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Department of  
Agriculture

**Natural  
Resources  
Conservation  
Service**

# Colorado Basin Outlook Report January 1, 2006



# 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

### JANUARY 1, 2006

#### Summary

Colorado's snowpack is highly variable as the beginning of the 2006 water year has brought a favorable storm track to northern basins. Meanwhile, the southern mountains have been missed by most storms this season and are tracking at well below average snowpack totals. With 60% of the winter snowpack accumulation remaining, conditions can improve in the southern mountains, but chances of reaching an average peak accumulation are slim. The state's reservoir storage continues to recover from the drought-like conditions of a few years ago and now stands slightly below average. However, a few basins have yet to show significant recovery. The 2006 water supplies look quite optimistic for northern Colorado, but southern Colorado can only hope for a major shift in weather patterns.

#### Snowpack

The latest data collected from the SNOTEL network across Colorado shows the variability in snowpack accumulations across the state. A nearly continuous flow of storms crossing northern Colorado has boosted snowpack totals in those basins to the highest in the state, in terms of percent of average. The Colorado, Yampa, White, and North and South Platte basins are all reporting January 1 totals which range from 132% to 136% of average. These accumulations are the highest since 1997 in these basins. Towards the south, storm frequency drops off dramatically, leaving near average accumulations in the Gunnison basin and well below average totals in the Rio Grande, San Juan, Animas, Dolores, and San Miguel basins. Although the Arkansas basin's totals are near average, that basin exhibits the greatest variability with the state's highest percentages in the headwaters and some of the state's lowest percentages along the southern tributaries. Statewide snowpack levels were 104% of average on January 1, and are the highest statewide percentage on this date since 1997. This year's snowpack distribution is in stark contrast from that of last year, when the southern basins were reporting the highest snowpack percentage in the state. This year's statewide snowpack totals are 105% of those measured last year at this time.

#### Precipitation

The 2006 water year got off to an excellent start in October with above average precipitation measured nearly statewide. Basinwide totals ranged from 96% of average in the Rio Grande to 148% of average in the Colorado. Statewide, precipitation for October was totaled at 120% of average. During November, precipitation patterns set in which continued to bring above normal moisture to the northern portions of the state and well below average to the south. Basinwide totals ranged from only 36% of average in the combined San Juan, Animas, Dolores, and San Miguel to a high of 142% of average in the Colorado. For the month of November, statewide precipitation was 103% of average. December's weather patterns only continued that of November, and basinwide totals ranged from 50% of average in the Rio Grande to 152% of average again in the Colorado. For the month, December's statewide total was 124% of average. For the first three months of the 2006 water year, precipitation totals mimic the snowpack pattern, and range from only 63% of average in the Rio Grande basin to a high of 148% of average in the Colorado basin. Statewide, water year totals are now 116% of average.

## Reservoir Storage

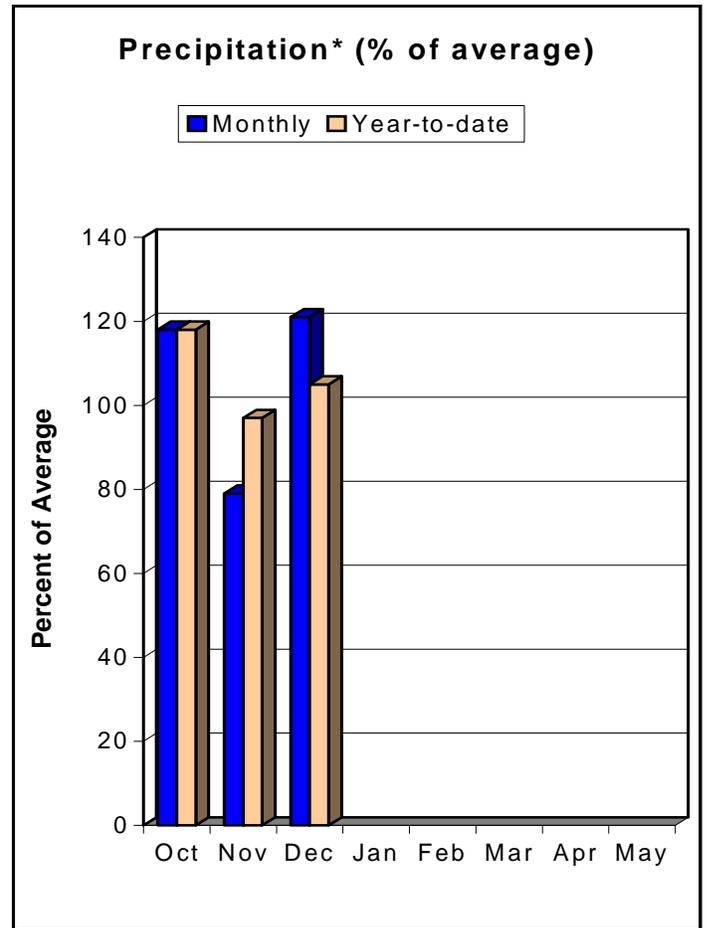
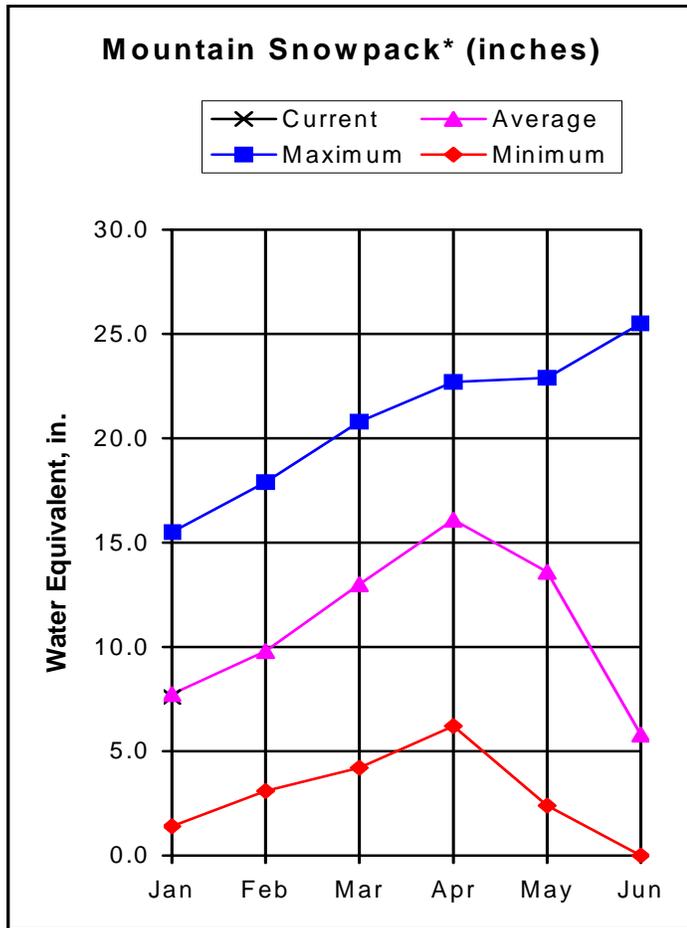
During water year 2005 the state's reservoir storage improved by nearly 470,000 acre feet and was the third consecutive water year to report statewide storage increases. These improvements increased the statewide storage to 91% of average by the end of the water year, on September 30, 2005. Since that time, storage totals have seen only minor improvements and are currently 94% of average. Currently, basinwide reservoir storage ranges from 64% of average in the Rio Grande basin to 111% of average in the combined San Juan, Animas, Dolores, and San Miguel basins. Reservoir storage has pretty well recovered from the 2002 drought deficits in all basins except the Arkansas which is only 5% higher than last year at this time, and remains 178,000 acre-feet below the average mark for this date. Current statewide storage volumes are 113% of last year's levels at this time, and are above last year's in all basins except the South Platte, at 89%, and the Yampa and White basins, at 98%.

## Streamflow

Prospects for this summer's runoff depend entirely on location across the state. As with snowpack percentages, the best outlook for this year's runoff is across the basins of northern Colorado, where above average snowpack totals have been measured. Above average flows, and in some basins--well above average flows, are expected in the Colorado, Arkansas headwaters, Yampa, White and the North and South Platte basins. Further south, in the Gunnison basin, runoff prospects decrease to near average. In those southern Colorado basins, runoff forecasts drop to below average to well below average. Some of those streams where volumes are expected to range from 70% to 90% of average include the San Miguel, Dolores, Animas, the Rio Grande headwaters, and the southern tributaries to the Arkansas. Volumes of less than 70% of average, the lowest in the state, are forecast in tributaries of the San Juan River, and Rio Grande. Although it still remains quite early in the snow accumulation season, portions of southern Colorado are nearly assured of a below average runoff season in 2006. Water users across southern Colorado should prepare now for a below normal water supply season, while those in northern Colorado can look forward to at least a good runoff season.

# GUNNISON RIVER BASIN

## as of January 1, 2006



\*Based on selected stations

Despite a relatively slow start in October and November, above average snowfall during December helped to bring snowpacks in the Gunnison River Basin back up to near normal conditions. January 1 SNOTEL measurements indicate the basin was at 98 percent of average overall. Snowpack conditions within the basin ranged from a low of 78 percent of average in the Uncompahgre Basin up to 104 percent of average in the Upper Gunnison Basin. Precipitation totals during October and December were above average in the basin at 118 percent of average and 121 percent of average, respectively. However, below average precipitation totals in November (79 percent of average) kept water year-to-date precipitation totals (since October 1) near the average mark at 105 percent of average. Reservoir storage in the basin is slightly above average at 105% of average (112 percent of the amount stored at this time last year). Spring and summer streamflows are expected to be near to above average for most forecast points in the Gunnison River Basin. Forecasts range from 80 percent of average for Surface Creek at Cedaredge to 114 percent of average for the Gunnison River near Gunnison and Slate River near Crested Butte.

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GUNNISON RIVER BASIN  
Streamflow Forecasts - January 1, 2006

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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)	
Taylor Park blw Taylor Park Res (2)	Apr-Jul	83	102	115	112	129	152	103
Slate River nr Crested Butte	Apr-Jul	68	87	101	114	117	141	89
East River at Almont	Apr-Jul	142	184	215	112	249	303	192
Gunnison River near Gunnison (2)	Apr-Jul	296	381	445	114	514	625	390
Tomichi Creek at Sargents	Apr-Jul	15.5	24	31	97	39	52	32
Cochetopa Creek Blw Rock Ck Nr Parli	Apr-Jul	7.2	11.6	15.5	90	20	29	17.3
Tomichi Creek at Gunnison	Apr-Jul	41	62	80	99	101	138	81
Lake Fork at Gateview	Apr-Jul	74	95	110	87	127	153	126
Blue Mesa Reservoir Inflow (2)	Apr-Jul	498	648	765	106	895	1113	720
Paonia Reservoir Inflow	Mar-Jun	56	80	100	100	123	163	100
	Apr-Jul	54	80	102	100	127	171	102
North Fork Gunnison R Nr Somerset (2)	Apr-Jul	209	276	330	108	390	491	305
Surface Creek at Cedaredge	Apr-Jul	7.7	11.0	13.7	80	16.8	22	17.1
Ridgway Reservoir Inflow	Apr-Jul	58	76	90	88	106	132	102
Uncompahgre River At Colona (2)	Apr-Jul	68	94	115	83	139	181	139
Gunnison River Nr Grand Junction (2)	Apr-Jul	705	1250	1620	104	1990	2540	1560

GUNNISON RIVER BASIN Reservoir Storage (1000 AF) - End of December					GUNNISON RIVER BASIN Watershed Snowpack Analysis - January 1, 2006			
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	581.0	492.4	545.8	UPPER GUNNISON BASIN	9	86	104
CRAWFORD	14.3	7.3	2.5	7.5	SURFACE CREEK BASIN	2	60	82
FRUITGROWERS	4.3	4.4	4.3	2.8	UNCOMPAHGRE BASIN	3	76	78
FRUITLAND	9.2	0.2	0.0	1.3	TOTAL GUNNISON RIVER BASIN	12	84	98
MORROW POINT	121.0	110.6	109.5	113.4				
PAONIA	18.0	1.2	3.0	4.7				
RIDGWAY	83.2	68.2	75.8	60.1				
TAYLOR PARK	106.0	71.9	66.9	67.7				

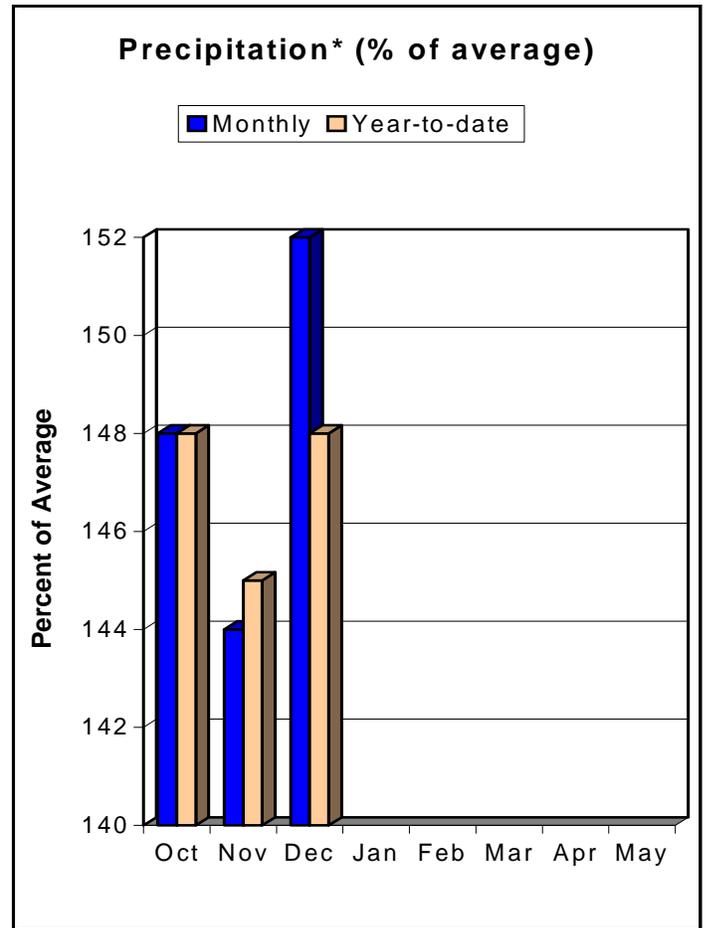
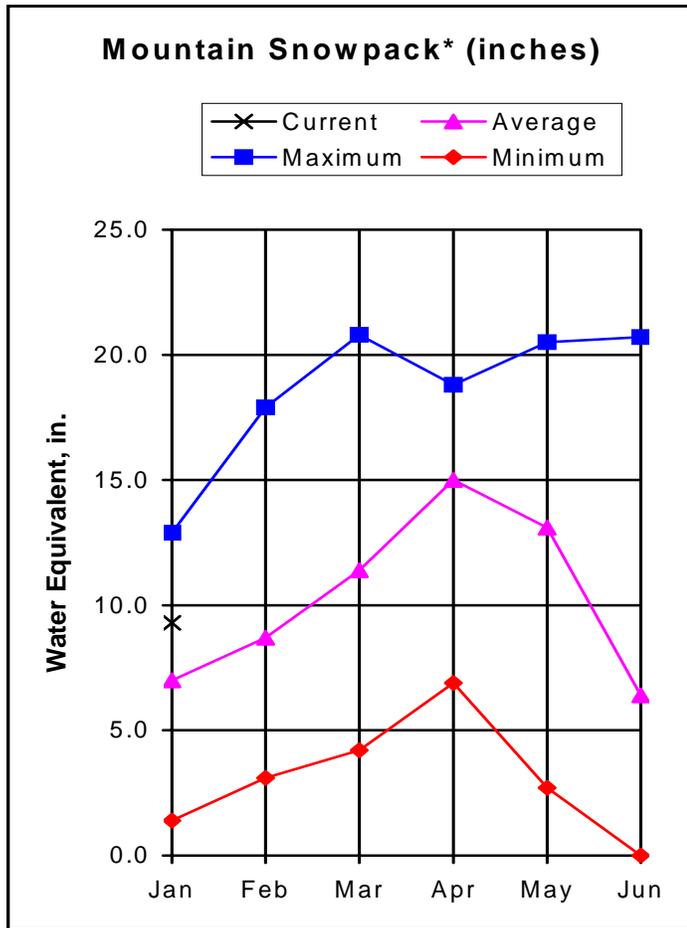
\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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, 2006



\*Based on selected stations

The Colorado River Basin benefited greatly from the winter storm patterns. While snowpacks at the end of October were slightly below normal, snow accumulations during November and December were well above average. Usually during this two-month period, the basin accumulates nearly 32 percent of the average annual snowpack. However, this year, November and December saw an accumulation of about 48 percent of the average annual snowpack. On January 1, snowpack measurements show the basin was 133 percent of average overall. Within the basin, snowpack totals ranged from 82 percent of average in the Plateau Creek Basin to 168 percent of average in the Blue River Basin. Precipitation totals were well above average for October, November and December (148 percent of average, 144 percent of average and 152 percent of average, respectively). Total precipitation for the water year (beginning October 1) is 148 percent of average. Reservoir storage is near normal at 105 percent of average. This year's storage is 35 percent higher than the storage available last year at this time. Given the relatively good conditions, streamflows throughout the basin are expected to be above average to well above average. Runoff percentages are forecast to range from a "low" of 113 percent of average for the Lake Granby Inflow up to 134 percent of average for the Eagle River below Gypsum.

UPPER COLORADO RIVER BASIN  
Streamflow Forecasts - January 1, 2006

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)		
Lake Granby Inflow (2)	Apr-Jul	192	229	255	113	283	327	225				
Willow Creek Reservoir Inflow	Apr-Jul	38	49	58	114	68	84	51				
Williams Fork Reservoir Inflow (2)	Apr-Jul	81	104	115	121	127	157	95				
Dillon Reservoir Inflow (2)	Apr-Jul	162	195	220	132	247	290	167				
Green Mountain Reservoir Inflow (2)	Apr-Jul	277	330	370	132	413	481	280				
Muddy Creek blw Wolford Mtn Resv (2)	Apr-Jul	54	68	78	130	90	109	60				
Eagle River below Gypsum (2)	Apr-Jul	328	398	450	134	505	591	335				
Colorado River Near Dotsero (2)	Apr-Jul	1372	1654	1860	129	2078	2422	1440				
Ruedi Reservoir Inflow (2)	Apr-Jul	130	156	175	124	195	226	141				
Roaring Fork At Glenwood Springs (2)	Apr-Jul	592	726	825	116	930	1096	710				
Colorado River Near Cameo (2)	Apr-Jul	2070	2650	3050	126	3450	4030	2420				

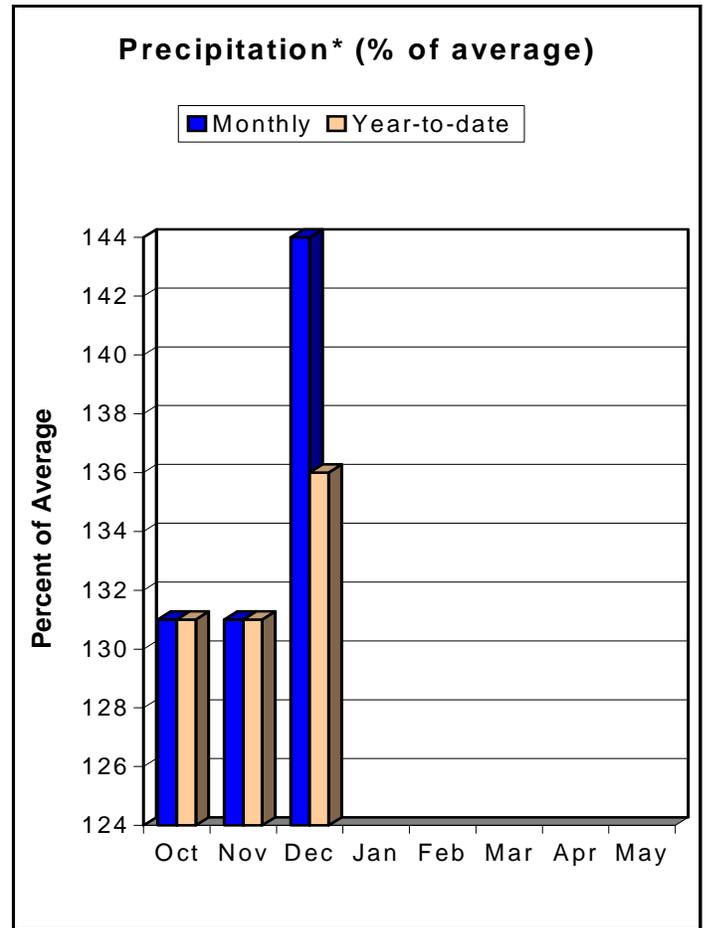
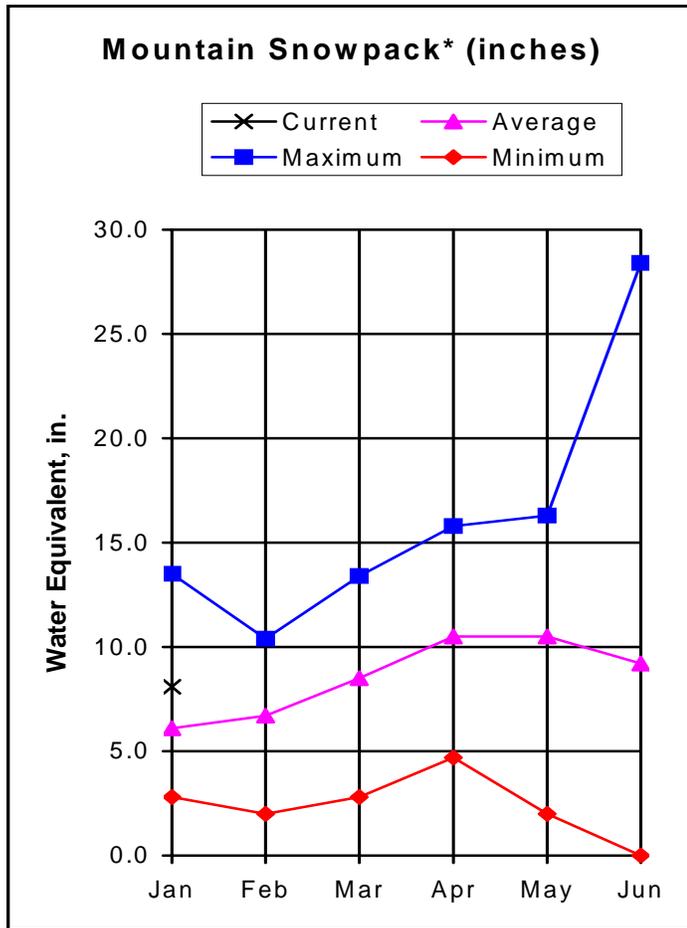
UPPER COLORADO RIVER BASIN Reservoir Storage (1000 AF) - End of December					UPPER COLORADO RIVER BASIN Watershed Snowpack Analysis - January 1, 2006			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
DILLON	250.8	229.6	209.2	224.8	BLUE RIVER BASIN	5	204	168
LAKE GRANBY	465.6	333.8	182.8	322.1	UPPER COLORADO RIVER BASIN	19	163	143
GREEN MOUNTAIN	139.0	84.3	71.9	90.3	MUDDY CREEK BASIN	2	157	156
HOMESTAKE	43.0	39.4	34.9	28.4	PLATEAU CREEK BASIN	2	60	82
RUEDI	102.0	81.2	71.6	79.7	ROARING FORK BASIN	7	134	129
VEGA	32.0	18.6	14.6	11.0	WILLIAMS FORK BASIN	2	170	149
WILLIAMS FORK	96.8	74.8	51.0	62.9	WILLOW CREEK BASIN	2	99	119
WILLOW CREEK	9.0	6.4	7.2	6.1	TOTAL COLORADO RIVER BASIN	28	141	133

\* 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, 2006



\*Based on selected stations

Early and often are two words that come to mind when describing snowfall this year so far in the South Platte River basin. The snow started flying in early October and has continued at a strong pace coming into the New Year. At 132% of average as of January 1, snow levels in the South Platte River basin are well above average. Data is based on readings from 16 Snotel sites. There appears to be little geographical variation in the strong snowpack. The Big Thompson drainage is the driest sub-basin at 121% of average based on three Snotel sites, while the two Snotel sites in the Clear Creek drainage are yielding a collective 174% of average. The picture of precipitation along the South Platte is just as rosy. Year to date precipitation as of January 1 is 136% of average. December saw 144% of its average precipitation, while October and November both saw 131% of their averages. Reservoir levels in the South Platte were 87% of average as of January 1 based on reports from 32 reservoirs. Streamflow forecasts for the months of April through September reflect the high snow levels as all points are forecast to be greater than average. Look for the Big Thompson to run at about 103% of average near Drake, Clear Creek to run 119% of average at Golden, and Bear Creek to run 142% of average at Morrison.

SOUTH PLATTE RIVER BASIN  
Streamflow Forecasts - January 1, 2006

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Antero Reservoir inflow	APR-JUL	11.9	18.0	24	143	32	49	16.8
	APR-SEP	14.6	22	30	146	40	62	21
Spinney Mountain Reservoir inflow	APR-JUL	41	60	78	139	102	150	56
	APR-SEP	48	73	98	142	131	201	69
Elevenmile Canyon Reservoir inflow	APR-JUL	40	61	81	140	108	163	58
	APR-SEP	47	75	103	143	141	225	72
Cheesman Lake inflow	APR-JUL	80	120	158	137	208	311	115
	APR-SEP	97	148	196	138	260	395	142
South Platte River at South Platte	APR-JUL	130	201	270	132	363	560	205
	APR-SEP	161	249	335	131	451	699	255
Bear Creek abv Evergreen	APR-JUL	11.9	19.4	27	140	38	61	19.3
	APR-SEP	16.8	26	36	144	49	77	25
Bear Creek at Morrison	APR-JUL	12.9	23	34	136	50	90	25
	APR-SEP	17.5	30	44	142	64	111	31
Clear Creek at Golden	APR-JUL	90	113	131	119	152	190	110
	APR-SEP	107	137	160	119	188	240	134
St. Vrain Creek at Lyons	APR-JUL	46	74	101	110	139	225	92
	APR-SEP	55	87	118	110	161	255	107
Boulder Creek nr Orodell	APR-JUL	41	50	57	124	65	79	46
	APR-SEP	46	56	64	121	73	90	53
South Boulder nr Eldorado Spgs	APR-JUL	31	39	46	111	54	68	41
	APR-SEP	34	43	51	112	60	77	46
Big Thompson River at mouth nr Drake	APR-JUL	55	78	100	102	127	182	98
	APR-SEP	70	97	121	103	151	210	117
CACHE LAPOUDRE at Canyon Mouth	APR-JUL	157	215	260	106	320	430	245
	APR-SEP	176	240	290	106	355	480	275

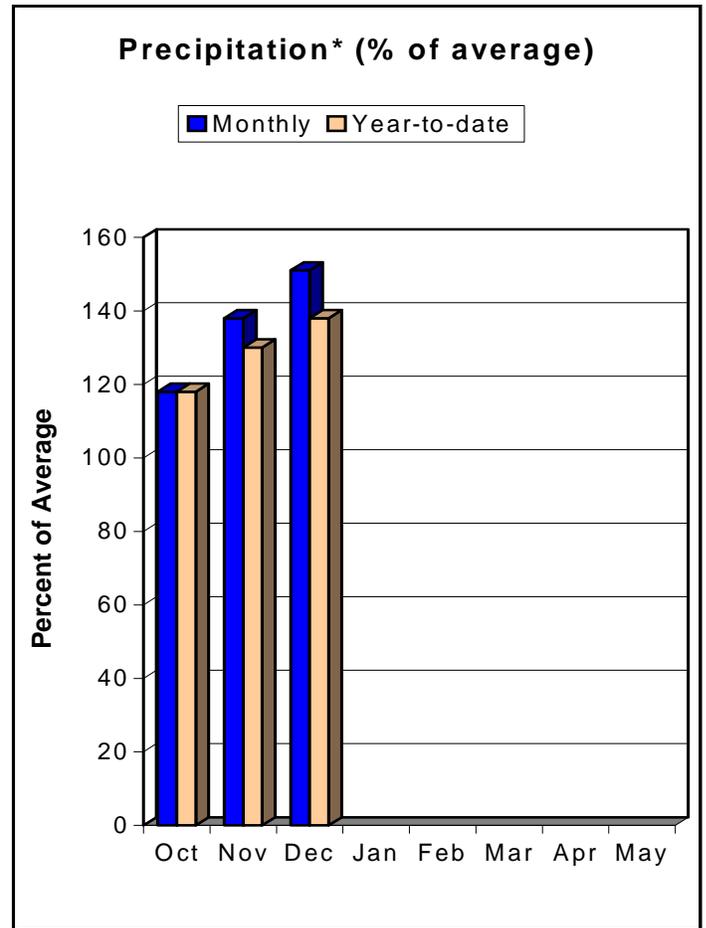
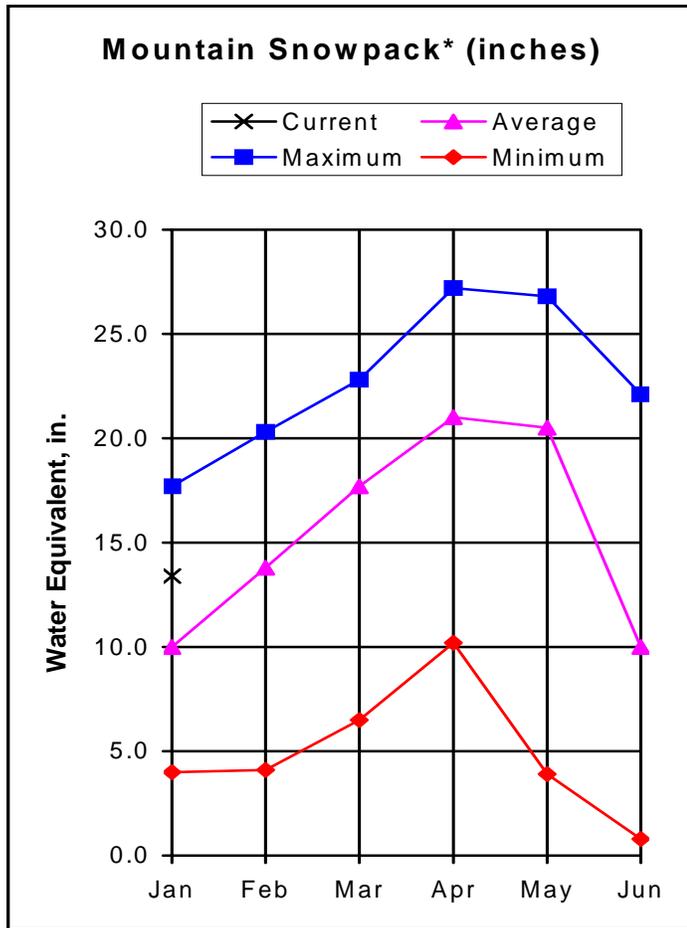
SOUTH PLATTE RIVER BASIN Reservoir Storage (1000 AF) - End of December					SOUTH PLATTE RIVER BASIN Watershed Snowpack Analysis - January 1, 2006			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ANTERO	20.0	6.8	0.4	16.5	BIG THOMPSON BASIN	3	148	121
BARR LAKE	32.0	22.7	21.7	22.4	BOULDER CREEK BASIN	3	132	123
BLACK HOLLOW	8.0	1.6	1.8	3.8	CACHE LA POUFRE BASIN	2	118	126
BOYD LAKE	49.0	30.7	42.3	31.7	CLEAR CREEK BASIN	2	155	174
CACHE LA POUFRE	10.0	4.7	9.1	6.3	SAINT VRAIN BASIN	1	108	147
CARTER	108.9	34.0	49.1	74.7	UPPER SOUTH PLATTE BASIN	6	160	124
CHAMBERS LAKE	9.0	4.8	6.4	2.8	TOTAL SOUTH PLATTE BASIN	17	142	130
CHEESMAN	79.0	74.5	68.0	60.9				
COBB LAKE	34.0	9.1	3.5	13.9				
ELEVEN MILE	97.8	99.0	98.5	95.9				
EMPIRE	38.0	12.9	11.0	22.2				
FOSSIL CREEK	12.0	7.3	10.0	6.3				
GROSS	41.8	27.0	32.8	26.2				
HALLIGAN	6.4	3.2	5.3	3.6				
HORSECREEK	16.0	6.7	6.9	10.9				
HORSETOOTH	149.7	66.5	101.8	87.8				
JACKSON	35.0	22.9	22.2	23.0				
JULESBURG	28.0	15.8	12.8	18.4				
LAKE LOVELAND	14.0	11.9	11.4	8.9				
LONE TREE	9.0	5.5	6.4	6.0				
MARIANO	6.0	3.5	4.1	4.1				
MARSHALL	10.0	4.9	9.0	4.7				
MARSTON	13.0	0.3	0.0	12.7				
MILTON	24.0	17.0	13.2	14.8				
POINT OF ROCKS	70.0	32.3	37.2	51.1				
PREWITT	28.2	23.7	15.5	18.0				
RIVERSIDE	63.1	38.7	36.4	38.1				
SPINNEY MOUNTAIN	48.7	32.7	13.8	35.4				
STANDLEY	42.0	35.4	38.8	32.5				
TERRY LAKE	8.0	5.4	2.9	5.2				
UNION	13.0	10.7	12.2	10.4				
WINDSOR	19.0	5.1	10.6	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, 2006



\*Based on selected stations

Despite a relatively slow start in October, snowpacks in the Yampa, White, North Platte and Laramie River basins improved dramatically during November and December. During the past two months, the combined basins have accumulated over half (about 53 percent) of the average annual snowpack -- usually only about one-third of the average annual snowpack is collected during that time. Measurements taken for the January 1 survey show the basins to be 34 percent higher than normal and 45 percent higher than the readings taken last year at this time. Snowpack totals within the combined basins range from 115 percent of average in the Laramie River Basin to 141 percent of average in the Yampa River Basin. Monthly precipitation totals since the beginning of the water year have been above to well above average. December 2005 precipitation showed the highest percentage at 151 percent of average -- this is over twice the precipitation recorded during December 2004. Total precipitation since October 1 is well above average at 138 percent of average. This is 151 percent of the total precipitation recorded a year ago. At 98 percent of average, reservoir storage is near normal for the basin. Spring and summer runoff is predicted to be above to well above average throughout the basins. Runoff volumes are expected to range from 120 percent of average for Fortification Creek near Fortification to 148 percent of average for the Yampa River above Stagecoach Reservoir.

YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS  
Streamflow Forecasts - January 1, 2006

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
NORTH PLATTE RIVER nr Northgate	APR-JUL	180	259	320	131	388	499	245
	APR-SEP	205	290	350	130	410	495	270
LARAMIE RIVER nr Woods	APR-JUL	88	126	152	124	178	215	123
	APR-SEP	97	139	167	124	195	235	135
Yampa R ab Stagecoach Reservoir (2)	Apr-Jul	27	36	43	148	51	64	29
Yampa River at Steamboat Springs (2)	Apr-Jul	281	341	385	138	432	506	280
Elk River nr Milner	Apr-Jul	269	341	395	122	453	545	325
Elkhead Creek nr Elkhead	Apr-Jul	30	40	47	121	55	68	39
Elkhead Creek blw Maynard Gulch (2)	Apr-Jul	51	65	75	127	85	99	59
Fortification Ck nr Fortification	Mar-Jun	4.19	6.76	9.00	120	11.68	16.54	7.50
Yampa River Near Maybell (2)	Apr-Jul	964	1181	1340	135	1509	1777	990
Little Snake River nr Slater	Apr-Jul	133	171	200	126	231	280	159
Little Snake River nr Dixon	Apr-Jul	278	356	415	122	478	580	340
Little Snake River nr Lily	Apr-Jul	273	376	455	123	542	684	370
White River nr Meeker	Apr-Jul	231	299	350	121	405	494	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, 2006

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	27.4	28.0	26.4	LARAMIE RIVER BASIN	2	120	115
YAMCOLO	9.1	4.0	4.0	5.5	NORTH PLATTE RIVER BASIN	7	144	137
					TOTAL NORTH PLATTE BASIN	9	140	133
					ELK RIVER BASIN	2	139	119
					YAMPA RIVER BASIN	9	163	141
					WHITE RIVER BASIN	4	146	134
					TOTAL YAMPA AND WHITE RIV	12	157	136
					LITTLE SNAKE RIVER BASIN	6	134	135
TOTAL YAMPA, WHITE AND NO	24	145	134					

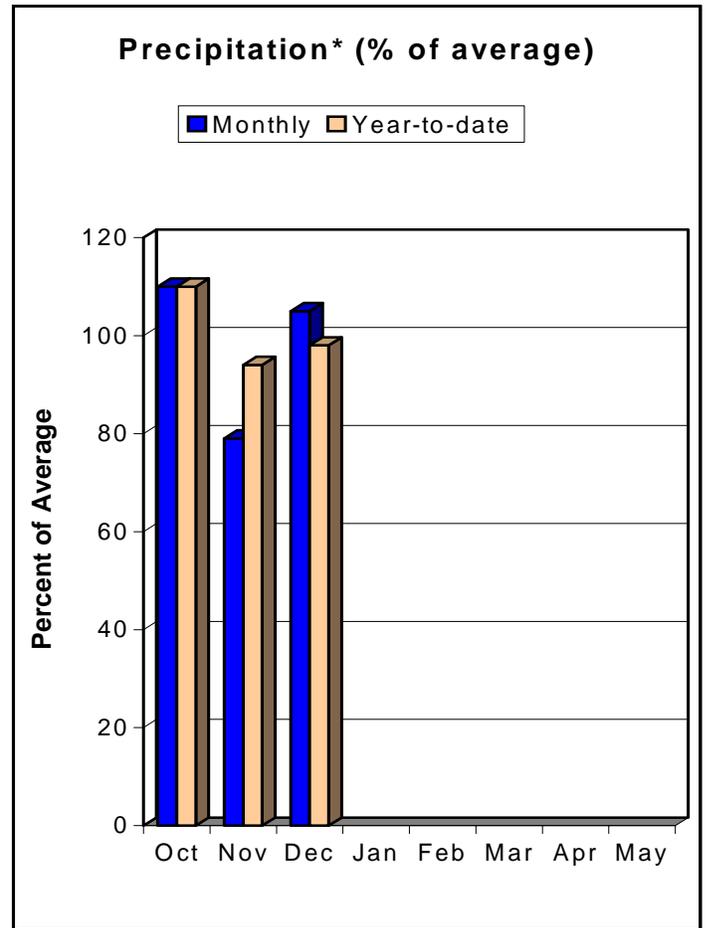
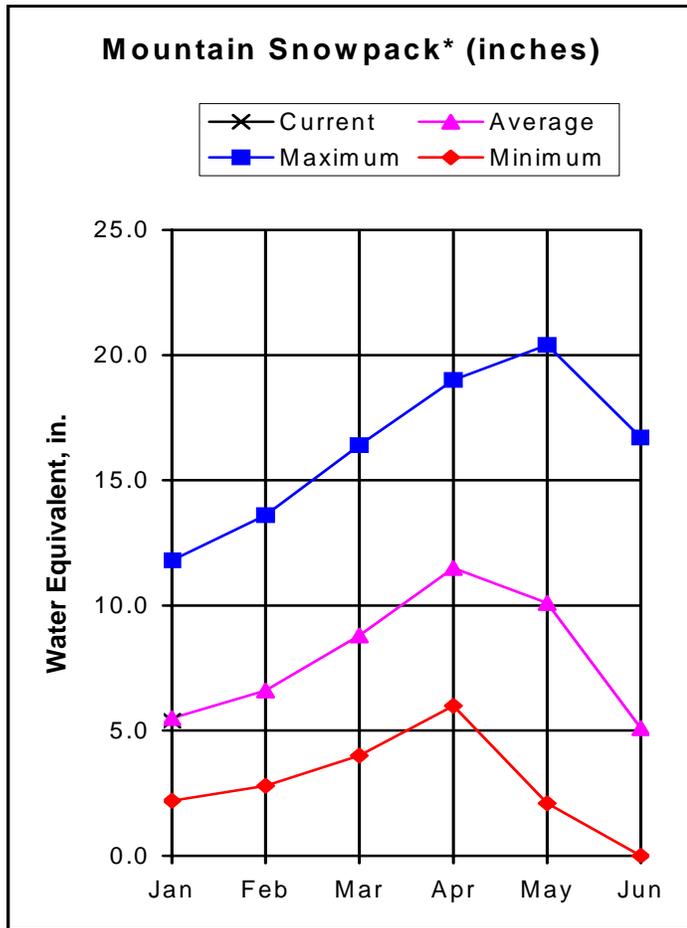
\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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, 2006



\*Based on selected stations

Last year, snow levels in the Arkansas River basin were very different in the northern and southern regions of the watershed, with high snow levels in the south and about average snow levels in the north. The opposite is true so far this year. Based on data from six Snotel sites, the Arkansas basin as a whole has 98% of its average snow water equivalent as of January 1. However, the three Snotel sites in the Upper Arkansas basin are at a combined 158% of average. Meanwhile, Snotel sites in the Cucharas and Huerfano basins are at 35% of average, and the sites in the Purgatoire basin are reading a mere 10% of average. The same geographical variation exists in precipitation data. Year to date precipitation as of January 1 is 98% of average basin wide; however the northern portions of the watershed are carrying most of the load. December saw 105% of its average precipitation. October was also a wetter than average month in the Arkansas basin, with 110% of average precipitation. November, on the other hand, only saw 79% of its average precipitation. Reservoir levels in the Arkansas basin were at 64% of average as of January 1 based on reports from 12 reservoirs. Geographical variations in streamflow forecasts for the months of April through September reflect snow distribution throughout the basin. Look for streamflows in the upper portions of the Arkansas watershed to run at 115% to 124% of average, and streamflows in the southern tributaries to run at 69% to 76% of average.

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ARKANSAS RIVER BASIN  
Streamflow Forecasts - January 1, 2006

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Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Chalk Ck At Nathrop	Apr-Jul	14.2	21	26	113	32	41	23
	Apr-Sep	16.9	24	30	111	36	47	27
Arkansas River At Salida (2)	Apr-Jul	227	278	315	124	355	417	255
	Apr-Sep	281	341	385	124	432	505	310
Grape Creek Near Westcliffe	Apr-Jul	1.7	6.9	12.3	76	19.3	32	16.1
	Apr-Sep	4.8	10.2	15.0	77	21	31	19.6
Pueblo Reservoir Inflow (2)	Apr-Jul	279	376	450	117	531	661	385
	Apr-Sep	363	475	560	116	652	799	485
Huerfano River Near Redwing	Apr-Jul	5.0	7.4	9.3	76	11.4	14.9	12.3
	Apr-Sep	6.7	9.6	11.8	76	14.3	18.3	15.5
Cucharas River At Boyd Ranch Nr La V	Apr-Jul	2.9	5.1	8.0	71	11.5	17.8	11.3
	Apr-Sep	4.2	6.4	9.5	73	13.2	19.8	13.0
Trinidad Lake Inflow	Mar-Jul	6.2	15.4	24	71	35	54	34
	Apr-Sep	14.1	23	33	75	45	66	44

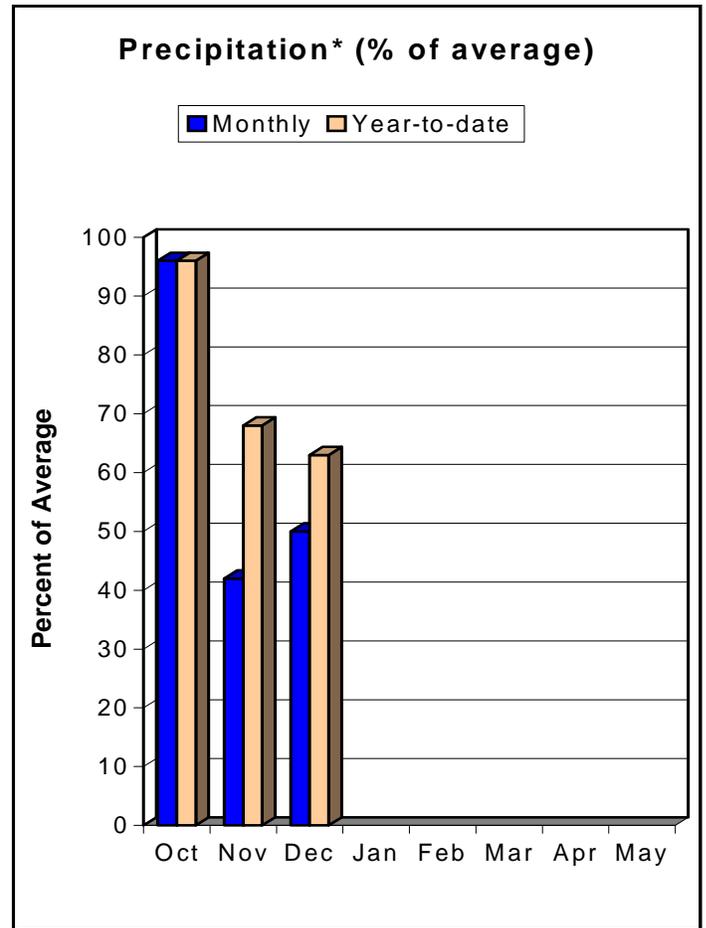
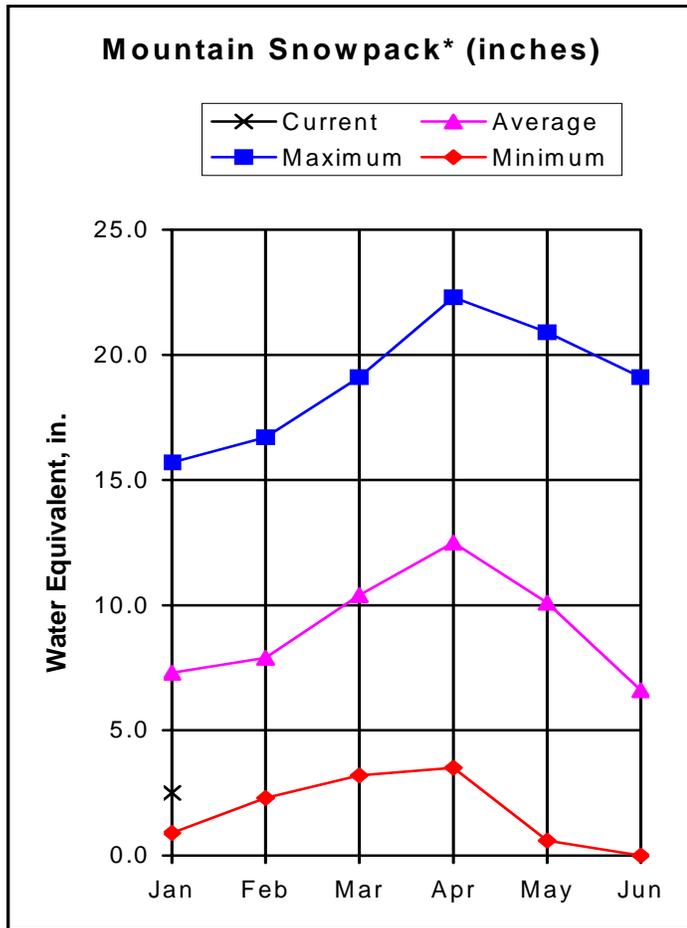
ARKANSAS RIVER BASIN Reservoir Storage (1000 AF) - End of December					ARKANSAS RIVER BASIN Watershed Snowpack Analysis - January 1, 2006			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ADOBE	70.0	6.9	0.0	23.4	UPPER ARKANSAS BASIN	3	168	158
CLEAR CREEK	11.0	8.1	8.1	5.9	CUCHARAS & HUERFANO RIVER	2	27	35
GREAT PLAINS	150.0	0.0	0.0	32.2	PURGATOIRE RIVER BASIN	2	7	10
HOLBROOK	7.0	0.0	0.0	3.0	TOTAL ARKANSAS RIVER BASIN	6	89	98
HORSE CREEK	28.0	0.0	0.0	8.4				
JOHN MARTIN	335.7	19.4	34.7	108.7				
LAKE HENRY	8.0	4.6	2.8	3.7				
MEREDITH	42.0	4.7	9.3	13.6				
PUEBLO	236.7	120.0	112.7	144.0				
TRINIDAD	72.3	17.7	21.6	24.2				
TURQUOISE	126.6	88.4	69.1	87.9				
TWIN LAKES	86.0	53.3	50.6	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.

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

# UPPER RIO GRANDE RIVER BASIN as of January 1, 2006



\*Based on selected stations

Snow levels in the Upper Rio Grande River basin reached a new high last season. Unfortunately, a repeat of last year's abundance of snow appears to be extremely unlikely. As of January 1, snowpack in the Upper Rio Grande basin was only at 34% of average based on data from nine Snotel sites. Poor snowfall has been common throughout the entire watershed and currently lags snow levels at this time in 2002, the driest year on record. Precipitation amounts in the Upper Rio Grande did not fare much better. October was the wettest month of the water year so far, seeing 96% of its average precipitation. However, a very dry November (42% of average) and December (50% of average) left the year to date precipitation at only 63% of average as of January 1. Reservoir levels in the Upper Rio Grande were at 69% of their average based on reports from six reservoirs. Streamflow forecasts reflect low snow levels. Look for waterways in the Upper Rio Grande to run between 52% of average (San Antonio River) and 88% of average (Saguache Creek) between April and September.

UPPER RIO GRANDE BASIN  
Streamflow Forecasts - January 1, 2006

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)	
Rio Grande At Thirty Mile Bridge (2)	Apr-Sep	69	91	107	79	125	153	136
Rio Grande Reservoir Inflow	Apr-Jul	67	82	93	79	105	126	118
Rio Grande At Wagon Wheel Gap (2)	Apr-Sep	165	222	265	77	312	388	345
South Fork Rio Grande at South Fork	Apr-Sep	58	77	93	71	111	140	132
Rio Grande nr Del Norte (2)	Apr-Sep	248	330	395	74	468	590	531
Saguache Creek nr Saguache (2)	Apr-Sep	16.3	23	29	88	35	45	33
Alamosa Creek Abv Terrace Reservoir	Apr-Sep	29	39	47	67	56	72	70
La Jara Creek nr Capulin	Mar-Jul	2.61	4.11	5.40	62	6.94	9.68	8.70
Trinchera Creek abv Turners Ranch	Apr-Sep	4.0	5.6	7.8	65	9.8	14.0	12.0
Sangre de Cristo Creek	Apr-Sep	1.32	2.70	5.60	64	8.40	14.10	8.80
Ute Ck nr Fort Garland	Apr-Sep	3.8	5.9	7.8	64	10.0	14.0	12.2
Platoro Reservoir Inflow	Apr-Jul	27	35	42	66	50	62	64
	Apr-Sep	30	40	47	66	55	69	71
Conejos River Near Mogote (2)	Apr-Sep	80	110	135	68	163	211	200
San Antonio River at Ortiz	Apr-Sep	3.2	5.9	8.5	52	11.7	17.7	16.4
Los Pinos River nr Ortiz	Apr-Sep	24	36	45	61	56	75	74
Culebra Creek at San Luis (2)	Apr-Sep	8.1	12.9	17.0	74	22	31	23
Costilla Reservoir Inflow	Mar-Jul	4.0	5.8	7.4	70	9.2	12.4	10.6
Costilla Creek Near Costilla (2)	Mar-Jul	7.9	13.0	17.5	67	23	33	26

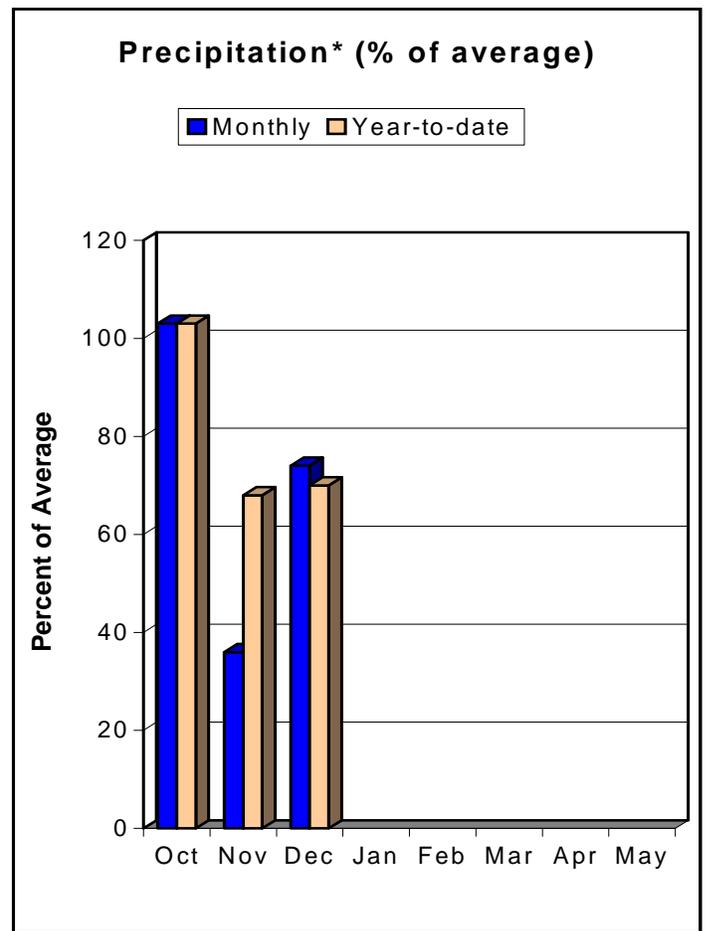
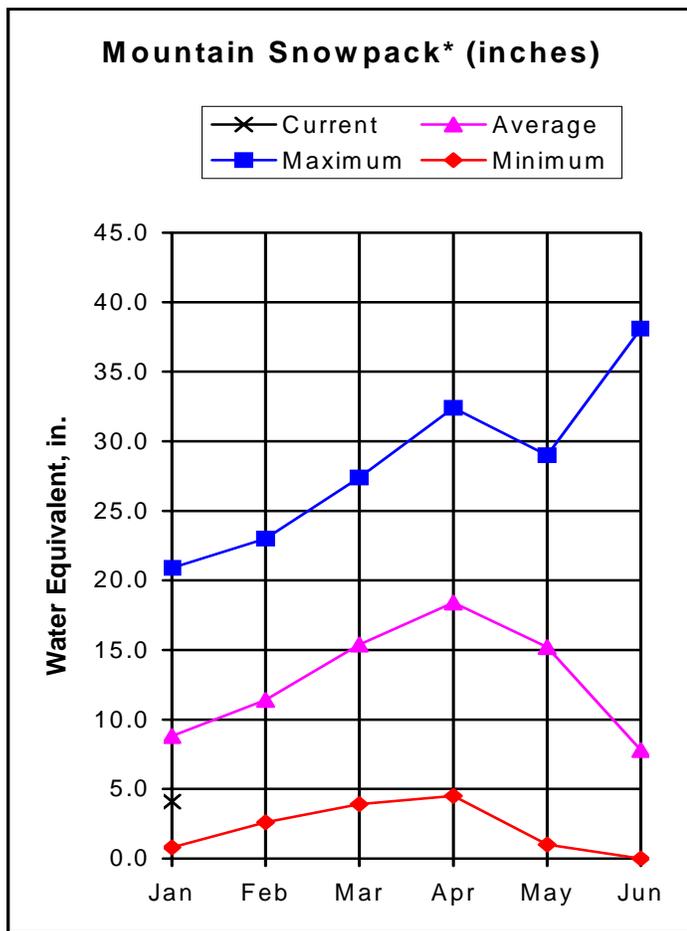
UPPER RIO GRANDE BASIN Reservoir Storage (1000 AF) - End of December					UPPER RIO GRANDE BASIN Watershed Snowpack Analysis - January 1, 2006			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CONTINENTAL	15.0	1.0	2.4	4.9	ALAMOSA CREEK BASIN	1	36	43
PLATORO	53.7	4.5	6.1	24.3	CONEJOS & RIO SAN ANTONIO	2	37	36
RIO GRANDE	51.0	20.5	13.0	15.1	CULEBRA & TRINCHERA CREEK	3	25	25
SANCHEZ	103.0	21.3	7.6	23.9	UPPER RIO GRANDE BASIN	4	28	37
SANTA MARIA	45.0	7.2	5.5	10.1	TOTAL UPPER RIO GRANDE BA	10	29	34
TERRACE	13.1	3.7	2.8	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.

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# SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS as of January 1, 2006



\*Based on selected stations

Snowpacks in the San Miguel, Dolores, Animas and San Juan River basins are looking pretty meager based on the January 1 measurements. Snowpack percentages in the basins are all well below average, ranging from a low of 24 percent of average in the San Juan River Basin to 63 percent of average in the San Miguel River Basin. Overall, the combined basin snowpack is 47 percent of average. That said, last January saw accumulations that were over half of the average annual totals so the potential for some type of recovery still exists with a little luck and a change in the current weather patterns. The combined basins saw some decent precipitation during the month of October (103 percent of average) but November and December were not nearly as productive (36 percent of average and 74 percent of average, respectively). As a result of the below to well below average precipitation during the last two months, total precipitation in the combined basins ended up at only 70 percent of average for the water year (since October 1). Runoff from this past year resulted in some significant gains in reservoir storage. Storage is 11 percent higher than average and 33 percent higher than the storage reported last year at this time. Not surprisingly, the forecasts are calling for below to well below average runoff. Spring and summer streamflows are expected to range from 59 percent of average for the Piedra River near Arboles to 80 percent of average for the San Miguel River near Placerville.

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS  
Streamflow Forecasts - January 1, 2006

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)	
Dolores River at Dolores	Apr-Jul	97	145	185	70	232	314	265
McPhee Reservoir Inflow	Apr-Jul	119	174	220	69	273	367	320
San Miguel River nr Placerville	Apr-Jul	59	84	105	80	129	170	132
Gurley Reservoir Inlet	APR-JUL	1.2	7.0	11.0	67	14.6	21	16.5
	APRIL			1.00	60			1.66
	MAY			6.00	68			8.83
	JUNE			3.10	66			4.67
	JULY			0.90	68			1.32
Cone Reservoir Inlet	APR-JUL	0.22	1.52	2.40	68	3.30	4.60	3.53
	APRIL			0.35	76			0.46
	MAY			1.10	67			1.64
	JUNE			0.75	72			1.04
	JULY			0.20	53			0.38
Lilylands Reservoir Inlet	APR-JUL	0.14	1.06	2.00	70	2.90	4.30	2.86
	APRIL			0.25	63			0.40
	MAY			0.90	68			1.32
	JUNE			0.65	75			0.87
	JULY			0.20	74			0.27
Rio Blanco At Blanco Diversion (2)	Apr-Jul	27	34	40	76	46	57	53
	Apr-Jul	40	40	40	76	40	40	53
Navajo River At Oso Diversion (2)	Apr-Jul	31	42	50	73	59	75	69
San Juan River Near Carracas (2)	Apr-Jul	153	228	290	72	363	491	405
Piedra River near Arboles	Apr-Jul	58	99	135	59	179	261	230
Vallecito Reservoir Inflow	Apr-Jul	95	128	155	76	185	236	205
Navajo Reservoir Inflow (2)	Apr-Jul	279	410	520	65	648	871	800
Animas River at Durango	Apr-Jul	202	279	340	77	410	529	440
Lemon Reservoir Inflow	Apr-Jul	27	37	45	78	54	70	58
La Plata River at Hesperus	Apr-Jul	9.2	13.6	17.3	69	22	29	25
Mancos River nr Mancos	APR-JUL	4.0	12.0	27	68	38	55	40
	APRIL			4.00	69			5.80
	MAY			12.0	76			15.9
	JUNE			8.0	58			13.7
	JULY			3.00	65			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, 2006

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	14.6	0.0	12.0	ANIMAS RIVER BASIN	7	48	55
JACKSON GULCH	10.0	4.8	3.6	4.6	DOLORES RIVER BASIN	4	65	57
LEMON	40.0	23.0	17.7	20.1	SAN MIGUEL RIVER BASIN	3	65	63
MCPHEE	381.2	291.0	205.1	271.1	SAN JUAN RIVER BASIN	3	20	24
NARRAGUINNEP	19.0	10.8	13.5	12.7	TOTAL SAN MIGUEL, DOLORES	16	44	47
VALLECITO	126.0	76.3	76.6	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.

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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/wsf/westwide.html>.

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