

**USDA** United States  
Department of  
Agriculture

**Natural  
Resources  
Conservation  
Service**

# Colorado Basin Outlook Report January 1, 2007



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

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*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**

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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

### JANUARY 1, 2007

#### Summary

Snowpack accumulations have been generally good across Colorado thus far during the 2006-2007 winter season. The highlight of the season to date has been the dual blizzards which pounded the Front Range and eastern plains in late December. These storms brought beneficial accumulations to the South Platte and Arkansas basins which allow this portion of the state to report above average snowpack totals as the year begins. Reservoir storage remains adequate across most of the state with several months ahead to make improvements prior to the demand season. The first runoff forecasts of 2007 indicate near average to above average streamflows are expected across most of the state this year. Of course, cooperation from Mother Nature for the remainder of the winter will be required to assure these forecasts persist into next spring.

#### Snowpack

Colorado's snowpack got off to an excellent start in late October as the season's first big snowfall produced good coverage at mid to high elevations. For most of the state, a regular flow of storms has helped to maintain near average accumulations. By January 1, statewide snowpack totals, as measured by the automated SNOTEL network, were 96% of average and 94% of last year's measurements on this date. The late December blizzards helped to boost snowpack totals in the South Platte, Arkansas basins to above average totals, while the Rio Grande improved to just slightly below average totals. These recent storms have dominated the early season's snowfall patterns across the state, leaving the highest percents of average along the Front Range with diminishing percentages toward the western portions of the state. As of January 1, basinwide totals ranged from a high of 128% of average in the South Platte to a low of 77% of average in the combined San Juan, Animas, Dolores, and San Miguel basins. In comparison to last year's snowpack on this date, the 2007 conditions are markedly improved over last year in the Arkansas, Rio Grande and San Juan, Animas, Dolores, and San Miguel basins of southern Colorado this year. Totals of 2 to 4 times those of last year are common at many sites in these basins this year. Meanwhile, this year's snowpack is only 64% of last year's in the Yampa and White basins and is only 77% of last year's in the Colorado basin.

#### Precipitation

For the second year in a row, the 2007 water year got off to an excellent start in October with above average precipitation measured nearly statewide. Basinwide totals ranged from 158% of average in the Arkansas to 217% of average in the Gunnison. Statewide, precipitation for October totaled 186% of average. In November, precipitation totals dipped back to slightly below normal across the state. Only the Colorado and Gunnison basins reported near average monthly totals for the month of November. Statewide precipitation dropped to only 85% of average for the month. December brought a highly variable precipitation pattern to the state, which was strongly driven by the upslope storm events during the last 10 days of the month. As a result, only the Rio Grande, Arkansas and South Platte basins reported above average totals for the month, while the remainder of the state received consistently below average monthly totals. The month ended with statewide precipitation at 82% of average. For the 2007 water year, which began on October 1, 2006, statewide totals are 113% of average. Basinwide precipitation totals remain above average in all basins of the state except for the Yampa, White and North Platte basins, which are reporting 94% of average.

## Reservoir Storage

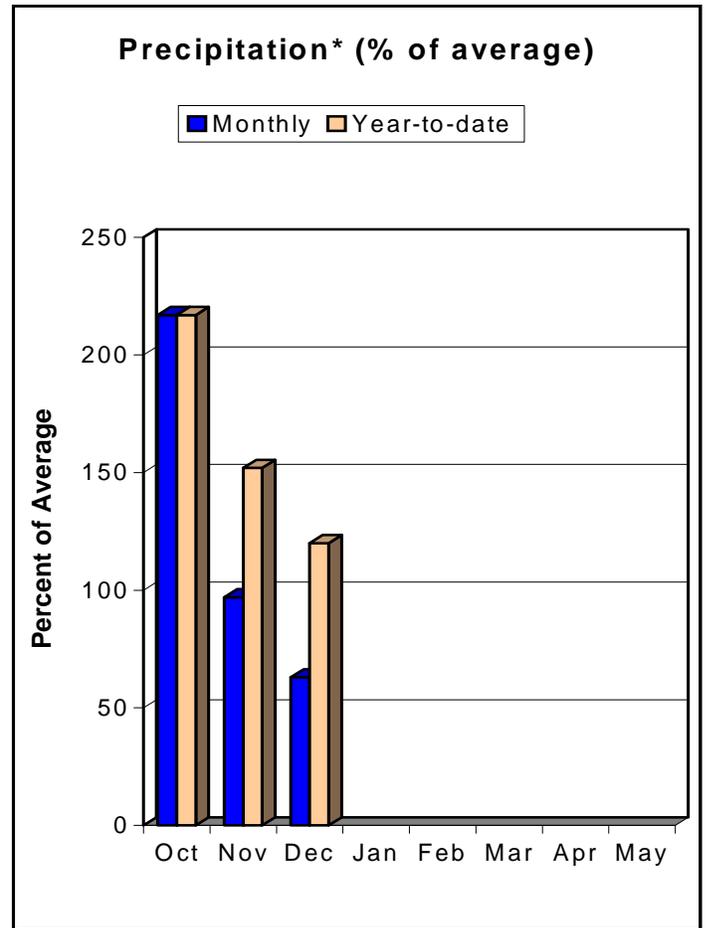
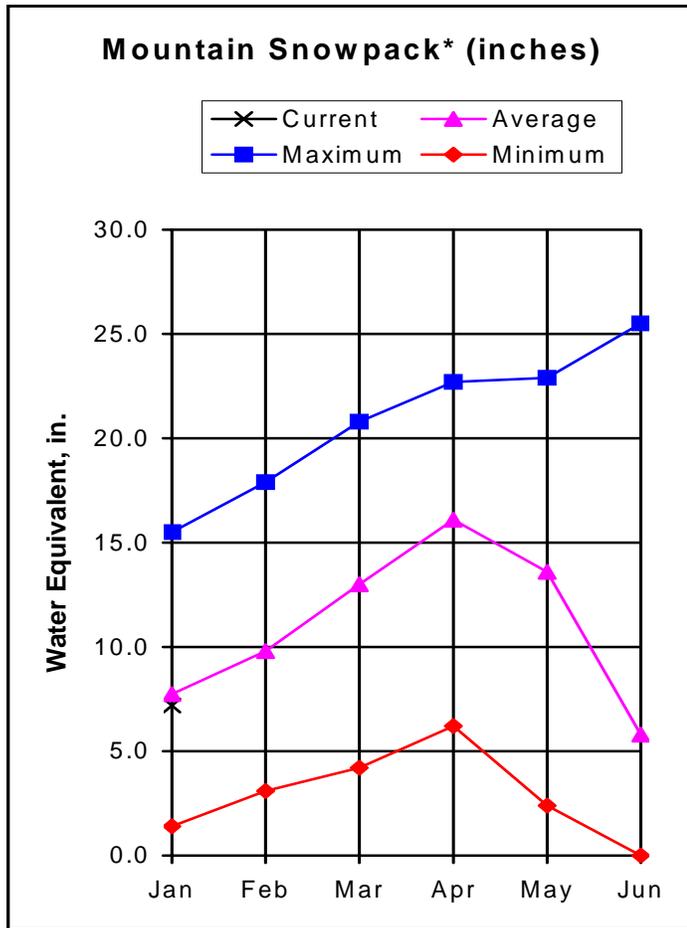
After reaching the lowest statewide storage volumes of 2006 last July, volumes have slowly improved, yet remain generally below average across most of the state. Current statewide storage levels are 94% of average and range from 111% of average in the San Juan, Animas, Dolores, and San Miguel basins to only 63% of average in the Rio Grande basin. This year's storage is near or above those of last year in all basins except the South Platte and Rio Grande, at 89% and 91% of last year, respectively. Statewide storage is at 99% of last year's volumes at this same date. Presently, the accumulated deficit for the 76 reservoirs in the state remains at 224,000 acre feet below the average mark for this date. Assuming our current weather patterns persist through most of the remaining winter months, eliminating that deficit should be attainable by this year's irrigation season.

## Streamflow

Early season forecasts for summer runoff volumes across Colorado are in the best condition since the late 1990's. Nearly the entire state can expect at least near average runoff at this point. Only the Yampa and White, along with some smaller tributaries in southwestern Colorado, are forecast to produce less than 90% of average. Meanwhile, prospects are good to see above average volumes in the South Platte, Arkansas and Colorado River headwater streams this year. Summer runoff forecasts in these basins generally range from 100% to 130% of average. After two consecutive years of below average snowpack totals and runoff volumes across southern Colorado, this year is shaping up to be near average across most of the southwestern basins, and above average across most of the Rio Grande and Arkansas basins. Another encouraging aspect for southern Colorado's water supplies is that this is shaping up to be an El Nino year. There is a tendency to have wetter conditions and higher runoff volumes across southern Colorado in these years. With nearly 60% of the winter snow accumulation season ahead, chances are good that many of these forecasts will change as the 2007 winter develops.

# GUNNISON RIVER BASIN

## as of January 1, 2007



\*Based on selected stations

Snowpacks in the Gunnison River basin got off to a great start about mid-October. Unfortunately, snowpacks were not able to keep pace with the average accumulation and found their way back to near normal conditions about the first week in November. Since then snowpack totals have been hovering near normal. SNOTEL data on January 1 indicate the basin snowpacks were 93 percent of average. This makes the eighth below average January 1 snowpack on since 1997. Sub-basin snowpack percentages ranged from 83 percent of average in the Surface Creek Watershed to 95 percent of average in the Upper Gunnison. Mountain precipitation started the water year off very well with October totals at 217 percent of average. November precipitation was slightly below normal at 97 percent of average. Precipitation during December was well below average with only 63 percent of the usual monthly precipitation. Despite the poorer conditions in November and December, total precipitation for the water year (since October 1), remains above normal at 120 percent of average. End of December reservoir storage is 108 percent of normal. This is up slightly from where it was a year ago (103 percent of last year's storage totals). Not surprisingly, streamflow forecasts are calling for near normal runoff during April through July. Runoff volumes are expected to range from 94 percent of average for Surface Creek at Cedaredge to 103 percent of average for Lake Fork at Gateview.

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GUNNISON RIVER BASIN  
Streamflow Forecasts - January 1, 2007

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Forecast Point	Forecast Period	Future Conditions				Wetter		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	
Taylor Park blw Taylor Park Res (2)	APR-JUL	71	88	100	97	113	134	103
Slate River nr Crested Butte	APR-JUL	55	72	85	96	99	122	89
East River at Almont	APR-JUL	115	153	182	95	213	264	192
Gunnison River near Gunnison (2)	APR-JUL	235	312	370	95	433	535	390
Tomichi Creek at Sargents	APR-JUL	15.5	24	31	97	39	52	32
Cochetopa Creek Blw Rock Ck Nr Parli	APR-JUL	8.1	12.9	17.0	98	22	31	17.3
Tomichi Creek at Gunnison	APR-JUL	41	62	80	99	101	138	81
Lake Fork at Gateview	APR-JUL	90	113	130	103	148	177	126
Blue Mesa Reservoir Inflow (2)	APR-JUL	449	590	700	97	823	1030	720
Paonia Reservoir Inflow	MAR-JUN	57	82	102	102	125	166	100
	APR-JUL	53	79	100	98	125	168	102
North Fork Gunnison R Nr Somerset (2)	APR-JUL	187	250	300	98	356	452	305
Surface Creek at Cedaredge	APR-JUL	9.3	13.0	16.0	94	19.4	25	17.1
Ridgway Reservoir Inflow	APR-JUL	66	85	100	98	117	144	102
Uncompahgre River At Colona (2)	APR-JUL	82	111	135	97	162	207	139
Gunnison River Nr Grand Junction (2)	APR-JUL	595	1140	1510	97	1880	2430	1560

GUNNISON RIVER BASIN Reservoir Storage (1000 AF) - End of December					GUNNISON RIVER BASIN Watershed Snowpack Analysis - January 1, 2007			
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	587.1	581.0	545.8	UPPER GUNNISON BASIN	9	91	95
CRAWFORD	14.0	9.2	7.3	7.5	SURFACE CREEK BASIN	2	102	83
FRUITGROWERS	4.0	4.5	4.4	2.8	UNCOMPAHGRE BASIN	3	112	88
FRUITLAND	9.0	2.0	0.2	1.3	TOTAL GUNNISON RIVER BASIN	12	95	93
MORROW POINT	121.0	104.9	110.6	113.4				
PAONIA	15.4	2.0	1.2	4.7				
RIDGWAY	83.0	79.5	68.2	60.1				
TAYLOR PARK	106.0	78.8	71.9	67.7				

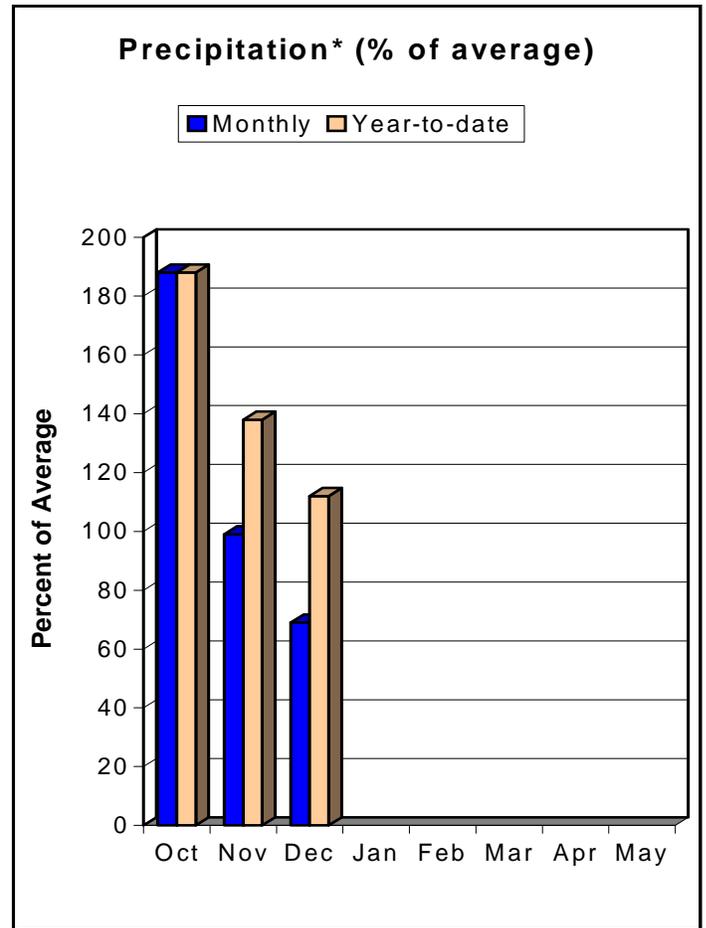
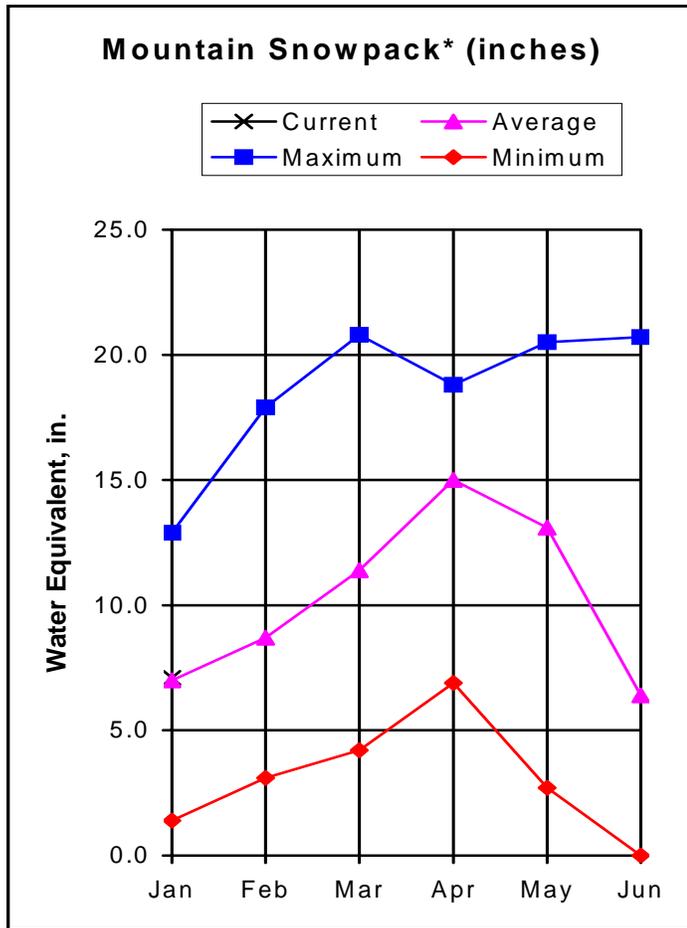
\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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 January 1, 2007



\*Based on selected stations

Decent snowfall, followed by periods of inactivity, has been the norm for the Colorado River Basin so far this year. Fortunately, the snowfall has been sufficient to keep the snowpacks above average since it began accumulating in mid-October. January 1 snowpack measurements from automated SNOTEL sites indicate the snowpack was 102 percent of average. Not a bad start, but a far cry from the snowpack totals measured last year at this time. By comparison, this year's snowpacks are only 77 percent of those present a year ago. This year's snowpack also represents one of only two years since 1997 (the other being 2006) with an above average snowpack on January 1. Sub-basin snowpacks ranged from 82 percent of average in the Muddy Creek Watershed to 124 percent of average in the Willow Creek drainage. Total mountain precipitation in the basin, beginning October 1, is above normal at 112 percent of average. The above average figure is due in large part to the 188 percent of average accumulation during October. November and December precipitation did not fare as well, with totals of 99 percent of average and 69 percent of average, respectively. Reservoir storage is down somewhat from totals reported last year at this time. However, storage at the end of December was just above normal at 101 percent of average. With the exception of Muddy Creek below Wolford Mountain Reservoir, which is forecast at 83 percent of average, runoff this spring and summer is expected to be at or above average for all the forecast points in the basin.

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UPPER COLORADO RIVER BASIN  
Streamflow Forecasts - January 1, 2007

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Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding *		30% (1000AF)	10% (1000AF)	
				50% (1000AF)	(% AVG.)			
Lake Granby Inflow (2)	APR-JUL	179	214	240	107	267	310	225
Willow Creek Reservoir Inflow	APR-JUL	33	44	52	102	61	77	51
Williams Fork Reservoir Inflow (2)	APR-JUL	73	86	95	100	105	122	95
Dillon Reservoir Inflow (2)	APR-JUL	126	154	175	105	198	236	167
Green Mountain Reservoir Inflow (2)	APR-JUL	220	266	300	107	337	397	280
Muddy Creek blw Wolford Mtn Resv (2)	APR-JUL	32	42	50	83	59	73	60
Eagle River below Gypsum (2)	APR-JUL	231	291	335	100	382	458	335
Colorado River Near Dotsero (2)	APR-JUL	1066	1315	1500	104	1697	2008	1440
Ruedi Reservoir Inflow (2)	APR-JUL	105	128	145	103	163	192	141
Roaring Fork At Glenwood Springs (2)	APR-JUL	508	633	725	102	824	980	710
Colorado River Near Cameo (2)	APR-JUL	1520	2100	2500	103	2900	3480	2420

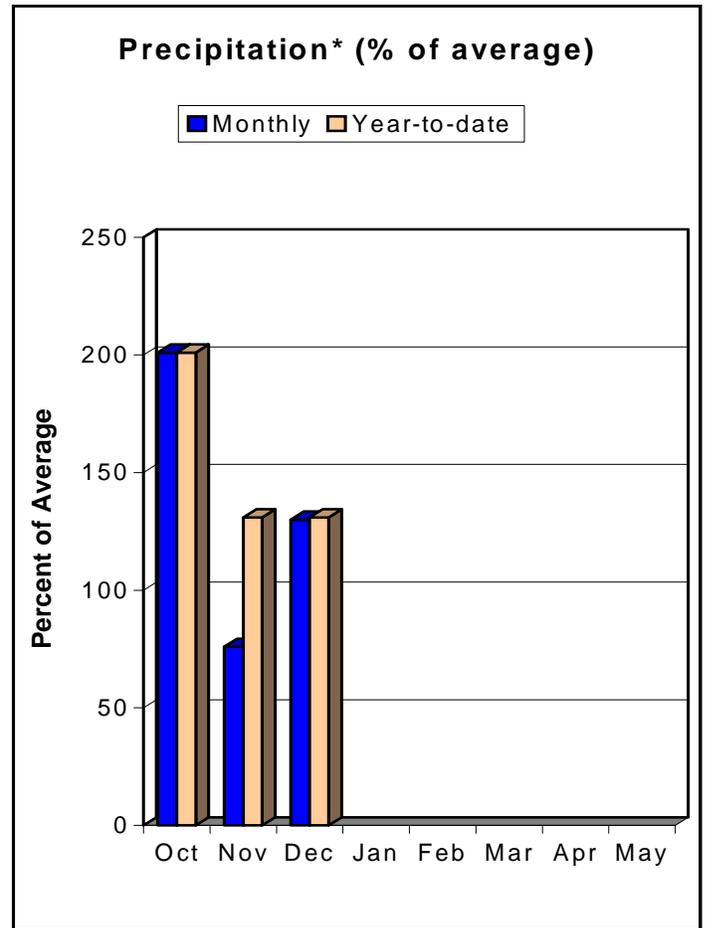
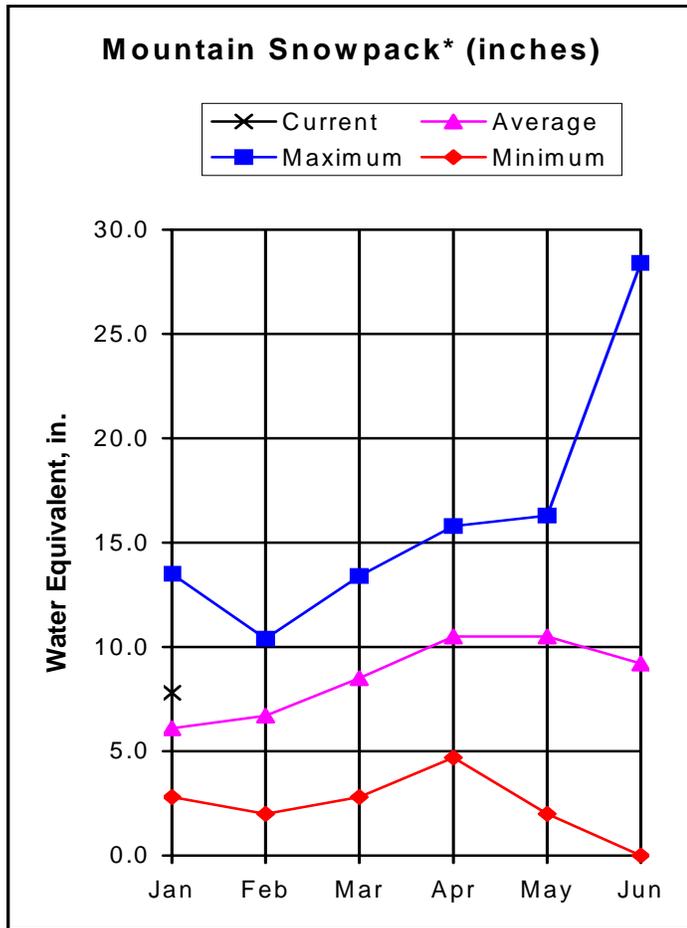
UPPER COLORADO RIVER BASIN Reservoir Storage (1000 AF) - End of December					UPPER COLORADO RIVER BASIN Watershed Snowpack Analysis - January 1, 2007			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
DILLON	250.7	236.9	229.6	224.8	BLUE RIVER BASIN	5	70	118
LAKE GRANBY	465.6	288.5	333.8	322.1	UPPER COLORADO RIVER BASI	19	75	107
GREEN MOUNTAIN	146.8	89.7	84.3	90.3	MUDDY CREEK BASIN	2	53	82
HOMESTAKE	43.0	41.0	39.4	28.4	PLATEAU CREEK BASIN	2	102	83
RUEDI	102.0	79.6	81.2	79.7	ROARING FORK BASIN	7	76	99
VEGA	32.9	15.9	18.6	11.0	WILLIAMS FORK BASIN	2	76	112
WILLIAMS FORK	97.0	72.3	74.8	62.9	WILLOW CREEK BASIN	2	104	124
WILLOW CREEK	9.1	6.5	6.4	6.1	TOTAL COLORADO RIVER BASI	28	77	102

\* 90%, 70%, 50%, 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 January 1, 2007



\*Based on selected stations

A wetter than average October, drier than average November, and lots of holiday snowflakes landed the South Platte River Basin at above its average year to date precipitation as of January 1 based on data from 17 SNOTEL sites. The wet October provided 201% of average precipitation for the month, followed by only 76% of average precipitation in November. A dry trend persisted into mid-December when a pair of holiday upslope storms helped the basin see 130% of its average precipitation for December and 131% of average year to date precipitation by January 1. Some early season snow, combined with a couple holiday storms put the South Platte Basin at 128% of its average snowpack as of January 1. All sub-basins appear to be contributing to the above average snowpack, however sites on the northern Front Range foothills seem to have been favored, with Boulder Creek at 138% of average based on data from three SNOTEL sites and Clear Creek at 134% based on data from two SNOTEL sites, while the Upper South Platte is at 119% of average based on data from six SNOTEL sites. Reservoir storage on the South Platte is low at 77% of average based on reports from 33 reservoirs. Given the above average total precipitation and snowpack figures, it is not surprising that near average to above average runoff is for all points within the basin. April-July streamflow volumes are expected to range from 100% of average for the Inflow to Antero Reservoir to as much as 140% of average for the Inflow to Elevenmile Canyon Reservoir.

SOUTH PLATTE RIVER BASIN  
Streamflow Forecasts - January 1, 2007

Forecast Point	Forecast Period	<----- Drier ----- Future Conditions ----- Wetter ----->						30-Yr Avg. (1000AF)				
		90%		70%		50%			30%		10%	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)		(1000AF)	(1000AF)		
Antero Reservoir inflow	APR-JUL	8.3	12.6	16.8	100	22	34	16.8				
	APR-SEP	10.7	16.4	22	107	29	45	21				
Spinney Mountain Reservoir inflow	APR-JUL	39	58	75	134	98	145	56				
	APR-SEP	45	70	93	135	124	191	69				
Elevenmile Canyon Reservoir inflow	APR-JUL	40	61	81	140	108	163	58				
	APR-SEP	46	74	101	140	139	221	72				
Cheesman Lake inflow	APR-JUL	75	113	148	129	195	291	115				
	APR-SEP	91	138	183	129	243	369	142				
South Platte River at South Platte	APR-JUL	111	171	230	112	309	477	205				
	APR-SEP	139	215	290	114	390	605	255				
Bear Creek abv Evergreen	APR-JUL	10.2	16.5	23	119	32	52	19.3				
	APR-SEP	14.4	23	31	124	42	67	25				
Bear Creek at Morrison	APR-JUL	11.7	21	31	124	46	82	25				
	APR-SEP	16.3	28	41	132	60	103	31				
Clear Creek at Golden	APR-JUL	78	99	116	106	136	173	110				
	APR-SEP	95	121	139	104	162	200	134				
St. Vrain Creek at Lyons	APR-JUL	72	91	107	116	126	160	92				
	APR-SEP	85	106	124	116	146	183	107				
Boulder Creek nr Orodell	APR-JUL	39	48	56	122	65	81	46				
	APR-SEP	44	55	64	121	75	93	53				
South Boulder nr Eldorado Spgs	APR-JUL	32	39	45	109	52	64	41				
	APR-SEP	35	43	50	109	58	72	46				
Big Thompson River at mouth nr Drake	APR-JUL	69	88	104	106	123	157	98				
	APR-SEP	82	105	123	105	145	184	117				
CACHE LAPOUDRE at Canyon Mouth	APR-JUL	164	215	255	104	305	400	245				
	APR-SEP	184	240	285	104	340	445	275				

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

SOUTH PLATTE RIVER BASIN  
Watershed Snowpack Analysis - January 1, 2007

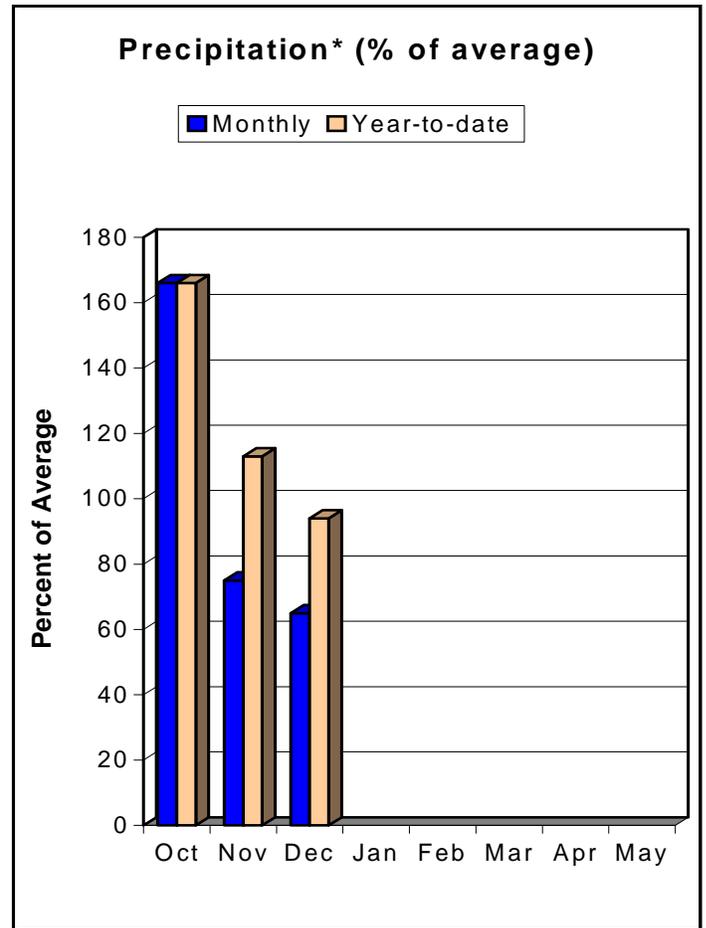
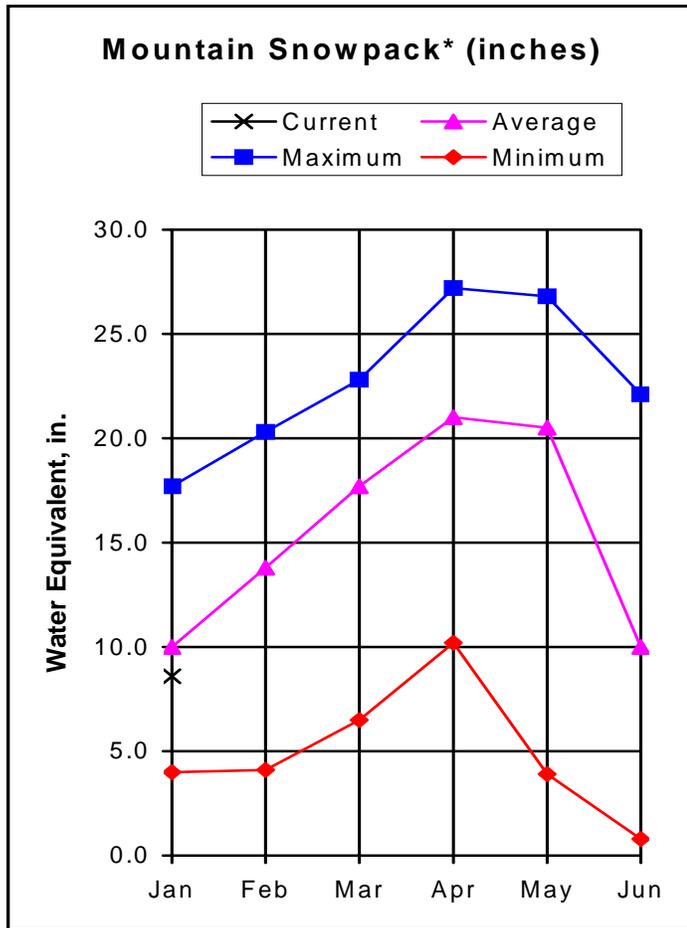
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ANTERO	19.9	16.6	6.8	16.5	BIG THOMPSON BASIN	3	107	129
BARR LAKE	32.0	22.8	22.7	22.4	BOULDER CREEK BASIN	3	112	138
BLACK HOLLOW	6.5	2.3	1.6	3.8	CACHE LA POUFRE BASIN	2	93	117
BOYD LAKE	44.0	12.6	30.7	31.7	CLEAR CREEK BASIN	2	77	134
BUTTON ROCK/RALPH PRICE	16.2	15.8	14.8	13.6	SAINT VRAIN BASIN	1	143	211
CACHE LA POUFRE	10.1	2.4	4.7	6.3	UPPER SOUTH PLATTE BASIN	6	96	119
CARTER	108.9	20.2	34.0	74.7	TOTAL SOUTH PLATTE BASIN	17	98	128
CHAMBERS LAKE	8.8	2.5	4.8	2.8				
CHEESMAN	79.0	68.5	74.5	60.9				
COBB LAKE	22.3	3.4	9.1	13.9				
ELEVEN MILE	98.0	100.5	99.0	95.9				
EMPIRE	36.5	12.7	12.9	22.2				
FOSSIL CREEK	11.1	6.6	7.3	6.3				
GROSS	42.0	25.0	27.0	26.2				
HALLIGAN	6.0	3.4	3.2	3.6				
HORSECREEK	14.7	0.3	6.7	10.9				
HORSETOOTH	149.7	81.3	66.5	87.8				
JACKSON	26.1	13.7	22.9	23.0				
JULESBURG	20.5	17.4	15.8	18.4				
LAKE LOVELAND	14.0	10.5	11.9	8.9				
LONE TREE	9.0	4.5	5.5	6.0				
MARIANO	6.0	3.9	3.5	4.1				
MARSHALL	10.0	3.7	4.9	4.7				
MARSTON	13.0	11.1	0.3	12.7				
MILTON	24.0	3.8	17.0	14.8				
POINT OF ROCKS	70.6	23.9	32.3	51.1				
PREWITT	28.2	0.7	23.7	18.0				
RIVERSIDE	55.8	35.2	38.7	38.1				
SPINNEY MOUNTAIN	49.0	34.7	32.7	35.4				
STANDLEY	42.0	38.8	35.4	32.5				
TERRY LAKE	8.0	4.7	5.4	5.2				
UNION	13.0	8.4	10.7	10.4				
WINDSOR	19.0	0.9	5.1	10.0				

\* 90%, 70%, 50%, 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 January 1, 2007



\*Based on selected stations

Snowpacks in the combined Yampa, White, North Platte and Laramie River basins got off to a good start in mid-October when the snow began to accumulate. However, by mid-November the snowpack conditions had dropped to near normal. Since then, snowpacks have continued to lose ground and, on January 1, SNOTEL measurements show the basin to only be at 86 percent of average. This is a measly 64 percent of the snowpack that was present last year at this time. Snowpacks within the basin range from 79 percent of average in the Elk River Watershed to 122 percent of average in the Laramie River Watershed (the only watershed in the combined basins with above average snowpacks). Despite a spectacular start in October (166 percent of average), mountain precipitation totals for the water year are currently below normal at 94 percent of average and only 67 percent of the total precipitation reported at this time last year. This is due in large part to the 75 percent of average and 65 percent of average precipitation totals recorded during November and December. Reservoir storage in Stagecoach is above normal at 115 percent of average and Yamcolo is below normal at 71 percent of average. Overall, reservoir storage is 108 percent of average and 9 percent higher than it was at the end of December 2005. Runoff volumes are expected to be below average throughout most of the basin. Forecasts range from a low of 76 percent of average for Fortification Creek near Fortification to a high of 107 percent of average for the Laramie River near Woods.

YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS  
Streamflow Forecasts - January 1, 2007

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
NORTH PLATTE RIVER nr Northgate	APR-JUL	108	170	220	90	277	372	245
	APR-SEP	99	186	245	91	305	390	270
LARAMIE RIVER nr Woods	APR-JUL	68	106	132	107	158	194	123
	APR-SEP	75	117	145	107	173	213	135
Yampa R ab Stagecoach Reservoir (2)	APR-JUL	14.3	20	25	86	31	40	29
Yampa River at Steamboat Springs (2)	APR-JUL	159	205	240	86	277	337	280
Elk River nr Milner	APR-JUL	192	253	300	92	351	433	325
Elkhead Creek nr Elkhead	APR-JUL	21	29	35	90	42	53	39
Elkhead Creek blw Maynard Gulch (2)	APR-JUL	32	46	56	95	66	80	59
Fortification Ck nr Fortification	MAR-JUN	2.29	4.08	5.70	76	7.71	11.46	7.50
Yampa River Near Maybell (2)	APR-JUL	565	733	860	87	997	1216	990
Little Snake River nr Slater	APR-JUL	82	112	135	85	160	202	159
Little Snake River nr Dixon	APR-JUL	154	214	260	79	311	393	330
Little Snake River nr Lily	APR-JUL	149	227	290	80	360	477	365
White River nr Meeker	APR-JUL	147	203	245	85	292	367	290

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

YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS  
Watershed Snowpack Analysis - January 1, 2007

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	30.4	27.4	26.4	LARAMIE RIVER BASIN	2	106	122
YAMCOLO	8.7	3.9	4.0	5.5	NORTH PLATTE RIVER BASIN	7	62	85
					TOTAL NORTH PLATTE BASIN	9	68	91
					ELK RIVER BASIN	2	67	79
					YAMPA RIVER BASIN	9	58	81
					WHITE RIVER BASIN	4	60	80
					TOTAL YAMPA AND WHITE RIV	12	58	80
					LITTLE SNAKE RIVER BASIN	6	62	84
TOTAL YAMPA, WHITE AND NO	24	64	86					

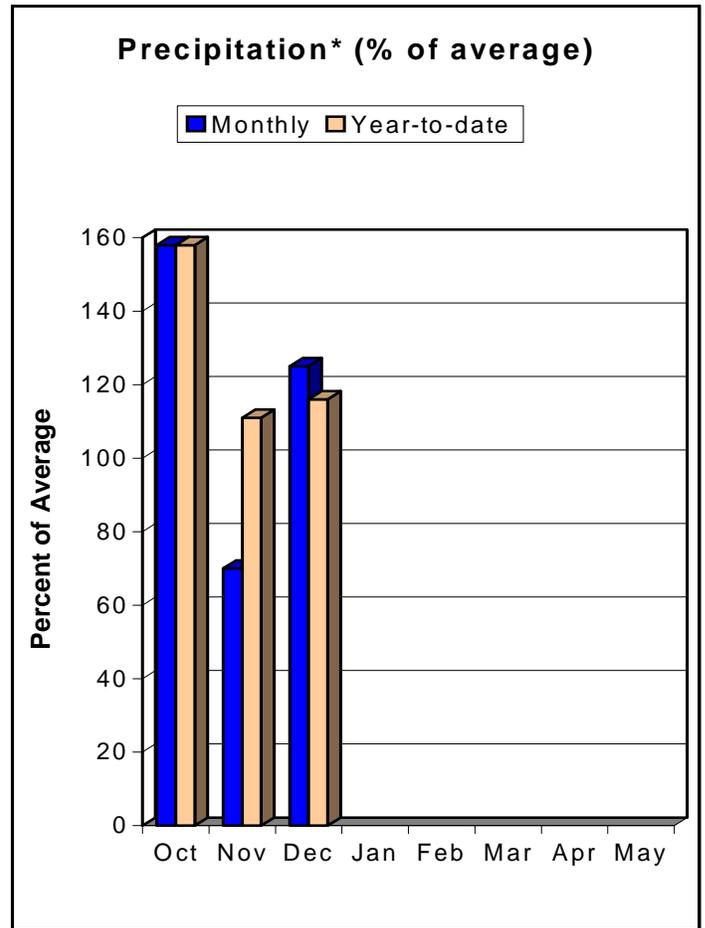
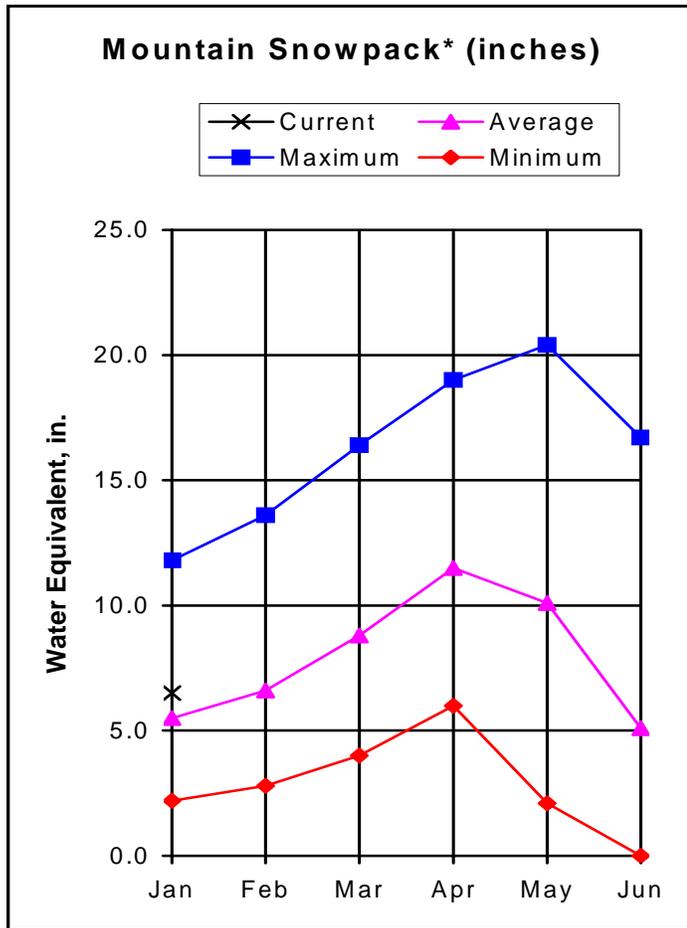
\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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 January 1, 2007



\*Based on selected stations

The Arkansas River Basin had a nice start to water year 2007 with 158% of average October precipitation based on data from six SNOTEL sites. Things dried up a bit in November with only 70% of average precipitation, but jumped again in December with 125% of average precipitation for the month, thanks largely to a pair of holiday snow storms. Year to date precipitation sits at 116% of average as of January 1. Snowpack on the Arkansas tells a similar story. Some early season flakes helped the snowpack exceed average values in October but snow levels returned to about average throughout November and into mid-December. The holiday season storms boosted snowpack to 118% of average by January 1. The south Sangre de Cristos seem to be carrying a lot of the load as the Purgatoire Basin came in at 145% of average snowpack based on data from two SNOTEL sites, while the Upper Arkansas (three SNOTEL sites) and Cuaharas and Huerfano Basins (two SNOTEL sites) hover around 120% of average. Reservoir storage on the Arkansas is below average, 76% of average to be exact, based on reports from 13 reservoirs. The good news is that storage is 120% of the storage this time last year. Streamflow forecasts should keep boaters happy for now with 113% of April through September average streamflow volume expected on the Arkansas at Salida. The southern sub-basins should expect 107% to 123% of average.

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ARKANSAS RIVER BASIN  
Streamflow Forecasts - January 1, 2007

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Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)				
		90%		70%		50%			30%		10%	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)		(1000AF)	(1000AF)		
Chalk Ck At Nathrop	APR-JUL	15.0	22	27	117	33	43	23				
	APR-SEP	19.2	27	33	122	40	51	27				
Arkansas River At Salida (2)	APR-JUL	198	245	280	110	317	377	255				
	APR-SEP	251	308	350	113	395	465	310				
Grape Creek Near Westcliffe	APR-JUL	3.8	10.5	17.0	106	25	40	16.1				
	APR-SEP	8.4	15.2	21	107	28	39	19.6				
Pueblo Reservoir Inflow (2)	APR-JUL	271	367	440	114	520	649	385				
	APR-SEP	375	489	575	119	668	817	485				
Huerfano River Near Redwing	APR-JUL	7.4	10.3	12.5	102	14.9	18.9	12.3				
	APR-SEP	10.0	13.4	16.0	103	18.8	23	15.5				
Cucharas River At Boyd Ranch Nr La V	APR-JUL	5.5	10.1	14.0	124	18.5	26	11.3				
	APR-SEP	6.9	11.9	16.0	123	21	29	13.0				
Trinidad Lake Inflow	MAR-JUL	14.6	28	39	115	52	75	34				
	APR-SEP	22	37	50	114	65	89	44				

ARKANSAS RIVER BASIN Reservoir Storage (1000 AF) - End of December					ARKANSAS RIVER BASIN Watershed Snowpack Analysis - January 1, 2007			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ADOBE	62.0	15.8	6.9	23.4	UPPER ARKANSAS BASIN	3	76	120
CLEAR CREEK	11.4	7.7	8.1	5.9	CUCHARAS & HUERFANO RIVER	2	336	118
CUCHARAS RESERVOIR	40.0	0.0	0.5	4.8	PURGATOIRE RIVER BASIN	2	1514	145
GREAT PLAINS	150.0	0.0	0.0	32.2	TOTAL ARKANSAS RIVER BASIN	6	121	118
HOLBROOK	7.0	2.1	0.0	3.0				
HORSE CREEK	27.0	0.0	0.0	8.4				
JOHN MARTIN	616.0	30.6	19.4	108.7				
LAKE HENRY	8.0	5.4	4.6	3.7				
MEREDITH	42.0	11.6	4.7	13.6				
PUEBLO	354.0	138.9	120.0	144.0				
TRINIDAD	167.0	20.3	17.7	24.2				
TURQUOISE	127.0	98.5	88.4	87.9				
TWIN LAKES	86.0	56.2	53.3	46.3				

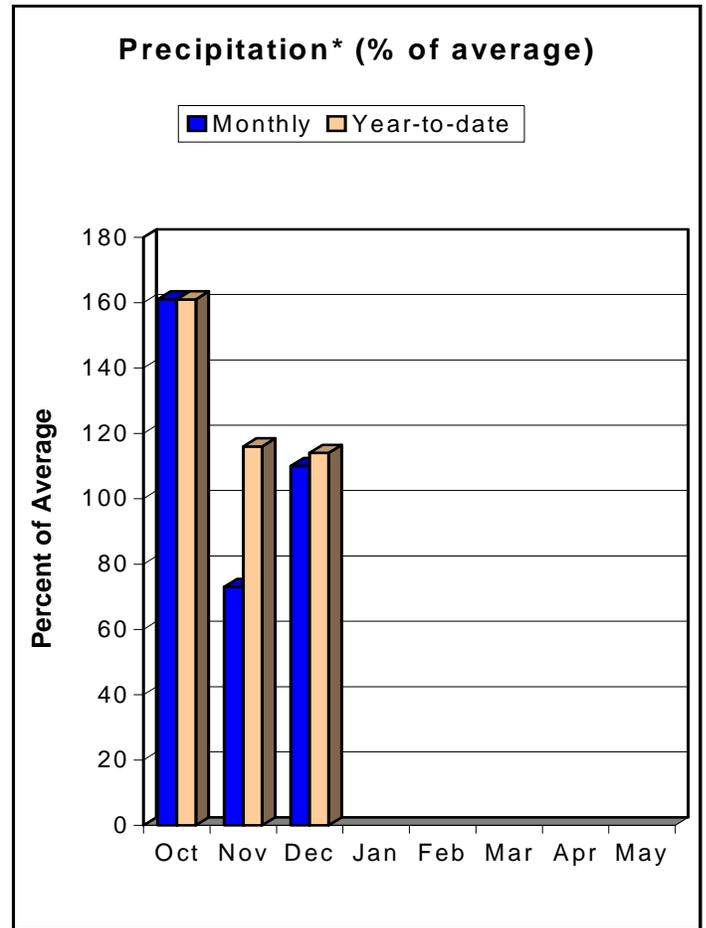
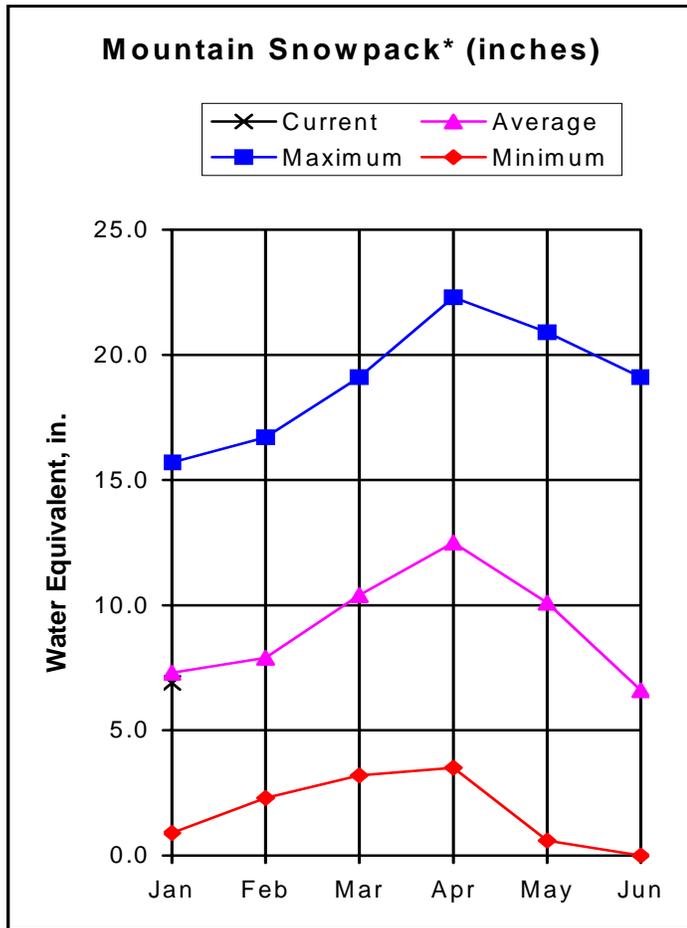
\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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 January 1, 2007



\*Based on selected stations

Like most basins in the state, the Upper Rio Grande Basin saw a wetter than average October at 161% of average precipitation based on 10 SNOTEL sites, and a drier than average November at 73% of average. In December, only the eastern basins saw above average precipitation, and the Rio Grande enjoyed some of the moisture that arrived via a pair of south tracking holiday storms. The basin received 110% of its average December precipitation, putting the year to date total as of January 1 at 114% of average. The heavy snows that hit the eastern portions of the state also fell on the west slope of the Sangre de Cristos. This pattern resulted in the Culebra and Trinchera sub-basins seeing 103% of their average snowpack as of January 1 based on data from three SNOTEL sites, but the Conejos and Rio San Antonio sub-basins only saw 85% of their average based on data from two SNOTEL sites. The Upper Rio Grande Basin as a whole is at 94% of its snowpack as of January 1. The good news is that the basin is at 280% of the snowpack from last year at this time. Reservoir storage is low at 63% of average based on reports from six reservoirs. April through September streamflow volumes are forecasted to be very close to average for all forecast points at this time, with the exception of the San Antonio River. It is expected to run at about 78% of its average volume.

UPPER RIO GRANDE BASIN  
Streamflow Forecasts - January 1, 2007

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Rio Grande At Thirty Mile Bridge (2)	APR-SEP	94	118	137	101	157	189	136
Rio Grande Reservoir Inflow	APR-JUL	88	106	120	102	135	158	118
Rio Grande At Wagon Wheel Gap (2)	APR-SEP	238	305	355	103	409	496	345
South Fork Rio Grande at South Fork	APR-SEP	87	112	132	100	154	191	132
Rio Grande nr Del Norte (2)	APR-SEP	368	473	555	105	646	797	531
Saguache Creek nr Saguache (2)	APR-SEP	20	28	34	103	41	52	33
Alamosa Creek Abv Terrace Reservoir	APR-SEP	41	54	64	91	75	94	70
La Jara Creek nr Capulin	MAR-JUL	4.41	6.47	8.20	94	10.21	13.71	8.70
Trinchera Creek abv Turners Ranch	APR-SEP	7.5	11.4	14.0	117	16.6	21	12.0
Sangre de Cristo Creek	APR-SEP	2.05	6.80	10.00	114	13.20	17.90	8.80
Ute Ck nr Fort Garland	APR-SEP	7.8	11.2	14.0	115	17.3	23	12.2
Platoro Reservoir Inflow	APR-JUL	40	51	59	92	68	84	64
	APR-SEP	45	57	66	93	76	93	71
Conejos River Near Mogote (2)	APR-SEP	120	159	190	95	225	283	200
San Antonio River at Ortiz	APR-SEP	5.6	9.4	12.8	78	16.9	25	16.4
Los Pinos River nr Ortiz	APR-SEP	41	56	69	93	83	108	74
Culebra Creek at San Luis (2)	APR-SEP	13.1	19.6	25	109	31	42	23
Costilla Reservoir Inflow	MAR-JUL	8.6	11.6	14.0	132	16.7	21	10.6
Costilla Creek Near Costilla (2)	MAR-JUL	19.0	28	35	135	43	58	26

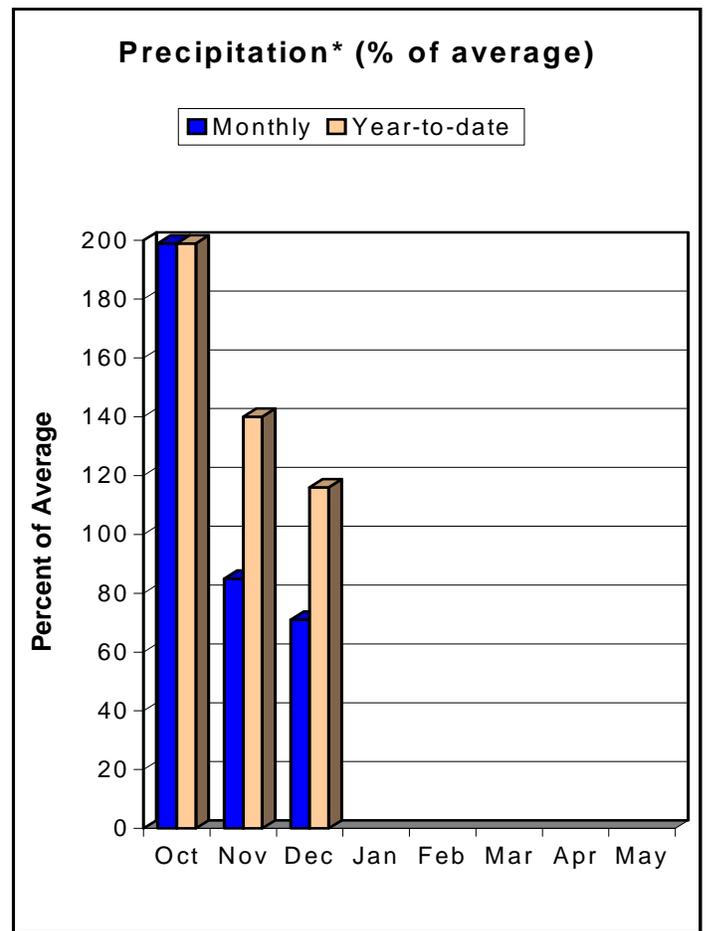
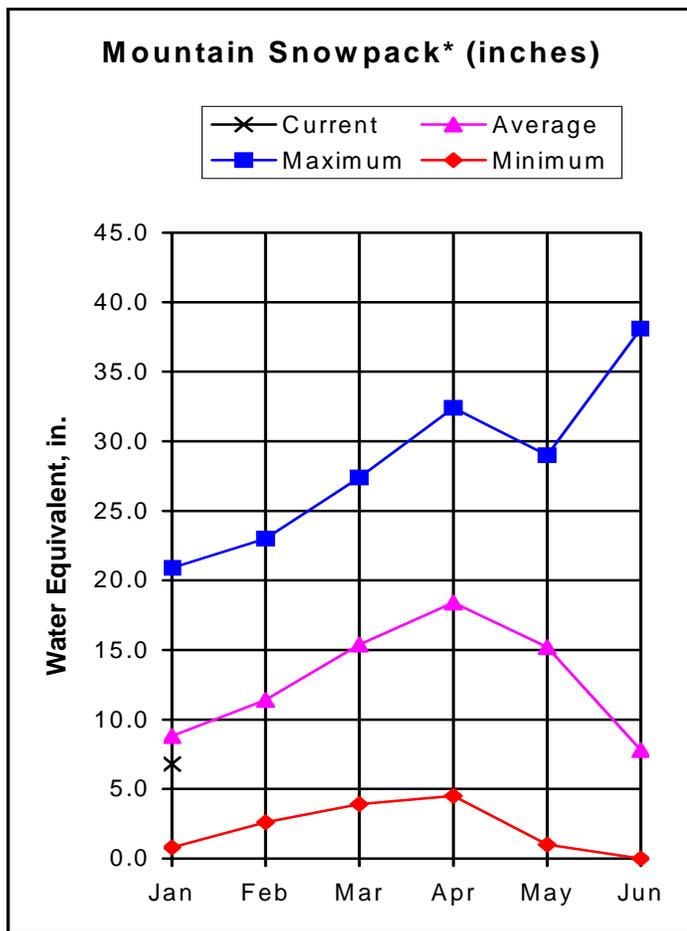
UPPER RIO GRANDE BASIN Reservoir Storage (1000 AF) - End of December					UPPER RIO GRANDE BASIN Watershed Snowpack Analysis - January 1, 2007			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CONTINENTAL	27.0	3.1	1.0	4.9	ALAMOSA CREEK BASIN	1	221	94
PLATORO	57.0	6.3	4.5	24.3	CONEJOS & RIO SAN ANTONIO	2	235	85
RIO GRANDE	51.0	19.2	20.5	15.1	CULEBRA & TRINCHERA CREEK	3	411	103
SANCHEZ	103.0	13.3	21.3	23.9	UPPER RIO GRANDE BASIN	4	249	92
SANTA MARIA	45.0	6.4	7.2	10.1	TOTAL UPPER RIO GRANDE BA	10	280	94
TERRACE	18.0	4.6	3.7	5.6				

\* 90%, 70%, 50%, 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 January 1, 2007



\*Based on selected stations

Snowpacks in the combined San Miguel, Dolores, Animas and San Juan River basins have not completely turned around from last year, but they are definitely better than they were. In fact, this year's January 1 snowpacks, based on SNOTEL data, are 63 percent higher than those measured last year. The San Juan Basin showed the highest improvement with a 321 percent increase over January 1, 2006 figures. Unfortunately, overall, the snowpacks are still below normal at 77 percent of average. This makes it the ninth below average January 1 snowpack in the last ten years. Individual watershed snowpacks range from 74 percent of average for the Dolores to 85 percent of average in the San Miguel. Mountain precipitation in the combined basins is above normal at 116 percent of average for the water year (which began on October 1). This was due primarily to the 199 percent of average precipitation totals the basin experienced during October. November and December precipitation did not fare as well, with only 85 percent of average and 71 percent of average precipitation during their respective months. Reservoir storage continues to be the bright spot in the water supply picture with storage values 11 percent over the average. Spring and summer streamflows are forecast to be below normal throughout the basin. Forecasts are expected to range from 75 percent of average for the Mancos River near Mancos up to 95 percent of average for the Inflow to Vallecito Reservoir.

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS  
Streamflow Forecasts - January 1, 2007

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<==== Drier =====		==== Future Conditions =====		==== Wetter =====>>		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
Dolores River at Dolores	APR-JUL	130	188	235	89	290	385	265
McPhee Reservoir Inflow	APR-JUL	163	230	285	89	348	457	320
San Miguel River nr Placerville	APR-JUL	70	97	120	91	146	190	132
Gurley Reservoir Inlet	APR-JUL	5.2	11.0	15.0	91	18.8	25	16.5
	APRIL			1.60	96			1.66
	MAY			8.20	93			8.83
	JUNE			4.20	90			4.67
	JULY			1.00	76			1.32
Cone Reservoir Inlet	APR-JUL	1.02	2.30	3.20	91	4.10	5.40	3.53
	APRIL			0.45	98			0.46
	MAY			1.60	98			1.64
	JUNE			0.85	82			1.04
	JULY			0.30	79			0.38
Lilylands Reservoir Inlet	APR-JUL	0.18	1.56	2.50	87	3.40	4.80	2.86
	APRIL			0.37	93			0.40
	MAY			1.25	95			1.32
	JUNE			0.70	81			0.87
	JULY			0.18	67			0.27
Rio Blanco At Blanco Diversion (2)	APR-JUL	35	43	50	94	57	69	53
	APR-JUL	50	50	50	94	50	50	53
Navajo River At Oso Diversion (2)	APR-JUL	42	55	65	94	76	95	69
San Juan River Near Carracas (2)	APR-JUL	199	287	360	89	444	589	405
Piedra River near Arboles	APR-JUL	103	160	210	91	269	374	230
Vallecito Reservoir Inflow	APR-JUL	124	164	195	95	230	288	205
Navajo Reservoir Inflow (2)	APR-JUL	400	565	700	89	854	1121	785
Animas River at Durango	APR-JUL	253	340	410	93	489	622	440
Lemon Reservoir Inflow	APR-JUL	32	43	52	90	62	79	58
La Plata River at Hesperus	APR-JUL	11.0	15.9	20	80	25	33	25
Mancos River nr Mancos	APR-JUL	2.1	19.0	30	75	41	58	40
	APRIL			4.80	83			5.80
	MAY			12.0	76			15.9
	JUNE			10.0	73			13.7
	JULY			3.20	70			4.60

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

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS  
Watershed Snowpack Analysis - January 1, 2007

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
GROUNDHOG	22.0	16.2	14.6	12.0	ANIMAS RIVER BASIN	7	142	78
JACKSON GULCH	10.0	6.3	4.8	4.6	DOLORES RIVER BASIN	4	129	74
LEMON	40.0	33.1	23.0	20.1	SAN MIGUEL RIVER BASIN	3	135	85
MCPHEE	381.0	269.6	293.4	271.1	SAN JUAN RIVER BASIN	3	321	77
NARRAGUINNEP	19.0	17.8	10.8	12.7	TOTAL SAN MIGUEL, DOLORES	16	163	77
VALLECITO	126.0	76.3	76.3	58.6	AN JUAN RIVER BASINS			

\* 90%, 70%, 50%, 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.



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/wsf/westwide.html>.

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*Issued by*

*Released by*

**Arlen Lancaster**  
Chief  
Natural Resources Conservation Service  
U.S. Department of Agriculture

**Allen Green**  
State Conservationist  
Natural Resources Conservation Service  
Lakewood, Colorado



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**Basin Outlook Report**  
Natural Resources Conservation Service  
Lakewood, CO

