

## **Snowpack and Water Supply Conditions for the Arkansas Basin as of May 18, 2006**

Dry conditions that were prevalent throughout April continued into the first half of May. To make matters worse, weather outlooks are calling for unseasonably warm conditions for the next several days. As of May 18, SNOTEL data indicates snowpack in the basin is 54% of average (42% of the snowpack present last year at this time). SNOTEL data also indicates the snowpack peaked on April 1 at 93% of the average peak snow water content.

At this time, most of the SNOTEL sites in the basin show no snow. The only exceptions are Fremont Pass with 21.9 inches of snow water content (112% of average) and South Colony with 1.6 inches of snow water content (13% of average). Fremont Pass peaked on May 11 with 23.7 inches of snow water content (120% of the average peak snow water content for the site). Since that time, the site has been losing about 0.3 inches of water per day. South Colony has been losing about 0.9 inches per day for the last week so it is likely that this site will melt out in the next 2-3 days.

Mountain precipitation during the first 18 days of May is well below average. Data from SNOTEL sites indicates precipitation is only 36% of average so far in May. Totals for the water year precipitation, which began on October 1, 2005, have dropped slightly since the first of the month to 79% of average.

As a result of warmer, dryer conditions, forecasts are expected to drop slightly from those issued on May 1. A mid-month update to the 50% exceedance forecast for the Inflow at Pueblo Reservoir indicates a decrease from 415,000 AF (86% of average) for Apr-Sep to 380,000 AF (78% of average).

**Colorado Arkansas River Valley  
Estimated 2006 Water Supply Based on May 1 Indicators**  
(Acre-Feet)

	1	2	3	4	5	6	7	8	9	10	11	12	13
	Bessemer	Highline	Oxford	Otero	Catlin	Holbrook	Fort Lyon	LA Consol	Fort Bent	Amity	Lamar	Hyde	Buffalo
<b>2006 Estimated Delivery</b>													
Range of Estimated Headgate Delivery at the 95% confidence interval for estimate error	69,276 — 63,024	74,556 — 67,426	31,602 — 25,689	9,618 — 7,723	105,543 — 93,610	42,122 — 31,240	281,025 — 212,854	35,313 — 31,063	20,066 — 15,795	95,745 — 75,025	51,837 — 40,600	2,140	22,500
Expected Farm Yield Per Share	2.74- 3.01	21.17- 25.24	19.9- 24.48	1.22- 1.53	4.49- 5.07	1.72- 2.32	1.43- 1.89	50.78- 57.73	1.19- 1.52	1.50- 1.92	1.40- 1.79	1.38	4.36
<b>1976-2005 Average</b>													
Ditch Headgate Delivery	63,600	93,500	27,700	7,560	89,700	48,800	243,000	29,000	17,300	75,900	44,600	2,140	22,500
Average Farm Yield Per Share	2.77	29.36	21.46	1.20	4.31	2.69	1.64	47.41	1.31	1.52	1.54	1.38	4.36
<b>Percent of Average</b>	109%- 99%	80%- 72%	114%- 93%	127%- 102%	118%- 104%	86%- 64%	116%- 88%	122%- 107%	116%- 91%	126%- 99%	116%- 91%	100%	100%

Use of this information is strictly voluntary. Irrigation supply estimates are based on surface water supply indicators that include direct flow estimates, "historic" precipitation effects, and any applicable storage supplies by canal. The irrigation water supply diversion estimates were calculated using standard statistical methods in water resources studies. They are developed by those in the business of regulating or monitoring water availability. Estimates are based on the best information available at the time the data are released. Because these numbers are only estimates and are subject to individual interpretation, the state and division engineers cannot be held liable for any loss that might result from an individual relying solely on these diversion estimates for their management decisions. Actual irrigation supplies may differ. The USDA does not control or guarantee the accuracy, relevance, timeliness, or completeness of this information. Producers and/or approved insurance providers may provide information to be used in lieu of or in addition to these figures to support planting decisions.

**Note.** These estimates are generally higher than the 1976-2005 average headgate deliveries. This is in contrast to the following NRCS Streamflow forecast for May 1, 2006, which predicts below average runoff.

## **Snowpack and Water Supply Conditions for the Arkansas Basin as of May 1, 2006**

April was a warm and dry month in the Arkansas basin. As a result, snowpack totals reached their seasonal maximum near the first of April, at 86% of average, and quickly began melting. There were only a couple of brief periods during April when storms either slowed the melting with cooler temperatures, or added slight amounts to the high elevation snowpack. By May 1, snowpack totals had decreased to 66% of average.

April's weather patterns helped to melt out the lower elevation snowpack throughout the Arkansas basin. As of May 1, all of the snow survey sites below about 10,200' feet of elevation have already melted out. Only one site in the basin is above average (121% of average) and it's one of the highest elevation sites in the basin, at 11,400'.

Precipitation for the month of April in the Arkansas basin was well below average as measured at high elevation SNOTEL sites. The basinwide precipitation for April, 2006 was only 66% of average. These totals were only 60% of those measured during April, 2005. Thus far, for the 2006 water year, which began on October 1, 2005, precipitation totals are only 82% of average at SNOTEL sites.

Although snowpack typically reaches its seasonal maximum near mid-April in the Arkansas basin, subsequent precipitation contributes to not only additional runoff, but improved soil moisture which thereby improves runoff efficiency for the existing snowpack. As a result of the dryer conditions, coupled with the early melt of the lower elevation snowpack, the forecasted runoff in the Arkansas basin has been adjusted accordingly. Seasonal volumes have decreased by 10 to 15 percentage points from those issued a month ago.

### ARKANSAS RIVER BASIN

Forecast Point	period	50% (KAF) <sup>1</sup>	% of avg	max (KAF)	min (KAF)	30-yr avg
Chalk Ck At Nathrop	APR-JUL	18.0	78	27.0	10.8	23.0
	MAY-JUL	17.9	81	27.4	10.5	22.0
	APR-SEP	23.0	85	34.0	13.5	27.0
	MAY-SEP	23.0	85	34.2	13.8	27.0
Arkansas River At Salida <sup>2</sup>	APR-JUL	240	94	305	186	255
	MAY-JUL	225	94	285	170	240
	APR-SEP	300	97	380	225	310
	MAY-SEP	285	95	365	210	300

<sup>1</sup> 50 Percent Chance of Exceedance Forecast. There is a 50 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 50 percent chance that the actual streamflow volume will be less than this forecast value. Generally, this forecast is the middle of the range of possible streamflow volumes that can be produced given current conditions

<sup>2</sup> The value is natural volume – actual volume may be affected by upstream water

ARKANSAS RIVER BASIN

Forecast Point	period	50% (KAF)	% of avg	max (KAF)	min (KAF)	30-yr avg
Pueblo Reservoir Inflow <sup>2</sup>	APR-JUL	315	82	445	210	385
	MAY-JUL	295	84	427	187	350
	APR-SEP	415	86	575	275	485
	MAY-SEP	395	88	561	258	450
	APR (OBS.)	18.76				35
	MAY	80				89
	JUN	135				162
	JUL	80				97
	AUG	65				62
	SEP	35				39

Max is 90 percentile and min is 10 percentile except  
Averages are for the 1971-2000 period.  
All volumes are in thousands of acre feet (KAF).

If you have any questions, please contact:  
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<sup>2</sup> The value is natural volume – actual volume may be affected by upstream water