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Department of  
Agriculture

**Natural  
Resources  
Conservation  
Service**

# Colorado Basin Outlook Report April 1, 2007



# 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

### APRIL 1, 2007

#### Summary

March weather brought a devastating combination of warm and dry conditions to Colorado's snowpack. Snowpack percentages decreased significantly in all basins of the state during the month. While typically an important month for snow accumulation and summer water supplies, March of 2007 provided no significant gains to snowpack levels across the state. Runoff forecasts have been adjusted to lower volumes statewide, and in portions of the state critically low water supplies can be expected this summer. A late-season storm cycle can still improve conditions, but time is quickly running out for those hopes. Meanwhile, reservoir storage continues to improve, so some water users may be able to minimize impacts of low runoff as summer demands increase.

#### Snowpack

Snowfall across most of Colorado was limited to two storm periods, at the beginning and at the end of the month. Sandwiched in between those storms was a 10 day period with no precipitation and above normal temperatures. During that time, the lower elevation snowpack began melting out and snowpack percentages began decreasing daily. By month's end, the gains in snowpack water content during the storms was essentially offset by the mid-month melting. Statewide snowpack totals had decreased to 75% of average on April 1. This is a significant decline from the 92% of average measured on March 1. Snowpack percentages decreased in all basins, but southwestern Colorado saw the greatest declines during the month. The Rio Grande Basin suffered the greatest decrease, dropping from 93% of average on March 1 to only 70% of average on April 1. The lowest snowpack percentages were measured in the combined San Juan, Animas, Dolores, and San Miguel basins at only 58% of average. This is now the second consecutive year of well below average snowpacks across southwestern Colorado. Even those basins east of the Continental Divide have now dipped to below average percentages. The highest percentage was measured in the South Platte basin, which is now 94% of average.

#### Precipitation

Precipitation during March was well below average nearly statewide. Statewide totals for the month were only 69% of average, and ranged from a low of 59% of average in the San Juan, Animas, Dolores, and San Miguel basins to a high of 83% of average in the South Platte basin. This March was the driest for the state since March 2004, when only 49% of average precipitation fell across the state. In addition to being below average, monthly precipitation totals were also well below those of March 2006. Statewide, March of 2007 was only 61% of that measured last year during the month. For the water year, which began back on October 1, 2006, totals remain below average in all basins except the South Platte, which is 107% of average. With the benefit of a wet October across the state, the water year totals for precipitation remain considerably higher than snowpack percentages. Statewide, water year totals are currently 94% of average and 92% of last year's totals for this date.

## Reservoir Storage

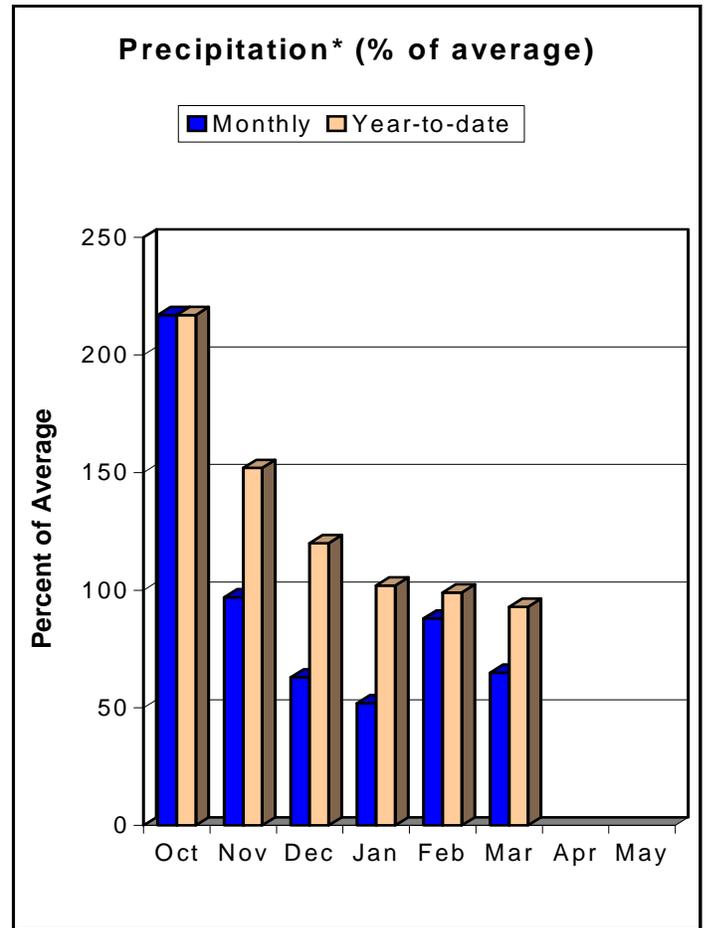
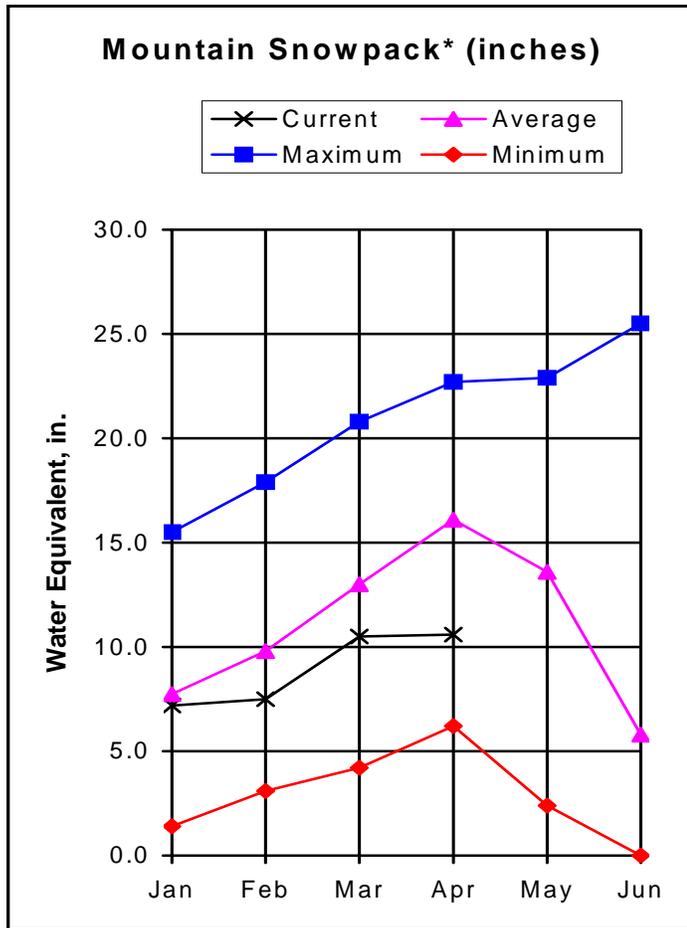
Early-season streamflows have boosted the state's reservoir storage to above average levels this month. Statewide, storage is now 103% of average and is 105% of last year's storage. These are the highest storage volumes since July 2001 for the state. Fortunately, for those basins west of the Continental Divide, reservoir storage is above average in every basin, with storage volumes slightly above 120% of average in the Gunnison and combined San Juan, Animas, Dolores, and San Miguel basins. The only basins reporting volumes significantly below average are the Arkansas at 88% of average, and the Rio Grande at 85% of average. In comparison to last year's volumes, this year's storage is above those volumes nearly statewide. While the storage volumes in the Arkansas basin remain below average, these volumes are nearly one-third more than last year at this time. The most likely contributor to these good storage volumes is the loss of the lower elevation snowpack which has increased the runoff in many basins around the state.

## Streamflow

The dry March weather has taken a toll on runoff forecasts around the state. Significant decreases in forecasts were seen in all basins of the state this month. For nearly all of western Colorado, this spring and summer's runoff is expected to be well below average. For many locations in the Yampa, Gunnison, and Dolores basins runoff forecasts call for less than 60% of average volumes. Runoff forecasts improve only slightly elsewhere across western Colorado. Volumes of 60% to 90% of average are forecast in the White, Colorado, Rio Grande and a few forecast points in the Gunnison basin. As per this year's trend, runoff forecasts improve in the Arkansas and South Platte basins, and volume forecasts range from 80% of average to about 105% of average in these basins, respectively. The only area of the state that can still expect to see near average runoff this year is in some of the smaller tributary streams along the Front Range. Without those upslope storms of early winter, water supplies in these basins would be considerably lower for the coming months.

# GUNNISON RIVER BASIN

## as of April 1, 2007



\*Based on selected stations

In the Gunnison River Basin, March is typically one of the most productive months in terms of snowpack accumulation. However, despite a decent start to the month, warm temperatures in mid-March resulted in some very early melt of the basin's snowpack. Fortunately, storm activity during the latter portion of the month helped to bring snowpack numbers back up to their pre-melt levels (based on SNOTEL data). April 1 snow survey measurements show the basin at 66 percent of average -- down considerably from the March 1 figure of 81 percent of average. This is the ninth below average April 1 snowpack in the last ten years, with only two years (1999 and 2002) having lower percent of average snowpacks. Sub-basin snowpacks range from 58 percent of average in the Surface Creek Drainage to 66 percent of average in the Upper Gunnison and Uncompahgre. Mountain precipitation during March was 65 percent of average, making it the fifth consecutive month of below average precipitation. As a result, total precipitation for the water year dropped to 93 percent of average. The one bright spot in the water supply picture is the reservoir storage. At the end of March, stored water in the basin was 122 percent of average. Streamflow forecasts for the April-July period are down 10 to 30 percentage points from those issued last month. Volumes are expected to be well below average at almost all forecast points in the basin. Runoff is predicted to range from 49 percent of average at Tomichi Creek at Gunnison to 79 percent of average for Lake Fork at Gateview.

GUNNISON RIVER BASIN  
Streamflow Forecasts - April 1, 2007

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Taylor Park blw Taylor Park Res (2)	APR-JUL	54	63	70	68	77	88	103
Slate River nr Crested Butte	APR-JUL	47	55	61	69	67	76	89
East River at Almont	APR-JUL	96	113	125	65	138	158	192
Gunnison River near Gunnison (2)	APR-JUL	178	214	240	62	268	311	390
Tomichi Creek at Sargents	APR-JUL	9.8	13.9	17.0	53	21	26	32
Cochetopa Creek Blw Rock Ck Nr Parli	APR-JUL	4.6	7.4	9.8	57	12.7	17.8	17.3
Tomichi Creek at Gunnison	APR-JUL	22	32	40	49	50	66	81
Lake Fork at Gateview	APR-JUL	76	90	100	79	110	127	126
Blue Mesa Reservoir Inflow (2)	APR-JUL	349	412	460	64	511	593	720
Paonia Reservoir Inflow	MAR-JUN	45	56	65	65	75	93	100
	APR-JUN	32	43	52	55	62	80	95
	APR-JUL	33	45	55	54	66	85	102
North Fork Gunnison R Nr Somerset (2)	APR-JUL	132	162	185	61	210	251	305
Surface Creek at Cedaredge	APR-JUL	5.9	7.5	8.8	52	10.2	12.5	17.1
Ridgway Reservoir Inflow	APR-JUL	51	64	74	73	85	95	102
Uncompahgre River At Colona (2)	APR-JUL	54	74	90	65	108	139	139
Gunnison River Nr Grand Junction (2)	APR-JUL	360	710	950	61	1190	1540	1560

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

GUNNISON RIVER BASIN  
Watershed Snowpack Analysis - April 1, 2007

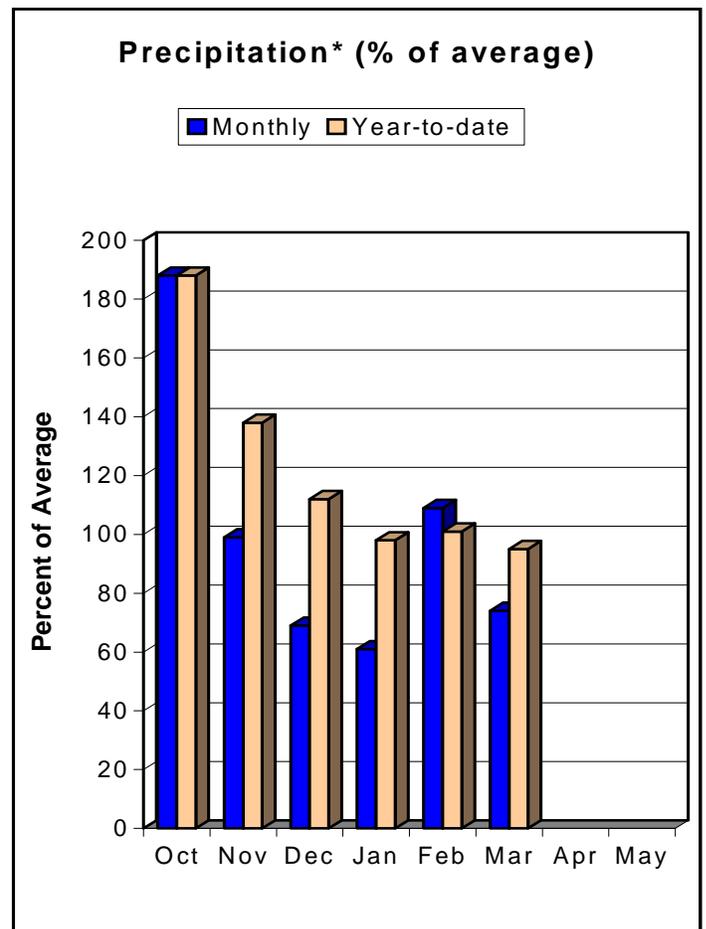
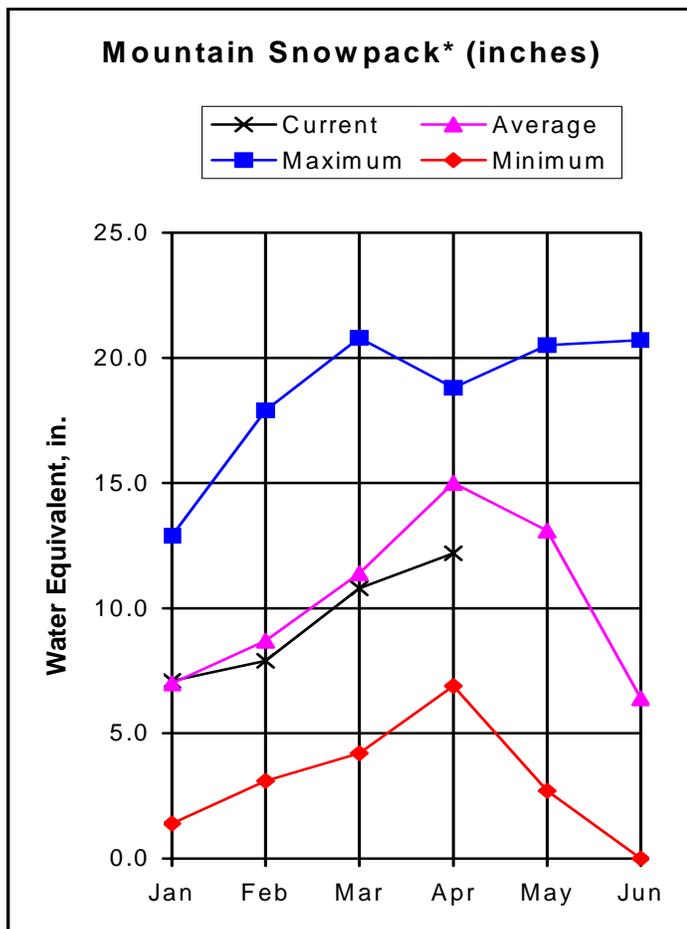
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BLUE MESA	830.0	513.1	563.9	404.5	UPPER GUNNISON BASIN	15	69	66
CRAWFORD	14.0	14.0	10.1	10.8	SURFACE CREEK BASIN	3	68	58
FRUITGROWERS	4.4	4.5	4.5	4.0	UNCOMPAHGRE BASIN	4	74	66
FRUITLAND	9.2	6.1	1.2	2.5	TOTAL GUNNISON RIVER BASIN	19	70	66
MORROW POINT	121.0	113.0	107.4	113.6				
PAONIA	15.4	2.1	3.8	4.6				
RIDGWAY	83.0	79.6	71.4	60.9				
TAYLOR PARK	106.0	79.4	70.6	61.9				

\* 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 April 1, 2007



\*Based on selected stations

Snowpacks in the Colorado River Basin dropped from 95 percent of average on March 1 to 81 percent of average on April 1, making this month the eighth time in the last ten years that April 1 snowpacks have been below average. The significant change was due to warm, dry conditions leading to some melt in the snowpack during mid-March. While snowfall at the end of the month made up the loss, the end result was almost three weeks of almost no net gain in snowpack accumulation. With less than two weeks to the average peak date for the basin, there is less than a 10 percent chance that this year's snowpack will match the average peak snow water content. Sub-basin snowpacks ranged from 58 percent of average in the Plateau Creek Watershed to 92 percent of average in the Williams Fork Drainage. Mountain precipitation was 74 percent of average during March. By comparison, this year's monthly totals were only 76 percent of the March 2006 totals. The below average monthly precipitation brought the water year totals down to 95 percent of average. Reservoir storage at the end of March remains slightly above normal at 104 percent of average. April 1 streamflow forecasts saw a moderate decrease (down 9 to 14 percentage points) from those issued last month, with most streams expected to produce below average runoff. April-July volumes are predicted to range from 58 percent of average for Muddy Creek below Wolford Mountain Reservoir to 90 percent of average for the Inflow to Dillon Reservoir.

UPPER COLORADO RIVER BASIN  
Streamflow Forecasts - April 1, 2007

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<===== Drier =====>>		=====		>>===== Wetter =====>>		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
Lake Granby Inflow (2)	APR-JUL	153	177	195	87	213	242	225
Willow Creek Reservoir Inflow	APR-JUL	30	37	42	82	48	57	51
Williams Fork Reservoir Inflow (2)	APR-JUL	60	70	78	82	86	99	95
Dillon Reservoir Inflow (2)	APR-JUL	116	136	150	90	165	190	167
Green Mountain Reservoir Inflow (2)	APR-JUL	194	226	250	89	276	316	280
Muddy Creek blw Wolford Mtn Resv (2)	APR-JUL	22	29	35	58	42	53	60
Eagle River below Gypsum (2)	APR-JUL	199	240	270	81	302	352	335
Colorado River Near Dotsero (2)	APR-JUL	914	1080	1200	83	1327	1524	1440
Ruedi Reservoir Inflow (2)	APR-JUL	80	94	105	75	116	134	141
Roaring Fork At Glenwood Springs (2)	APR-JUL	395	470	525	74	583	673	710
Colorado River Near Cameo (2)	APR-JUL	1190	1610	1900	79	2190	2610	2420

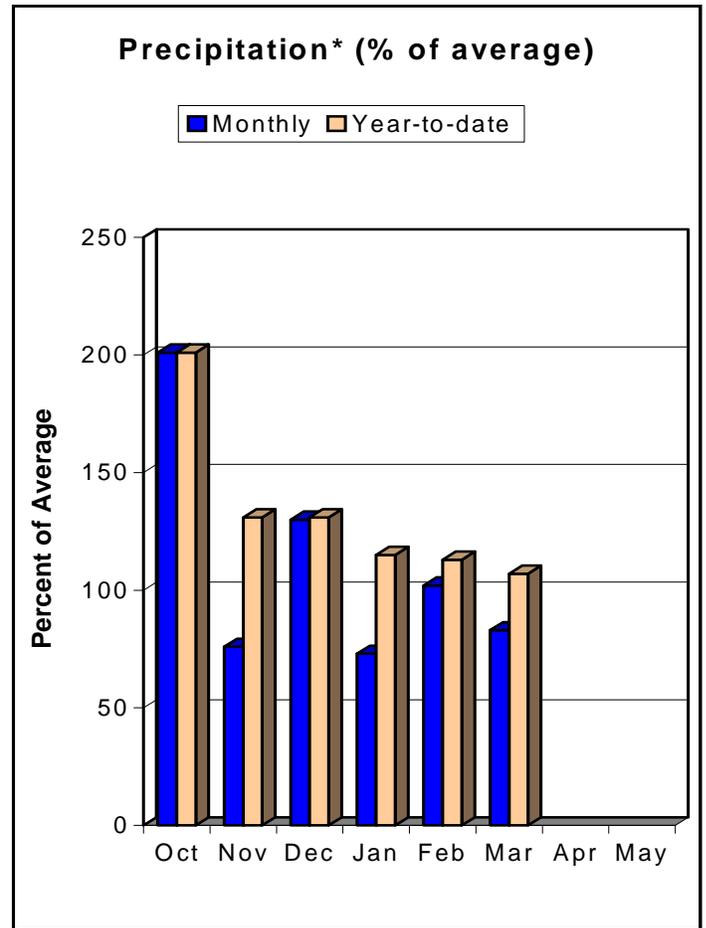
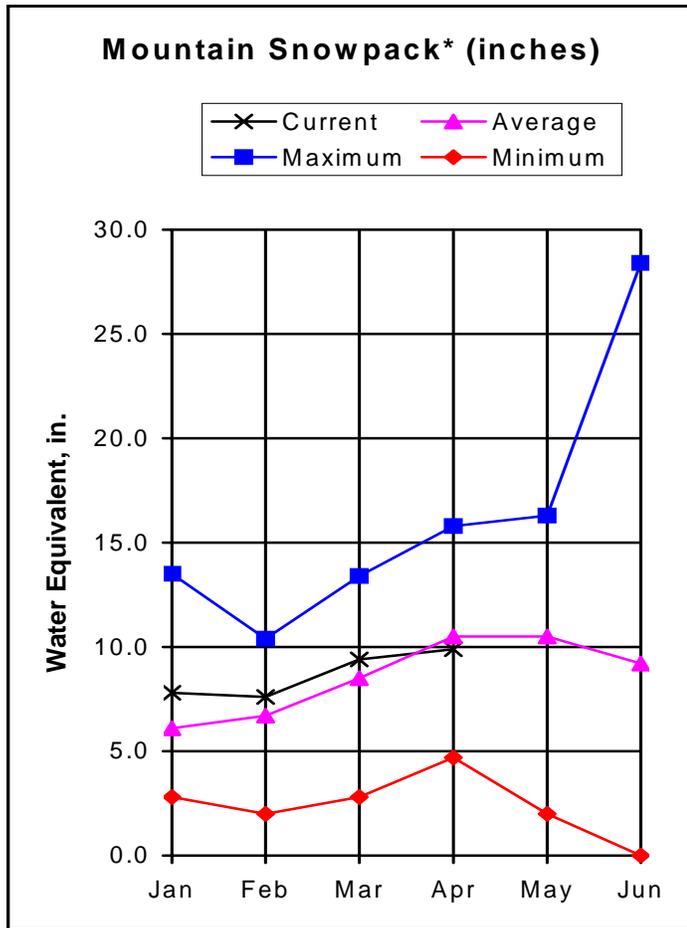
UPPER COLORADO RIVER BASIN Reservoir Storage (1000 AF) - End of March					UPPER COLORADO RIVER BASIN Watershed Snowpack Analysis - April 1, 2007			
Reservoir	Usable Capacity	*** This Year	Usable Last Year	Storage *** Avg	Watershed	Number of Data Sites	This Year as % of Last Yr Average	
DILLON	250.7	239.6	223.3	214.5	BLUE RIVER BASIN	9	71	91
LAKE GRANBY	465.6	216.2	247.3	263.7	UPPER COLORADO RIVER BASIN	37	74	85
GREEN MOUNTAIN	146.8	66.0	59.0	59.8	MUDDY CREEK BASIN	4	57	65
HOMESTAKE	43.0	32.3	21.7	22.5	PLATEAU CREEK BASIN	3	68	58
RUEDI	102.0	68.8	65.8	61.9	ROARING FORK BASIN	8	74	77
VEGA	32.9	19.7	21.2	13.1	WILLIAMS FORK BASIN	4	78	92
WILLIAMS FORK	97.0	73.3	70.2	54.8	WILLOW CREEK BASIN	4	91	91
WILLOW CREEK	9.1	6.8	7.6	6.8	TOTAL COLORADO RIVER BASIN	48	74	81

\* 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 April 1, 2007



\*Based on selected stations

After impressive snow accumulation during the month of December, snowpack levels in the South Platte River Basin have been in decline ever since. Finally slipping below average during a very dry March, snowpack in the South Platte is at 94% of average as of April 1, down from 111% of average last month. Not a bleak outlook by any means, but some concern may be warranted as many measuring sites lost snow during a month that typically produces 19% of the peak snowpack accumulation on the South Platte. The loss was not limited to one or two sub-basins, but was widespread as the St. Vrain basin dropped to 78% of average from 106% of average last month. Boulder Creek gets bragging rights as the only sub-basin in the state that is above average, showing a snowpack of 110% of average but down from 132% of average last month. Basin wide precipitation for the month of March was 83% of average, dropping year to date precipitation to 107% of average, and making the South Platte the only basin in the state with above average precipitation as of April 1. Reservoir storage on the South Platte is at 92% of average, up from 86% of average last month and at 98% of the storage at this time last year. April through September streamflow volumes are down from last month. Expect about 80% of average streamflow at the Antero Reservoir inlet, and about 103% of average on Boulder Creek near Orodell.

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SOUTH PLATTE RIVER BASIN  
Streamflow Forecasts - April 1, 2007

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	7.1	10.4	13.5	80	17.5	26	16.8
	APR-SEP	8.4	12.6	16.8	82	22	32	21
Spinney Mountain Reservoir inflow	APR-JUL	27	40	51	91	65	94	56
	APR-SEP	32	48	63	91	82	122	69
Elevenmile Canyon Reservoir inflow	APR-JUL	28	41	53	91	69	101	58
	APR-SEP	32	50	66	92	88	135	72
Cheesman Lake inflow	APR-JUL	52	77	102	89	134	201	115
	APR-SEP	64	98	127	89	172	260	142
South Platte River at South Platte	APR-JUL	84	133	182	89	250	395	205
	APR-SEP	102	163	225	88	310	495	255
Bear Creek abv Evergreen	APR-JUL	8.0	12.6	17.2	89	23	37	19.4
	APR-SEP	10.4	16.3	22	88	30	47	25
Bear Creek at Morrison	APR-JUL	8.7	15.2	22	88	32	55	25
	APR-SEP	10.9	18.7	27	87	39	67	31
Clear Creek at Golden	APR-JUL	81	99	112	102	125	143	110
	APR-SEP	93	118	135	101	152	177	134
St. Vrain Creek at Lyons	APR-JUL	82	92	99	105	106	116	94
	APR-SEP	95	107	115	106	123	135	109
Boulder Creek nr Orodell	APR-JUL	43	49	54	104	59	65	52
	APR-SEP	47	56	62	103	68	77	60
South Boulder nr Eldorado Spgs	APR-JUL	34	40	43	104	46	52	41
	APR-SEP	37	43	48	105	53	59	46
Big Thompson River at mouth nr Drake	APR-JUL	67	80	89	90	98	111	99
	APR-SEP	79	95	106	89	117	133	119
CACHE LAPOUDRE at Canyon Mouth	APR-JUL	122	170	200	82	230	280	245
	APR-SEP	135	190	225	82	260	315	275

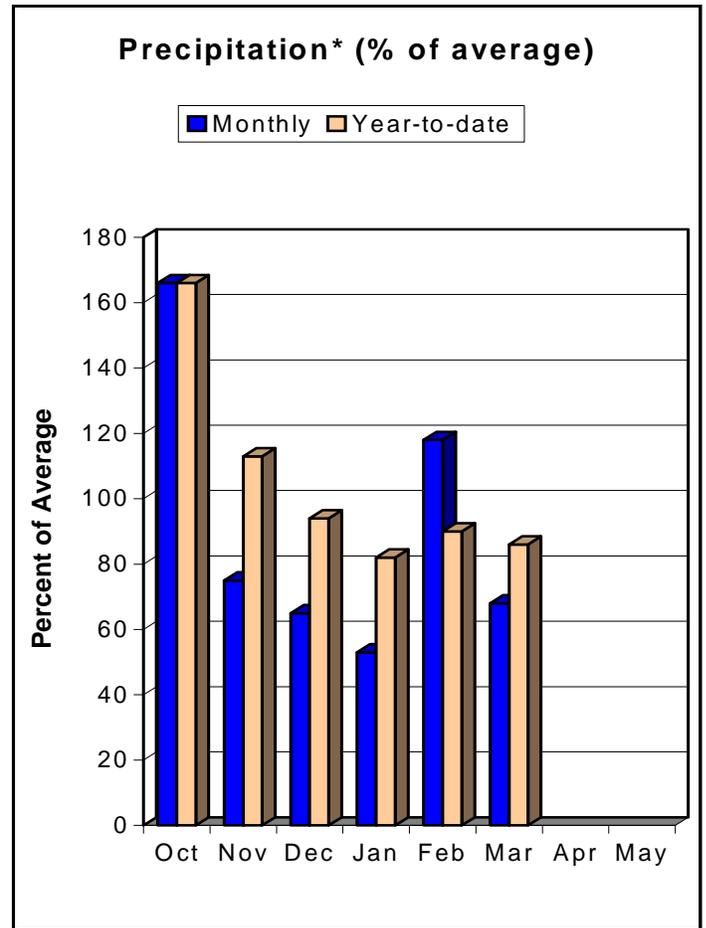
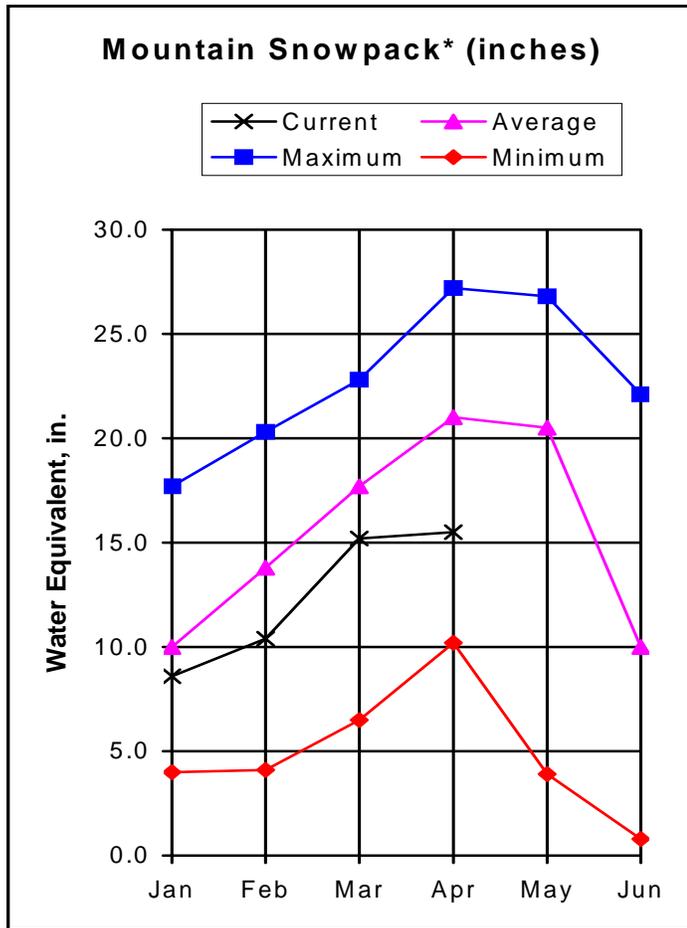
SOUTH PLATTE RIVER BASIN Reservoir Storage (1000 AF) - End of March					SOUTH PLATTE RIVER BASIN Watershed Snowpack Analysis - April 1, 2007			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ANTERO	19.9	18.0	7.2	15.9	BIG THOMPSON BASIN	7	103	95
BARR LAKE	32.0	28.8	29.6	27.9	BOULDER CREEK BASIN	5	98	110
BLACK HOLLOW	6.5	2.3	1.5	4.0	CACHE LA POUFRE BASIN	8	86	91
BOYD LAKE	44.0	13.1	30.4	33.0	CLEAR CREEK BASIN	4	80	94
BUTTON ROCK/RALPH PRICE	16.2	14.9	13.7	12.1	SAINT VRAIN BASIN	4	86	78
CACHE LA POUFRE	10.1	8.0	7.7	8.6	UPPER SOUTH PLATTE BASIN	15	91	94
CARTER	108.9	61.7	70.7	100.9	TOTAL SOUTH PLATTE BASIN	43	91	94
CHAMBERS LAKE	8.8	1.7	4.0	3.3				
CHEESMAN	79.0	77.1	68.6	60.8				
COBB LAKE	22.3	3.4	9.0	13.9				
ELEVEN MILE	98.0	99.4	99.5	96.4				
EMPIRE	36.5	34.5	33.5	31.8				
FOSSIL CREEK	11.1	9.8	9.1	7.9				
GROSS	42.0	22.9	18.2	23.9				
HALLIGAN	6.0	4.9	2.9	4.7				
HORSECREEK	14.7	13.8	13.2	13.9				
HORSETOOTH	149.7	111.8	110.3	119.1				
JACKSON	26.1	26.0	26.1	29.9				
JULESBURG	20.5	20.5	19.7	20.8				
LAKE LOVELAND	14.0	11.3	11.4	9.0				
LONE TREE	9.0	8.7	7.3	7.2				
MARIANO	6.0	5.4	5.3	4.5				
MARSHALL	10.0	7.5	6.0	6.0				
MARSTON	13.0	12.7	3.4	13.3				
MILTON	24.0	21.7	21.4	18.3				
POINT OF ROCKS	70.6	52.6	70.9	68.8				
PREWITT	28.2	24.6	22.5	25.0				
RIVERSIDE	55.8	55.0	58.0	58.2				
SPINNEY MOUNTAIN	49.0	33.1	36.3	32.1				
STANDLEY	42.0	41.2	35.4	34.6				
TERRY LAKE	8.0	6.1	5.3	5.4				
UNION	13.0	8.4	10.2	11.1				
WINDSOR	19.0	1.4	7.4	12.4				

\* 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 April 1, 2007



\*Based on selected stations

The warm, dry weather pattern that set in during the middle of March had a significant detrimental effect on snowpacks across the Yampa, White, North Platte and Laramie River basins. While snowpacks in the North Platte and Laramie River basins were able to recover somewhat from the losses, SNOTEL data indicates that snowpacks in the combined Yampa and White River basins could not muster enough snow to get back to the levels present before the melt occurred. April 1 snowpack conditions in the sub-basins ranged from 67 percent of average in the White River Drainage (down from 83 percent of average on March 1) to 90 percent of average in the Laramie River Watershed (down from 101 percent of average on March 1). Mountain precipitation during March was only 68 percent of average. The well below average monthly precipitation reversed the trend set last month and water year totals dropped back down to 86 percent of average. Storage at the end of March in Stagecoach and Yamcolo are both above average. Overall storage is 113 percent of average and 14 percent higher than the amount stored at the end of March 2006. As you would expect given conditions in March, April 1 streamflow forecasts have dropped somewhat from those issued last month. Well below average April-July streamflow volumes are forecast throughout most of the basin. Runoff volumes should range from 51 percent of average for the Little Snake River near Lily to 93 percent of average for the Laramie River near Woods.

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

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	81	142	182	74	225	285	245
	APR-SEP	89	157	200	74	250	315	270
LARAMIE RIVER nr Woods	APR-JUL	68	95	114	93	133	161	123
	APR-SEP	73	104	125	93	146	178	135
Yampa R ab Stagecoach Reservoir (2)	APR-JUL	9.1	13.4	17.0	59	21	29	29
Yampa River at Steamboat Springs (2)	APR-JUL	118	148	170	61	194	232	280
Elk River nr Milner	APR-JUL	147	183	210	65	239	284	325
Elkhead Creek nr Elkhead	APR-JUL	12.7	18.5	23	59	28	36	39
Elkhead Creek blw Maynard Gulch (2)	APR-JUL	15.0	27	35	59	43	55	59
Fortification Ck nr Fortification	MAR-JUN	1.45	2.85	4.20	56	5.91	9.20	7.50
	APR-JUN	0.95	1.94	2.90	46	4.13	6.53	6.30
Yampa River Near Maybell (2)	APR-JUL	373	485	570	58	662	809	990
Little Snake River nr Slater	APR-JUL	55	72	84	53	97	119	159
Little Snake River nr Dixon	APR-JUL	90	134	170	52	210	276	330
Little Snake River nr Lily	APR-JUL	97	146	185	51	229	302	365
White River nr Meeker	APR-JUL	119	151	175	60	201	242	290

YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS Reservoir Storage (1000 AF) - End of March					YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS Watershed Snowpack Analysis - April 1, 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	28.2	23.8	24.6	LARAMIE RIVER BASIN	4	88	90
YAMCOLO	8.7	7.3	7.4	6.9	NORTH PLATTE RIVER BASIN	11	71	77
					TOTAL NORTH PLATTE BASIN	14	74	80
					ELK RIVER BASIN	2	71	76
					YAMPA RIVER BASIN	12	61	71
					WHITE RIVER BASIN	6	63	67
					TOTAL YAMPA AND WHITE RIV	17	61	69
					LITTLE SNAKE RIVER BASIN	8	61	71
TOTAL YAMPA, WHITE AND NO	36	67	74					

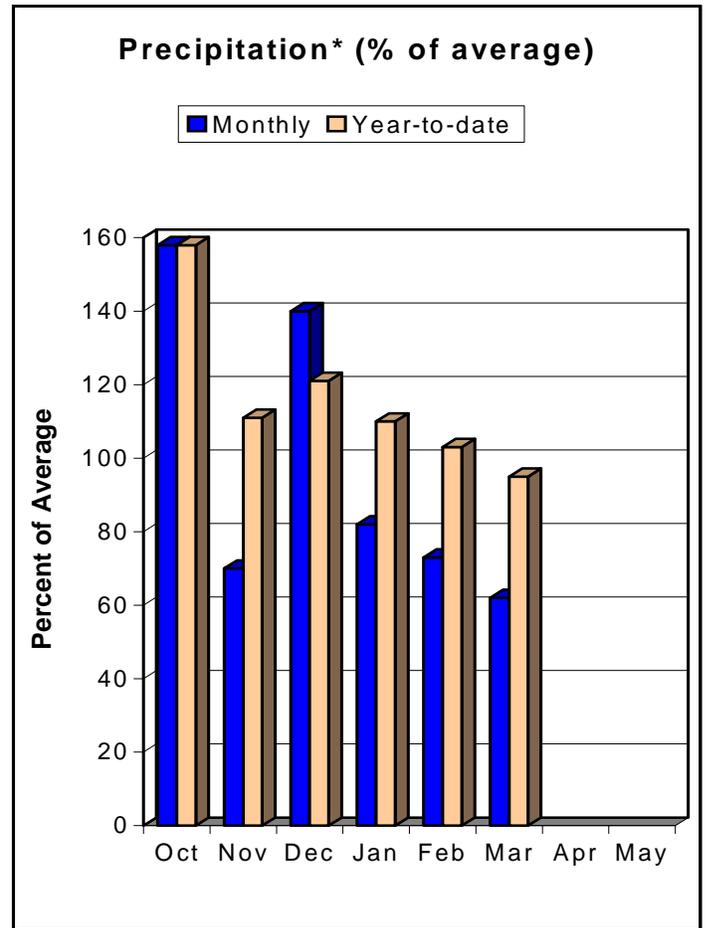
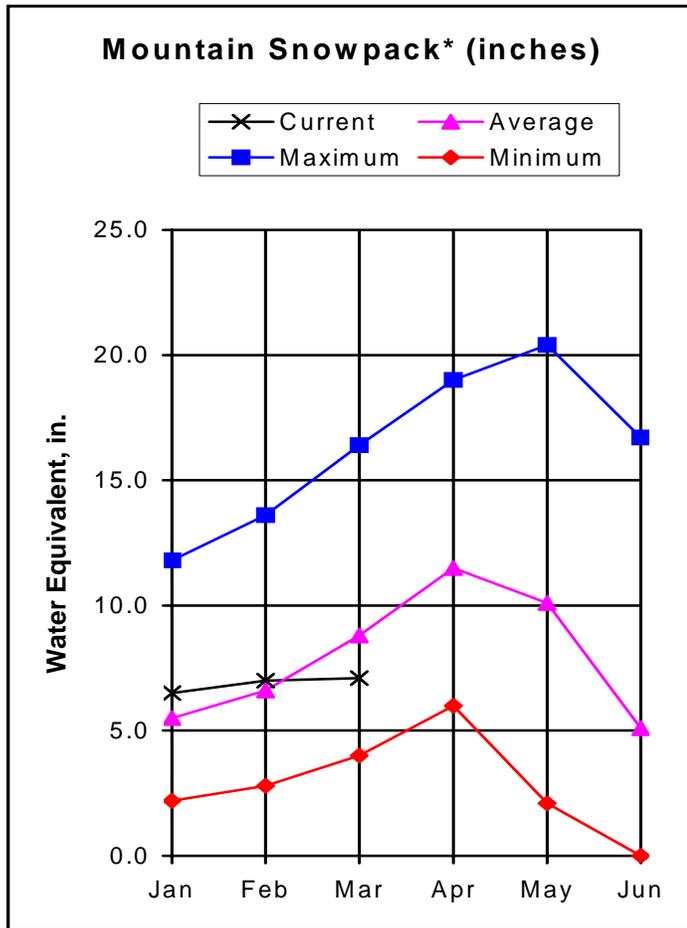
\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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 April 1, 2007



\*Based on selected stations

In a month that typically accumulates 18% of average peak snowpack in the Arkansas River Basin, receiving only 4% is sure to hurt the water supply a bit. A very dry March put snowpack in the Arkansas at 81% of average, down from 102% of average last month. It is also the first month to see a below average snowpack this season. All the sub-basins of the Arkansas dipped below average, even the eastern and southern drainages. The Upper Arkansas, below average since February, dropped to 79% of its average snowpack. The Cucharas and Huerfano sub-basins have dropped to 87% of average, down from 126% of average last month. At 62% of average, monthly precipitation was no help. The low monthly precipitation number dropped the year to date precipitation down to 95% of average from 103% of average last month. Reservoir storage on the Arkansas is at 88% of average, up from 80% of average last month, and 132% of the storage this time last year. Expect April through September streamflow volume on the Arkansas to range from 80% of average at the Trinidad Lake inlet to 96% of average on the Huerfano River near Redwing.

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ARKANSAS RIVER BASIN  
Streamflow Forecasts - April 1, 2007

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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	10.9	15.5	19.0	83	23	29	23
	APR-SEP	14.1	19.7	24	89	29	37	27
Arkansas River At Salida (2)	APR-JUL	156	187	210	82	234	271	255
	APR-SEP	202	244	275	89	308	360	310
Grape Creek Near Westcliffe	APR-JUL	4.2	9.8	15.0	93	21	33	16.1
	APR-SEP	6.8	13.1	18.5	94	25	36	19.6
Pueblo Reservoir Inflow (2)	APR-JUL	191	261	315	82	374	470	385
	APR-SEP	257	344	410	85	482	598	485
Huerfano River Near Redwing	APR-JUL	6.4	9.0	11.0	89	13.2	16.9	12.3
	APR-SEP	9.0	12.3	14.8	96	17.6	22	15.5
Cucharas River At Boyd Ranch Nr La V	APR-JUL	4.8	7.7	10.0	89	12.7	17.2	11.3
	APR-SEP	6.5	9.6	12.0	92	14.7	19.2	13.0
Trinidad Lake Inflow	MAR-JUL	13.6	23	31	91	41	58	34
	APR-JUL	7.7	16.8	25	78	35	52	32
	APR-SEP	13.3	25	35	80	47	67	44

ARKANSAS RIVER BASIN Reservoir Storage (1000 AF) - End of March					ARKANSAS RIVER BASIN Watershed Snowpack Analysis - April 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	50.3	27.3	37.0	UPPER ARKANSAS BASIN	10	80	79
CLEAR CREEK	11.4	7.2	9.1	6.7	CUCHARAS & HUERFANO RIVER	4	163	87
CUCHARAS RESERVOIR	40.0	2.8	1.6	5.4	PURGATOIRE RIVER BASIN	2	204	88
GREAT PLAINS	150.0	0.0	0.0	41.9	TOTAL ARKANSAS RIVER BASIN	15	94	81
HOLBROOK	7.0	2.2	0.0	4.9				
HORSE CREEK	27.0	0.0	0.0	12.6				
JOHN MARTIN	616.0	70.2	40.9	137.3				
LAKE HENRY	8.0	7.6	6.4	6.7				
MEREDITH	42.0	30.8	18.8	19.0				
PUEBLO	354.0	192.6	155.4	173.3				
TRINIDAD	167.0	31.7	20.9	27.5				
TURQUOISE	127.0	64.9	56.5	74.0				
TWIN LAKES	86.0	56.2	54.2	42.5				

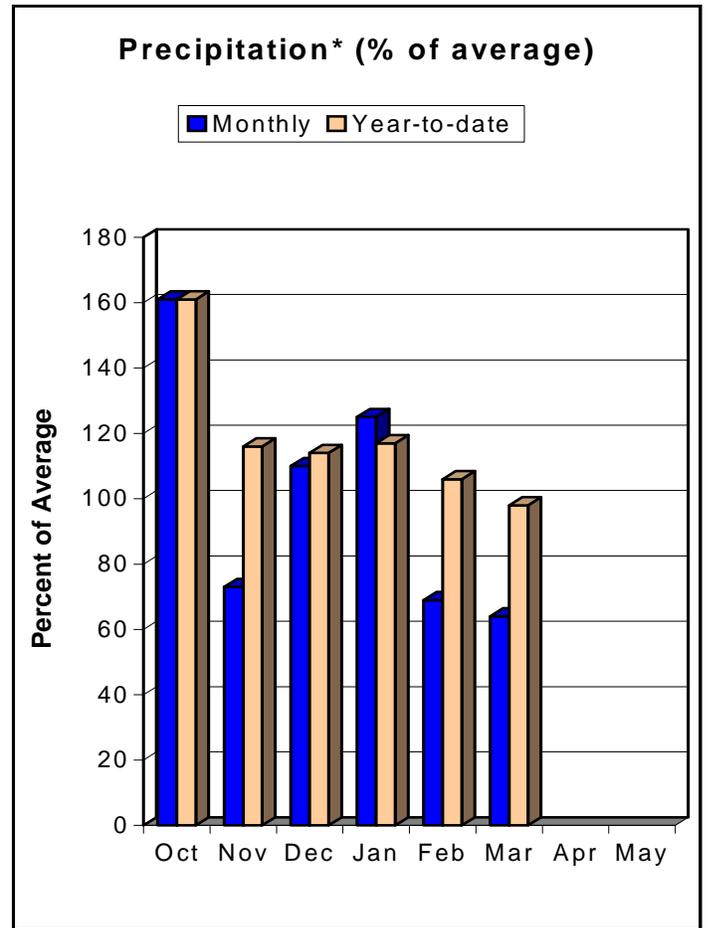
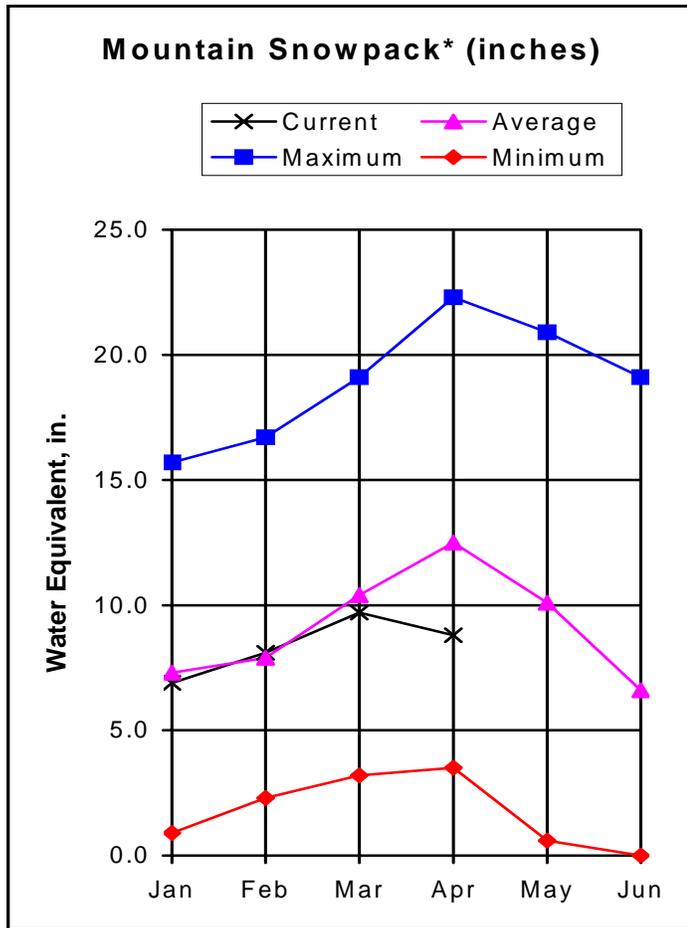
\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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 April 1, 2007



\*Based on selected stations

The Rio Grande Basin had been oscillating between above and below average snowpacks, but a dry March helped it make up its mind. The Rio Grande finished March with 70% of its average snowpack, down from 93% of average last month. Unlike prior months, there was no help from the Sangre de Cristos this time as the Trinchera and Culebra sub-basins are only showing 77% of their average snowpack. Farther west, measuring sites in the Conejos and Rio San Antonio sub-basins dropped from 88% of average last month to 70% of average this month. In a month that should contribute 11% of peak snow accumulation, measuring sites in the Rio Grande experienced a decrease in snowpack. Basin wide precipitation for the month of March was 64% of average, bringing year to date precipitation to 98% of average, down from 106% of average last month. Reservoir storage on the Rio Grande is 85% of average, up from 70% of average last month, and 118% of storage at this time last year. Forecasts of streamflow volume on the Rio Grande are lower than they were last month. April through September volumes should range from a mere 48% of average on the San Antonio River near Ortiz to 94% of average on Sangre de Cristo Creek.

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UPPER RIO GRANDE BASIN  
Streamflow Forecasts - April 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	71	88	100	74	113	134	136
Rio Grande Reservoir Inflow	APR-JUL	68	81	90	76	100	116	118
Rio Grande At Wagon Wheel Gap (2)	APR-SEP	190	239	275	80	314	376	345
South Fork Rio Grande at South Fork	APR-SEP	76	90	100	76	111	129	132
Rio Grande nr Del Norte (2)	APR-SEP	299	365	415	78	469	558	531
Saguache Creek nr Saguache (2)	APR-SEP	13.0	18.6	23	70	28	36	33
Alamosa Creek Abv Terrace Reservoir	APR-SEP	37	45	51	73	57	68	70
La Jara Creek nr Capulin	MAR-JUL	4.20	5.40	6.50	75	7.70	9.90	8.70
	APR-JUL	2.56	3.83	4.90	61	6.15	8.36	8.00
Trinchera Creek abv Turners Ranch	APR-SEP	5.8	8.9	11.0	92	13.1	16.2	12.0
Sangre de Cristo Creek	APR-SEP	2.30	5.90	8.30	94	10.70	14.30	8.80
Ute Ck nr Fort Garland	APR-SEP	5.4	7.9	10.0	82	12.4	16.7	12.2
Platoro Reservoir Inflow	APR-JUL	36	42	47	73	52	60	64
	APR-SEP	40	47	52	73	58	67	71
Conejos River Near Mogote (2)	APR-SEP	113	134	150	75	167	194	200
San Antonio River at Ortiz	APR-SEP	4.3	6.2	7.8	48	9.7	12.9	16.4
Los Pinos River nr Ortiz	APR-SEP	32	41	47	64	54	66	74
Culebra Creek at San Luis (2)	APR-SEP	8.9	13.8	18.0	78	23	32	23
Costilla Reservoir Inflow	MAR-JUL	6.3	8.4	10.0	94	11.9	15.2	10.6
	APR-JUL	5.1	7.1	8.8	87	10.7	14.0	10.1
Costilla Creek Near Costilla (2)	MAR-JUL	14.0	19.5	24	92	29	38	26
	APR-JUL	12.0	17.5	22	92	27	37	24

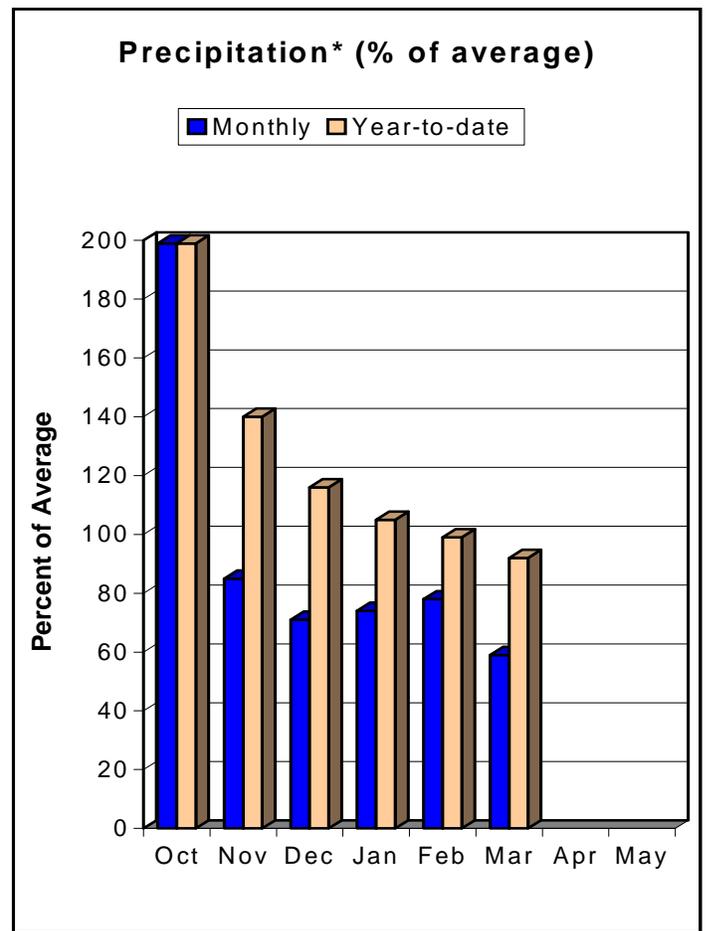
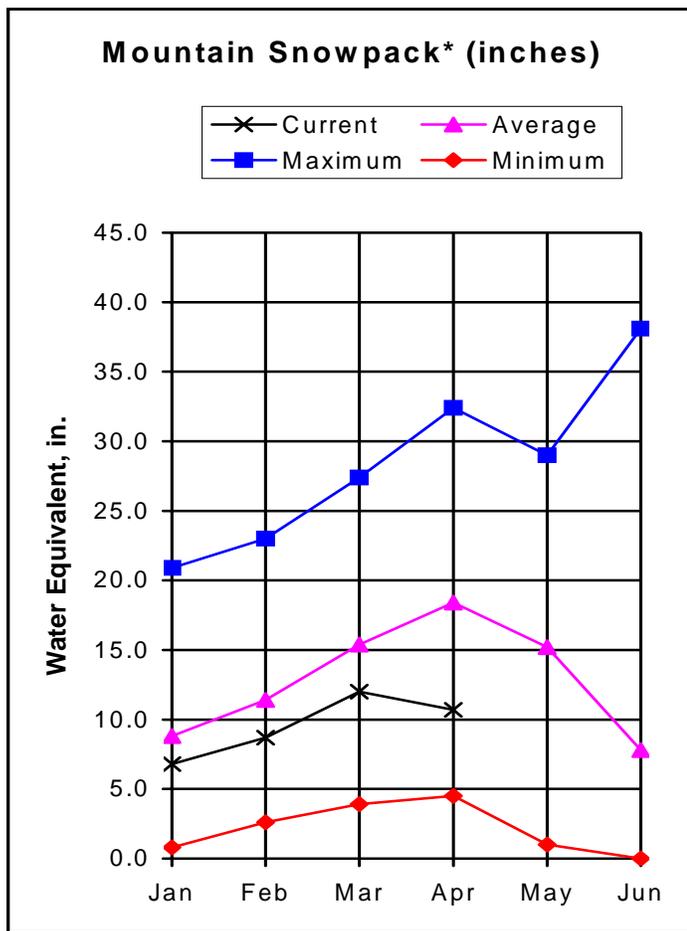
UPPER RIO GRANDE BASIN Reservoir Storage (1000 AF) - End of March					UPPER RIO GRANDE BASIN Watershed Snowpack Analysis - April 1, 2007			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CONTINENTAL	27.0	6.8	2.6	5.9	ALAMOSA CREEK BASIN	2	77	49
PLATORO	60.0	10.9	5.0	24.5	CONEJOS & RIO SAN ANTONIO	4	102	70
RIO GRANDE	51.0	27.4	24.2	19.3	CULEBRA & TRINCHERA CREEK	5	143	77
SANCHEZ	103.0	15.1	21.2	24.9	UPPER RIO GRANDE BASIN	12	108	72
SANTA MARIA	45.0	8.5	8.0	10.8	TOTAL UPPER RIO GRANDE BA	23	110	70
TERRACE	18.0	10.3	5.7	7.6				

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

# SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS as of April 1, 2007



\*Based on selected stations

Melting snowpacks during the middle of March had a devastating effect on the San Miguel, Dolores, San Juan and Animas River basins. Overall, the combined basins reported the lowest snowpack in the state at only 58 percent of average. This marks the ninth year in the last ten that April 1 snowpacks in the combined basins have been below average. Of those nine years, only 1999 and 2002 had lower percentage values. April 1 measurements in the Dolores showed a drop in snowpack from 75 percent of average on March 1 to 45 percent of average on April 1; the San Miguel fell from 90 percent of average to 66 percent of average; the Animas went from 73 percent of average to 55 percent of average; and the San Juan dipped from 81 percent of average to 70 percent of average. Projections based on 20 years of SNOTEL data show that, even if you used the maximum historical daily accumulation, the basin would fall short of reaching the average peak snowpack. March precipitation was the lowest reported in the state at a measly 59 percent of average, making it the fifth month in a row with below average precipitation. As a result, total precipitation for the water year dropped to 92 percent of average. At 121 percent of average, reservoirs storage is 10 percent higher than it was a year ago. Well below average streamflows are forecast for most of the basin. April-July volumes are expected to range from 55 percent of average for the Inflow to McPhee Reservoir to 72 percent of average for the Rio Blanco at the Blanco Diversion.

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS  
Streamflow Forecasts - April 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)	
Dolores River at Dolores	APR-JUL	104	133	155	59	179	220	265				
McPhee Reservoir Inflow	APR-JUL	116	149	175	55	204	251	320				
San Miguel River nr Placerville	APR-JUL	58	74	86	65	99	121	132				
Gurley Reservoir Inlet	APR-JUL	6.2	8.7	10.5	64	12.3	14.8	16.5				
	APRIL			1.30	78			1.66				
	MAY			5.80	66			8.83				
	JUNE			2.80	60			4.67				
	JULY			0.60	46			1.32				
Cone Reservoir Inlet	APR-JUL	1.34	1.85	2.20	62	2.56	3.06	3.53				
	APRIL			0.35	76			0.46				
	MAY			1.05	64			1.64				
	JUNE			0.60	58			1.04				
	JULY			0.20	53			0.38				
Lilylands Reservoir Inlet	APR-JUL	0.90	1.50	1.90	66	2.33	2.93	2.86				
	APRIL			0.30	75			0.40				
	MAY			1.00	76			1.32				
	JUNE			0.50	58			0.87				
	JULY			0.10	37			0.27				
Rio Blanco At Blanco Diversion (2)	APR-JUL	27	33	38	72	43	51	53				
Navajo River At Oso Diversion (2)	APR-JUL	32	39	45	65	51	62	69				
San Juan River Near Carracas (2)	APR-JUL	193	237	270	67	306	364	405				
Piedra River near Arboles	APR-JUL	93	117	135	59	155	188	230				
Vallecito Reservoir Inflow	APR-JUL	96	115	130	63	146	171	205				
Navajo Reservoir Inflow (2)	APR-JUL	315	405	475	61	552	681	785				
Animas River at Durango	APR-JUL	224	267	300	68	335	392	440				
Lemon Reservoir Inflow	APR-JUL	24	30	34	59	39	46	58				
La Plata River at Hesperus	APR-JUL	10.2	12.9	15.0	60	17.3	21	25				
Mancos River nr Mancos	APR-JUL	5.4	15.9	23	58	30	41	40				
	APRIL			5.00	86			5.80				
	MAY			11.5	72			15.9				
	JUNE			5.4	39			13.7				
	JULY			1.10	24			4.60				

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

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS  
Watershed Snowpack Analysis - April 1, 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	18.3	14.6	12.2	ANIMAS RIVER BASIN	9	77	55
JACKSON GULCH	10.0	6.7	4.8	5.1	DOLORES RIVER BASIN	7	67	45
LEMON	40.0	36.3	23.3	21.2	SAN MIGUEL RIVER BASIN	5	84	66
MCPHEE	381.0	307.0	290.2	273.6	SAN JUAN RIVER BASIN	4	118	70
NARRAGUINNEP	19.0	18.7	14.6	15.5	TOTAL SAN MIGUEL, DOLORES	24	85	58
VALLECITO	126.0	86.0	80.8	62.0	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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