

Colorado Basin Outlook Report April 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

April 1, 2011

Summary

March weather patterns only continued the trend set earlier in the winter, with the storm track favoring the northern basins of Colorado, while mostly missing the southern portions of the state. As a result, the north-to-south disparity in snowpack percentages continued to widen. Prospects for runoff are excellent throughout northern and most of central Colorado, while deteriorating rapidly to the south. Barring any significant turn-around in the weather patterns, the greatest concern for late summer water shortages remain across southern basins, especially those smaller tributary streams lacking upstream storage. The state's reservoir storage is in good to excellent condition around most of the state. Water users should continue to watch this spring's weather patterns as the final touches are added to a generally good water year for most of the state.

Snowpack

Statewide, snowfall during March was quite variable. Across the Colorado, Yampa, White and North and South Platte basins, snowfall was near average during most of March. Then, during the last 10 days of the month, a strong storm cycle brought good snowfall to these basins, improving the April 1 percentages to higher values than recorded on March 1. It was a quite different snowfall pattern across the Rio Grande, San Juan, Animas Dolores, San Miguel and the southern tributaries of the Arkansas River. March snowfall was confined to only a couple of minor snow events, intermixed with periods of brief melting, even at higher elevations. As a result, these basins reached a plateau for their overall accumulations during March, when typically snowpack totals continue to rise throughout the month. When percents of average were calculated, it showed declines from last month in all of these southern basins. The greatest declines were measured in the Rio Grande basin, which dropped from 88% of average on March 1 to only 76% of average on April 1. Conditions were only slightly better across the combined San Juan, Animas, Dolores, and San Miguel basins, which dropped from 97% of average a month ago to 86% of average on April 1. Colorado's statewide snowpack, which balances out the north-to-south disparity, declined only slightly from last month, and is now 113% of average. This year's statewide snowpack is 128% of that measured in 2010.

Precipitation

Feast or famine describes precipitation during March across Colorado's high country. Above average monthly totals were measured in the Colorado, Yampa, White, North Platte and South Platte basins. The highest percentages were measured in the Colorado basin at 122% of the long-term average. For the remainder of the state, March was a dry month with totals dipping below average. It was exceptionally dry throughout the Rio Grande and combined San Juan, Animas, Dolores, and San Miguel basins, recording only 54% and 59% of average for the month, respectively. When combining readings at all SNOTEL sites, the statewide totals were 99% of average for March, but were 129% of March of last year. Now, at six months into the 2011 water year, basinwide water year totals range from 83% of average in the Rio Grande to 127% of average in the South Platte. The statewide water year totals declined slightly from last month and are now 114% of average.

Reservoir Storage

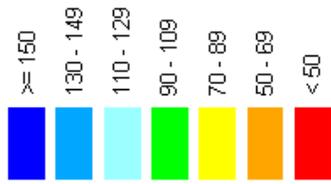
Continuing this year's trend on reservoir storage, statewide storage remains slightly above average at 104% of average on April 1. Volumes dipped to slightly below average in a few additional basins this month as reservoir operators are anticipating good inflows during the spring. Storage percentages in the Colorado and Gunnison basins continue to lead the state, at 113% and 114% of average, respectively. The current storage volumes are less than those measured last year on this same date in all basins except the Colorado (at 102% of last year) and the combined San Juan, Animas, Dolores, and San Miguel (at 121% of last year). Again, prospects for this year's inflows are much better than last year which mitigates most concerns about this statistic. Currently, about the only basin of concern for water availability is in the Rio Grande. Inflows are expected to be below average and current storage is 82% of average, the lowest basinwide percentage in the state. To only worsen these concerns is the fact that total storage capacity in this basin is just slightly over 300,000 acre feet.

Streamflow

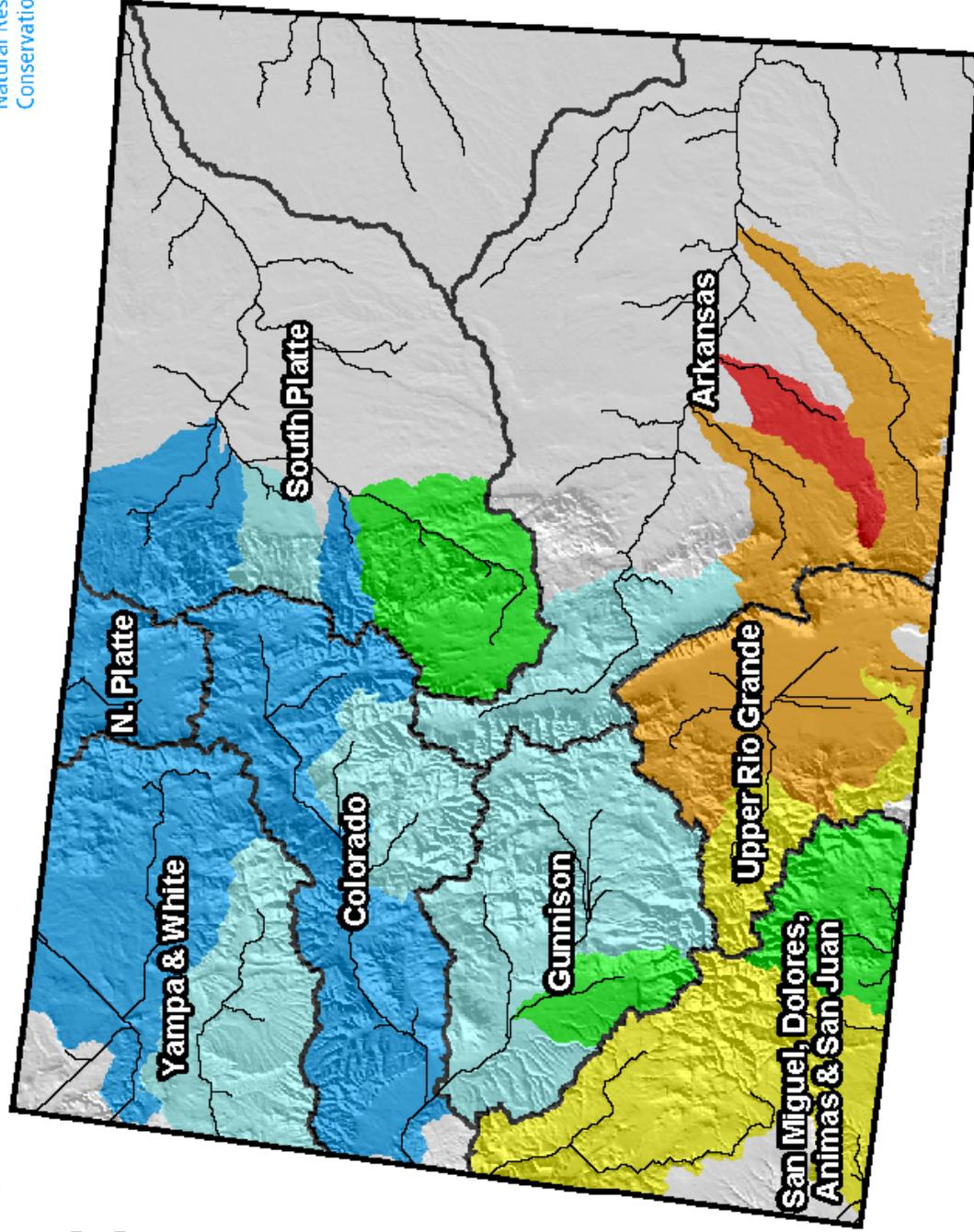
As we approach the normal maximum accumulation of Colorado's snowpack, runoff forecasts are zeroing in on what's available for this year's supplies. For most of the state, this year's runoff should be good to excellent. Forecasts call for above average volumes throughout the Colorado, Yampa, White, North and South Platte basins. Along some selected portions of the Yampa and Colorado Rivers, runoff volumes may be the highest since 1984. Above average volumes are also forecast through most of the Gunnison basin with the exception of those streams along the southern portion of the basin. The Arkansas River is expected to flow slightly above average along the main stem. Basins to the south are where shortages are expected. In the San Juan, Animas, Dolores and San Miguel basins forecasts generally range from 70% to 80% of average. The lowest forecasts in the state are concentrated along the Sangre de Cristo Mountains, affecting both the Rio Grande and Arkansas basins. Runoff forecasts along some of these smaller tributary streams range from 40% to 60% of average. Water users across southern Colorado should plan for late summer shortages, especially if the monsoon is disappointing this year.

Colorado Snowpack Map

Percent of Average



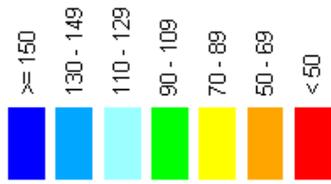
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Subject to Revision*



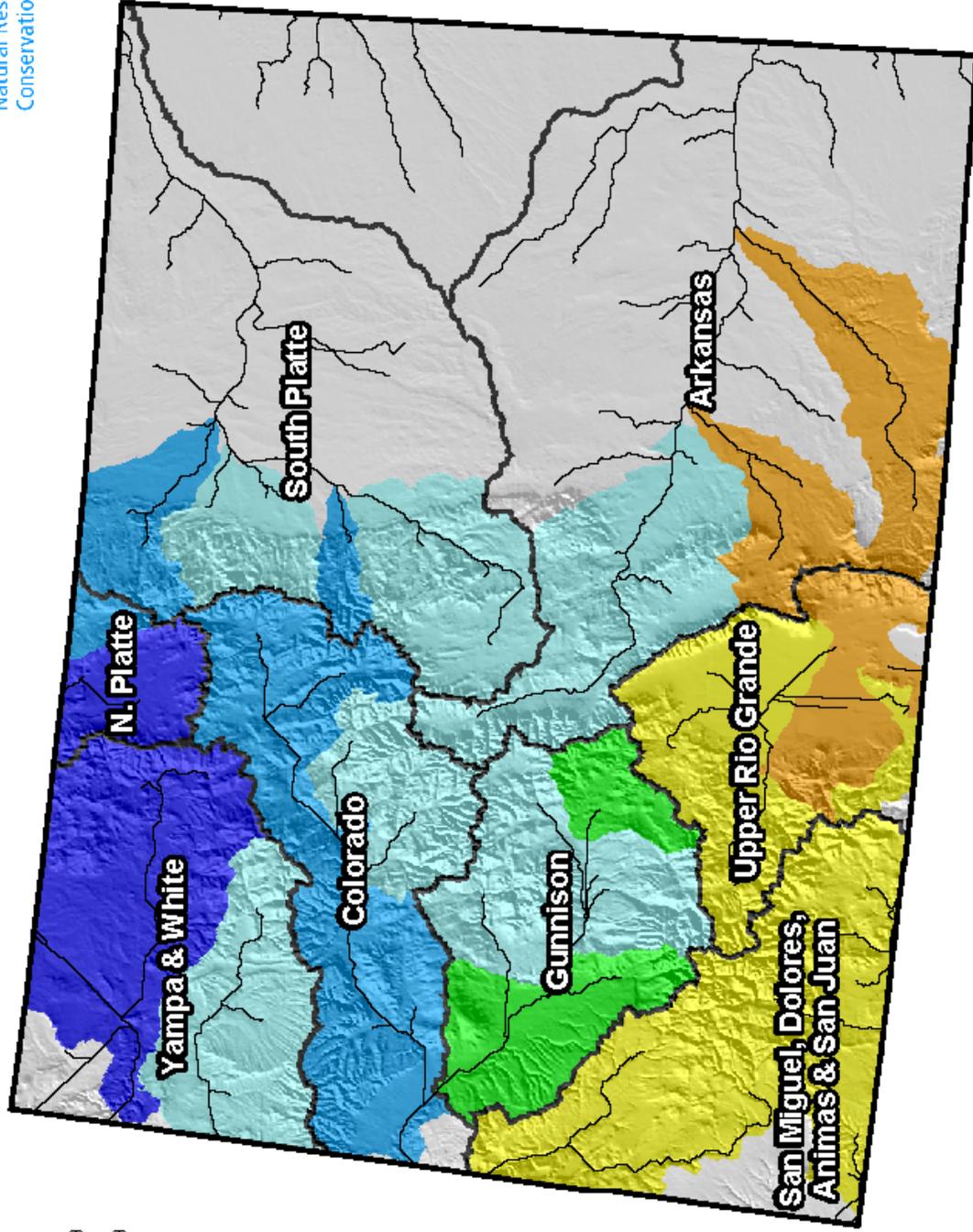
Current as of April 1, 2011

Colorado Streamflow Forecast Map

Percent of Average



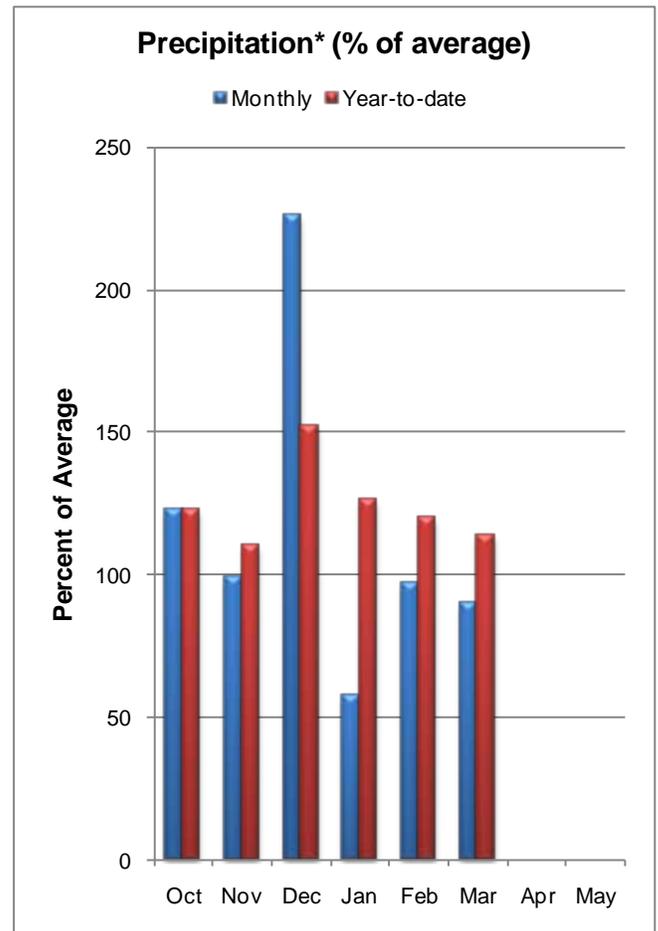
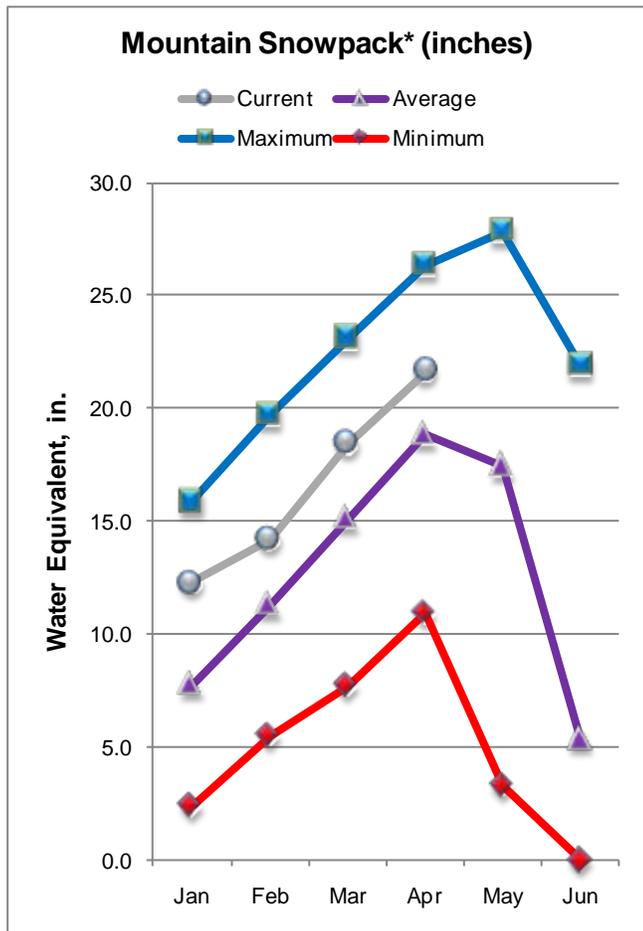
*Provisional Data
Subject to Revision*



Current as of April 1, 2011

GUNNISON RIVER BASIN

as of April 1, 2011



*Based on selected stations

On April 1, the Gunnison River Basin snowpack was measured at 115 percent of average and 122 percent of the snowpack present last year at this time. Although still above average, this marks the third consecutive month the basin percentages have dropped. Looking back, this is only the third time the basin has seen above average conditions on April 1 since 1997. SNOTEL data shows the basin exceeded its long-term average peak snow water content around March 9. Sub-basin snowpacks are near average to above average, ranging from 103 percent of average in the Uncompahgre Watershed to 123 percent of average in the Surface Creek Watershed. Mountain precipitation was also below average for the third month in a row producing only 90 percent of the monthly average. Total precipitation for the water year is now at 114 percent, down six percentage points from last month, but 22 percent higher than the total at this time last year. Reservoir storage remains in good shape at 114 percent of average and 64 percent of capacity, although the current storage is down slightly from levels reported a year ago. Most areas in the basin can expect above average to well above average runoff during the April-July forecast period. The only forecast points slated to produce slightly below average streamflows can be found at Cochetopa Creek near Parlin, Tomichi Creek at Gunnison, Lake Fork at Gateview, Ridgway Reservoir Inflow and the Uncompahgre River at Colona. The highest flows are expected for the Inflow to Paonia Reservoir at 130 percent of average.

GUNNISON RIVER BASIN
Streamflow Forecasts - April 1, 2011

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Taylor Park Reservoir Inflow (2)	APR-JUL	100	114	125	121	136	153	103
Slate R nr Crested Butte	APR-JUL	92	100	105	118	110	119	89
East R at Almont	APR-JUL	188	210	230	120	250	275	192
Gunnison R near Gunnison (2)	APR-JUL	380	435	480	123	525	595	390
Tomichi Ck at Sargents	APR-JUL	24	30	35	109	40	49	32
Cochetopa Ck bl Rock Ck nr Parlin	APR-JUL	9.4	13.0	16.0	93	19.4	25	17.3
Tomichi Ck at Gunnison	APR-JUL	48	65	80	99	96	125	81
Lake Fk at Gateview	APR-JUL	94	110	121	96	133	151	126
Blue Mesa Reservoir Inflow (2)	APR-JUL	635	730	800	111	875	985	720
Paonia Reservoir Inflow (2)	MAR-JUN	99	117	131	131	145	168	100
	APR-JUN	94	112	126	133	140	163	95
	APR-JUL	96	117	133	130	150	176	102
NF Gunnison R nr Somerset (2)	APR-JUL	310	350	380	125	410	455	305
Surface Ck at Cedaredge	APR-JUL	16.5	19.6	22	129	25	29	17.1
Ridgway Reservoir Inflow (2)	APR-JUL	69	84	95	93	107	125	102
Uncompahgre R at Colona (2)	APR-JUL	86	111	130	94	150	183	139
Gunnison R nr Grand Junction (2)	APR-JUL	1280	1520	1700	109	1890	2100	1560

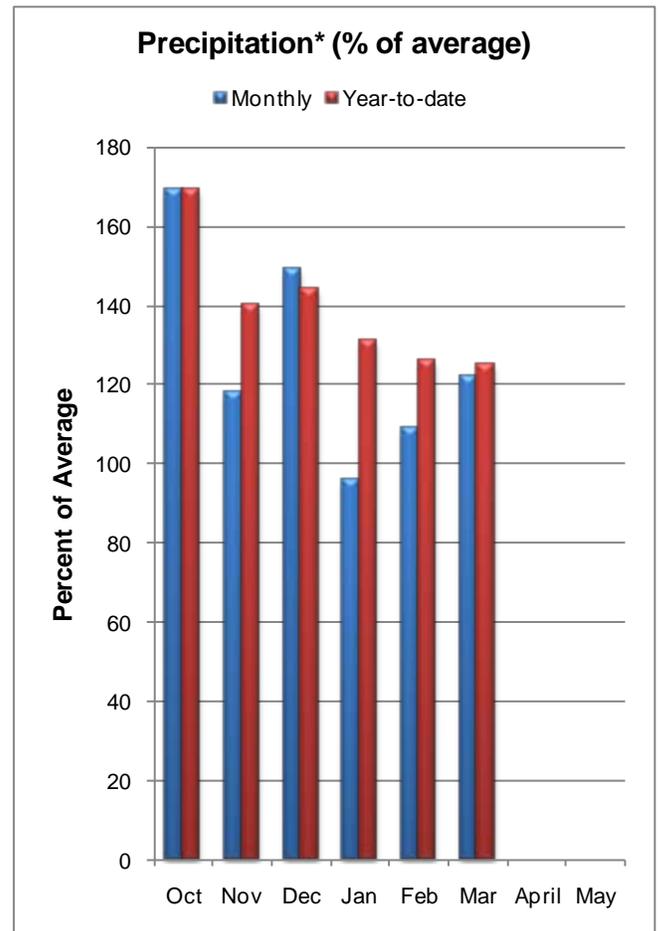
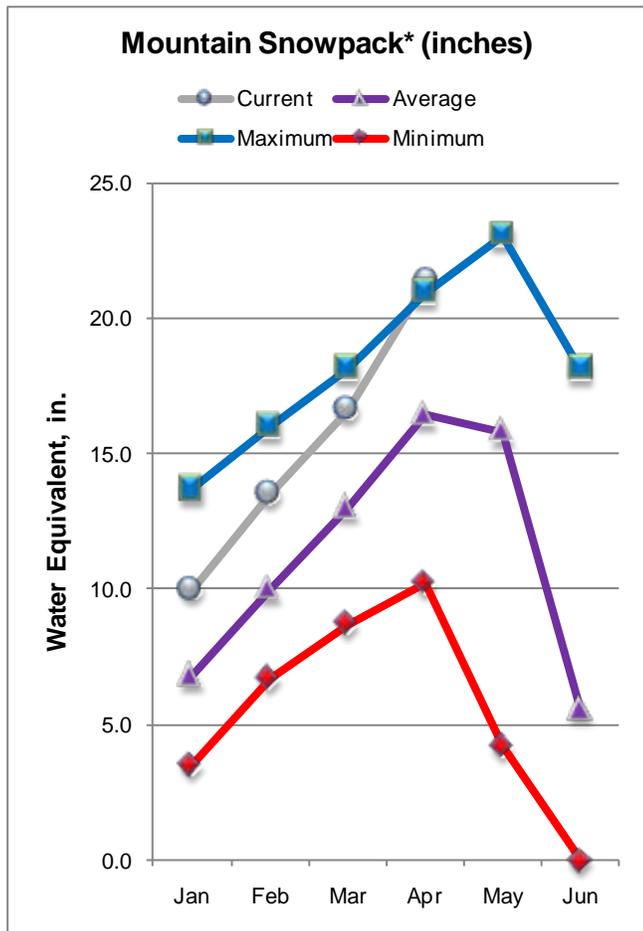
GUNNISON RIVER BASIN Reservoir Storage (1000 AF) - End of March					GUNNISON RIVER BASIN Watershed Snowpack Analysis - April 1, 2011			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BLUE MESA	830.0	494.9	542.1	404.5	UPPER GUNNISON BASIN	15	133	118
CRAWFORD	14.0	7.9	7.0	10.8	SURFACE CREEK BASIN	3	136	123
FRUITGROWERS	3.6	3.6	3.6	4.0	UNCOMPAHGRE BASIN	4	94	103
FRUITLAND	9.2	2.3	1.6	2.5	TOTAL GUNNISON RIVER BASIN	19	122	115
MORROW POINT	121.0	112.5	107.0	113.6				
PAONIA	15.4	0.7	1.5	4.6				
RIDGWAY	83.0	64.0	67.3	60.9				
TAYLOR PARK	106.0	73.0	62.7	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.
- (3) - Median value used in place of average.

UPPER COLORADO RIVER BASIN as of April 1, 2011



*Based on selected stations

2011 is turning out to be a banner year for the Upper Colorado River Basin. On April 1, the snowpack was measured at 130 percent of average and 172 percent of last year's April 1 readings. This is the second highest April 1 snowpack the basin has seen since 1996 (which was only one percentage point higher). You would have to go back to 1984 to find another higher April 1 figure. According to SNOTEL data, this year even set new daily basin maximums for March 31 and April 1. Not surprisingly, the basin surpassed the average peak snow water equivalent back on March 4. Sub-basin snowpacks are all above average to well above average ranging from 122 percent of average in the Roaring Fork Drainage to a whopping 168 percent of average in the Willow Creek Watershed (up from 139 percent of average last month). Mountain precipitation during March was above normal for the fifth time in the last six months at 122 percent of average. Total precipitation for the water year is 125 percent of average and 158 percent of last year's totals at this time. Reservoir storage is 13 percent above the average mark and is just slightly higher than the 2010 storage levels. Most streamflow forecasts saw moderate increases over those issued last month, up as high as 17 percentage points. April-July runoff should be above average to well above average throughout the basin ranging from 120 percent of average for the Roaring Fork at Glenwood Springs to 151 percent of average for the Inflow to Lake Granby, up from 136 percent of average last month.

UPPER COLORADO RIVER BASIN
Streamflow Forecasts - April 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	265	310	340	151	375	425	225
Willow Ck Reservoir Inflow (2)	APR-JUL	55	65	75	147	85	102	51
Williams Fk Reservoir Inflow (2)	APR-JUL	103	119	130	137	142	160	95
Dillon Reservoir Inflow (2)	APR-JUL	176	205	225	135	245	280	167
Green Mountain Reservoir Inflow (2)	APR-JUL	295	345	380	136	415	475	280
Muddy Ck bl Wolford Mtn Reservoir nr	APR-JUL	64	79	90	150	102	120	60
Eagle R bl Gypsum (2)	APR-JUL	320	380	420	125	465	530	335
Colorado R nr Dotsero (2)	APR-JUL	1600	1820	2020	140	2240	2570	1440
Ruedi Reservoir Inflow (2)	APR-JUL	136	156	170	121	185	205	141
Roaring Fk at Glenwood Springs (2)	APR-JUL	690	785	850	120	920	1030	710
Colorado R nr Cameo (2)	APR-JUL	2600	2950	3240	134	3550	4020	2420

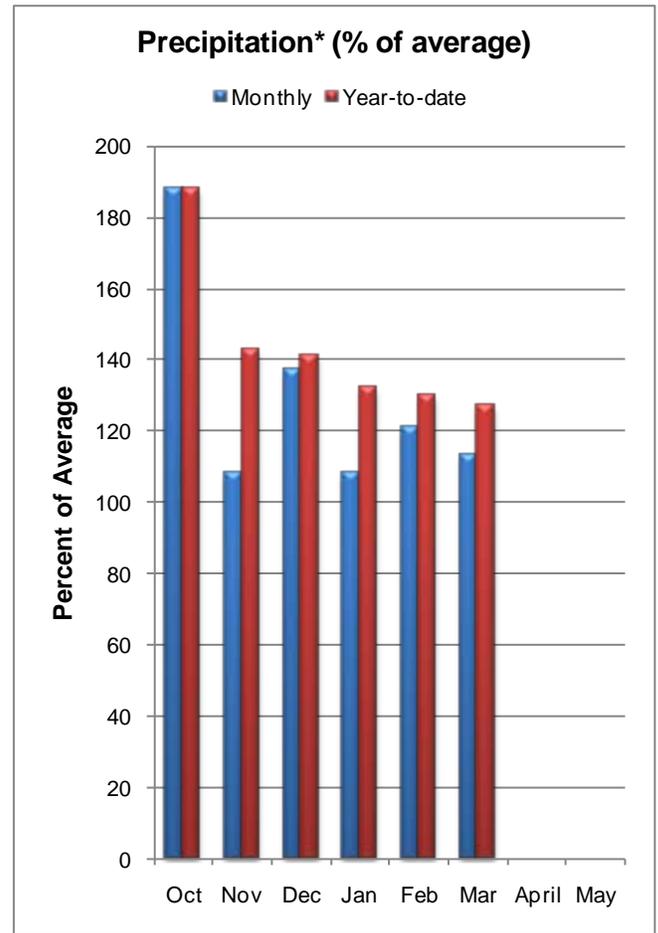
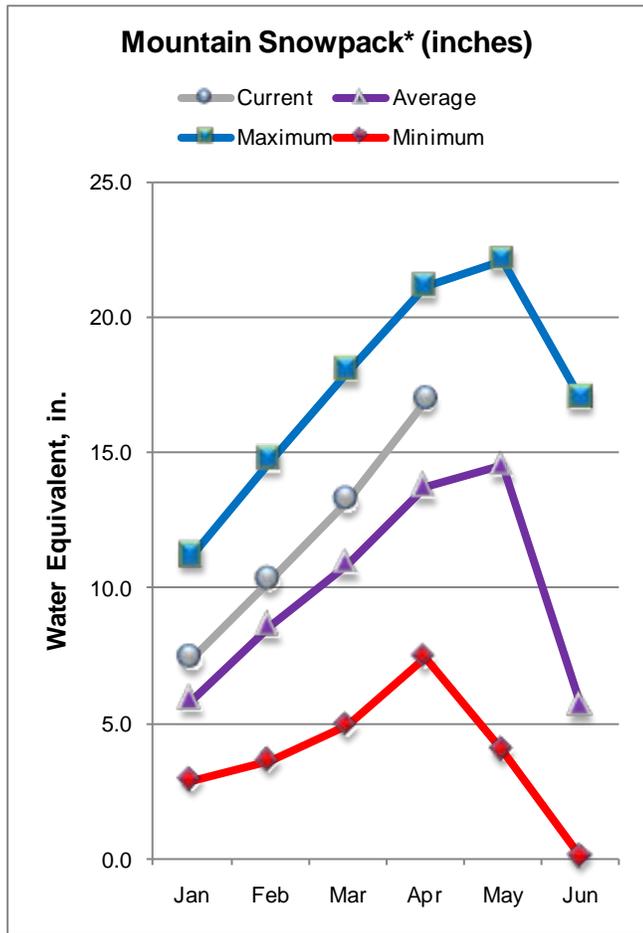
UPPER COLORADO RIVER BASIN Reservoir Storage (1000 AF) - End of March					UPPER COLORADO RIVER BASIN Watershed Snowpack Analysis - April 1, 2011			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
DILLON	254.0	221.8	241.2	214.5	BLUE RIVER BASIN	9	184	136
LAKE GRANBY	465.6	320.6	278.4	263.7	UPPER COLORADO RIVER BASI	36	183	134
GREEN MOUNTAIN	146.8	59.4	70.6	59.8	MUDDY CREEK BASIN	3	200	143
HOMESTAKE	43.0	23.4	21.8	22.5	PLATEAU CREEK BASIN	3	136	123
RUEDI	102.0	64.7	66.3	61.9	ROARING FORK BASIN	8	143	122
VEGA	32.9	14.2	13.3	13.1	WILLIAMS FORK BASIN	4	161	128
WILLIAMS FORK	97.0	79.5	74.8	54.8	WILLOW CREEK BASIN	3	230	168
WILLOW CREEK	9.1	5.7	6.0	6.8	TOTAL COLORADO RIVER BASI	47	170	130

* 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 April 1, 2011



*Based on selected stations

Snowpack conditions in the South Platte River Basin experienced a two percentage point increase over last month. April 1 snow survey data shows the basin at 123 percent of average and 149 percent of April 1, 2010. This is the highest April 1 snowpack percentage going back to 1996 and the second highest since 1984. Sub-basin snowpacks are quite variable but remain mostly above average to well above average. The highest sub-basin snowpack came in at 140 percent of average in the Cache La Poudre while the Upper South Platte laid claim to the lowest measurements at 96 percent of average. Of particular note is the fact that the snow courses above Antero Reservoir all reported no snow and Echo Lake SNOTEL at the headwaters of Bear Creek was only 60 percent of average on April 1. Mountain precipitation during March was 113 percent of average, making it the sixth month in a row the basin has produced above average monthly precipitation. Total precipitation for the water year remains above normal at 127 percent of average. Reservoir levels are just slightly below average and about 3 percent less than last year's storage at this time. Most forecast points in the basin should see average to well above average runoff from April through September. Clear Creek at Golden should see flows of 134 percent of average. The exception to this, reflected by very low snowpacks, are the Inflow to Antero Reservoir, Bear Creek above Evergreen and Bear Creek at Morrison which are expected to produce flows of 41, 51 and 41 percent of average, respectively.

SOUTH PLATTE RIVER BASIN
Streamflow Forecasts - April 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)	
Antero Reservoir Inflow (2)	APR-JUL	4.3	6.3	8.1	48	10.5	15.3	16.8
	APR-SEP	4.6	6.9	9.1	41	12.0	17.9	22
Spinney Mountain Res Inflow (2)	APR-JUL	35	50	64	114	82	118	56
	APR-SEP	41	60	79	115	103	153	69
Elevenmile Canyon Res Inflow (2)	APR-JUL	35	52	67	116	87	127	58
	APR-SEP	41	62	83	115	111	169	72
Cheesman Lake Inflow (2)	APR-JUL	66	100	131	115	172	260	114
	APR-SEP	80	121	161	115	215	325	140
South Platte R at South Platte (2)	APR-JUL	107	169	230	112	315	495	205
	APR-SEP	130	205	285	112	390	625	255
Bear Ck ab Evergreen	APR-JUL	4.4	6.9	9.4	49	12.8	20	19.3
	APR-SEP	6.0	9.4	12.7	51	17.2	27	25
Bear Ck at Morrison	APR-JUL	3.9	6.8	9.8	39	14.2	25	25
	APR-SEP	5.2	8.9	12.8	41	18.5	32	31
Clear Ck at Golden	APR-JUL	119	137	150	136	163	181	110
	APR-SEP	138	163	180	134	197	220	134
St. Vrain Ck at Lyons (2)	APR-JUL	95	105	112	119	119	129	94
	APR-SEP	110	122	130	119	138	150	109
Boulder Ck nr Orodell (2)	APR-JUL	49	55	60	115	65	71	52
	APR-SEP	54	63	69	115	75	84	60
S Boulder Ck nr Eldorado Springs (2)	APR-JUL	37	43	46	112	49	55	41
	APR-SEP	41	47	52	113	57	63	46
Big Thompson R at Canyon Mouth (2)	APR-JUL	96	109	118	119	127	140	99
	APR-SEP	114	130	141	119	152	168	119
Cache La Poudre at Canyon Mouth (2)	APR-JUL	220	280	330	135	390	495	245
	APR-SEP	240	305	360	131	425	540	275

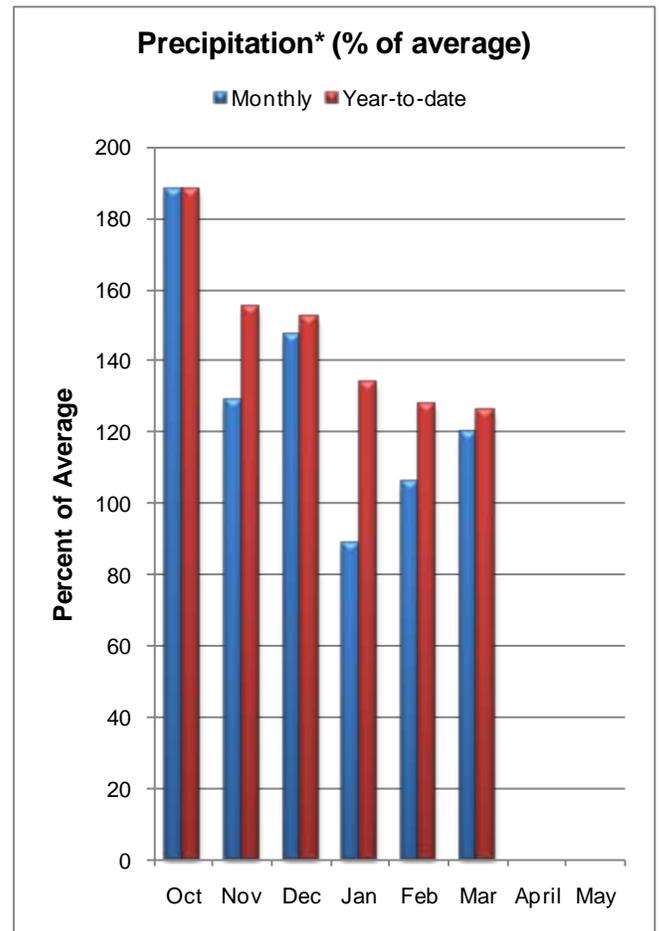
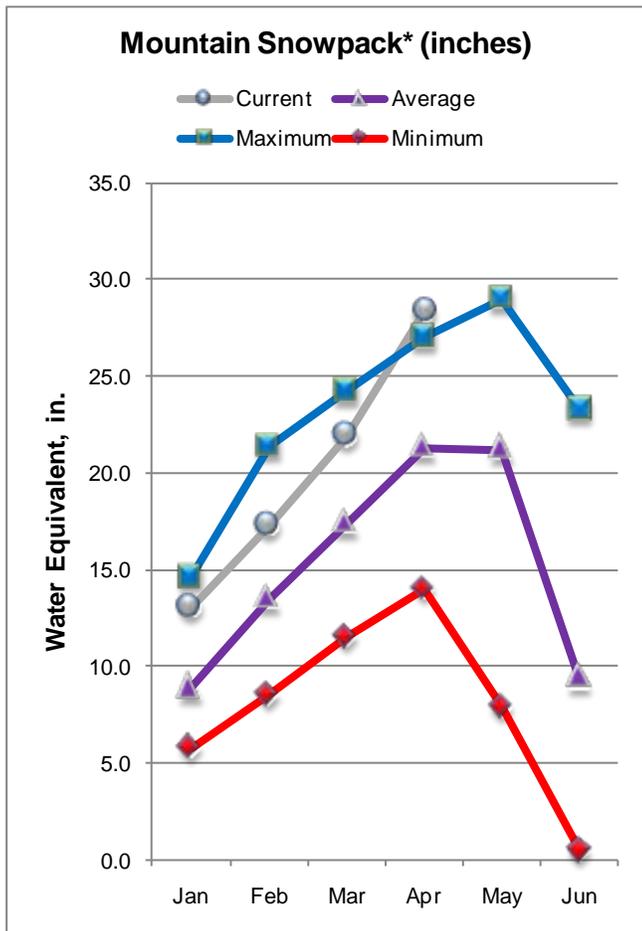
SOUTH PLATTE RIVER BASIN Reservoir Storage (1000 AF) - End of March					SOUTH PLATTE RIVER BASIN Watershed Snowpack Analysis - April 1, 2011			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ANTERO	19.9	20.0	20.1	15.9	BIG THOMPSON BASIN	7	188	136
BARR LAKE	30.1	29.3	28.2	27.9	BOULDER CREEK BASIN	5	143	118
BLACK HOLLOW	6.5	2.7	3.2	4.0	CACHE LA POUFRE BASIN	8	178	140
BOYD LAKE	48.4	36.5	40.6	33.0	CLEAR CREEK BASIN	4	156	138
BUTTON ROCK/RALPH PRICE	16.2	12.8	12.0	12.1	SAINT VRAIN BASIN	4	152	114
CACHE LA POUFRE	10.1	10.4	10.1	8.6	UPPER SOUTH PLATTE BASIN	16	106	96
CARTER	108.9	88.2	103.9	100.9	TOTAL SOUTH PLATTE BASIN	44	152	123
CHAMBERS LAKE	8.8	3.6	6.4	3.3				
CHEESMAN	79.0	71.2	59.1	60.8				
COBB LAKE	22.3	20.0	20.7	13.9				
ELEVEN MILE	98.0	99.4	99.7	96.4				
EMPIRE	36.5	36.5	36.5	31.8				
FOSSIL CREEK	11.1	7.4	9.7	7.9				
GROSS	41.8	19.5	20.7	23.9				
HALLIGAN	6.4	5.0	2.7	4.7				
HORSECREEK	14.7	13.0	13.8	13.9				
HORSETOOTH	149.7	104.7	107.8	119.1				
JACKSON	26.1	25.5	25.9	29.9				
JULESBURG	20.5	20.5	20.5	20.8				
LAKE LOVELAND	10.3	7.5	9.3	9.0				
LONE TREE	8.7	7.4	7.4	7.2				
MARIANO	5.4	4.4	4.1	4.5				
MARSHALL	10.0	4.6	8.1	6.0				
MARSTON	13.0	3.1	10.6	13.3				
MILTON	23.5	22.5	21.7	18.3				
POINT OF ROCKS	70.6	70.6	70.6	68.8				
PREWITT	28.2	24.4	24.6	25.0				
RIVERSIDE	55.8	55.7	55.2	58.2				
SPINNEY MOUNTAIN	49.0	39.1	33.5	32.1				
STANDLEY	42.0	32.1	35.4	34.6				
TERRY LAKE	8.0	5.2	6.0	5.4				
UNION	13.0	12.2	12.3	11.1				
WINDSOR	15.2	11.0	12.9	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.
- (3) - Median value used in place of average.

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



*Based on selected stations

April 1 snowpack conditions in the combined Yampa, White, North Platte and Laramie River basin are the highest of the major basins in the state at 133 percent of average and 173 percent of last year's snowpack. In fact, conditions were so favorable that SNOTEL data indicates the basin set new maximum values around the end of March and the beginning of April. Also, the combined basins exceeded the average peak snow water content during the first week of March. The Yampa and White River basins had the second highest April 1 snowpack percentages going back to 1968, just two percentage points below April 1996. The North Platte and Laramie River basins actually posted the highest April 1 snowpack percentages going back to 1968 when the record of basin snowpack numbers began. March precipitation at the higher elevations was 120 percent of average, making this the fifth month in the last six that the basin has recorded above normal monthly precipitation. Total precipitation for the water year is 126 percent of average and 158 percent of last year's total at this time. Stagecoach Reservoir reports water levels are 87 percent of average and 76 percent of last year while storage in Yamcolo is 117 percent of average and 104 percent of last year. Most forecast points saw significant increases over last month's figures. Water users can expect well above average streamflows during the April-July period. Runoff volumes are expected to range from 128 percent of average on the White River near Meeker to 174 percent of average for the North Platte River near Northgate.

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

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
North Platte R nr Northgate	APR-JUL	330	385	425	174	465	520	245
	APR-SEP	360	420	465	172	510	570	270
Laramie R nr Woods	APR-JUL	121	144	160	130	176	199	123
	APR-SEP	131	157	175	130	193	220	135
Yampa R ab Stagecoach Reservoir	APR-JUL	33	42	50	135	58	65	37
Yampa R at Steamboat Springs (2)	APR-JUL	330	380	415	148	450	510	280
Elk R nr Milner	APR-JUL	420	460	500	154	540	605	325
Elkhead Ck ab Long Gulch nr Hayden	APR-JUL	83	102	115	162	129	152	71
Yampa R nr Maybell (2)	APR-JUL	1160	1390	1550	157	1720	1990	990
Little Snake R nr Slater	APR-JUL	184	215	235	148	255	290	159
Little Snake R nr Dixon	APR-JUL	375	450	515	156	585	630	330
Little Snake R nr Lily	APR-JUL	395	500	580	159	665	800	365
White R nr Meeker	APR-JUL	285	335	370	128	410	465	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, 2011

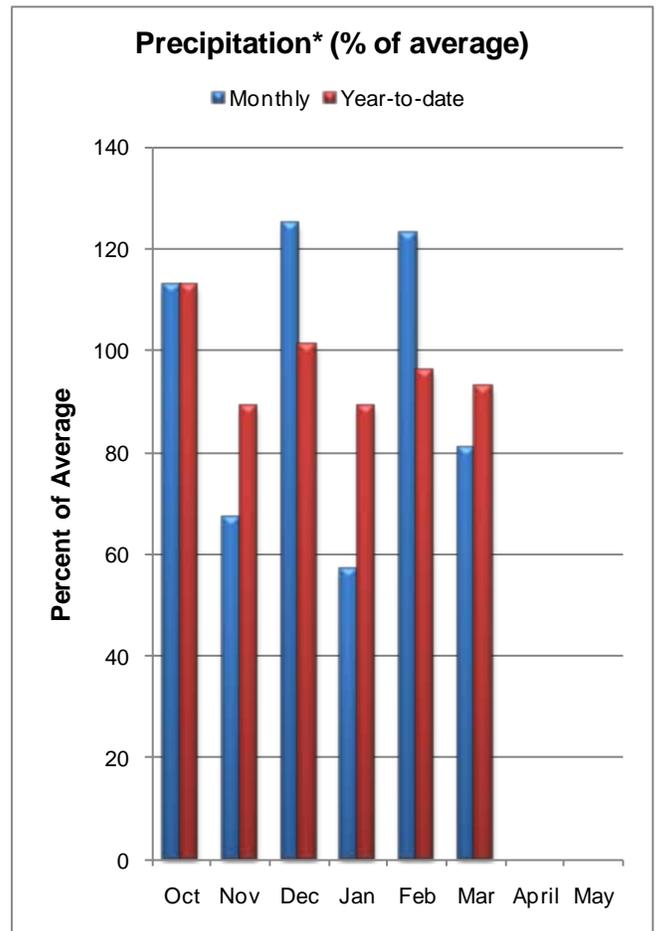
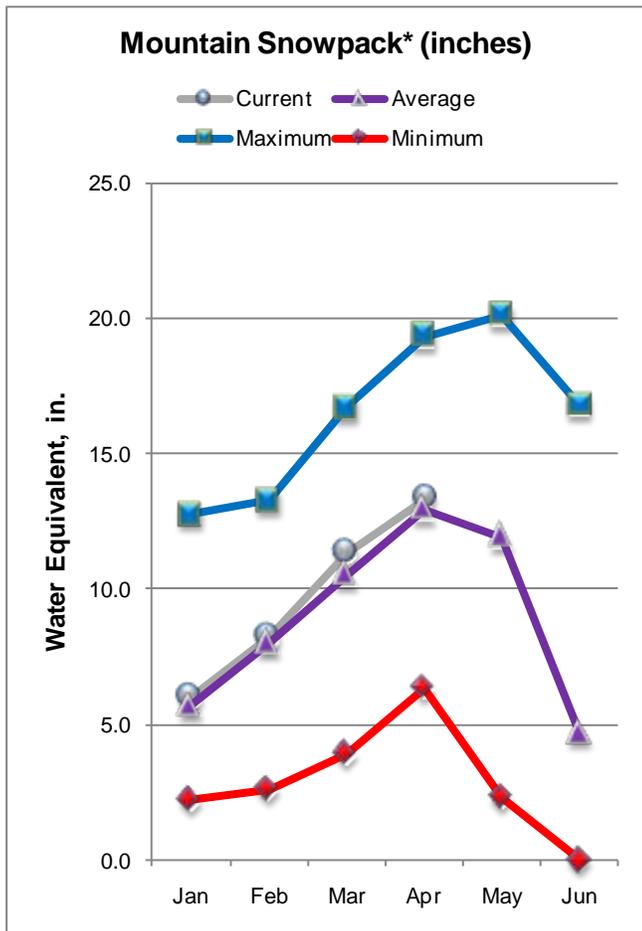
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
STAGECOACH	33.3	21.3	28.1	24.6	LARAMIE RIVER BASIN	4	144	134
YAMCOLO	8.7	8.1	7.8	6.9	NORTH PLATTE RIVER BASIN	11	196	136
					TOTAL NORTH PLATTE BASIN	14	182	135
					ELK RIVER BASIN	2	164	136
					YAMPA RIVER BASIN	12	190	138
					WHITE RIVER BASIN	6	168	121
					TOTAL YAMPA AND WHITE RIV	17	180	131
					LITTLE SNAKE RIVER BASIN	8	146	130
TOTAL YAMPA, WHITE AND NO	36	173	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.

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ARKANSAS RIVER BASIN as of April 1, 2011



*Based on selected stations

The Arkansas River Basin snowpack continued the same pattern it has exhibited every month since January 1, managing to just stay slightly above average. April 1 measurements indicate the basin is at 103 percent of average, down 5 percentage points from last month, and 99 percent of the snowpack measured a year ago. Projections based on SNOTEL data indicate about a 30 percent chance that the snowpack will reach the average peak, however, with that peak usually occurring on April 13, time may be running out. As has been the case all year, sub-basin snowpack conditions tend to favor the upper portion of the basin. The Upper Arkansas Watershed snowpack is 120 percent of average while the Purgatoire and the combined Cucharas and Huerfano drainages are 52 and 60 percent of average, respectively. March precipitation at the higher elevations was below normal at 81 percent of average. This dropped the total precipitation figures from 96 percent of average last month to 93 percent of average currently. Reservoir storage conditions remained unchanged from last month with storage levels at 90 percent of average and 87 percent of last year. The biggest change in the forecasts from last month occurred in the southern tributaries which saw some significant drops in percentages. April-September volumes along the mainstem of the Arkansas are expected to be above average. Chalk Creek at Nathrop is expected to produce 141 percent of average flows while Grape Creek near Westcliffe is slated to generate only 51 percent of average runoff.

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ARKANSAS RIVER BASIN
Streamflow Forecasts - April 1, 2011

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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)	
Chalk Ck at Nathrop	APR-JUL	21	27	32	139	37	45	23
	APR-SEP	25	32	38	141	44	53	27
Arkansas R at Salida (2)	APR-JUL	305	320	330	129	340	355	255
	APR-SEP	360	385	400	129	415	445	310
Grape Ck nr Westcliffe	APR-JUL	5.3	6.8	8.0	50	9.2	11.2	16.1
	APR-SEP	7.7	9.0	9.9	51	10.9	12.4	19.6
Pueblo Res Inflow (2)	APR-JUL	420	425	430	112	435	440	385
	APR-SEP	525	535	540	111	545	555	485
Huerfano R nr Redwing	APR-JUL	3.9	6.0	7.7	63	9.6	12.7	12.3
	APR-SEP	5.3	7.9	9.9	64	12.2	16.0	15.5
Cucharas R nr La Veta	APR-JUL	2.2	4.2	6.0	53	8.1	11.8	11.3
	APR-SEP	3.0	5.3	7.1	55	9.2	12.8	13.0
Trinidad Lk Inflow (2)	MAR-JUL	4.9	12.2	19.0	56	27	42	34
	APR-JUL	4.2	11.1	17.6	55	26	40	32
	APR-SEP	16.3	21	25	57	29	36	44

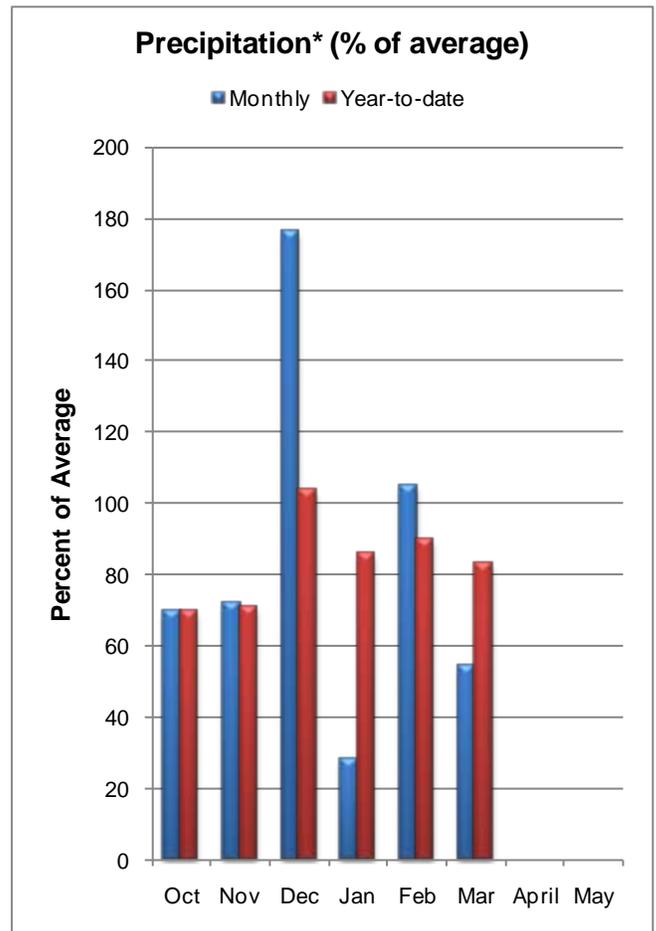
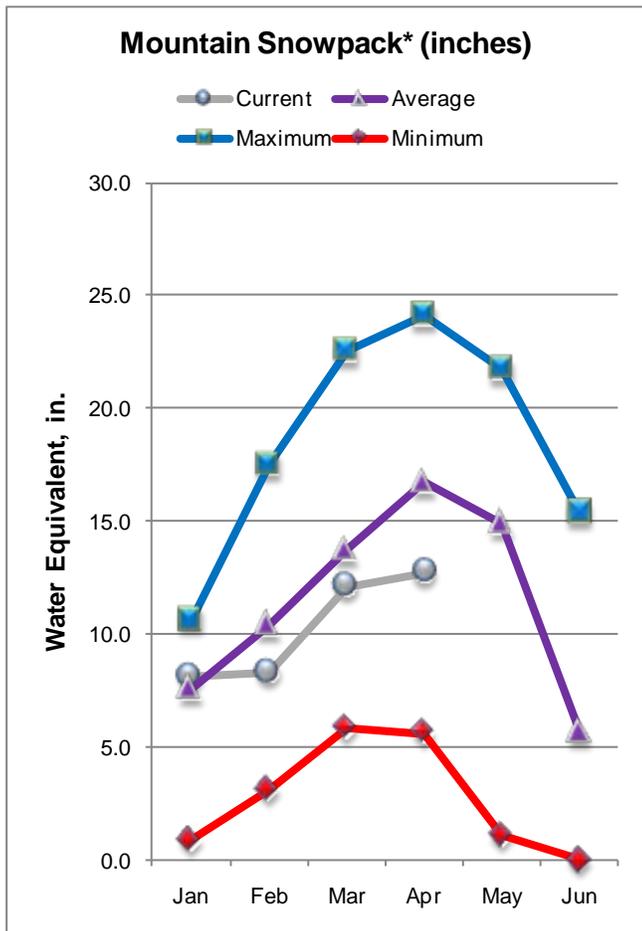
ARKANSAS RIVER BASIN Reservoir Storage (1000 AF) - End of March					ARKANSAS RIVER BASIN Watershed Snowpack Analysis - April 1, 2011			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ADOBE	62.0	40.6	54.1	37.0	UPPER ARKANSAS BASIN	10	128	120
CLEAR CREEK	11.4	8.4	7.9	6.7	CUCHARAS & HUERFANO RIVER	4	47	60
CUCHARAS RESERVOIR	40.0	0.1	1.6	5.4	PURGATOIRE RIVER BASIN	2	39	52
GREAT PLAINS	150.0	0.0	0.0	41.9	TOTAL ARKANSAS RIVER BASIN	15	103	103
HOLBROOK	7.0	0.9	6.3	4.9				
HORSE CREEK	27.0	0.0	0.0	12.6				
JOHN MARTIN	616.0	64.1	86.2	137.3				
LAKE HENRY	8.0	9.0	9.6	6.7				
MEREDITH	42.0	39.7	43.1	19.0				
PUEBLO	354.0	264.1	263.9	173.3				
TRINIDAD	167.0	20.1	24.4	27.5				
TURQUOISE	127.0	44.8	58.7	74.0				
TWIN LAKES	86.0	39.0	53.9	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.

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

UPPER RIO GRANDE RIVER BASIN as of April 1, 2011



*Based on selected stations

Snowpack percentages in the Upper Rio Grande Basin were the lowest of the major basins in the state. April 1 measurements show the basin at a mere 76 percent of average and 66 percent of the snowpack present last year at this time. This is the lowest April 1 snowpack percentage the basin has had in the last four years and is the seventh below average snowpack the basin has witnessed in the last ten years. Projections based on historical SNOTEL data indicate that, even with maximum historical increases, this year's snowpack will likely not reach the average peak snow water content. The current year's peak to date occurred on March 11 at 78 percent of the average peak. The basin also reported the lowest monthly precipitation percentage of the major basins in the state at 54 percent of average. This is the fourth below average monthly figure in the last six months. As a result, total precipitation for the water year fell to 83 percent of average and 80 percent of last year's totals. Overall, reservoir storage is below normal at 82 percent of average. Rio Grande Reservoir was the only reservoir to report above average storage. Forecasts dropped at most forecast points in the basin, including a 24 percentage point drop for the San Antonio River at Ortiz. Water users can expect below average to well below average flows this spring and summer. April-September runoff should range from 34 percent of average for Sangre de Cristo Creek to 76 percent of average for the Rio Grande at Thirty Mile Bridge, Saguache Creek near Saguache and the Inflow to Platoro Reservoir.

UPPER RIO GRANDE BASIN
Streamflow Forecasts - April 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)	
Rio Grande at Thirty Mile Bridge (2)	APR-SEP	75	92	105	77	119	140	136
	APR-JUL	68	81	90	76	100	116	118
Rio Grande at Wagon Wheel Gap (2)	APR-SEP	177	225	260	75	300	360	345
SF Rio Grande at South Fork (2)	APR-SEP	72	85	95	72	106	123	132
Rio Grande nr Del Norte (2)	APR-SEP	280	340	390	73	440	525	531
Saguache Ck nr Saguache (2)	APR-SEP	14.5	20	25	76	30	38	33
Alamosa Ck ab Terrace Reservoir	APR-SEP	36	44	50	71	56	67	70
La Jara Ck nr Capulin	MAR-JUL	3.4	4.7	5.9	68	7.2	9.6	8.7
	APR-JUL	3.0	4.3	5.5	69	6.8	9.2	8.0
Trinchera Ck ab Turners Ranch	APR-SEP	2.1	3.8	5.2	43	6.9	9.7	12.0
Sangre de Cristo Ck (2)	APR-SEP	0.1	1.3	3.0	34	5.4	10.2	8.8
Ute Creek	APR-SEP	1.2	3.5	5.7	47	8.5	13.5	12.2
Platoro Reservoir Inflow	APR-JUL	38	44	49	77	54	63	64
	APR-SEP	41	49	54	76	60	69	71
Conejos R nr Mogote (2)	APR-SEP	113	134	150	75	167	194	200
San Antonio R at Ortiz	APR-SEP	5.1	7.2	9.0	55	11.0	14.6	16.4
Los Pinos R nr Ortiz	APR-SEP	38	48	55	74	63	76	74
Culebra Ck at San Luis (2)	APR-SEP	4.0	7.0	9.7	42	13.0	19.2	23
Costilla Reservoir Inflow	MAR-JUL	2.2	3.2	4.1	39	5.2	7.1	10.6
	APR-JUL	1.7	2.7	3.6	36	4.7	6.6	10.1
Costilla Ck nr Costilla (2)	MAR-JUL	5.0	7.6	10.0	39	12.9	18.3	26
	APR-JUL	3.6	6.2	8.6	36	11.5	16.9	24

UPPER RIO GRANDE BASIN
Reservoir Storage (1000 AF) - End of March

UPPER RIO GRANDE BASIN
Watershed Snowpack Analysis - April 1, 2011

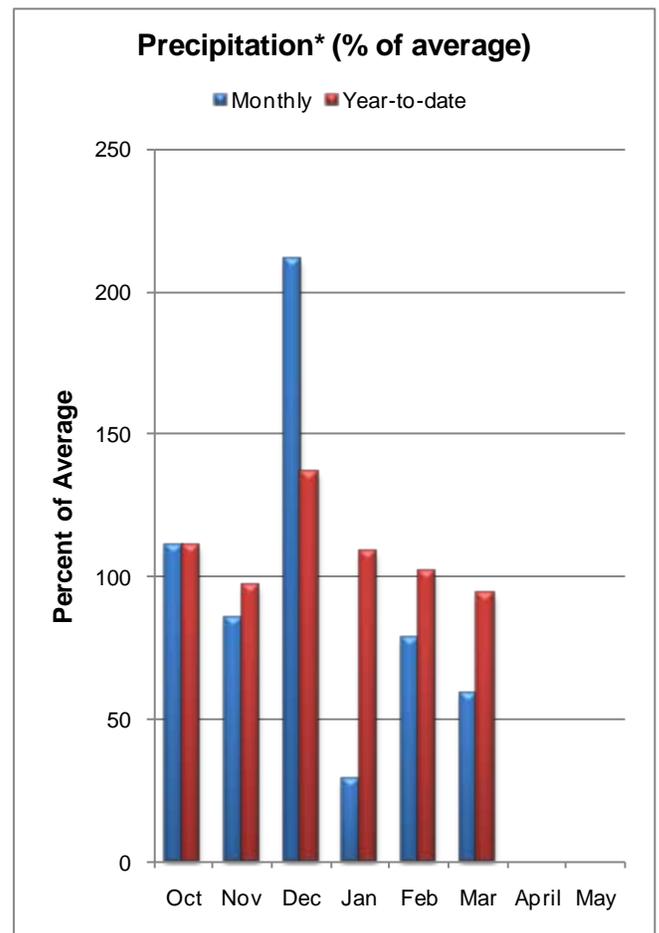
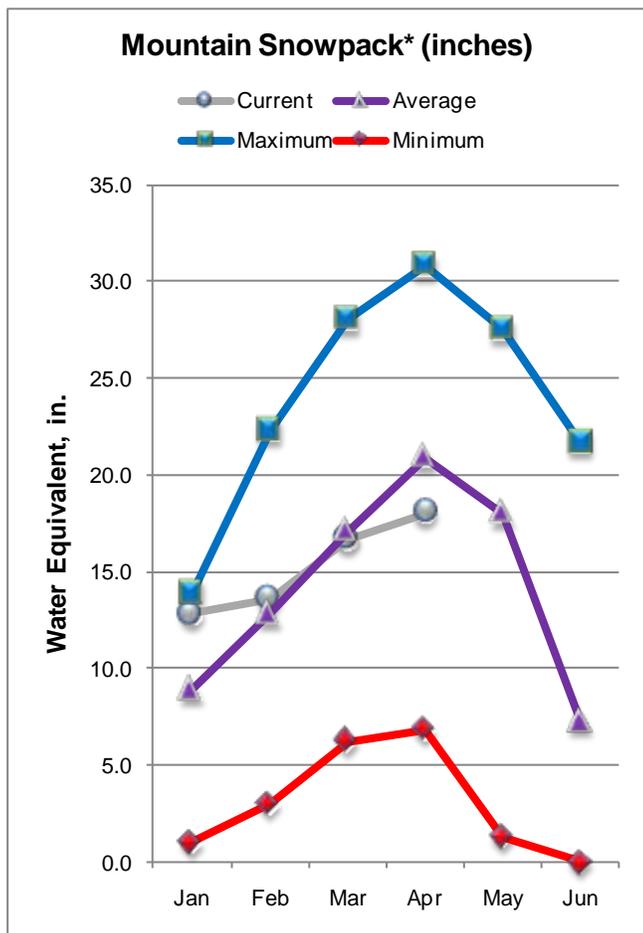
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CONTINENTAL	27.0	5.6	5.0	5.9	ALAMOSA CREEK BASIN	2	40	46
PLATORO	60.0	21.6	30.1	24.5	CONEJOS & RIO SAN ANTONIO	4	71	80
RIO GRANDE	51.0	19.7	15.1	19.3	CULEBRA & TRINCHERA CREEK	5	47	64
SANCHEZ	103.0	16.8	19.9	24.9	UPPER RIO GRANDE BASIN	12	78	83
SANTA MARIA	45.0	6.9	7.0	10.8	TOTAL UPPER RIO GRANDE BA	23	66	76
TERRACE	18.0	5.2	6.3	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.

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

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



*Based on selected stations

The combined San Miguel, Dolores, Animas and San Juan River basin snowpack took another hit during March dropping to 86 percent of average on April 1. This is 85 percent of last year's snowpack at this time. This is the seventh time that the April 1 snowpack has been below average in the last ten years. Given that the basin reaches its average peak snow water content on April 7, barring some record breaking event, there is virtually no chance that the snowpack will reach that level. SNOTEL data shows the current peak for this year occurred on March 30 at 90 percent of the average peak. Sub-basin snowpacks are all below average, ranging from 79 percent of average in the Dolores Watershed to 93 percent of average in the San Juan Drainage. The combined basins saw the third consecutive month of below average mountain precipitation during March. This served to bring the water year totals down to 94 percent of average, just slightly ahead of the precipitation totals of one year ago. Reservoir storage, at 105 percent of average and 121 percent of last year, is the one bright spot in the water supply outlook. Most forecast points experienced a moderate decrease, from 4 to 18 percentage points, when compared to last month's forecasts. Below average runoff for the April-July forecast period is expected throughout the combined basins. Streamflow volumes should range from 70 percent of average for the Inflow to McPhee Reservoir, Cone Reservoir Inlet and Inflow to Navajo Reservoir to 85 percent of average for the Animas River at Durango.

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

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)	
Dolores R at Dolores	APR-JUL	130	162	187	71	215	260	265
McPhee Reservoir Inflow (2)	APR-JUL	158	196	225	70	255	305	320
San Miguel R nr Placerville	APR-JUL	78	96	110	83	125	149	132
Gurley Reservoir Inlet	APR-JUL	9.4	11.8	13.6	74	15.6	18.9	18.3
Cone Reservoir Inlet	APR-JUL	0.8	1.5	2.3	70	3.3	5.1	3.3
Lilylands Reservoir Inlet	APR-JUL	1.3	1.7	2.1	71	2.5	3.2	2.9
Rio Blanco at Blanco Diversion (2)	APR-JUL	31	38	43	81	48	57	53
Navajo R at Oso Diversion (2)	APR-JUL	39	48	55	80	62	74	69
San Juan R nr Carracas (2)	APR-JUL	225	275	310	77	350	400	405
Piedra R nr Arboles	APR-JUL	121	149	170	74	193	230	230
Vallecito Reservoir Inflow (2)	APR-JUL	122	144	160	78	177	205	205
Navajo Reservoir Inflow (2)	APR-JUL	395	480	550	70	625	725	785
Animas R at Durango	APR-JUL	290	340	375	85	410	470	440
Lemon Reservoir Inflow (2)	APR-JUL	31	37	42	72	47	55	58
La Plata R at Hesperus	APR-JUL	12.6	15.6	18.0	72	21	25	25
Mancos R nr Mancos (2)	APR-JUL	11.2	16.9	24	73	31	38	33

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, 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	12.2	ANIMAS RIVER BASIN	9	90	85
JACKSON GULCH	10.0	5.2	3.6	5.1	DOLORES RIVER BASIN	7	73	79
LEMON	40.0	15.1	9.7	21.2	SAN MIGUEL RIVER BASIN	5	77	84
MCPHEE	381.0	279.5	251.5	273.6	SAN JUAN RIVER BASIN	4	97	93
NARRAGUINNEP	19.0	18.9	17.8	15.5	TOTAL SAN MIGUEL, DOLORES	24	85	86
VALLECITO	126.0	77.0	42.2	62.0	AN JUAN RIVER BASINS			

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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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