

Colorado Basin Outlook Report January 1, 2011



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, 2011

Summary

Colorado is on track for a very good water year in 2011. January 1 snowpack totals are above average statewide, with most western basins near 150% of average. December was the most productive month for snowfall across the state, especially across the southern basins. Reservoir storage remains in good condition across most of the state. Given the bright outlook for summer water supplies, refilling existing storage deficits should be easily achieved. Early season runoff forecasts call for near to above average runoff for most of the state. With a little luck, the current storm track will remain in place for a few months and the state can experience an exceptional runoff year. If not, given current snowpack levels, that state can endure a dry month without drastically affecting water supplies.

Snowpack

Snowpack totals have reached above average levels in all basins as of January 1. Snowfall has been average or above each month since October throughout the Colorado, North Platte, South Platte, Yampa and White basins. Across the southern basins, snowfall during October was generally below average and November's snowfall was well below average. In late December, concerns about lack of snowpack across southern Colorado diminished as these basins received impressive snowfall totals from a series of Pacific storms. Snowfall was measured in feet rather than inches during these storms as snowpack totals increased from well below average to well above average in just a couple of weeks time. For example, in the San Juan Animas, Dolores, and San Miguel basins snowpack totals increased by over 400% during the second half of December. By January 1, record high snowpack totals (for that date) were measured at SNOTEL sites in areas of southwestern Colorado and on the Grand Mesa. The only exception to these increases was in the Sangre de Cristo Mountains where snowpacks were left essentially unchanged. The current readings in the Yampa and White basins are nearly double those measured at this time last year. For a statewide total, the January 1 snowpack is now at 136% of average and is 159% of last year's snowpack at this time. All basins are tracking above last year's totals, which is especially true across the northern basins. With 60% of the winter snowpack accumulation season remaining, a lot can still happen. The state needs at least average snowfall for the next three to four months to assure our current water supply forecasts are maintained for the summer of 2011.

Precipitation

Precipitation across Colorado's high county has been generally above average thus far during the 2011 water year, which began on October 1, 2010. Statewide total precipitation during October was 148% of average, with every basin except the Rio Grande reporting above average monthly totals. November was somewhat drier across the state coming in with a statewide monthly total of 105% of average at SNOTEL sites. Only the state's northern basins reported above average precipitation during November, with the southern basins lagging far below the average mark for the month. These dry conditions persisted into December across the southern basins. With a sudden shift in the storm track, this pattern quickly ended. By the end of December, monthly totals across the state were consistently well above average, with southwestern Colorado exceeding 200% for the month. For the state, December's totals were 159% of average. By January 1, water year totals were above average in all basins, and the statewide water year totals were 137% of average.

Reservoir Storage

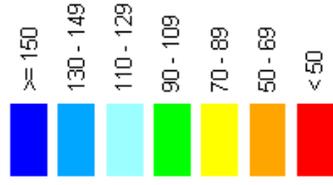
Reservoir storage across Colorado continues to track near the mid-winter average. Statewide storage on January 1 was 100% of average and was 99% of last year's volumes. Although statewide volumes are at average levels, only the Gunnison, Colorado, and combined San Juan, Animas, Dolores, and San Miguel basins are reporting above average volumes. The lowest volume, as a percent of average, is reported in the Rio Grande basin, which has dipped to 78% of average on January 1. This basin also reported below average storage throughout 2010. However, given the relatively small amount of available storage in this basin, their current basinwide deficit remains at only 19,000 acre-feet. Elsewhere across the state, below average storage is also reported in the Yampa and Arkansas basins, at 90% and 93% of average, respectively. Given the bright outlook for water supplies in 2011, these deficits should be easily overcome with a near average weather pattern for the next few months.

Streamflow

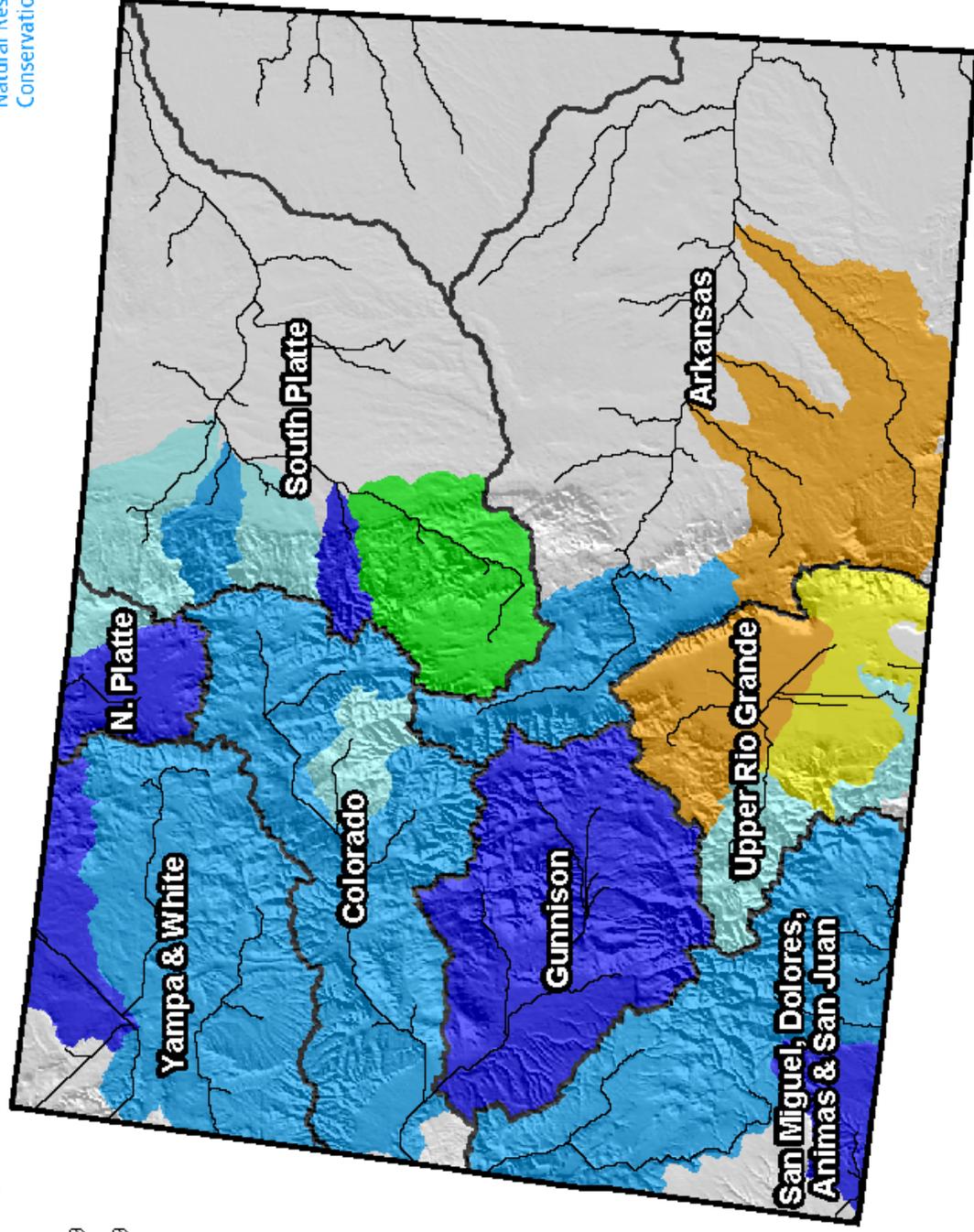
Statewide, 2011 is beginning with the best outlook for summer water supplies since 1997. Near, to slightly above average runoff is forecast nearly statewide. A few smaller basins stand out with exceptional prospects for runoff. This includes streams flowing from the Grand Mesa, along with the Upper Yampa, North Platte and headwater tributaries of the Colorado River. Runoff forecasts in these basins typically range from 120% to 140% of average. The only area which stands out with below average prospects includes those streams flowing from the Sangre de Cristo Mountains which did not see any significant improvement from those beneficial December storms. Runoff forecasts on these streams range from only 51% to 79% of average. Given the above average precipitation which fell during October, mostly as rain, soil moisture across most of Colorado should be in good to excellent condition. This additional moisture in the soil profile will help improve runoff efficiency once we enter the spring and summer runoff period. With a few more months of adequate snowfall across the high country, good runoff conditions should prevail across the state in 2011.

Colorado Snowpack Map

Percent of Average

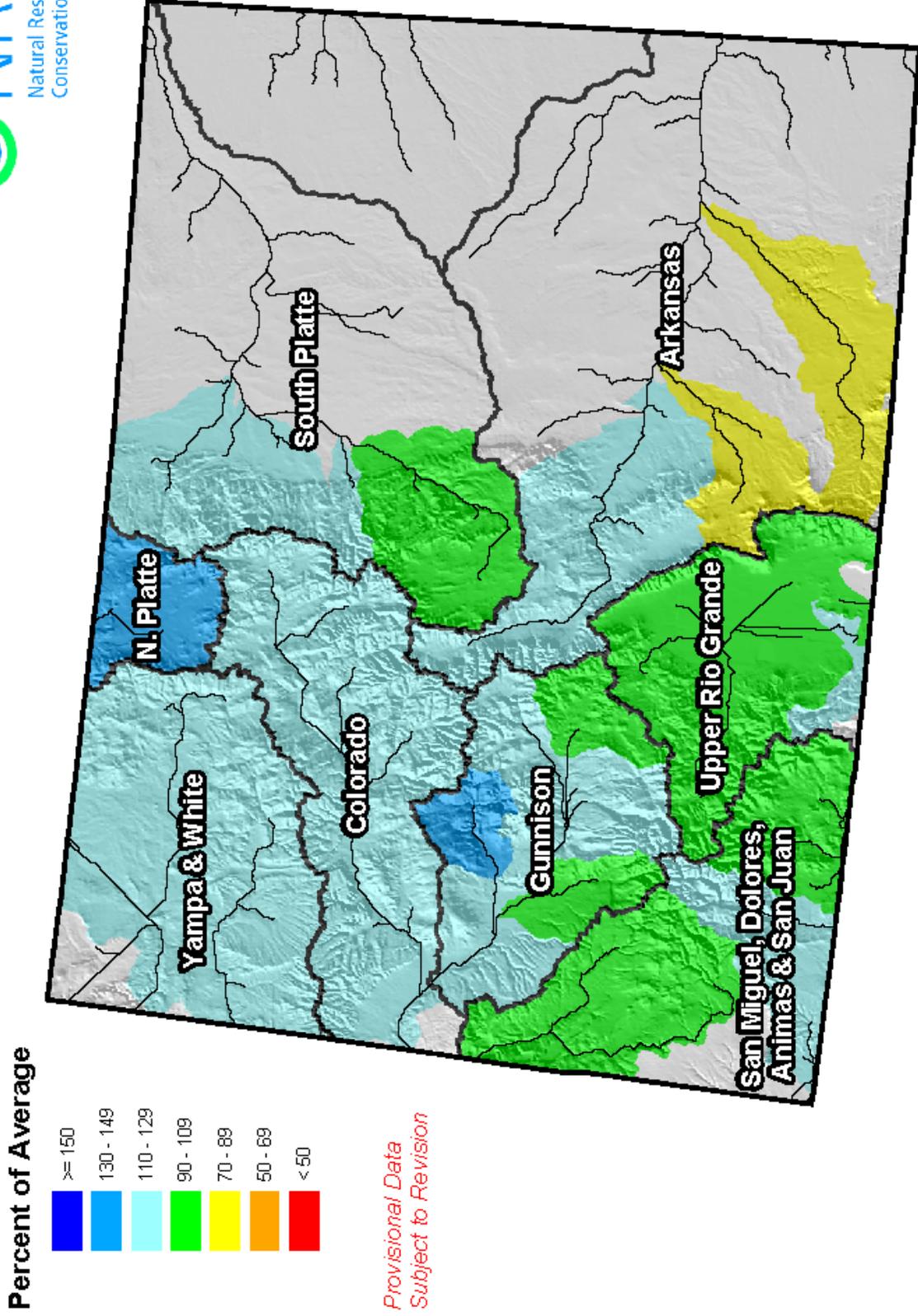


*Provisional Data
Subject to Revision*



Current as of January 1, 2011

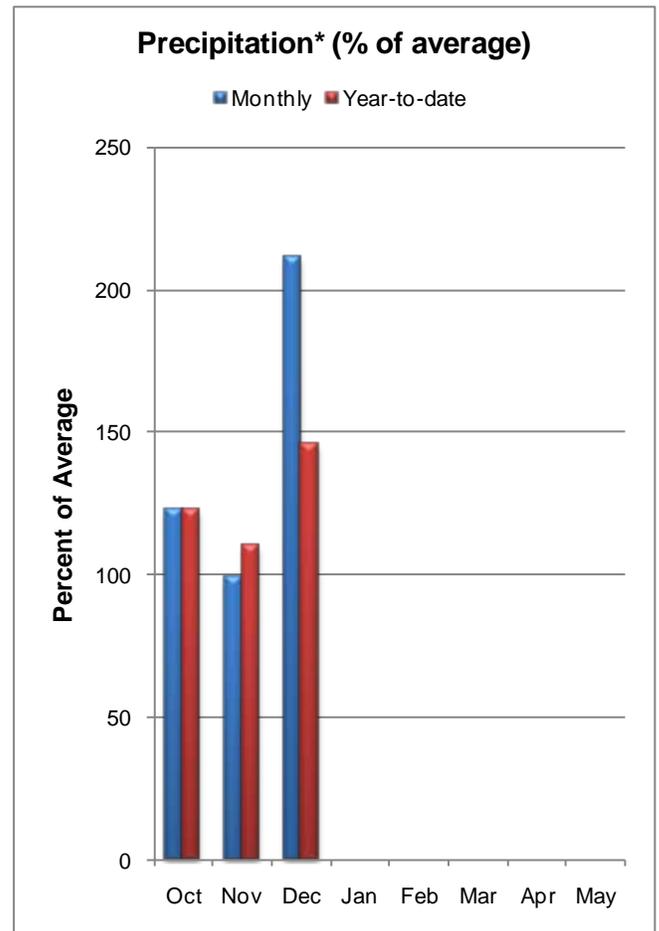
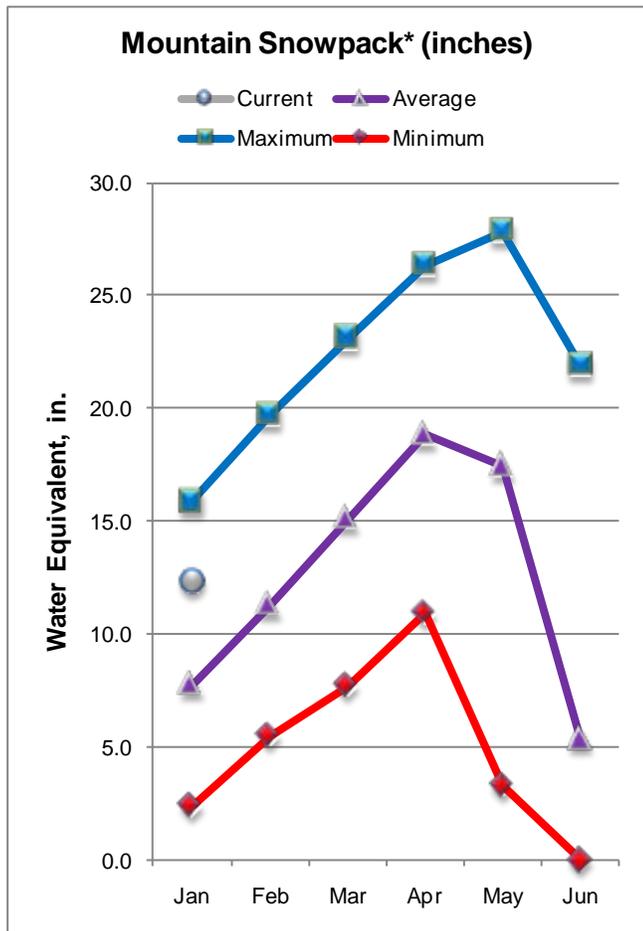
Colorado Streamflow Forecast Map



Current as of January 1, 2011

GUNNISON RIVER BASIN

as of January 1, 2011



*Based on selected stations

For awhile it looked like the Gunnison River Basin snowpack was going to fall victim to the "La Nina" style weather that set in early in the water year. SNOTEL data shows the snowpack at the end of October was a mere 68 percent of average. By the end of November, conditions had improved to 87 percent of average, but the real turnaround came in mid-December when a more favorable weather pattern set in. By January 1, the snowpack had jumped to 158 percent of average, making it the highest January 1 percentage the basin has had since 1997 (at 172 percent of average). The increase in snow water content from December 18 to January 1 was 225 percent of the average total for the entire month. Sub-basin snowpacks are all well above average, ranging from 155 percent of average in the Uncompahgre Watershed to 182 percent of average in the Surface Creek Drainage. Mountain precipitation figures fared a little better with near to above average monthly totals reported from October through December. December precipitation was a whopping 211 percent of average. Total precipitation for the water year is 146 percent of average. Although slightly below last year's figures at this time, reservoir storage came in at 102 percent of average and 69 percent of capacity. The water supply outlook for the basin is positive with most forecast points expected to show near to well above average runoff this spring and summer. April-July forecasts range from 98 percent of average for Cochetopa Creek near Parlin to 146 percent of average for Surface Creek at Cedaredge.

GUNNISON RIVER BASIN
Streamflow Forecasts - January 1, 2011

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<==== Drier =====		===== Chance Of Exceeding *		===== Wetter =====>>		
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
Taylor Park Reservoir Inflow (2)	APR-JUL	80	103	120	117	138	168	103
Slate R nr Crested Butte	APR-JUL	76	90	100	112	110	127	89
East R at Almont	APR-JUL	154	198	230	120	265	320	192
Gunnison R near Gunnison (2)	APR-JUL	300	395	465	119	540	665	390
Tomichi Ck at Sargents	APR-JUL	19.8	27	33	103	40	51	32
Cochetopa Ck bl Rock Ck nr Parlin	APR-JUL	9.4	13.6	17.0	98	21	28	17.3
Tomichi Ck at Gunnison	APR-JUL	43	65	84	104	106	145	81
Lake Fk at Gateview	APR-JUL	91	113	130	103	148	176	126
Blue Mesa Reservoir Inflow (2)	APR-JUL	500	675	810	113	955	1200	720
Paonia Reservoir Inflow (2)	MAR-JUN	78	110	135	135	163	210	100
	APR-JUL	75	110	138	135	169	220	102
NF Gunnison R nr Somerset (2)	APR-JUL	265	340	400	131	465	565	305
Surface Ck at Cedaredge	APR-JUL	15.8	21	25	146	30	37	17.1
Ridgway Reservoir Inflow (2)	APR-JUL	73	94	110	108	127	154	102
Uncompahgre R at Colona (2)	APR-JUL	88	123	150	108	180	230	139
Gunnison R nr Grand Junction (2)	APR-JUL	1190	1590	1900	122	2230	2780	1560

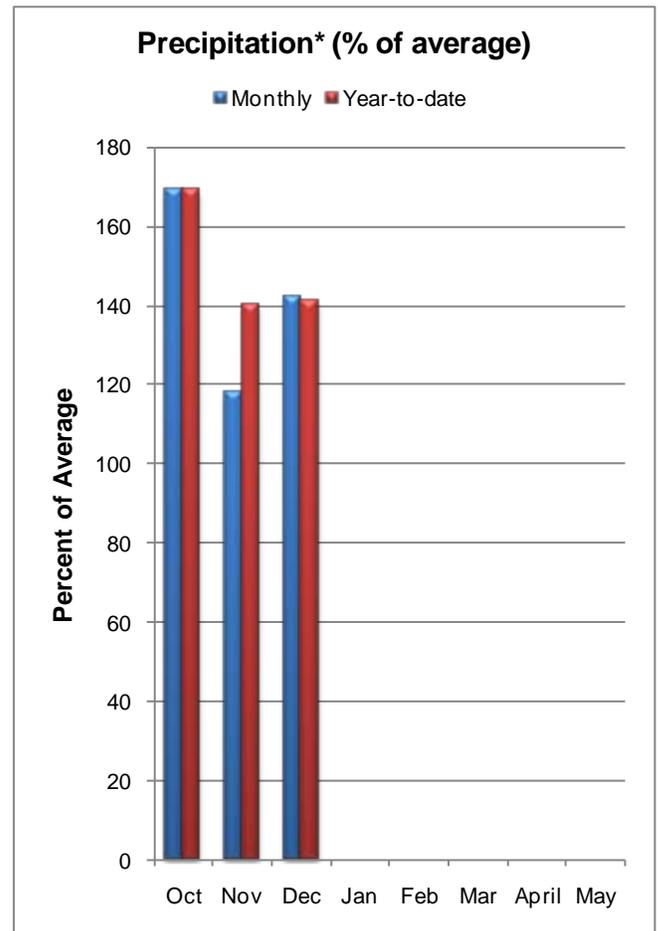
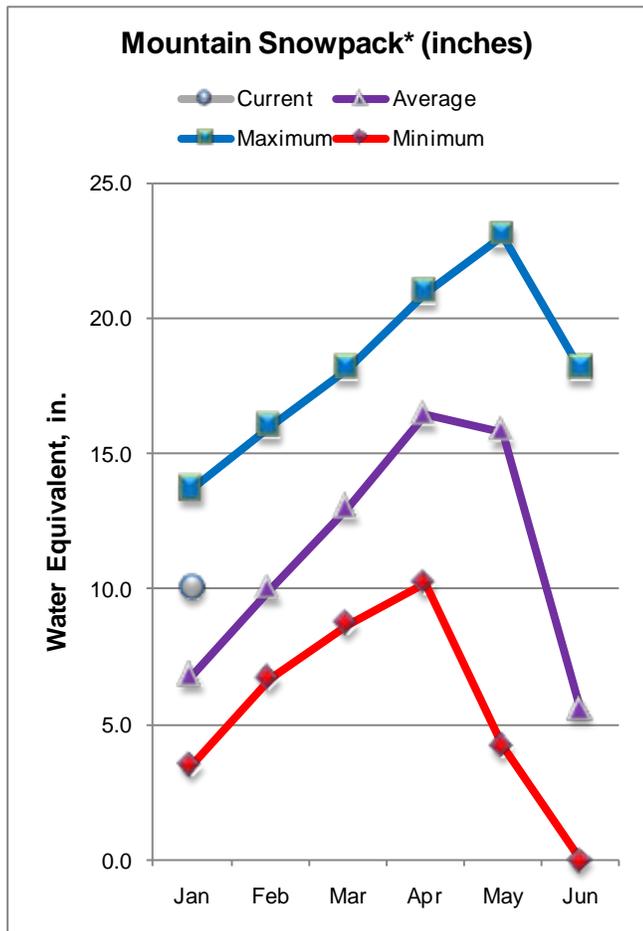
GUNNISON RIVER BASIN Reservoir Storage (1000 AF) - End of December					GUNNISON RIVER BASIN Watershed Snowpack Analysis - January 1, 2011			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BLUE MESA	830.0	556.8	579.0	545.8	UPPER GUNNISON BASIN	9	174	159
CRAWFORD	14.0	5.8	5.6	7.5	SURFACE CREEK BASIN	2	225	182
FRUITGROWERS	3.6	2.2	2.2	2.8	UNCOMPAHGRE BASIN	3	160	155
FRUITLAND	9.2	1.0	0.6	1.3	TOTAL GUNNISON RIVER BASI	12	171	158
MORROW POINT	121.0	112.2	111.5	113.4				
PAONIA	15.4	1.5	1.2	4.7				
RIDGWAY	83.0	66.6	64.8	60.1				
TAYLOR PARK	106.0	74.3	68.6	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.
- (3) - Median value used in place of average.

UPPER COLORADO RIVER BASIN as of January 1, 2011



*Based on selected stations

The snowpack in the Upper Colorado River Basin has gotten off to an excellent start in Water Year 2011. SNOTEL data shows well above average snowpack conditions in the basin on November 1 and December 1 at 147 and 130 percent of average, respectively. Snowpack conditions on January 1 were measured at 147 percent of average, the highest January 1 figure the basin has seen since 1997. Last year's snowpack at this time was only 81 percent of average. Sub-basin snowpacks are mostly well above average. The highest snowpack percentage was recorded in the Willow Creek Drainage at 188 percent of average. The lowest, at 129 percent of average, came from the Williams Fork Watershed (which is still the second highest percentage this watershed has witnessed in the last 20 years, just behind 2006 at 149 percent of average). Not surprisingly, monthly precipitation at the higher elevations was above average for the past three months at 169, 118 and 142 percent of average. Total precipitation for the water year so far is 141 percent of average and 168 percent of last year's total at this time. Reservoir storage is near normal at 105 percent of average and slightly above the totals reported at this time last year. Water users throughout the basin can expect above average to well above average streamflows this spring and summer. April-July forecasts indicate flows will range from 113 percent of average for both the Eagle River below Gypsum and the Inflow to Ruedi Reservoir to 137 percent of average for the Inflow to Willow Creek Reservoir.

UPPER COLORADO RIVER BASIN
Streamflow Forecasts - January 1, 2011

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
Lake Granby Inflow (2)	APR-JUL	200	245	280	124	315	370	225
Willow Ck Reservoir Inflow (2)	APR-JUL	44	59	70	137	82	102	51
Williams Fk Reservoir Inflow (2)	APR-JUL	76	96	110	116	125	150	95
Dillon Reservoir Inflow (2)	APR-JUL	134	172	200	120	230	280	167
Green Mountain Reservoir Inflow (2)	APR-JUL	225	290	335	120	385	465	280
Muddy Ck bl Wolford Mtn Reservoir nr	APR-JUL	46	63	76	127	90	114	60
Eagle R bl Gypsum (2)	APR-JUL	250	325	380	113	440	535	335
Colorado R nr Dotsero (2)	APR-JUL	1140	1470	1720	119	1990	2410	1440
Ruedi Reservoir Inflow (2)	APR-JUL	112	139	160	114	182	215	141
Roaring Fk at Glenwood Springs (2)	APR-JUL	570	725	840	118	965	1160	710
Colorado R nr Cameo (2)	APR-JUL	1980	2510	2910	120	3340	4020	2420

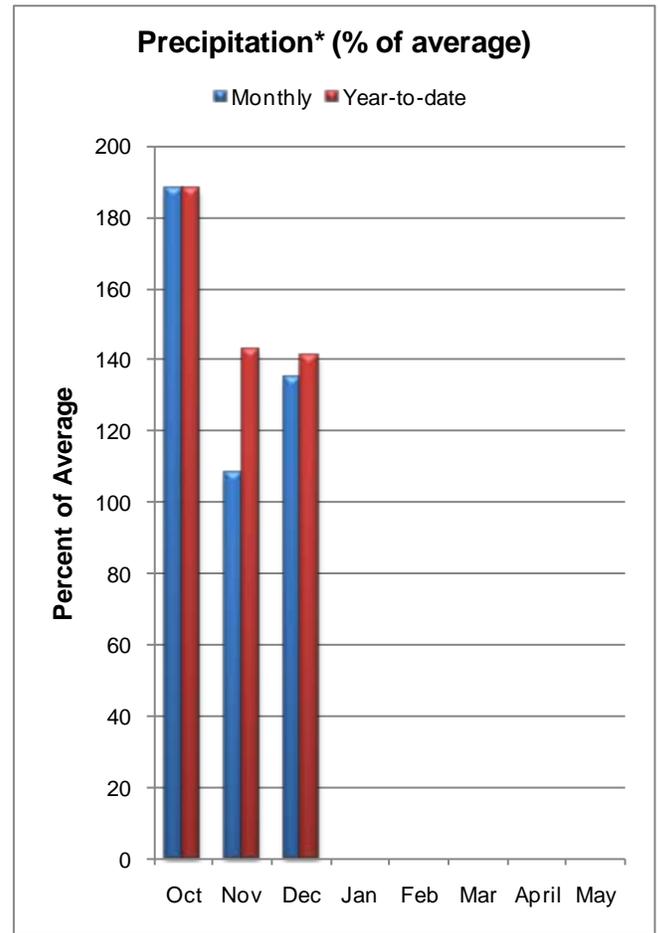
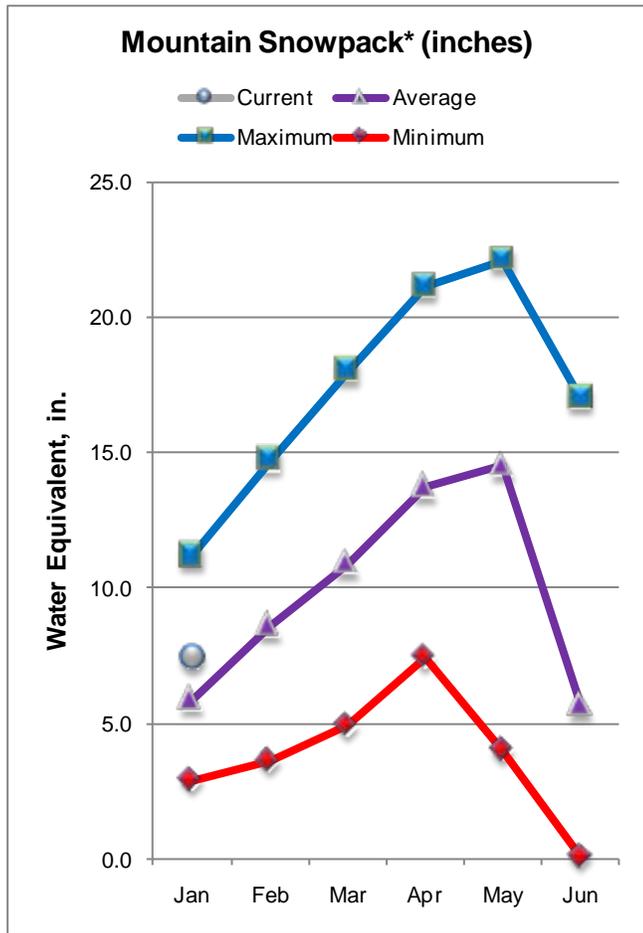
UPPER COLORADO RIVER BASIN Reservoir Storage (1000 AF) - End of December					UPPER COLORADO RIVER BASIN Watershed Snowpack Analysis - January 1, 2011			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
DILLON	254.0	218.8	239.7	224.8	BLUE RIVER BASIN	5	189	144
LAKE GRANBY	465.6	402.4	354.0	322.1	UPPER COLORADO RIVER BASI	19	186	143
GREEN MOUNTAIN	146.8	71.5	74.3	90.3	MUDDY CREEK BASIN	2	211	152
HOMESTAKE	43.0	0.0	21.7	28.4	PLATEAU CREEK BASIN	2	225	182
RUEDI	102.0	74.0	72.8	79.7	ROARING FORK BASIN	7	165	146
VEGA	32.9	11.8	11.4	11.0	WILLIAMS FORK BASIN	2	163	129
WILLIAMS FORK	97.0	81.3	77.8	62.9	WILLOW CREEK BASIN	2	300	187
WILLOW CREEK	9.1	6.9	4.8	6.1	TOTAL COLORADO RIVER BASI	28	184	147

* 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.
- (3) - Median value used in place of average.

SOUTH PLATTE RIVER BASIN as of January 1, 2011



*Based on selected stations

The South Platte River Basin's current January 1 snowpack, at 126 percent of average, ranks fifth against the 26 year period of record. The only years that posted better snowpacks on January 1 were 1996, 1997, 2006, and 2007. Current snowpack conditions closely resemble the observations from January 1, 2006 and 2007, where snow water equivalent finally peaked in April near to slightly above average with below average precipitation occurring January through April of those years. Presently, sub-basin snowpacks are quite variable ranging from 98 percent of average on the Upper South Platte up to 184 percent of average on the Saint Vrain. Loveland Basin SNOTEL at 218 percent of average, is heavily influencing the Clear Creek snowpack totals at 170 percent of average. Water year precipitation is showing 141 percent of average after starting off with October precipitation at 188 percent of average. Well above normal precipitation during the month of October should hopefully lead to charged soils when snowmelt begins, ultimately meaning more runoff. Other than Bear Creek and Antero Reservoir inflow, streamflows across the South Platte River Basin are projected to be above average at this point. The Bear Creek outlook is rather bleak due to the lone data point of Echo Lake SNOTEL. Echo Lake sports a snowpack at only 48 percent of average which is close to the Bear Creek forecasts projections. Clear Creek at Golden and Cache La Poudre River at the canyon mouth streamflow forecasts look the most promising at above 120 percent of average.

SOUTH PLATTE RIVER BASIN
Streamflow Forecasts - January 1, 2011

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		Wetter				
		90% (1000AF)	70% (1000AF)	50% (1000AF)	30% (1000AF)	10% (1000AF)	Chance Of Exceeding * (% AVG.)	
Antero Reservoir Inflow (2)	APR-JUL	6.1	9.2	12.3	73	16.4	25	16.8
	APR-SEP	7.4	11.4	15.3	70	20	31	22
Spinney Mountain Res Inflow (2)	APR-JUL	31	46	60	107	78	116	56
	APR-SEP	37	56	75	109	100	154	69
Elevenmile Canyon Res Inflow (2)	APR-JUL	30	46	61	105	81	123	58
	APR-SEP	36	57	78	108	107	171	72
Cheesman Lake Inflow (2)	APR-JUL	62	93	122	107	160	240	114
	APR-SEP	76	116	154	110	205	310	140
South Platte R at South Platte (2)	APR-JUL	104	160	215	105	290	445	205
	APR-SEP	129	200	270	106	365	565	255
Bear Ck ab Evergreen	APR-JUL	4.3	7.0	9.8	51	13.6	22	19.3
	APR-SEP	6.1	9.6	13.1	52	17.8	28	25
Bear Ck at Morrison	APR-JUL	3.7	6.6	9.8	39	14.5	26	25
	APR-SEP	5.3	9.2	13.4	43	19.4	34	31
Clear Ck at Golden	APR-JUL	103	123	137	125	151	171	110
	APR-SEP	131	154	170	127	186	210	134
St. Vrain Ck at Lyons (2)	APR-JUL	92	104	112	119	120	132	94
	APR-SEP	109	122	131	120	140	153	109
Boulder Ck nr Orodell (2)	APR-JUL	50	56	61	117	66	72	52
	APR-SEP	56	64	70	117	76	84	60
S Boulder Ck nr Eldorado Springs (2)	APR-JUL	34	40	43	105	46	52	41
	APR-SEP	36	43	48	104	53	60	46
Big Thompson R at Canyon Mouth (2)	APR-JUL	93	105	114	115	123	135	99
	APR-SEP	112	128	138	116	148	164	119
Cache La Poudre at Canyon Mouth (2)	APR-JUL	225	270	300	122	330	375	245
	APR-SEP	255	305	340	124	375	425	275

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

SOUTH PLATTE RIVER BASIN
Watershed Snowpack Analysis - January 1, 2011

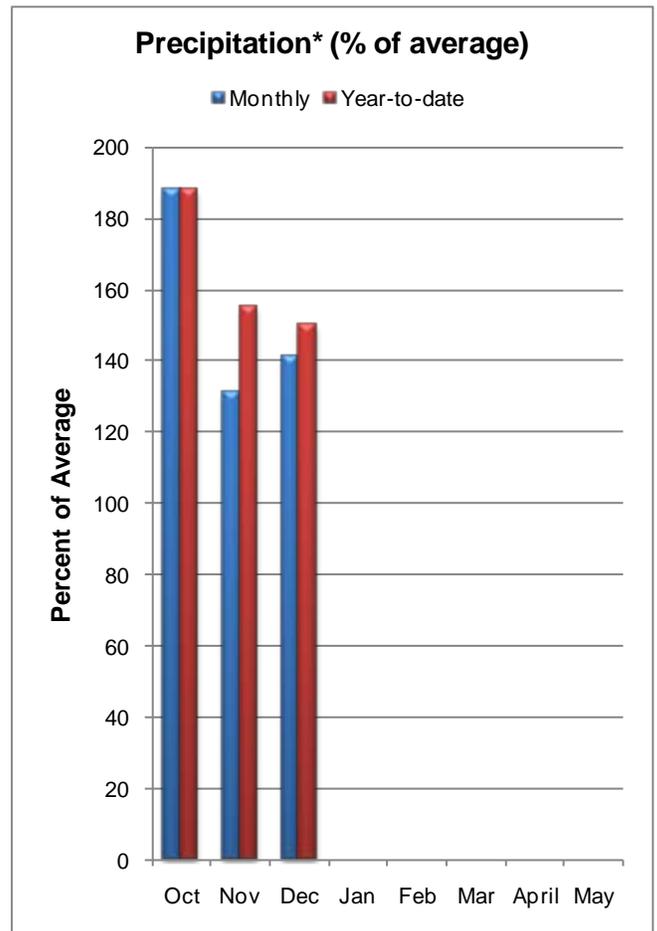
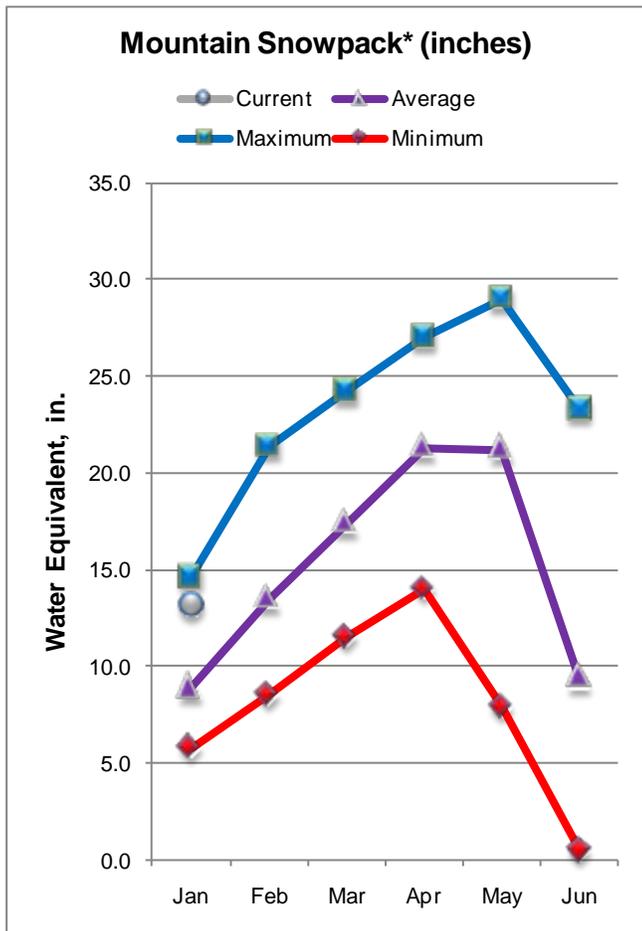
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ANTERO	19.9	19.9	20.1	16.5	BIG THOMPSON BASIN	3	159	144
BARR LAKE	30.1	13.5	23.4	22.4	BOULDER CREEK BASIN	3	115	109
BLACK HOLLOW	6.5	2.8	3.2	3.8	CACHE LA POUFRE BASIN	2	121	125
BOYD LAKE	48.4	36.9	40.8	31.7	CLEAR CREEK BASIN	2	164	170
BUTTON ROCK/RALPH PRICE	16.2	15.0	14.7	13.6	SAINT VRAIN BASIN	1	140	184
CACHE LA POUFRE	10.1	6.8	9.4	6.3	UPPER SOUTH PLATTE BASIN	6	128	98
CARTER	108.9	36.5	77.3	74.7	TOTAL SOUTH PLATTE BASIN	17	137	126
CHAMBERS LAKE	8.8	4.0	7.0	2.8				
CHEESMAN	79.0	77.3	67.9	60.9				
COBB LAKE	22.3	20.2	20.7	13.9				
ELEVEN MILE	98.0	99.2	99.5	95.9				
EMPIRE	36.5	29.5	16.1	22.2				
FOSSIL CREEK	11.1	5.3	10.4	6.3				
GROSS	41.8	30.2	26.1	26.2				
HALLIGAN	6.4	5.1	4.3	3.6				
HORSECREEK	14.7	1.6	3.6	10.9				
HORSETOOTH	149.7	78.2	66.7	87.8				
JACKSON	26.1	24.1	23.5	23.0				
JULESBURG	20.5	16.7	16.2	18.4				
LAKE LOVELAND	10.3	7.3	9.3	8.9				
LONE TREE	8.7	5.5	7.4	6.0				
MARIANO	5.4	3.0	4.4	4.1				
MARSHALL	10.0	3.7	6.5	4.7				
MARSTON	13.0	2.2	9.4	12.7				
MILTON	23.5	14.5	0.0	14.8				
POINT OF ROCKS	70.6	51.4	48.3	51.1				
PREWITT	28.2	14.8	20.5	18.0				
RIVERSIDE	55.8	44.8	37.2	38.1				
SPINNEY MOUNTAIN	49.0	38.2	35.1	35.4				
STANDLEY	42.0	33.2	35.4	32.5				
TERRY LAKE	8.0	5.3	5.9	5.2				
UNION	13.0	11.8	12.3	10.4				
WINDSOR	15.2	10.8	11.6	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.
- (3) - Median value used in place of average.

YAMPA, WHITE, NORTH PLATTE AND LARAMIE RIVER BASINS as of January 1, 2011



*Based on selected stations

A steady stream of winter storms passing through northern Colorado ensured a great start to the snowpack season in the combined Yampa, White, North Platte and Laramie River basins. January 1 snowpacks in the Laramie and North Platte basins were 147 percent of average, which is just slightly below the 150 percent of average figure recorded in January 1, 1997. This is significantly higher than the 83 percent of average snowpacks observed last year at this time. In the Yampa and White River basins, snowpack totals are 145 percent of average, also the highest the basin has experienced since 1997, and 196 percent of last year's January 1 readings. Sub-basin snowpacks are mostly well above average and range from 124 percent of average in the Laramie Watershed to 152 percent of average in the North Platte. Monthly precipitation at the higher elevations was well above average in October, November and December at 188, 131 and 141 percent of average, respectively. Total water year precipitation is currently 150 percent of average and 167 percent of the total precipitation measured at this time last year. Storage at Stagecoach is 86 percent of average and 68 percent of capacity. Yamcolo is faring a little better at 111 percent of average and 70 percent of capacity. Above average to well above average streamflows are expected across the combined basins this spring and summer. April-July runoff should range from 108 percent for the Yampa River above Stagecoach Reservoir to 149 percent of average for the North Platte River near Northgate.

YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS
Streamflow Forecasts - January 1, 2011

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
North Platte R nr Northgate	APR-JUL	245	315	365	149	415	485	245
	APR-SEP	275	350	405	150	460	535	270
Laramie R nr Woods	APR-JUL	125	147	162	132	177	199	123
	APR-SEP	139	163	179	133	195	220	135
Yampa R ab Stagecoach Reservoir	APR-JUL	25	33	40	108	47	60	37
Yampa R at Steamboat Springs (2)	APR-JUL	240	295	335	120	380	450	280
Elk R nr Milner	APR-JUL	310	375	420	129	470	545	325
Elkhead Ck ab Long Gulch nr Hayden	APR-JUL	48	74	95	134	118	158	71
Yampa R nr Maybell (2)	APR-JUL	820	1080	1280	129	1490	1840	990
Little Snake R nr Slater	APR-JUL	125	162	190	120	220	270	159
Little Snake R nr Dixon	APR-JUL	265	340	400	121	460	560	330
Little Snake R nr Lily	APR-JUL	245	350	435	119	530	685	365
White R nr Meeker	APR-JUL	230	290	335	116	385	460	290

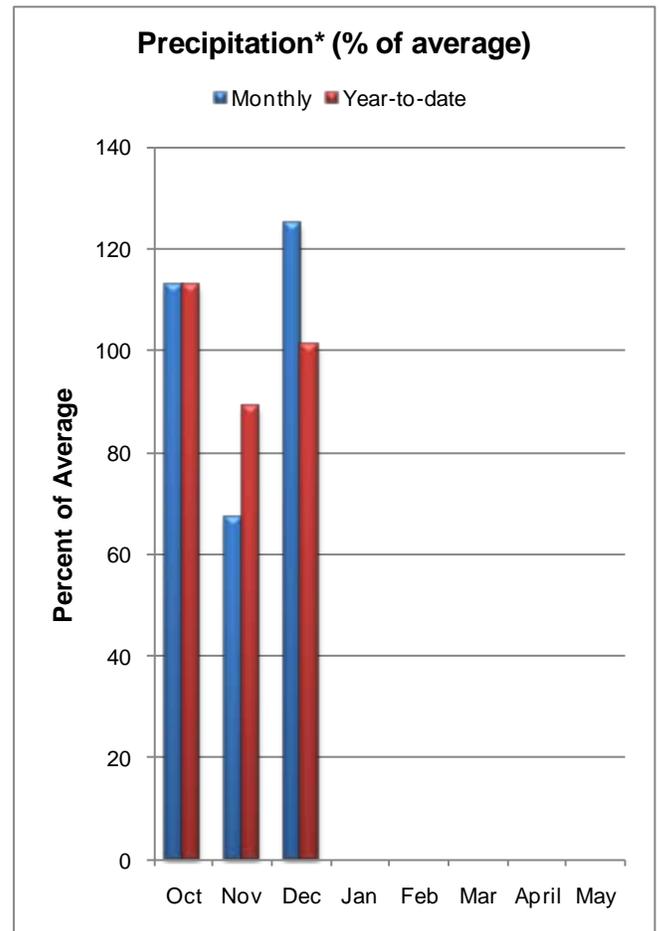
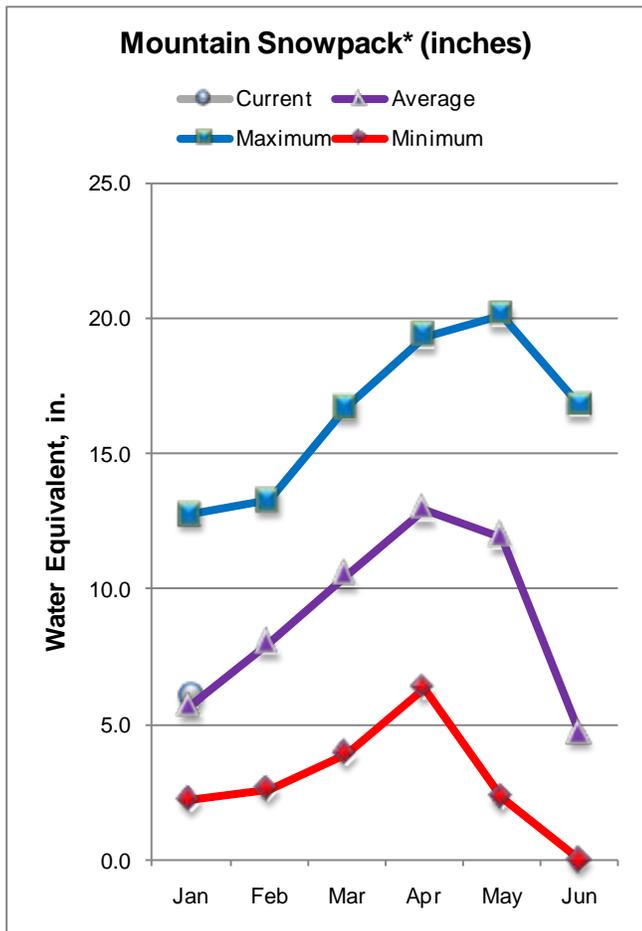
YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS Reservoir Storage (1000 AF) - End of December					YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS Watershed Snowpack Analysis - January 1, 2011			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
STAGECOACH	33.3	22.6	28.9	26.4	LARAMIE RIVER BASIN	2	103	124
YAMCOLO	8.7	6.1	6.0	5.5	NORTH PLATTE RIVER BASIN	7	199	152
					TOTAL NORTH PLATTE BASIN	9	176	147
					ELK RIVER BASIN	2	228	144
					YAMPA RIVER BASIN	9	210	149
					WHITE RIVER BASIN	4	172	143
					TOTAL YAMPA AND WHITE RIV	12	196	145
					LITTLE SNAKE RIVER BASIN	6	171	150
TOTAL YAMPA, WHITE AND NO	24	182	147					

* 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.
- (3) - Median value used in place of average.

ARKANSAS RIVER BASIN as of January 1, 2011



*Based on selected stations

Given the overall conditions in the state, to say the Arkansas River Basin has the lowest snowpack levels should not necessarily be taken negatively. January 1 snowpack this year is actually above average at 105 percent, most notably up from 73 percent of average on December 8. A moisture laden storm pattern during the month of December provided above average precipitation to the southwestern US including the entire Arkansas River Basin. As is usually the case in a La Nina winter, the Upper Arkansas River Basin's above average snowpack, 142 percent, is making up for the deficits of the lower sub-basins, all near 60 percent. Precipitation totals are near average at 101 percent, down slightly from 113 percent in October due to a particularly dry weather pattern during the month of November. Specific attention should be paid to individual reservoir levels. Currently levels range from zero storage, at Great Plains and Horse Creek reservoirs to 183 percent of average capacity at Meredith Reservoir. As a whole, reservoir levels of the Arkansas River Basin are just below where they typically are this time of year at 93 percent of average and 92 percent of last year. Streamflow forecasts reflect the snowpack levels of their respective basins. Forecasts in the upper reaches of the Arkansas River Basin show tendencies towards above average streamflows, near or above 110 percent. Conversely, forecasts toward the lower end of the basin are significantly lower, with only one location showing a forecast above 80 percent.

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ARKANSAS RIVER BASIN
Streamflow Forecasts - January 1, 2011

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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	16.5	24	29	126	35	45	23
	APR-SEP	21	29	35	130	42	53	27
ARKANSAS RIVER at Salida (2)	APR-JUL	220	270	305	120	345	405	255
	APR-SEP	270	330	375	119	420	495	315
GRAPE CK nr Westcliffe	APR-JUL	1.6	6.7	12.0	75	18.9	32	16.1
	APR-SEP	7.8	11.8	15.0	77	18.6	25	19.6
PUEBLO RESERVOIR Inflow (2)	APR-JUL	265	360	430	112	510	635	385
	APR-SEP	345	455	540	111	630	775	485
HUERFANO RIVER nr Redwing	APR-JUL	4.8	7.1	9.0	73	11.1	14.6	12.3
	APR-SEP	6.5	9.3	11.5	74	13.9	17.9	15.5
CUCHARAS RIVER nr La Veta	APR-JUL	2.1	5.1	8.0	71	11.5	17.8	11.3
	APR-SEP	3.1	6.6	9.8	75	13.6	20	13.0
TRINIDAD LAKE Inflow (2)	MAR-JUL	7.7	17.8	27	79	38	58	34
	APR-SEP	13.1	25	36	82	48	70	44

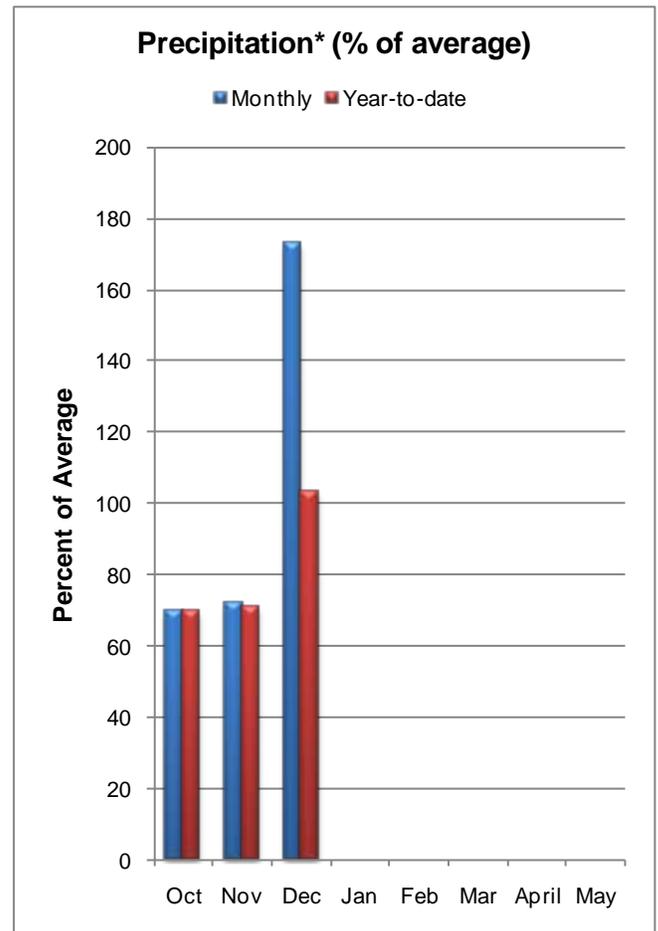
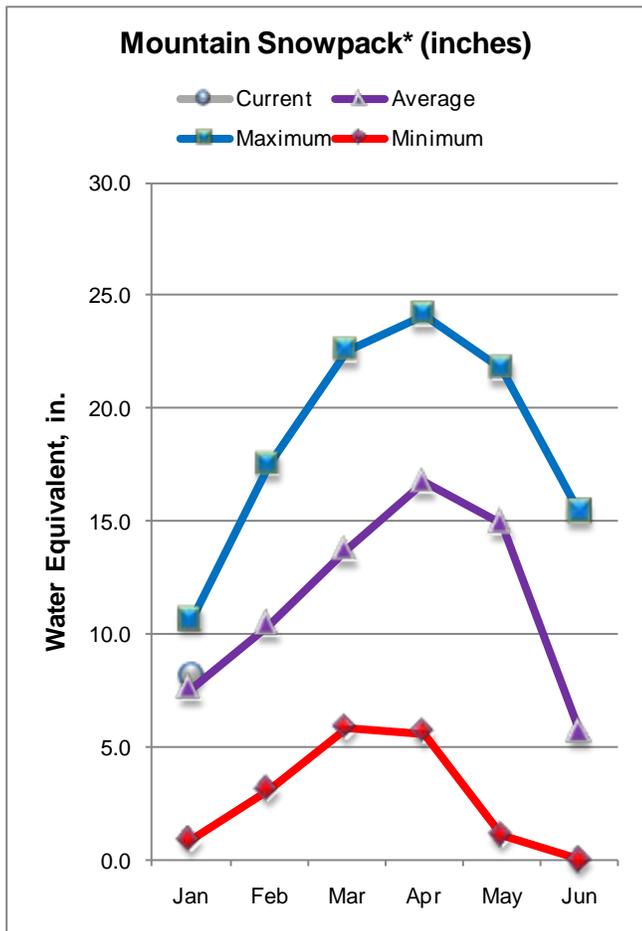
ARKANSAS RIVER BASIN Reservoir Storage (1000 AF) - End of December					ARKANSAS RIVER BASIN Watershed Snowpack Analysis - January 1, 2011			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ADOBE	62.0	28.5	34.3	23.4	UPPER ARKANSAS BASIN	3	160	142
CLEAR CREEK	11.4	7.3	6.7	5.9	CUCHARAS & HUERFANO RIVER	2	63	63
CUCHARAS RESERVOIR	40.0	0.1	0.6	4.8	PURGATOIRE RIVER BASIN	2	73	62
GREAT PLAINS	150.0	0.0	0.0	32.2	TOTAL ARKANSAS RIVER BASIN	6	116	105
HOLBROOK	7.0	0.9	1.6	3.0				
HORSE CREEK	27.0	0.0	0.0	8.4				
JOHN MARTIN	616.0	42.4	48.6	108.7				
LAKE HENRY	8.0	5.1	3.9	3.7				
MEREDITH	42.0	24.9	29.5	13.6				
PUEBLO	354.0	207.3	226.7	144.0				
TRINIDAD	167.0	16.7	17.6	24.2				
TURQUOISE	127.0	83.4	85.4	87.9				
TWIN LAKES	86.0	54.1	54.8	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.
- (3) - Median value used in place of average.

UPPER RIO GRANDE RIVER BASIN as of January 1, 2011



*Based on selected stations

The start of the 2011 snowpack in the Upper Rio Grande Basin has been an eventful one to say the least. January 1 SNOTEL data suggests a very normal beginning, but looking back at December 2010, that data tells a more dramatic story. On December 16 the Upper Rio Grande Basin snowpack was at 45 percent of normal. With NOAA's Climate Prediction Center predicting a moderate-to-strong La Nina for the coming winter, precipitation forecasts were not positive. Soon after, a two week deluge of snow pounded the western Upper Rio Grande Basin. One example of the storm totals can be seen at Wolf Creek Summit SNOTEL which saw increases from the 25th percentile on December 16 to a record high snow water equivalent for January 1. Current snowpack conditions look exactly like they did two years ago at 125 percent of average and not too far from that seen on January 1 in 2005 and 2008. Precipitation saw the same increases as snowpack throughout the basin in December starting out near 70 percent in the months of October and November to slightly above average at 103 percent to end the month of December. Reservoir levels have stayed below average to ring in the New Year at 78 percent of normal. The only reservoir at 100 percent of average is the Rio Grande Reservoir. Streamflow forecasts originating from the Sangre de Cristo Mountains are between 50 and 80 percent of normal. Streamflow predictions from western regions of the Upper Rio Grande Basin are much better and more consistent ranging from 101 percent to 110 percent of average.

UPPER RIO GRANDE BASIN
Streamflow Forecasts - January 1, 2011

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	104	131	150	110	171	205	136
	APR-JUL	97	116	130	110	145	170	118
Rio Grande at Wagon Wheel Gap (2)	APR-SEP	250	320	370	107	425	515	345
SF Rio Grande at South Fork (2)	APR-SEP	93	119	140	106	163	200	132
Rio Grande nr Del Norte (2)	APR-SEP	380	485	570	107	660	815	531
Saguache Ck nr Saguache (2)	APR-SEP	21	29	35	106	42	53	33
Alamosa Ck ab Terrace Reservoir	APR-SEP	48	63	74	106	86	107	70
La Jara Ck nr Capulin	MAR-JUL	5.1	7.3	9.2	106	11.4	15.1	8.7
Trinchera Ck ab Turners Ranch	APR-SEP	3.4	5.5	7.2	60	9.1	12.4	12.0
Sangre de Cristo Ck (2)	APR-SEP	1.0	2.2	4.5	51	7.5	13.4	8.8
Ute Creek	APR-SEP	2.3	5.2	7.9	65	11.1	16.9	12.2
Platoro Reservoir Inflow	APR-JUL	43	54	68	106	73	89	64
	APR-SEP	51	64	74	104	85	103	71
Conejos R nr Mogote (2)	APR-SEP	142	186	220	110	260	320	200
San Antonio R at Ortiz	APR-SEP	8.1	12.9	17.0	104	22	31	16.4
Los Pinos R nr Ortiz	APR-SEP	45	62	75	101	90	116	74
Culebra Ck at San Luis (2)	APR-SEP	8.7	13.7	18.0	78	23	32	23
Costilla Reservoir Inflow	MAR-JUL	4.0	5.9	7.5	71	9.3	12.5	10.6
Costilla Ck nr Costilla (2)	MAR-JUL	8.2	13.4	18.0	69	24	34	26

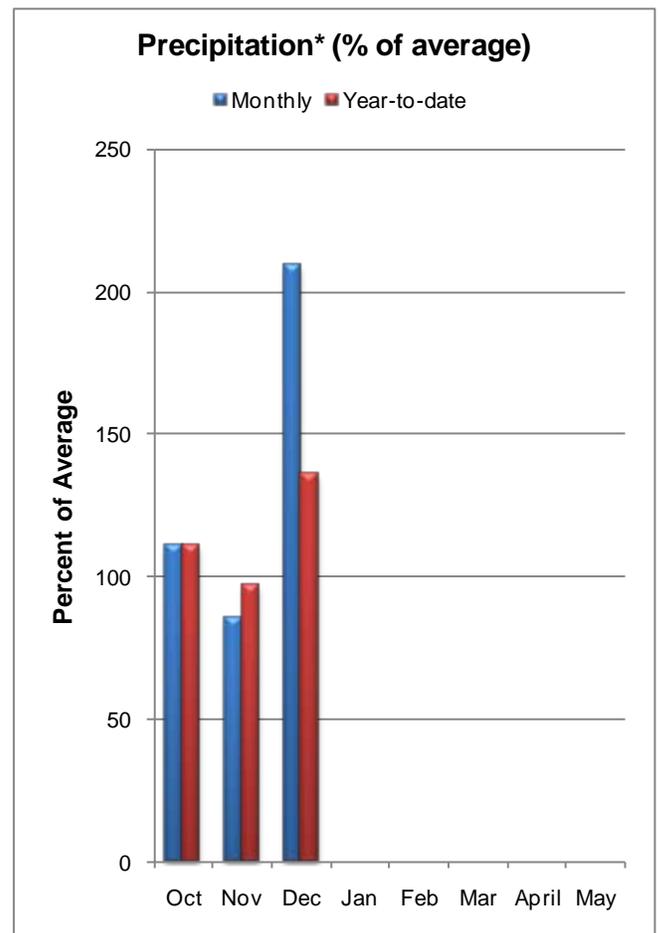
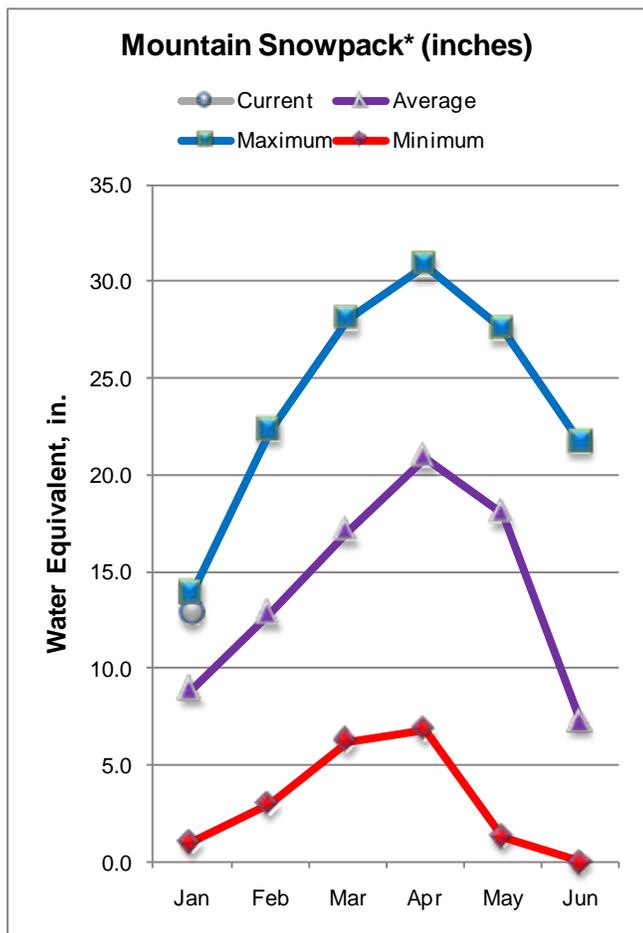
UPPER RIO GRANDE BASIN Reservoir Storage (1000 AF) - End of December					UPPER RIO GRANDE BASIN Watershed Snowpack Analysis - January 1, 2011			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CONTINENTAL	27.0	3.8	3.1	4.9	ALAMOSA CREEK BASIN	1	91	87
PLATORO	60.0	21.4	29.5	24.3	CONEJOS & RIO SAN ANTONIO	2	106	124
RIO GRANDE	51.0	15.1	16.4	15.1	CULEBRA & TRINCHERA CREEK	3	67	63
SANCHEZ	103.0	16.3	19.1	23.9	UPPER RIO GRANDE BASIN	4	139	125
SANTA MARIA	45.0	6.0	6.0	10.1	TOTAL UPPER RIO GRANDE BA	10	113	107
TERRACE	18.0	2.8	3.9	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.
- (3) - Median value used in place of average.

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS as of January 1, 2011



*Based on selected stations

For awhile it looked like the San Miguel, Dolores, Animas and San Juan combined basins were going to miss out on all the snowfall that seemed to be skirting the southern half of Colorado. Snowpack information collected through the SNOTEL network showed the meager snowpack at 43 percent of average on November 1 and 66 percent of average on December 1. Then, on December 16, things took a turn for the better as storms moved in and pummeled the area. In fact, in that two week period at the end of December, the basin accumulated 244 percent of the average total for the month. By January 1, the snowpack had rebounded to 144 percent of average. This is the second highest January 1 snowpack percentage going back to 1988, behind 1997 when the snowpack were measured at 156 percent of average. Sub-basin snowpacks are well above average, ranging from 136 percent of average in the Dolores Watershed to 146 percent of average in the San Miguel. Mountain precipitation was 111 percent of average during October, 85 percent of average in November and 209 percent of average in December. As a result, total precipitation for the three-month period is 136 percent of average. Reservoir storage is in good shape at 102 percent of average. Compared to last year, current storage is up about 15 percent. Near average to above average streamflow is expected at all forecast points in the basin. April-July volumes should range from 105 percent of average for the Inflow to Vallecito Reservoir to 115 percent of average for the Mancos River near Mancos.

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS
Streamflow Forecasts - January 1, 2011

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 R at Dolores	APR-JUL	158	225	280	106	345	450	265
McPhee Reservoir Inflow (2)	APR-JUL	200	285	350	109	420	540	320
San Miguel R nr Placerville	APR-JUL	90	118	140	106	164	205	132
Gurley Reservoir Inlet	APR-JUL	10.9	14.2	16.7	91	19.5	24	18.3
Cone Reservoir Inlet	APR-JUL	1.2	2.1	2.8	86	3.7	5.3	3.3
Lilylands Reservoir Inlet	APR-JUL	1.5	2.1	2.6	88	3.1	4.1	2.9
Rio Blanco at Blanco Diversion (2)	APR-JUL	43	52	60	113	68	82	53
Navajo R at Oso Diversion (2)	APR-JUL	50	64	75	109	87	107	69
San Juan R nr Carracas (2)	APR-JUL	255	355	440	109	535	700	405
Piedra R nr Arboles	APR-JUL	125	190	245	107	310	425	230
Vallecito Reservoir Inflow (2)	APR-JUL	144	184	215	105	250	300	205
Navajo Reservoir Inflow (2)	APR-JUL	470	675	830	106	1000	1290	785
Animas R at Durango	APR-JUL	330	425	500	114	580	705	440
Lemon Reservoir Inflow (2)	APR-JUL	40	52	62	107	73	90	58
La Plata R at Hesperus	APR-JUL	16.4	23	28	112	34	44	25
Mancos R nr Mancos (2)	APR-JUL	10.0	27	38	115	49	66	33

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, 2011

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	13.2	14.2	12.0	ANIMAS RIVER BASIN	7	173	145
JACKSON GULCH	10.0	5.2	3.9	4.6	DOLORES RIVER BASIN	4	115	136
LEMON	40.0	14.4	9.6	20.1	SAN MIGUEL RIVER BASIN	3	135	146
MCPHEE	381.0	275.4	254.1	271.1	SAN JUAN RIVER BASIN	3	147	138
NARRAGUINNEP	19.0	13.0	10.7	12.7	TOTAL SAN MIGUEL, DOLORES	16	150	144
VALLECITO	126.0	67.0	46.0	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.
- (3) - Median value used in place of average.



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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 Natural Resources Conservation Service web page at <http://www.wcc.nrcs.usda.gov/wsf/westwide.html>

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Colorado
Basin Outlook Report
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