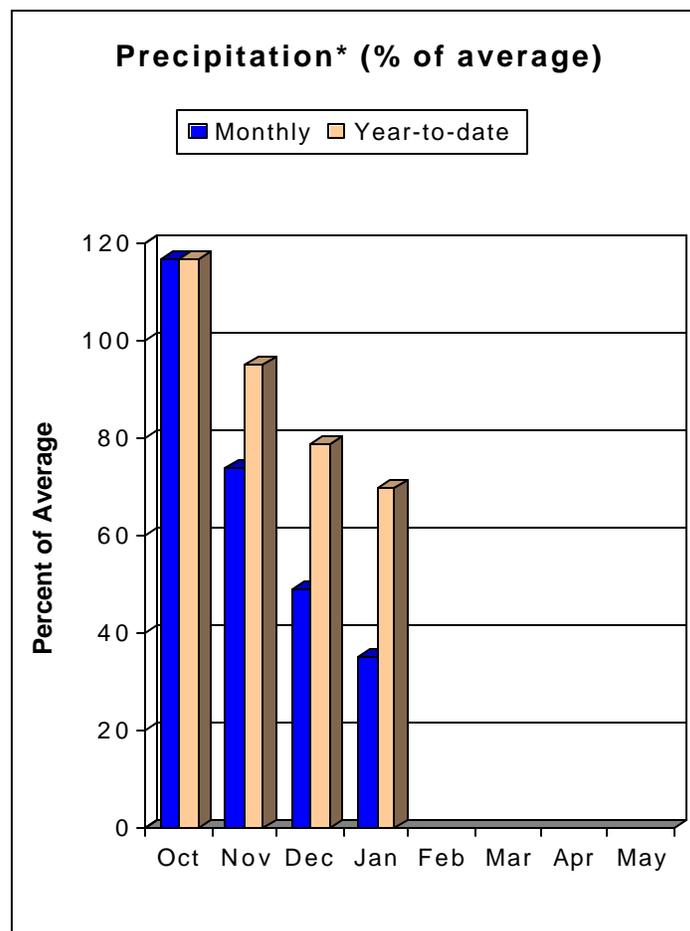
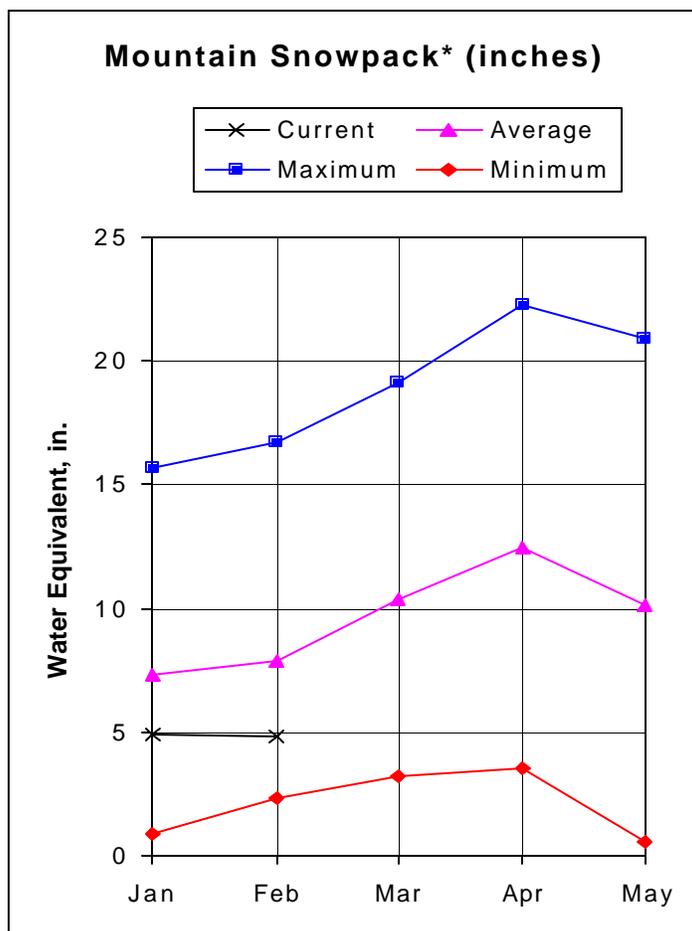
ARKANSAS RIVER BASIN Reservoir Storage (1000 AF) - End of January					ARKANSAS RIVER BASIN Watershed Snowpack Analysis - February 1, 2003			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ADOBE	70.0	0.0	26.1	31.1	UPPER ARKANSAS BASIN	3	116	77
CLEAR CREEK	11.0	6.7	5.9	6.4	CUCHARAS & HUERFANO RIVER	4	110	57
GREAT PLAINS	150.0	4.8	24.8	35.2	PURGATOIRE RIVER BASIN	2	125	69
HOLBROOK	7.0	1.7	4.3	3.9	TOTAL ARKANSAS RIVER BASIN	8	118	68
HORSE CREEK	28.0	0.0	0.0	12.2				
JOHN MARTIN	335.7	32.8	78.0	120.9				
LAKE HENRY	8.0	1.2	3.0	4.1				
MEREDITH	42.0	11.7	18.0	16.2				
PUEBLO	236.7	98.6	128.5	158.3				
TRINIDAD	72.3	15.6	17.0	25.3				
TURQUOISE	126.6	41.2	74.1	82.7				
TWIN LAKES	86.0	33.5	44.7	44.8				

* 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 February 1, 2003



*Based on selected stations

Snowpack measurements in the Rio Grande Basin remain the lowest in the state on February 1. New snowfall was severely short during January, and the February 1 measurements are only 60% of average, which is 11% of average lower than the measurements on January 1. There is only 15% more snow than last year at this time. Measurements range from only 50% of average in the Alamosa Creek Watershed, to 72% of average in the Culebra and Trinchera Watersheds. Weather patterns will need to nearly triple the existing snowpack amount to reach average conditions by April 1. Precipitation was a dismal 35% of average during January, and the water year total is only 70% of average. There has been 28% more precipitation this water year compared to last water year by this time. Reservoirs in the basin have only 60% of their average storage amount for this time of year. There is only 81% of the storage amount there was last year at this time. Most of the streamflow forecasts are between 50% and 60% of average. Costilla Creek forecasts are exceptional for anywhere in the state at 90% of average.

UPPER RIO GRANDE BASIN
Streamflow Forecasts - February 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)	
Rio Grande at Thirty Mile Bridge	APR-SEP	52	64	75	55	87	109	136
Rio Grande Reservoir Inflow	APR-JUL	45	56	65	55	75	94	118
Rio Grande at Wagon Wheel Gap	APR-SEP	55	133	185	54	237	315	345
South Fork Rio Grande at South Fork	APR-SEP	25	54	73	55	92	121	132
Rio Grande nr Del Norte	APR-SEP	69	201	290	55	379	511	531
Saguache Creek nr Saguache	APR-SEP	3.2	13.8	21	64	28	39	33
Alamosa Creek abv Terrace Reservoir	APR-SEP	6.9	24	35	50	46	63	70
La Jara Creek nr Capulin	MAR-JUL	0.52	2.22	4.40	51	6.58	9.78	8.70
Trinchera Water Supply	APR-SEP	3.0	13.5	25	63	37	53	40
Platoro Reservoir Inflow	APR-JUL	16.2	27	35	55	43	54	64
	APR-SEP	19.3	32	40	56	48	61	71
Conejos River nr Mogote	APR-SEP	43	89	120	60	151	197	200
San Antonio River at Ortiz	APR-SEP	1.6	4.9	8.2	50	12.4	20	16.4
Los Pinos River nr Ortiz	APR-SEP	8.0	30	45	61	60	82	74
Culebra Creek at San Luis	APR-SEP	0.7	10.7	17.4	76	24	34	23
Costilla Reservoir inflow	MAR-JUL	4.8	7.6	9.5	90	11.4	14.2	10.6
Costilla Creek nr Costilla	MAR-JUL	11.7	18.4	23	89	28	34	26

UPPER RIO GRANDE BASIN Reservoir Storage (1000 AF) - End of January					UPPER RIO GRANDE BASIN Watershed Snowpack Analysis - February 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	2.7	2.7	5.8	ALAMOSA CREEK BASIN	2	84	50
PLATORO	53.7	7.8	17.0	24.7	CONEJOS & RIO SAN ANTONIO	4	125	65
RIO GRANDE	51.0	17.7	11.0	16.5	CULEBRA & TRINCHERA CREEK	5	112	72
SANCHEZ	103.0	11.3	23.6	24.1	UPPER RIO GRANDE BASIN	12	137	54
SANTA MARIA	45.0	11.1	7.4	10.5	TOTAL UPPER RIO GRANDE BA	23	122	60
TERRACE	13.1	2.1	3.2	6.1				

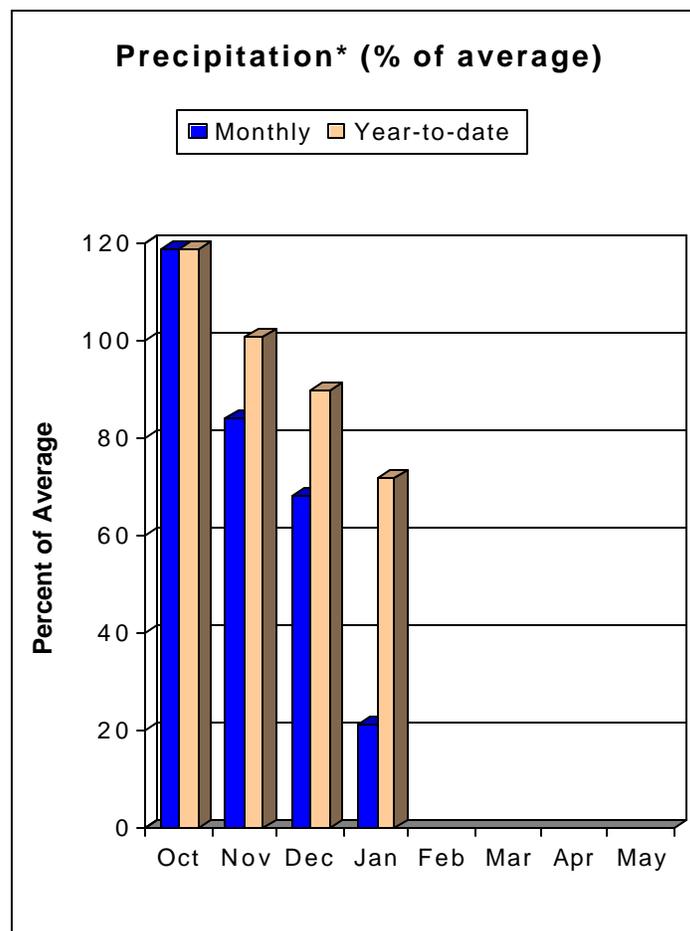
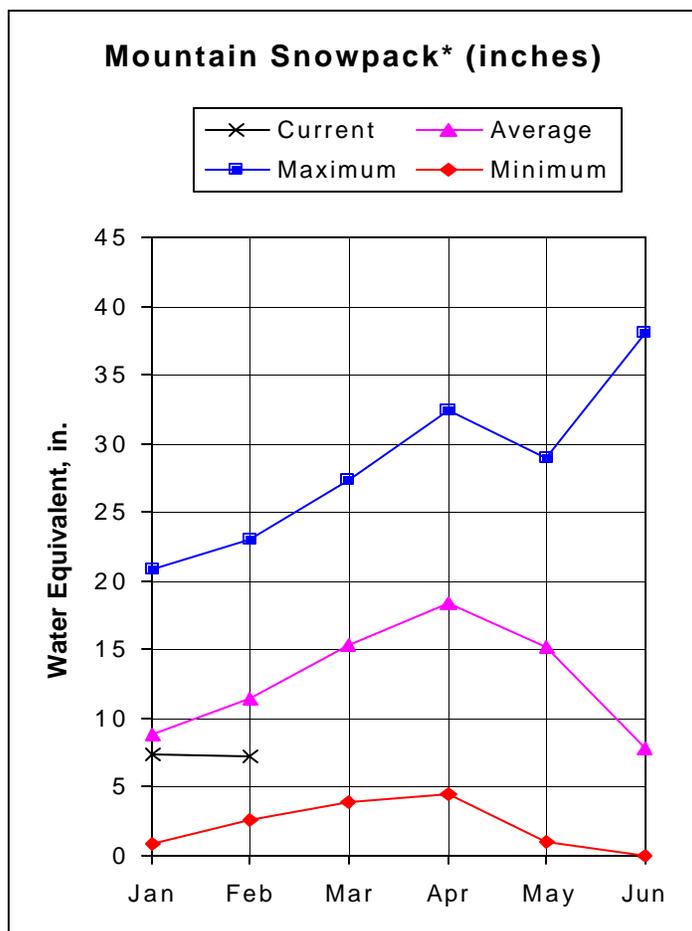
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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.

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



*Based on selected stations

Given the existing drought conditions in these basins, the February snowpack measurements are very discouraging. Severe lack of new snow during January has dropped the measurements to only 63% of average on February 1, which is 21% of average less than the January 1 measurements. At this point there would need to be more than two and a half times the existing snowpack amount to reach average conditions by April 1. The measurements range from 58% of average in the San Juan River Basin, to 69% of average in the Dolores River Basin. Precipitation during January was only 21% of average, which is the lowest monthly amount this season and less than anywhere else in the state. The water year total is only 72% of average. There has been about 40% more precipitation compared to last year at this time. Reservoirs in these basins have only 56% of their average storage amount for this time of year. There is only 71% of last year's storage. All of the streamflow forecasts are well below average. They range from 53% of average at the inflow to Navajo Reservoir, to 68% of average on the San Miguel River near Placerville.

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS
Streamflow Forecasts - February 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	85	139	175	66	211	265	265
McPhee Reservoir inflow	APR-JUL	92	159	205	64	251	318	320
San Miguel River nr Placerville	APR-JUL	45	72	90	68	108	135	132
Gurley Reservoir Inlet	APR-JUL	3.4	7.9	11.0	67	14.1	18.6	16.5
	APRIL			1.25	75			1.66
	MAY			6.30	71			8.83
	JUNE			2.90	62			4.67
	JULY			0.55	42			1.32
Cone Reservoir Inlet	APR-JUL	0.32	1.53	2.35	67	3.17	4.38	3.53
	APRIL			0.20	44			0.46
	MAY			1.35	82			1.64
	JUNE			0.60	58			1.04
	JULY			0.20	53			0.38
Lilylands Reservoir Inlet	APR-JUL	0.62	1.38	1.90	66	2.42	3.18	2.86
	APRIL			0.20	50			0.40
	MAY			1.05	80			1.32
	JUNE			0.50	58			0.87
	JULY			0.15	56			0.27
Rio Blanco at Blanco Diversion	APR-JUL	5.1	19.9	30	57	40	55	53
Navajo River at Oso Diversion	APR-JUL	6.7	25	38	55	51	69	69
San Juan River nr Carracus	APR-JUL	109	176	230	57	292	395	405
Piedra River nr Arboles	APR-JUL	49	100	135	59	170	221	230
Vallecito Reservoir Inflow	APR-JUL	52	91	118	58	145	184	205
Navajo Reservoir Inflow	APR-JUL	91	290	425	53	560	759	800
Animas River at Durango	APR-JUL	97	191	255	58	319	413	440
Lemon Reservoir Inflow	APR-JUL	7.7	22	32	55	42	56	58
La Plata River at Hesperus	APR-JUL	4.2	10.6	15.0	60	19.4	26	25
Mancos River nr Mancos	APR-JUL	3.4	15.7	24	60	32	45	40
	APRIL			5.00	86			5.80
	MAY			12.0	76			15.9
	JUNE			5.5	40			13.7
	JULY			1.50	33			4.60

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

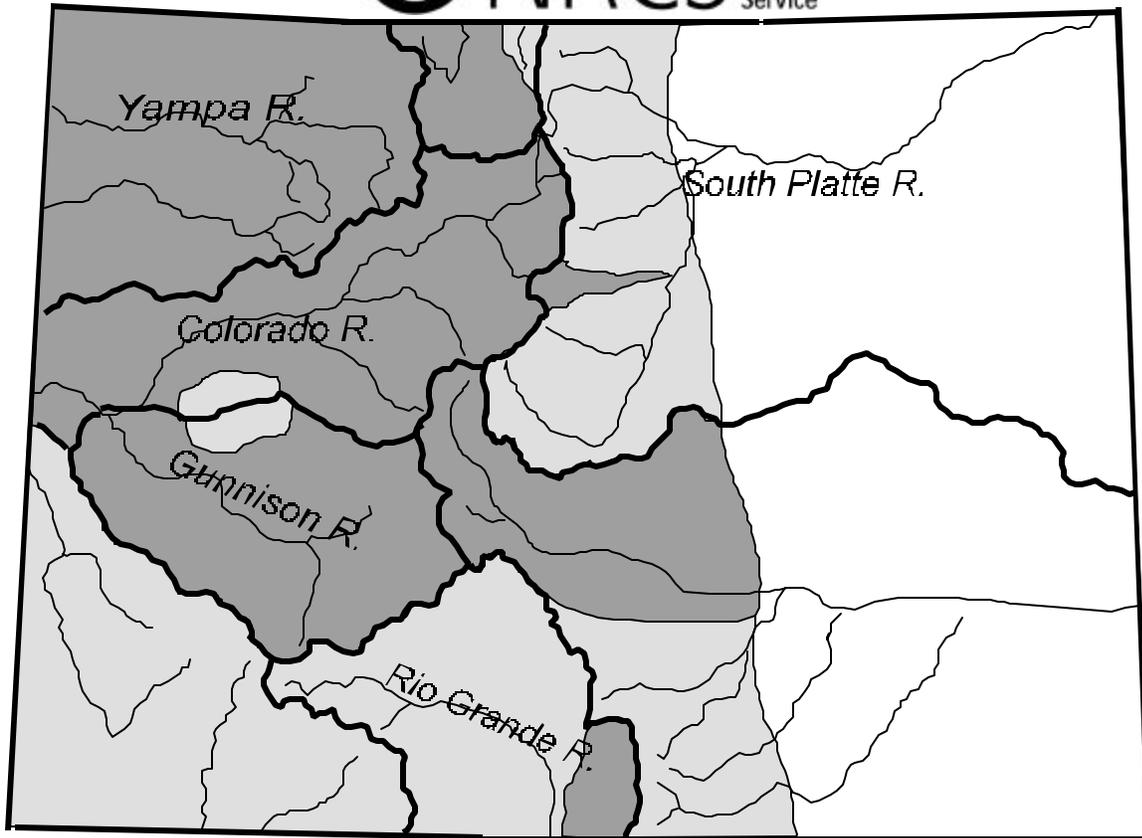
SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS
Watershed Snowpack Analysis - February 1, 2003

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	12.0	ANIMAS RIVER BASIN	9	130	62
JACKSON GULCH	10.0	2.6	2.3	4.6	DOLORES RIVER BASIN	7	112	69
LEMON	40.0	6.3	12.9	20.2	SAN MIGUEL RIVER BASIN	5	107	67
MCPHEE	381.2	160.2	206.4	274.4	SAN JUAN RIVER BASIN	3	158	58
NARRAGUINNEP	19.0	7.8	18.0	12.7	TOTAL SAN MIGUEL, DOLORES	23	123	63
VALLECITO	126.0	35.6	55.3	59.4	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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- (2) - The value is natural volume - actual volume may be affected by upstream water management.



**Snowpack
February 1, 2003**

**Statewide: 71% of Average
121% of Last Year**

-  **Much Above Average > 130%**
-  **Above Average 110% to 130%**
-  **Near Average 90% to 110%**
-  **Below Average 70% to 90%**
-  **Much Below Average 50% to 70%**
-  **Not Measured**



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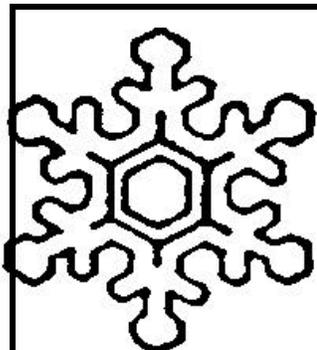
In addition to the basin outlook reports, water supply forecast information for the Western United States is available from the Natural Resources Conservation Service and the National Weather Service monthly, January through May. The information may be obtained from the National Resources Conservation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

Issued by

Bruce Knight
Chief
Natural Resources Conservation Service
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Colorado
Basin Outlook Report
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