



United States
Department of
Agriculture

Natural
Resources
Conservation
Service

New Mexico

Basin Outlook Report

February 1, 2016



Skin track into Hematite manual snow course – Photo courtesy of Chris Romero, NRCS

Basin Outlook Reports and Federal - State - Private Cooperative Snow Surveys

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<http://www.nrcs.usda.gov/wps/portal/nrcs/main/nm/snow/>

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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Summary

January proved to be much drier than New Mexico had hoped for. A late month storm track which rolled into the Northern Mountains and dragged its heels into the beginning of February delivered a nice round of snow to the area rescuing it from an otherwise average month. The Upper Rio Grande extending into Southern Colorado has received above average precipitation so far, however with a weakening El Nino signature the basin may come up a bit short if future storms continue to stray north of Colorado and New Mexico. Disappointing however is not a word I would choose to use when describing conditions across the state. Despite January's lack luster performance from El Nino both precipitation and snow pack values still remain well above what we saw last year for a majority of the basins across the state. Water year to date precipitation through January state wide is 127 percent of average, and as of February 1, 2016 snowpack levels across the state are 120 percent of median. It is also of note to mention that state wide snow water equivalent values are roughly double what we saw last year at this time. That's great news for New Mexico! Forecast models still continue to support a very strong El Nino signature through the winter months with a decline as we approach spring and summer. I continue to remain optimistic about the months to come and New Mexico's water supply for 2016!

Snowpack

Comparatively the month of January received significantly less precipitation as snow than December. During the first week the weather patterns were active and temperatures remained seasonal. By the end of the first week of January several storms swept across the Southwest. Additionally, through the second week temperatures remained cooler than normal by as much as 9-12 degrees in parts of New Mexico. Mid-January brought with it a series of storms which produced a significant amount of snow in the higher elevations. This coupled with the cooler-than-normal temperatures created ideal conditions for snow accumulation. The remainder of the month remained for the most part dry with temperatures above-normal. Overall, both the snowpack and snow water equivalent numbers are running above-normal to well above normal. The percent of median numbers have decreased slightly from December which can be attributed to several weeks of storm inactivity and some snow melt from the warmer temperatures. Despite this the Rio Grande basin is at 122 percent of the median as compared to 79 percent at this time last year. In fact every basin in New Mexico except for the Zuni-Bluewater basins are currently over 100 percent of the median. What New Mexico needs is a more consistent southerly storm pattern associated with this El Nino. With this our stores of snow will hopefully continue to build as we head into the final half of snow season.

NEW MEXICO STATEWIDE SNOWPACK	Percent of Median	Last Year Percent of Median
CANADIAN RIVER BASIN	122	78
PECOS RIVER BASIN	134	76
RIO GRANDE BASIN	122	78
MIMBRES RIVER BASIN	157	106
SAN FRANCISCO-UPPER GILA RIVER BASIN	112	64
ZUNI-BLUEWATER BASINS	92	68
SAN JUAN RIVER BASIN	113	64
CHUSKA MOUNTAINS	119	47
RIO HONDO BASIN	139	69
Statewide Snowpack Total	120	75
# of sites	36	36

Precipitation

Water in the form of rain and snow was scattered throughout the state during the month of January. The Rio Hondo Basin saw 192 percent of the average whereas the west and southwest corner of New Mexico saw numbers as low as 69 percent of average. The Zuni-Bluewater Basin which struggled to retain snow pack last winter due to warm temperatures yet had 200 percent of the average precipitation in January only received 76 percent this year. Further north the Canadian and San Juan Basins also had a drier month losing 10 percent of their water year-to-date precipitation from last month. The Pecos and Rio Grande however managed to stay right in the path of the moisture both receiving 104 percent of the average for January. Currently, New Mexico statewide is at 127 percent of the average for the water year to date as compared to 88 percent at this time last year. Additionally, rainfall statewide for January was 99 percent of the average.

Reservoirs

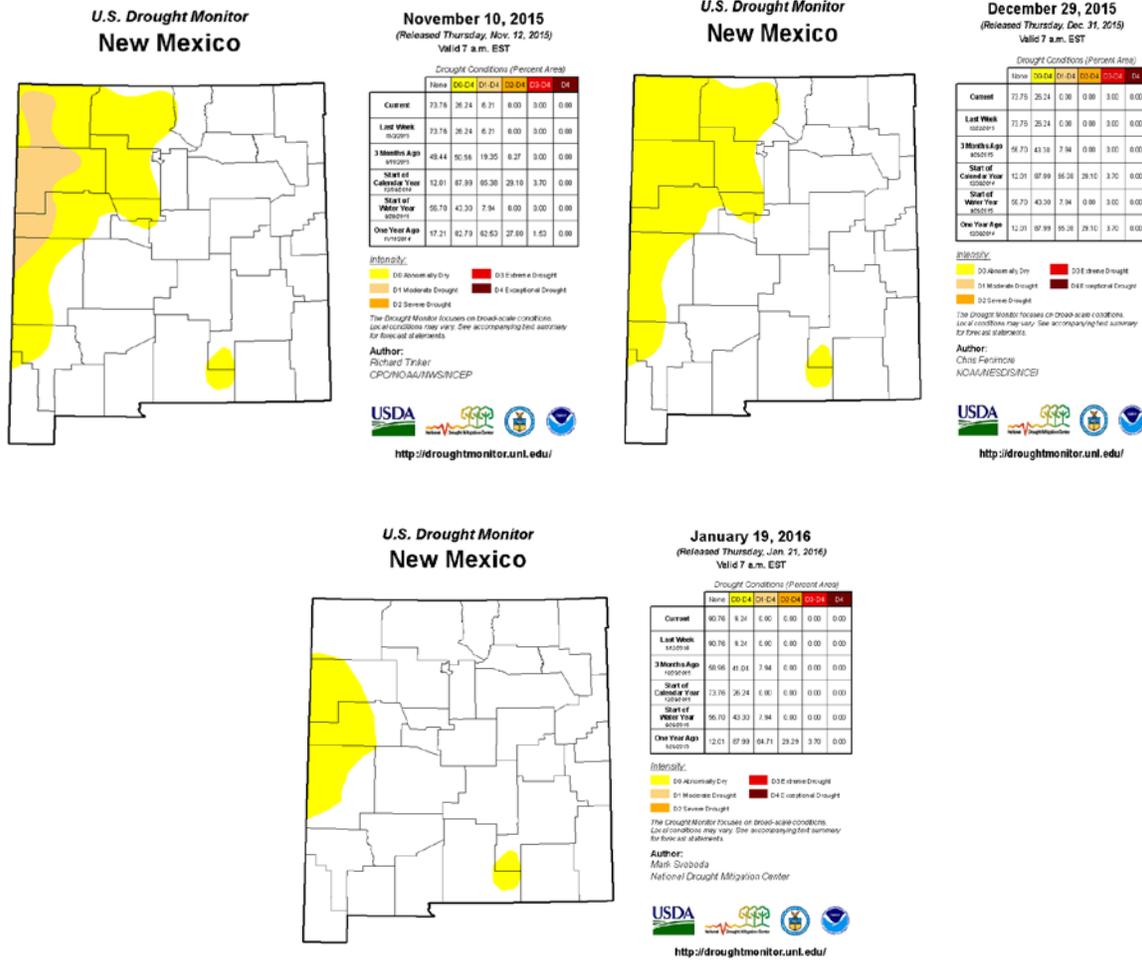
Storage levels are still well below capacity at all lakes across the state. Average statewide reservoir storage is only at 29 percent of capacity as of February 1st. This is only a 6 percent increase from last year. Additionally our storage capacity statewide is 66 percent of the average which is an 11 percent increase from last year. If winter continues to deliver good snowpack in the higher elevations the forecast for our reservoirs this spring looks promising.

NEW MEXICO STATEWIDE	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Abiquiu Reservoir	132.2	132.2	154.6	1192.8	11%	11%	13%	86%	86%
Bluewater Lake	2.0	2.4	5.9	38.5	5%	6%	15%	34%	41%
Brantley Lake nr Carlsbad	33.1	82.9	19.8	1008.2	3%	8%	2%	167%	419%
Caballo Reservoir	29.2	33.8	78.1	332.0	9%	10%	24%	37%	43%
Cochiti Lake	47.2	48.2	60.9	491.0	10%	10%	12%	78%	79%
Conchas Lake	138.2	84.6	199.9	254.2	54%	33%	79%	69%	42%
Costilla Reservoir	9.8	3.6	6.5	16.0	61%	23%	41%	151%	55%
Eagle Nest Lake nr Eagle Nest, NM	30.3	17.6	53.5	79.0	38%	22%	68%	57%	33%
El Vado Reservoir	34.6	13.3	100.9	190.3	18%	7%	53%	34%	13%
Elephant Butte Reservoir	361.1	291.0	1299.0	2195.0	16%	13%	59%	28%	22%
Heron Reservoir	67.5	61.9	303.0	400.0	17%	15%	76%	22%	20%
Lake Avalon	4.9	3.5	2.3	4.0	123%	88%	58%	213%	152%
Lake Sumner	46.2	45.0	30.8	102.0	45%	44%	30%	150%	146%
Navajo Reservoir	1396.5	1090.3	1310.0	1696.0	82%	64%	77%	107%	83%
Santa Rosa Reservoir	96.7	69.5	54.7	438.3	22%	16%	12%	177%	127%
Basin-wide Total	2429.5	1979.9	3679.9	8437.3	29%	23%	44%	66%	54%
# of reservoirs	15	15	15	15	15	15	15	15	15

Streamflow

Daily streamflow conditions when represented as percent of historical average for the 2016 Water Year were at or above average for 17 of 21 reporting basins in New Mexico representing streams with relatively unmanaged stream flow. Streamflow conditions as of February 1, 2016 look positive. In the Rio Grande basin streamflow values range from 100 to 149 percent of average. Streamflow at the Jemez River near Jemez is at 112 percent of the historic average for the March to July forecast. The headwaters of the Canadian River basin has streamflow conditions from 96 to 157 percent of the average at the Conchas Reservoir Inflow. Conditions in the Pecos River Basin were 141 to 147 percent of average for the March to July forecast. Streamflow in the Gila Basin was 108 to 130 percent of average. Conditions in the Animas River of the San Juan River basin were 110 percent of the historical average. Overall forecasts for New Mexico are much improved over last year. If February continues to deliver moisture producing storms and the temperatures remain consistent with holding the snow until spring then we should have a great runoff this year.

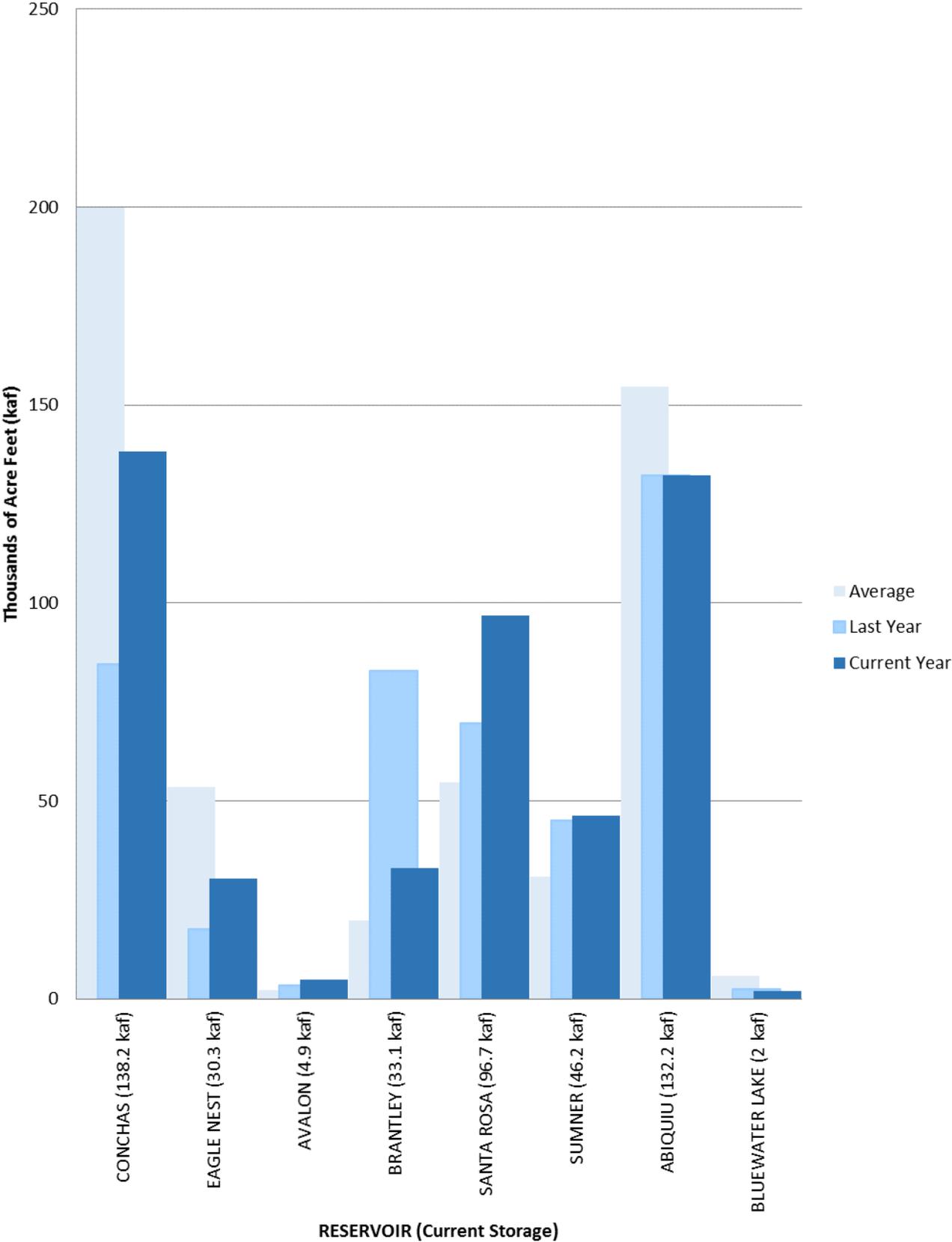
New Mexico Drought Monitor, real versus perceived conditions?



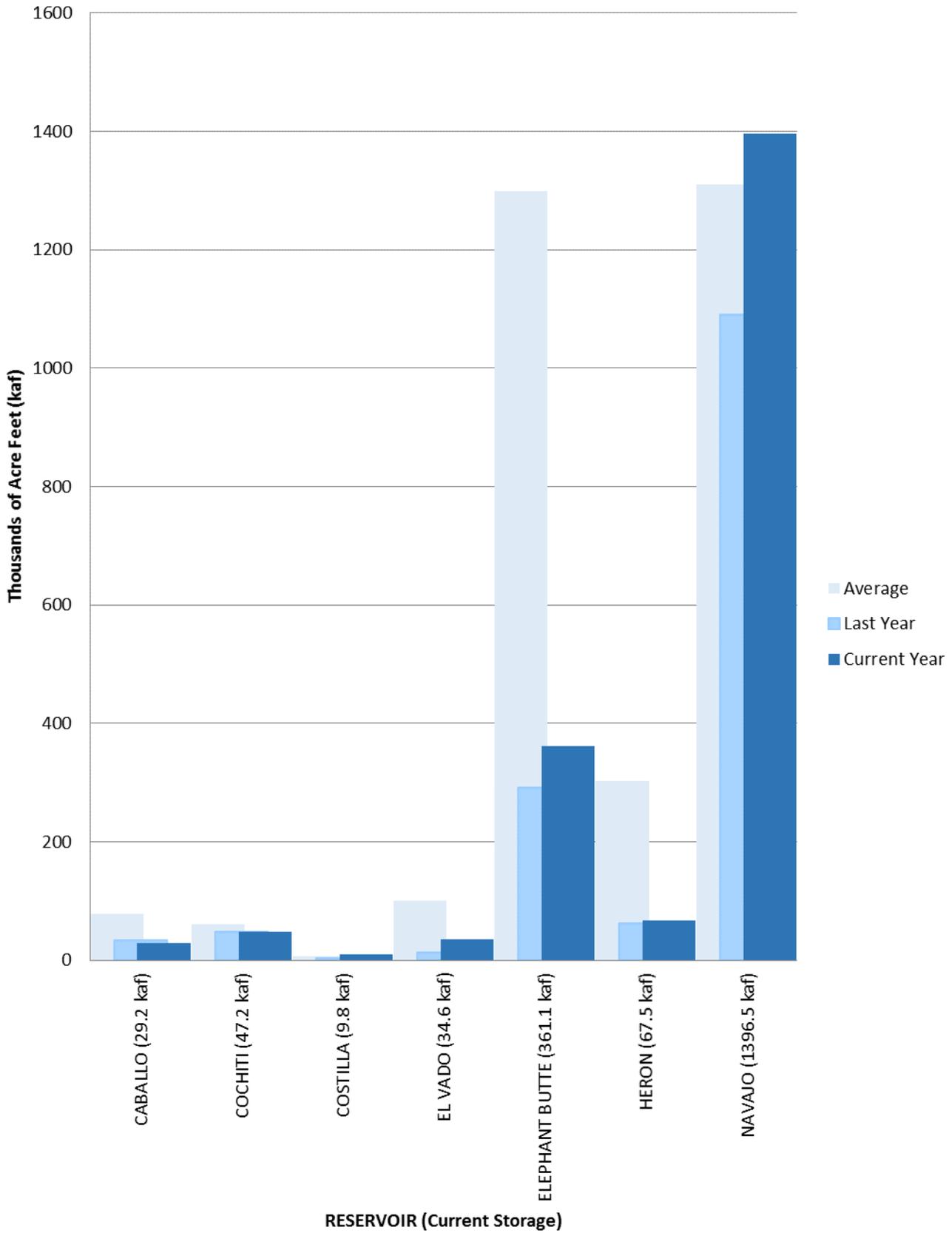
Every week, The U.S. Drought Monitor is produced in partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. This useful tool uses multiple inputs, including precipitation received, to give an indication of the extent and severity of drought conditions nationwide. For the calendar year (Jan 2015 – Dec 2015) this marks the 5th wettest on record! Taking a look at the 2016 Water Year so far (Oct 2015 – Dec 2015) this marks the 9th wettest period on record. The statewide average is currently 178 percent of normal. Over the past three months New Mexico has slowly but surely marched out of moderate drought conditions. As of January 19th the state is completely out of drought status!

The model consensus still continues to support strong El Nino conditions through the remainder of the winter with a sharp decline into spring and summer. This El Nino still ranks among the three strongest episodes dating back to 1950. The February outlook trends toward an above average amount of precipitation with an equal chance for above or below normal temperatures for much of the state. The southeastern half of the state is forecast to experience below normal temperatures throughout February. The three month outlook (Feb – Apr) favors above average precipitation across the state and below average temperatures. Thus far El Nino has delivered however not just to the southwest. It has brought significant precipitation and snow into New Mexico yet has been somewhat inconsistent with a storm track varying across the west and northwestern states. However, conditions do continue to change rapidly and water users should closely monitor snow pack, precipitation, reservoir levels, and forecast values throughout the second half of winter.

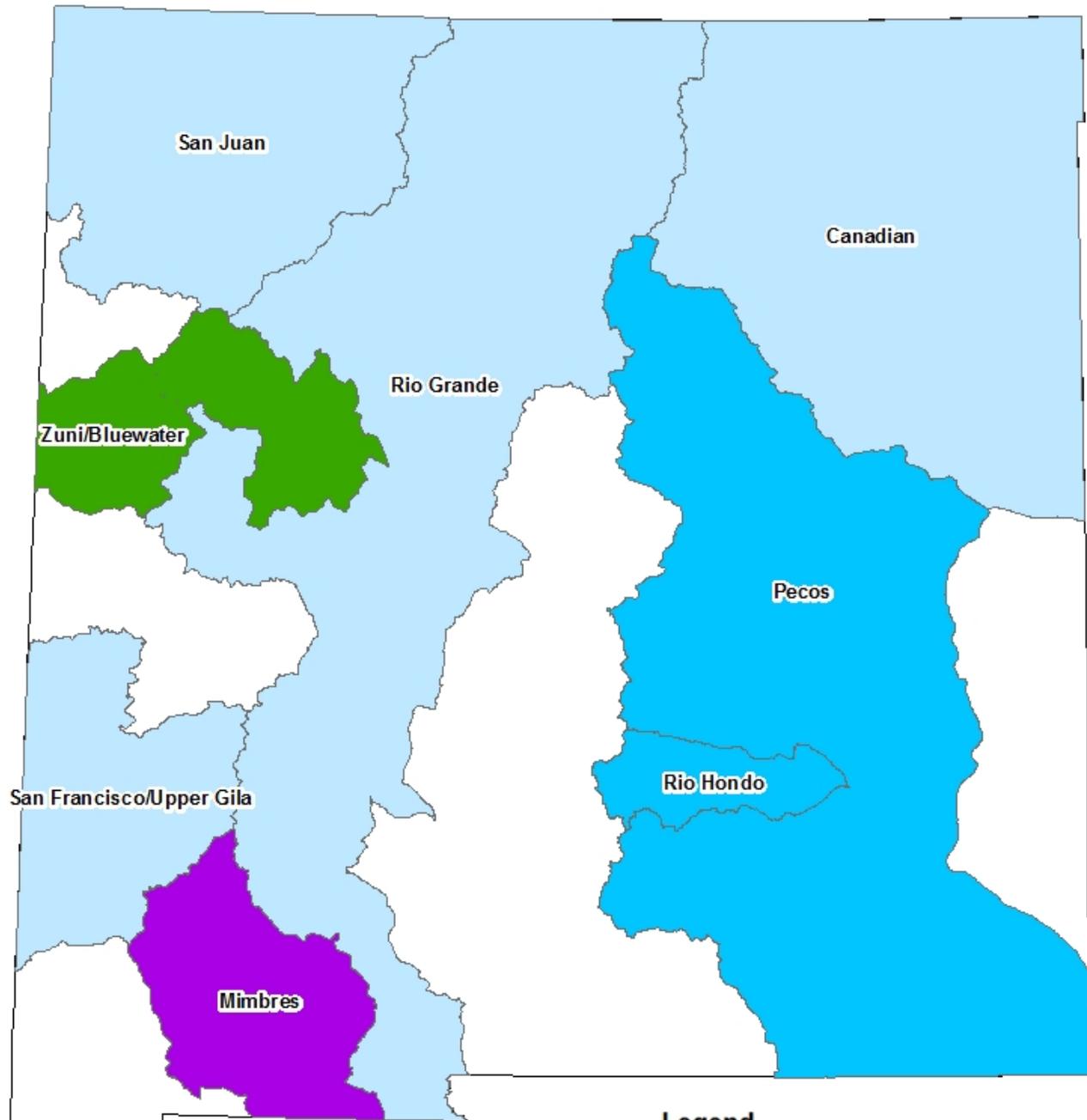
Statewide Reservoir Storage



Statewide Reservoir Storage



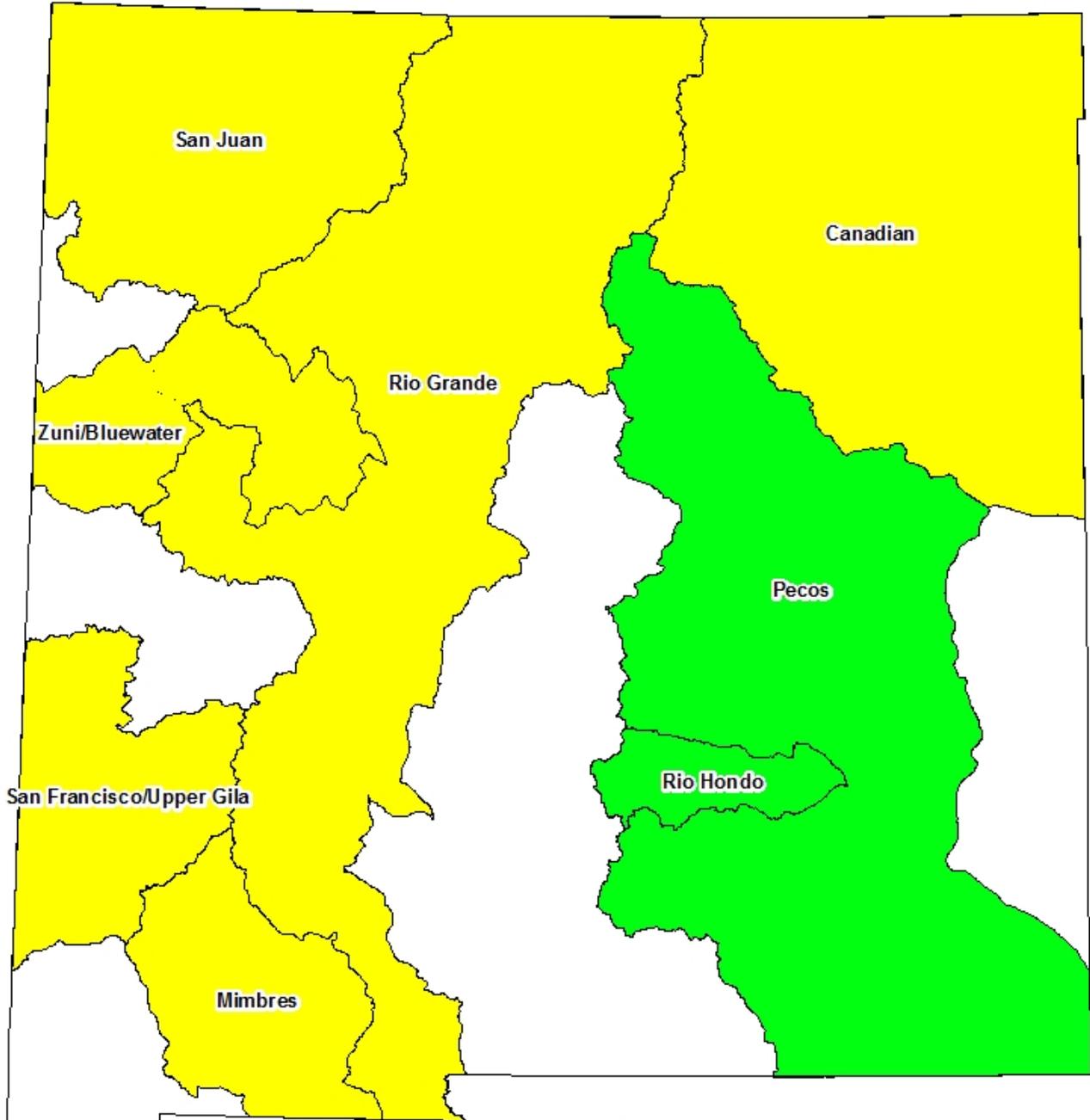
New Mexico Percent of Median Snowpack as of Feb 1, 2016



Legend

No Data	91 - 110
< 50	111 - 130
50 - 70	131 - 150
71 - 90	> 150
	nm

New Mexico Surface Water Supply Index as of Feb 1, 2016

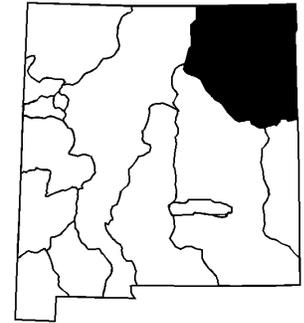


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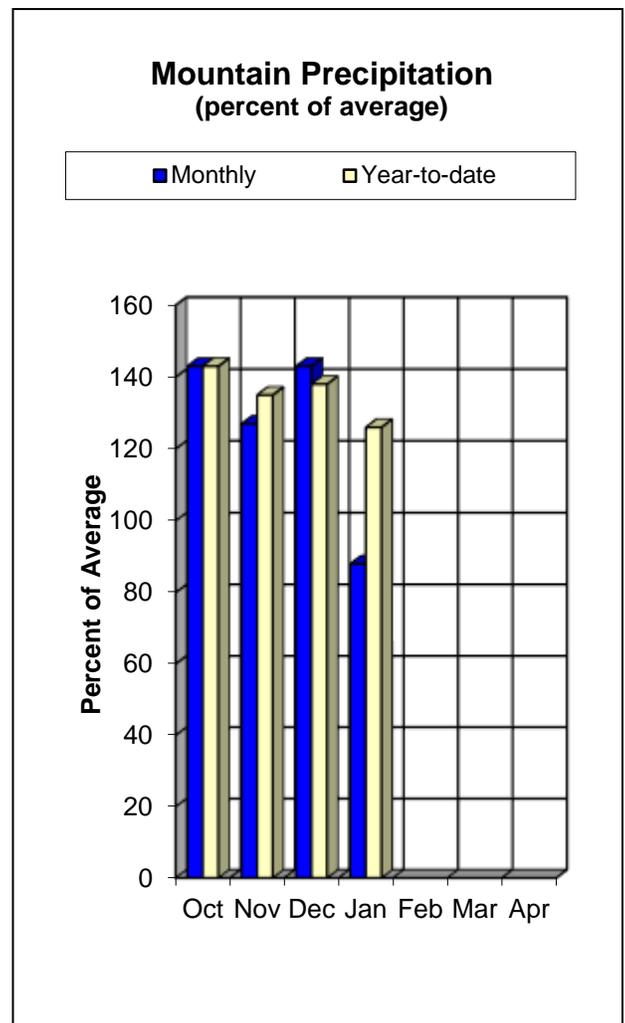
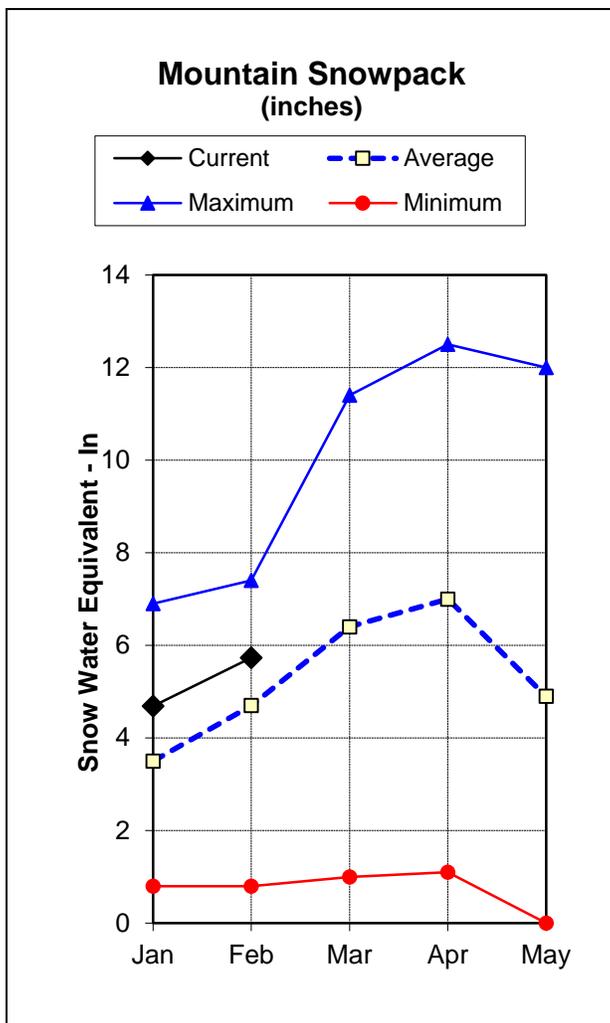
Surface Water Supply Index	
Yellow	-1.5 - 1.5
Green	1.6 - 3.0
Blue	3.1 - 4.0
Red	-4.0 - -3.1
Pink	-3.0 - -1.6
White	No Data



Canadian River Basin Water Supply Outlook Report as of February 1, 2016



The Canadian River Basin forecasts for the March to June time period have decreased by approximately 10 percent except for the Conchas Reservoir inflow. They now range from 96 percent of average for the Vermejo River near Dawson to 157 percent of average at the Conchas Reservoir inflow. This is an increase of 24 percent at the inflow. Year-to-date precipitation in the Canadian River Basin is 126 percent of average which is a 12 percent decrease from December. Snowpack in the basin has also decreased by 12 percent and is currently at 122 percent of median. This is still an increase of 44 percent from last year at this time. Reservoirs are currently holding 168,500 acre-feet of storage which is an increase of 66,300 acre feet from last year at this time. Reservoir storage in the Canadian River Basin is now at 51 percent of capacity as compared to 31 percent last year at the end of January.



Canadian River Basin Streamflow Forecasts - February 1, 2016

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

CANADIAN RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Vermejo R nr Dawson	MAR-JUN	3.2	5.4	7.5	96%	10	14.7	7.8
Eagle Nest Reservoir Inflow	MAR-JUN	6.5	9.3	11.5	103%	14.1	18.5	11.2
Cimarron R nr Cimarron ²	MAR-JUN	2.5	10.6	16.1	102%	22	30	15.8
Ponil Ck nr Cimarron	MAR-JUN	3.3	5.5	7.4	103%	9.7	13.9	7.2
Rayado Ck nr Cimarron	MAR-JUN	2.6	5	7.2	103%	10	15.2	7
Conchas Reservoir Inflow ³	MAR-JUN	13.2	30	47	157%	70	114	30

1) 90% and 10% exceedance probabilities are actually 95% and 5%

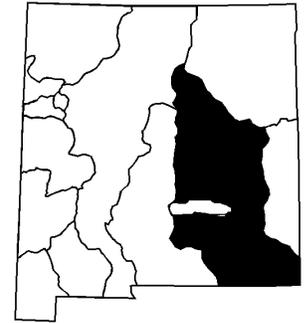
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

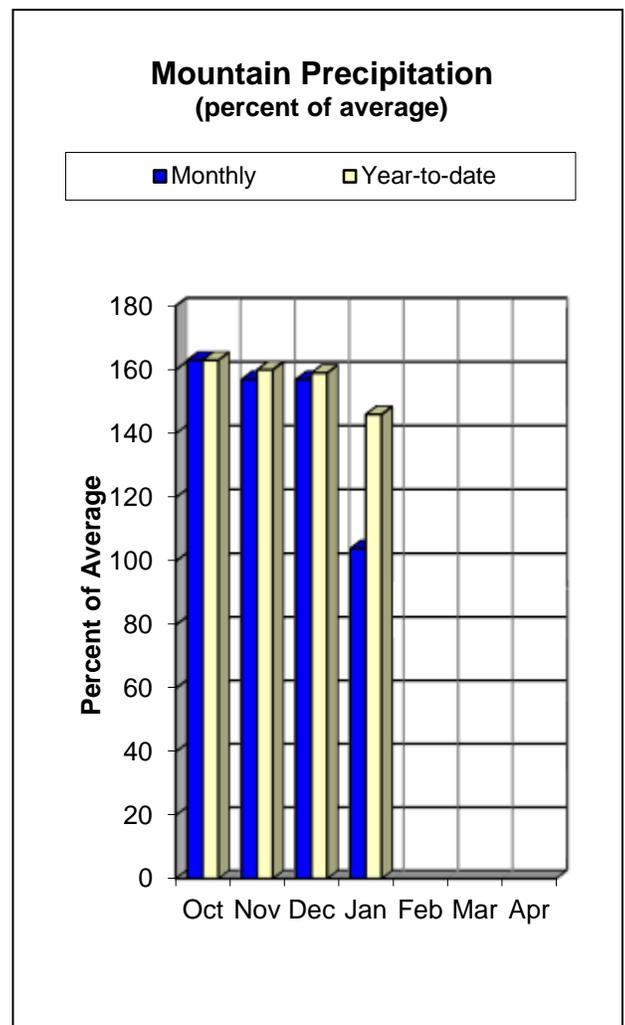
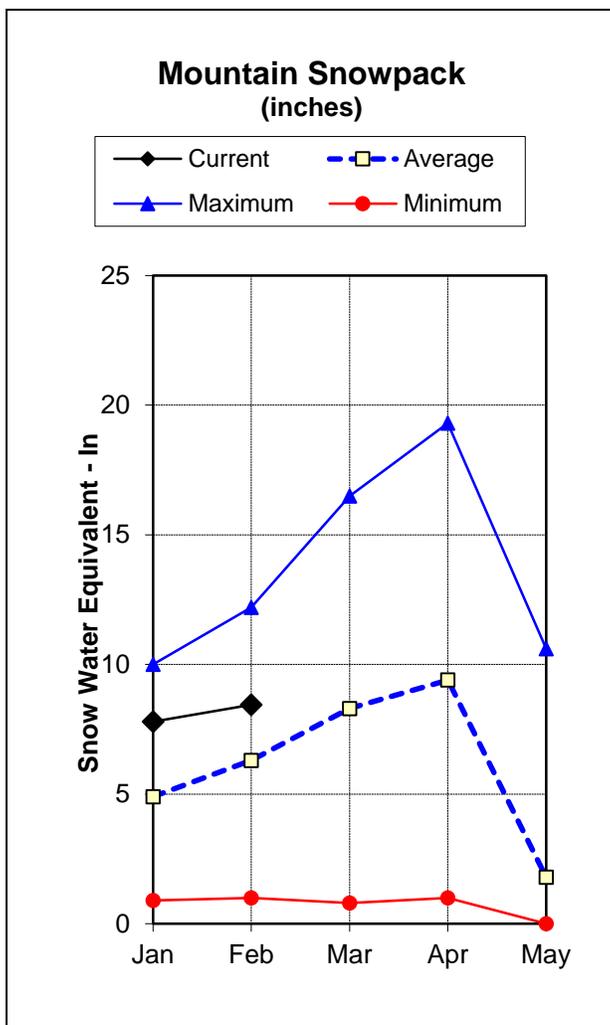
Reservoir Storage End of January, 2016	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Conchas Lake		84.6	199.9	254.2
Eagle Nest Lake nr Eagle Nest, NM		17.6	53.5	79.0
Basin-wide Total		0.0	0.0	0.0
# of reservoirs	0	0	0	0

Watershed Snowpack Analysis February 1, 2016	# of Sites	% Median	Last Year % Median
CANADIAN RIVER BASIN	9	122%	78%

Pecos River Basin Water Supply Outlook Report as of February 1, 2016



Streamflow forecasts in the Pecos River Basin for the March to July timeframe remain unchanged. They range from 141 percent of average for the Pecos River above Santa Rosa Lake to 147 percent of average for the Pecos River near Pecos. January received 104 percent of the average precipitation which currently puts the Pecos River Basin at 146 percent of average for the water year. Snowpack levels in the Pecos River Basin are down slightly from December to 134 percent of median. Last year at this time the basin had 76 percent of median. As of February 1st reservoir storage in the basin is at 180,900 acre-feet, which equates to 12 percent of capacity. This is a slight decrease from the 200,900 acre-feet we had last year at this time.



Pecos River Basin Streamflow Forecasts - February 1, 2016

 Forecast Exceedance Probabilities for Risk Assessment
 Chance that actual volume will exceed forecast

PECOS RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Pecos R nr Pecos	MAR-JUL	54	71	84	147%	98	121	57
Pecos R nr Anton Chico	MAR-JUL	40	67	90	143%	116	161	63
Gallinas Ck nr Montezuma	MAR-JUL	5.5	10.1	14	143%	18.6	26	9.8
Pecos R ab Santa Rosa Lk	MAR-JUL	36	59	79	141%	101	140	56

1) 90% and 10% exceedance probabilities are actually 95% and 5%

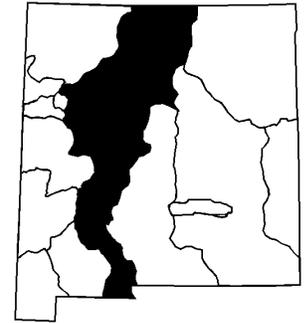
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

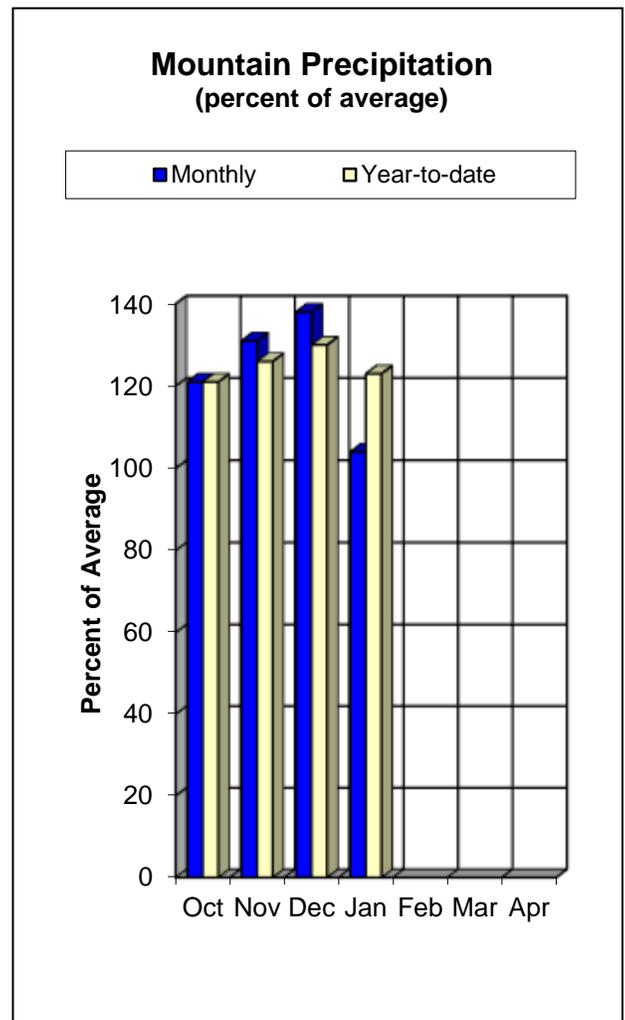
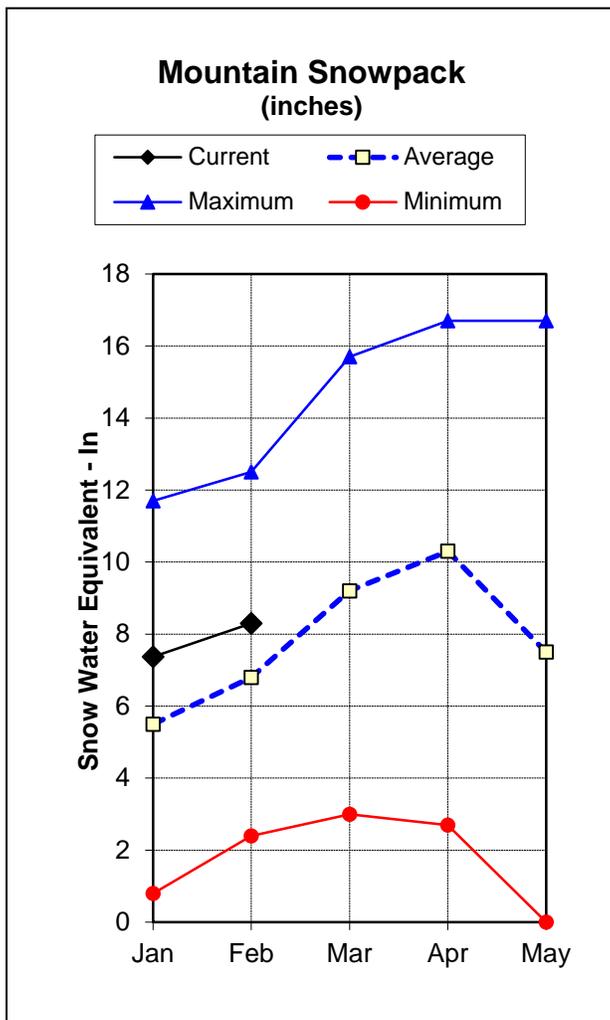
Reservoir Storage End of January, 2016	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Lake Avalon		3.5	2.3	4.0
Brantley Lake nr Carlsbad		82.9	19.8	1008.2
Santa Rosa Reservoir		69.5	54.7	438.3
Lake Sumner		45.0	30.8	102.0
Basin-wide Total		0.0	0.0	0.0
# of reservoirs	0	0	0	0

Watershed Snowpack Analysis February 1, 2016	# of Sites	% Median	Last Year % Median
PECOS RIVER BASIN	5	134%	76%

Rio Grande Basin Water Supply Outlook Report as of February 1, 2016



Streamflow forecasts for the Rio Grande Basin have decreased 5 to 10 percent at some points but for the most part remain unchanged from last month. Costilla Creek near Costilla currently shows 108 percent of average for the March to July forecast as compared to 119 percent last month. Additionally, the March to July forecasts for the Jemez River below Jemez Canyon Dam is at 115 percent of average, and the Rio Grande at San Marcial is at 102 percent of average. Year-to-date precipitation is down 7 percent to 123 percent of average. This is still 35 percent above last year's total. January received 104 percent of the average precipitation as compared to 96 percent last year at this time. Despite a somewhat dry second half of January snowpack in the basin still looks good at 122 percent of median. This is 44 percent above last year's percent of average! Snowpack in southern Colorado affecting the Rio Grande is at 107 percent of average which is an increase of 46 percent from last year. Southern Colorado's increase in snowpack will continue to impact runoff forecasts for the Rio Grande Basin. Current reservoir storage in the basin is 683,600 acre-feet, up from last year's 586,500 acre-feet at this time. As of February 1st this is only 14 percent of capacity which is an increase of only 2 percent from this time last year.



Rio Grande Basin Streamflow Forecasts - February 1, 2016

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

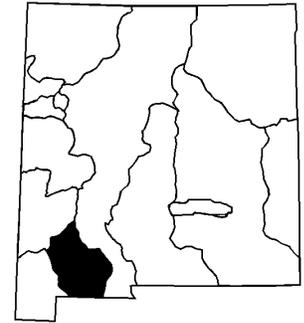
RIO GRANDE BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Rio Grande nr Del Norte ²	APR-SEP	360	470	555	108%	645	790	515
Platoro Reservoir Inflow	APR-JUL	44	53	60	107%	67	79	56
	APR-SEP	47	57	65	105%	73	87	62
Conejos R nr Mogote ²	APR-SEP	143	178	205	106%	235	280	194
Costilla Reservoir Inflow	MAR-JUL	7.5	10	11.9	107%	14	17.3	11.1
Costilla Ck nr Costilla ²	MAR-JUL	16.4	23	28	108%	34	43	26
Red R bl Fish Hatchery nr Questa	MAR-JUL	23	30	35	103%	41	50	34
Rio Hondo nr Valdez	MAR-JUL	10.9	15.5	19	103%	23	29	18.4
Rio Pueblo de Taos nr Taos	MAR-JUL	12.4	17.8	22	129%	27	34	17
Rio Lucero nr Arroyo Seco	MAR-JUL	6.2	8.9	11.1	102%	13.5	17.4	10.9
Rio Pueblo de Taos bl Los Cordovas	MAR-JUL	16.4	30	42	117%	56	79	36
Embudo Ck at Dixon	MAR-JUL	35	53	68	142%	84	112	48
El Vado Reservoir Inflow ²	MAR-JUL	126	184	230	102%	280	365	225
	APR-JUL	109	163	205	100%	250	330	205
Santa Cruz R at Cundiyo	MAR-JUL	18.6	23	27	148%	31	37	18.3
Nambe Falls Reservoir Inflow	MAR-JUL	6.6	8.2	9.5	146%	10.8	13	6.5
Tesuque Ck ab diversions	MAR-JUL	1.12	1.61	2	149%	2.4	3.1	1.34
Rio Grande at Otowi Bridge ²	MAR-JUL	445	600	720	100%	850	1060	720
Santa Fe R nr Santa Fe ²	MAR-JUL	4	5.3	6.3	147%	7.4	9.1	4.3
Jemez R nr Jemez	MAR-JUL	29	39	47	112%	56	70	42
Jemez R bl Jemez Canyon Dam	MAR-JUL	22	31	39	115%	48	62	34
Rio Grande at San Marcial ²	MAR-JUL	220	400	520	102%	640	820	510

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of January, 2016	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Abiquiu Reservoir		132.2	154.6	1192.8
Bluewater Lake		2.4	5.9	38.5
Caballo Reservoir		33.8	78.1	332.0
Cochiti Lake		48.2	60.9	491.0
Costilla Reservoir		3.6	6.5	16.0
El Vado Reservoir		13.3	100.9	190.3
Elephant Butte Reservoir		291.0	1299.0	2195.0
Heron Reservoir		61.9	303.0	400.0
Basin-wide Total		0.0	0.0	0.0
# of reservoirs	0	0	0	0

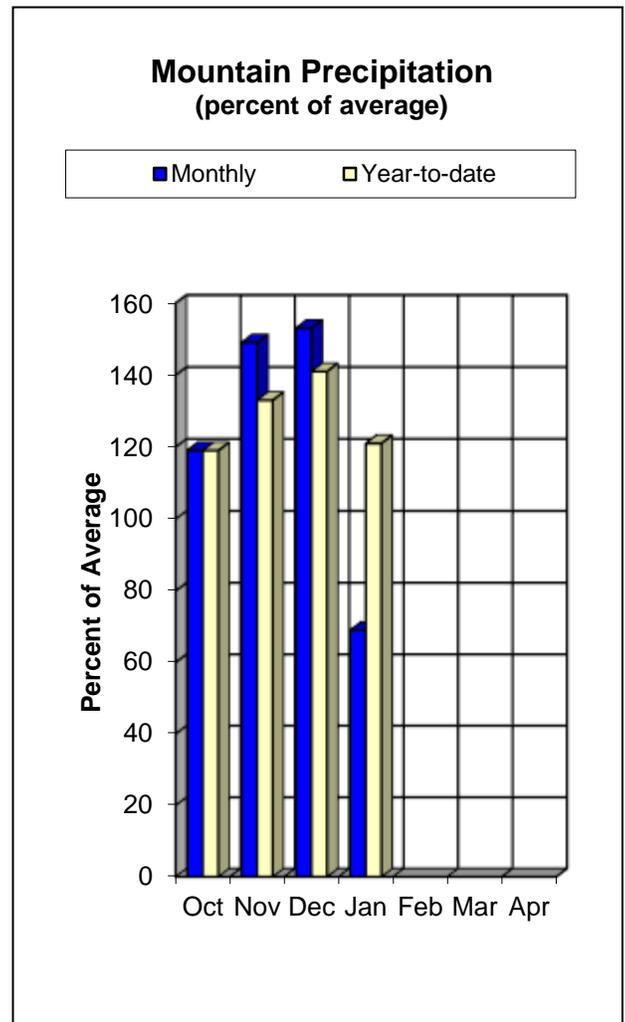
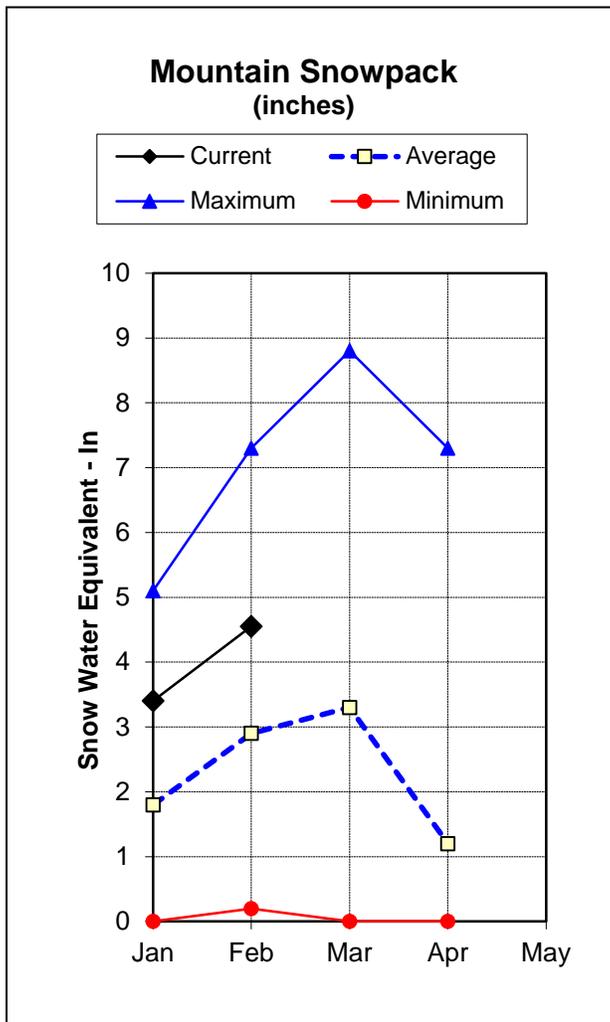
Watershed Snowpack Analysis February 1, 2016	# of Sites	% Median	Last Year % Median
RIO GRANDE BASIN	19	122%	78%

Mimbres River Basin Water Supply Outlook Report as of February 1, 2016



The February through May forecast for the Mimbres River at Mimbres is still high despite a decrease of 30 percent to 220 percent of average. Water year-to-date precipitation is at 121 percent of average as compared to 88 percent last year. The month of January only received 69 percent of the average rainfall which has decreased snowpack values by 32 percent. Snowpack in the basin is currently 157 percent of the median which remains an increase of 51 percent from last year at this time.

Users of NRCS Snow Survey data should be aware, due to reduced budget allocations; the manual snow courses at McKnight Cabin and Emory Pass #2 have been discontinued. Data is still being recorded at the automated SNOTEL sites in the Basin.



Mimbres River Basin Streamflow Forecasts - February 1, 2016

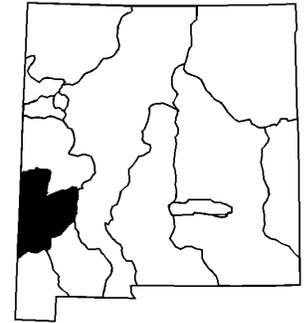
Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

MIMBRES RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Mimbres R at Mimbres	FEB-MAY	1.53	2.8	4	220%	5.5	8.3	1.82

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

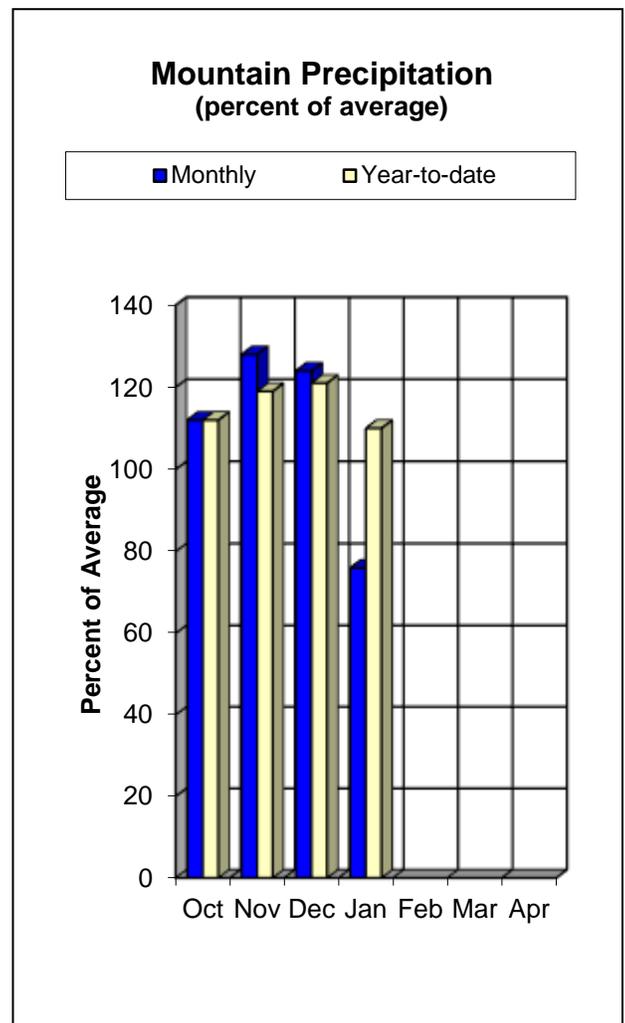
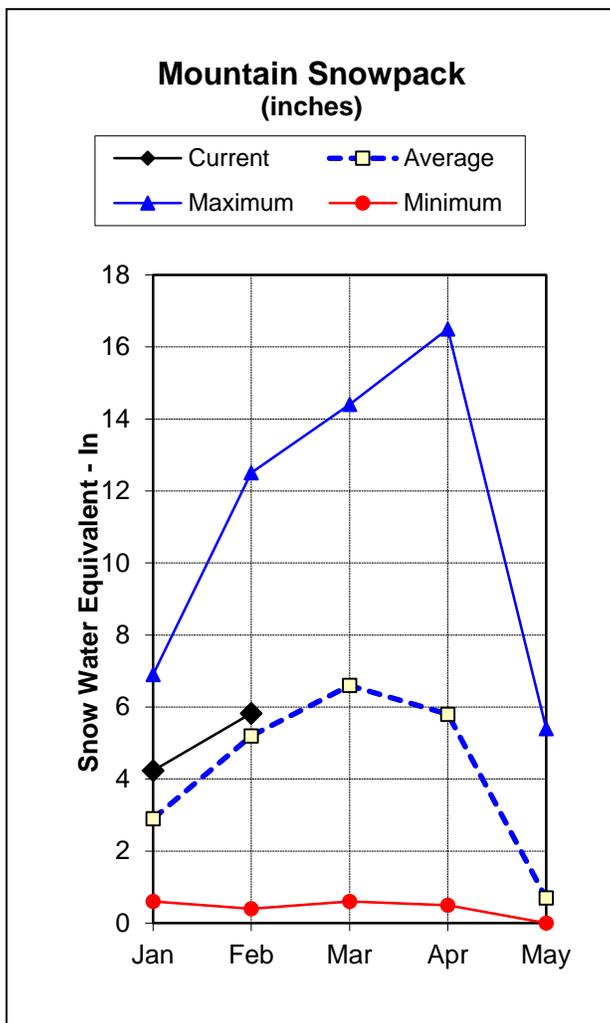
Watershed Snowpack Analysis February 1, 2016	# of Sites	% Median	Last Year % Median
MIMBRES RIVER BASIN	2	157%	106%

San Francisco / Upper Gila River Basin Water Supply Outlook Report as of February 1, 2016



Streamflow forecasts for the San Francisco/Upper Gila River Basin have decreased an average of 15 percent. The February through May forecast for the Gila River at Gila is 130 percent of the average. For the same time period the San Francisco River at Clifton is forecasting 108 percent of the average. Water year-to-date precipitation through January is down 11 percent to 110 percent of average. January received 76 percent of the average precipitation for the month. Snowpack remains well above last year's value at 112 percent of median. This is almost double the amount the basin had received last year at this time!

Due to budget and contracting issues, the aerial markers at Hummingbird Saddle and Whitewater Baldy are not currently being measured. Plans are in effect to automate these sites with depth sensors which will transmit out data daily as soon as possible.



San Francisco-Upper Gila River Basin Streamflow Forecasts - February 1, 2016

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

SAN FRANCISCO-UPPER GILA RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Gila R at Gila ³	FEB-MAY	33	50	65	130%	82	112	50
Gila R bl Blue Ck nr Virden ³	FEB-MAY	40	70	94	149%	122	171	63
San Francisco R at Glenwood ³	FEB-MAY	8.2	15.3	22	121%	30	46	18.2
San Francisco R at Clifton ³	FEB-MAY	19.2	38	55	108%	75	109	51

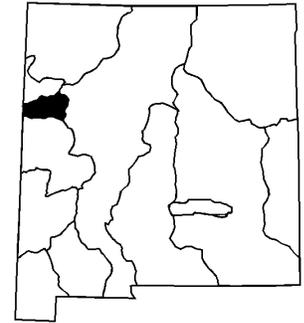
1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

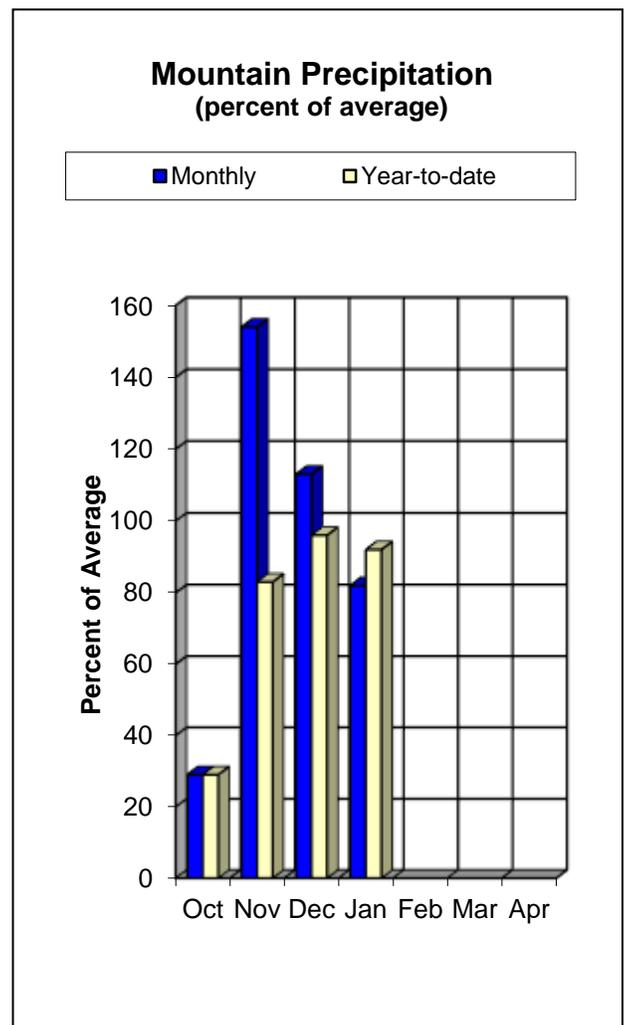
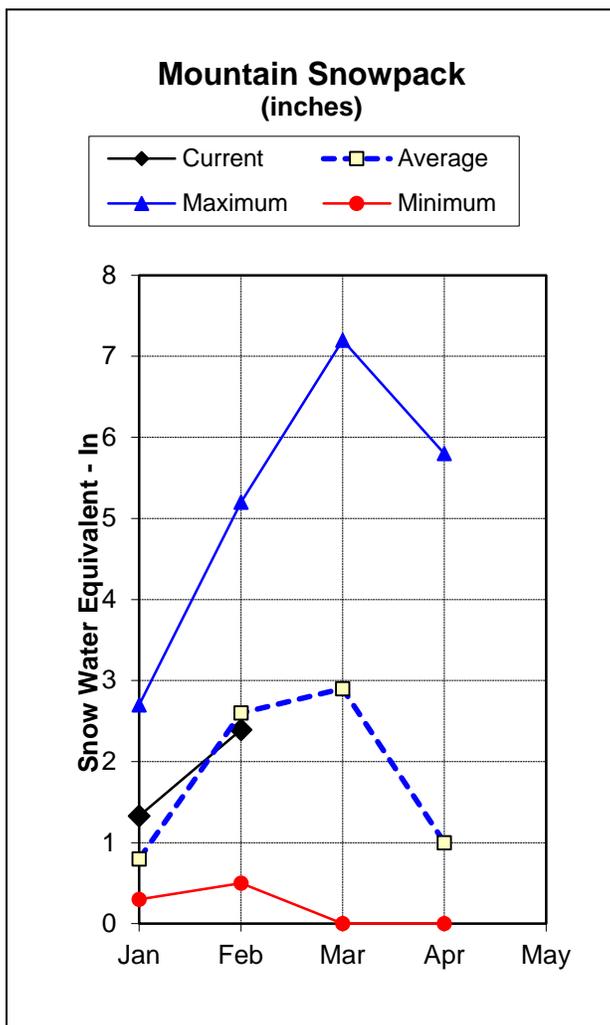
3) Median value used in place of average

Watershed Snowpack Analysis February 1, 2016	# of Sites	% Median	Last Year % Median
SAN FRANCISCO-UPPER GILA RIVER BASIN	7	112%	64%

Zuni / Bluewater Basins Water Supply Outlook Report as of February 1, 2016



Both the Zuni/Bluewater Basins have decreased slightly throughout January. The Bluewater Lake inflow was previously forecast at 121 percent of average and is now at 118 percent. Additionally, the Zuni River at Black Rock was at 117 percent of average as is now forecast to be 108 percent. Precipitation for the Zuni-Bluewater Basins is down 4 percent to 92 percent of average for the water year to date, and 82 percent of the average for January. Last month's impressive snowpack values have decreased significantly due to the lack of precipitation and warmer temperatures. Snowpack is now at 92 percent of median which is a decrease of 74 percent from last month. Snowpack levels do however remain 24 percent above last year at this time. Bluewater Lake continues to remain low at 2,000 acre feet as compared to last year's 2400 at the end of January. This is only 5 percent of capacity which is a 1 percent decrease from last year.



Zuni-Bluewater Basins Streamflow Forecasts - February 1, 2016

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

ZUNI-BLUEWATER BASINS	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Bluewater Lake Inflow ³	FEB-MAY	0	1	4.5	118%	9.3	16.4	3.8
Rio Nutria nr Ramah ³	FEB-MAY	0.23	0.86	1.66	119%	2.8	5.4	1.4
Ramah Reservoir Inflow ³	FEB-MAY	0	0.34	0.91	118%	1.76	3.5	0.77
Zuni R ab Black Rock Reservoir ³	FEB-MAY	0	0.06	0.41	108%	1.28	4	0.38

1) 90% and 10% exceedance probabilities are actually 95% and 5%

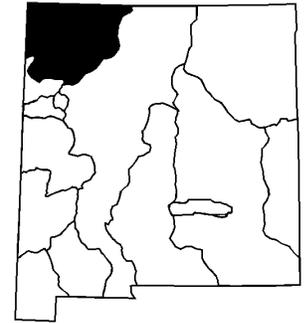
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

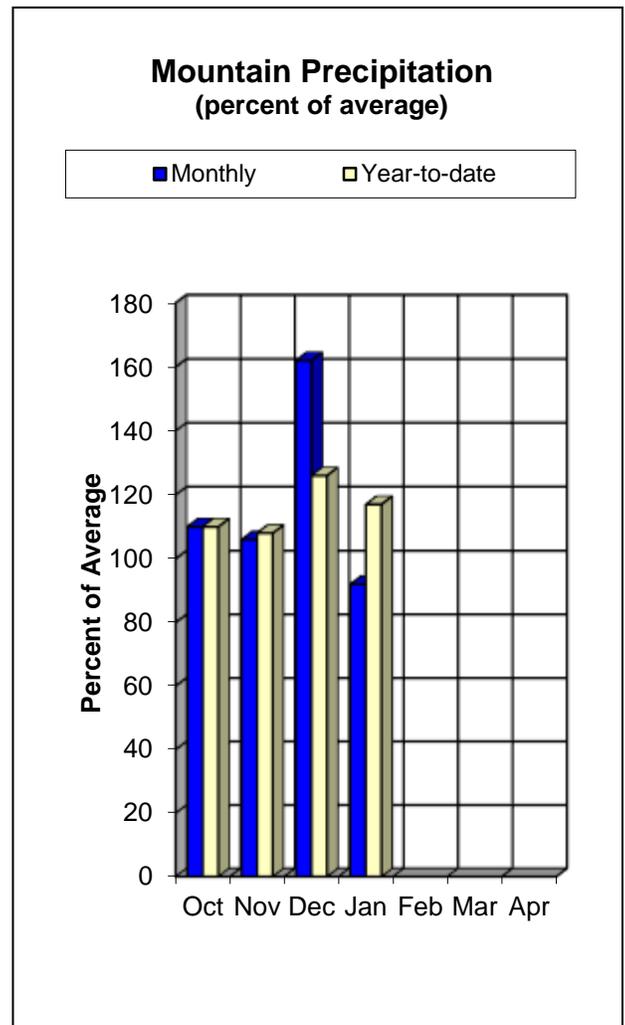
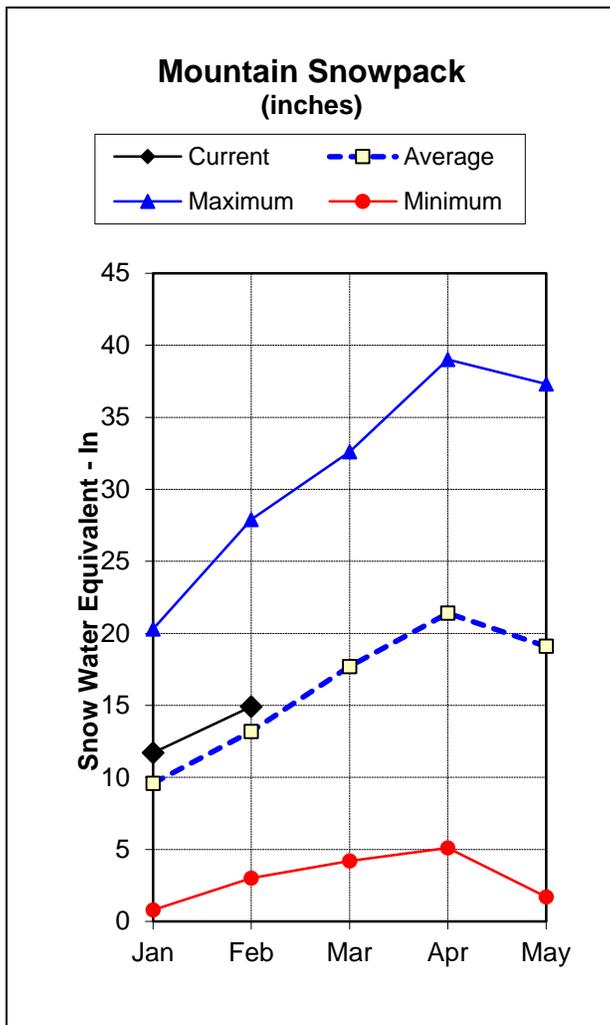
Reservoir Storage End of January, 2016	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Bluewater Lake		2.4	5.9	38.5
Basin-wide Total		0.0	0.0	0.0
# of reservoirs	0	0	0	0

Watershed Snowpack Analysis February 1, 2016	# of Sites	% Median	Last Year % Median
ZUNI-BLUEWATER BASINS	4	92%	68%

San Juan River Basin Water Supply Outlook Report as of February 1, 2016



The April to July forecasts remain unchanged with 113 percent of average at the Navajo Reservoir Inflow. Additionally, the Animas River at Durango is still forecast to be 110 percent of the average. Year-to-date precipitation is at 117 percent of average which is a 51 percent increase from last year at this time. January saw a decrease in precipitation receiving 92 percent of the average rainfall. Snowpack in the basin is down 9 percent to 133 percent of median. This is still a 49 percent increase from last year. Navajo reservoir storage contains 1,396,500 acre-feet or 107 percent of the average. This is up from last year's 1,090,300 acre-feet at the end of January. This equates to 82 percent of capacity for the reservoir as compared to 64 percent last January.



San Juan River Basin Streamflow Forecasts - February 1, 2016

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

SAN JUAN RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Rio Blanco at Blanco Diversion ²	APR-JUL	40	52	61	113%	71	87	54
Navajo R at Oso Diversion ²	APR-JUL	48	63	74	114%	86	106	65
Navajo Reservoir Inflow ²	APR-JUL	565	720	840	114%	965	1170	735
Animas R at Durango	APR-JUL	320	400	455	110%	515	615	415
La Plata R at Hesperus	APR-JUL	17.4	22	26	113%	30	36	23

1) 90% and 10% exceedance probabilities are actually 95% and 5%

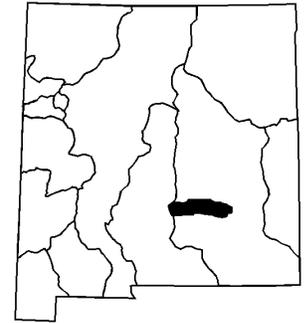
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of January, 2016	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Navajo Reservoir		1090.3	1310.0	1696.0
Basin-wide Total		0.0	0.0	0.0
# of reservoirs	0	0	0	0

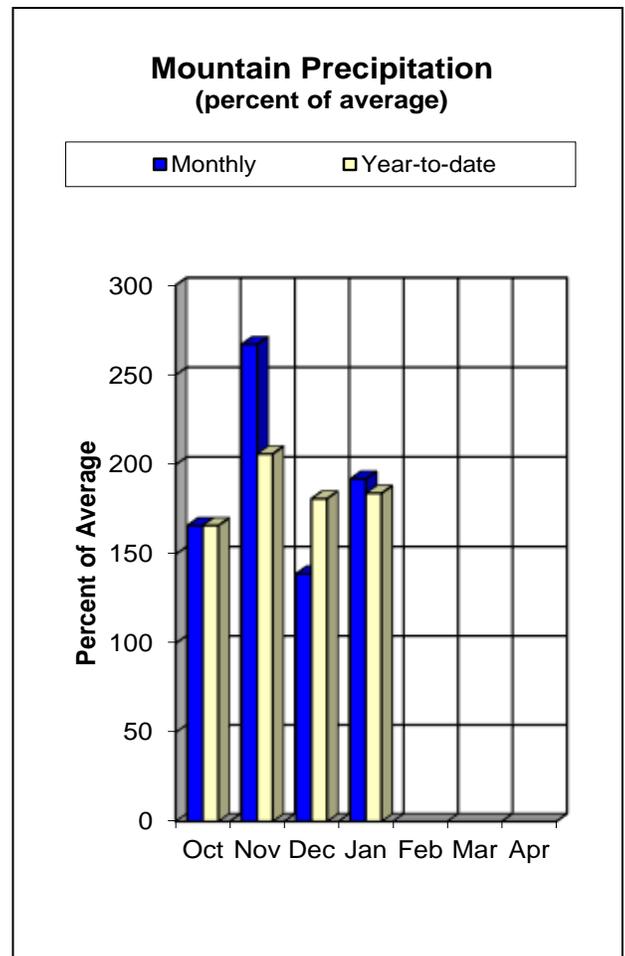
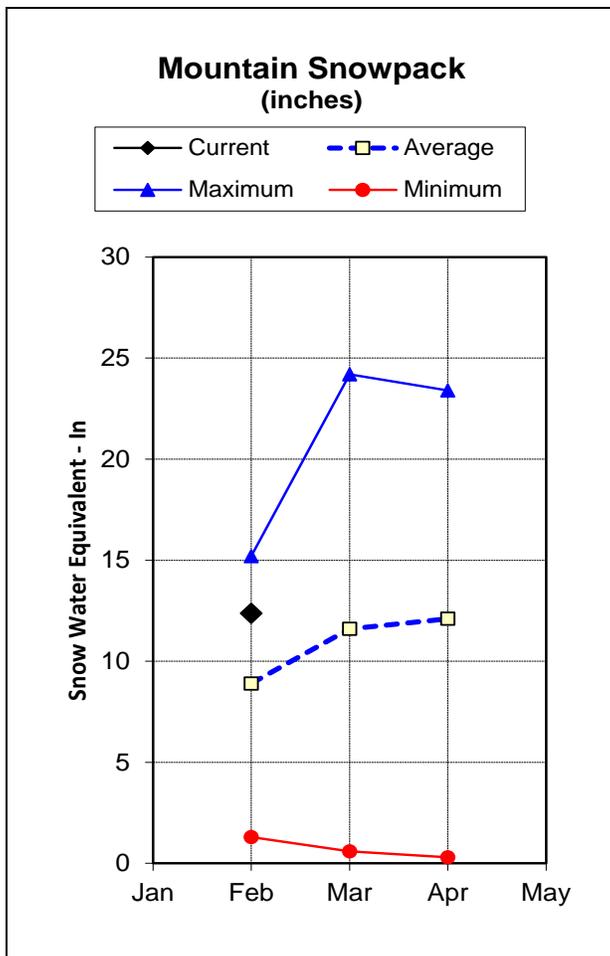
Watershed Snowpack Analysis February 1, 2016	# of Sites	% Median	Last Year % Median
SAN JUAN RIVER BASIN	13	113%	64%

Rio Hondo Basin Water Supply Outlook Report as of February 1, 2016



The streamflow forecast for the March to June time period for the Rio Hondo Basin has increased another 30 percent to 164 percent of average for the Rio Ruidoso at Hollywood. Last year at this time the forecast was a meager 43 percent of the average. The Rio Hondo has received an impressive amount of precipitation. Year-to-date precipitation is at 184 percent of average, and the Rio Hondo received 192 percent of the average rainfall for January. This is an increase of 107 percent for the water year to date! Currently snowpack is at 139 percent of the median. This remains an increase of 70 percent from this time last year. This measurement however should be used with caution as the Sierra Blanca SNOTEL site was impacted by the Little Bear Fire three and half years ago.

It should be noted that the switch to using median snowpack values three years ago has had a significant influence on the “average” calculations for the Rio Hondo Basin. Using the old system of computing averages based on the 1971-2000 period, 6.7 inches of SWE was considered normal for January 1. Using the new median calculations based on the 1981-2010 period, 3.2 inches of SWE is now normal. For this reason, comparisons of “percent of average” from year to year will be limited in this basin to minimize confusion.



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Rio Hondo Basin Streamflow Forecasts - February 1, 2016

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

RIO HONDO BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Rio Ruidoso at Hollywood	MAR-JUN	6.2	8.9	11	164%	13.3	17.2	6.7

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Watershed Snowpack Analysis February 1, 2016	# of Sites	% Median	Last Year % Median
RIO HONDO BASIN	1	139%	69%

NEW MEXICO STATEWIDE	Network	Elevation (ft)	Depth (in)	SWE (in)	Median (in)	% Median	Last Year SWE (in)	Last Year % Median
Alamitos	SC	9320	27	5.6	4.4	127%	2.6	59%
Aztec #2	SC	9880	19	3.0	2.3	130%	1.6	70%
Bateman	SNOTEL	9300	33	7.9	6.9	114%	6.8	99%
Boon	SC	8140	15	3.5	4.6	76%	2.2	48%
Bowl Canyon	SC	8980	28	7.6	5.8	131%	3.2	55%
Chamita	SNOTEL	8400	32	7.7	6.5	118%	5.3	82%
Dan Valley	SC	7640	13	3.1	3.1	100%	2.4	77%
Elk Cabin	SNOTEL	8210	11	3.5	3.8	92%	1.5	39%
Emory Pass #2	SC	7800			0.9			
Frisco Divide	SNOTEL	8000	7	2.2	2.5	88%	2.0	80%
Gallegos Peak	SNOTEL	9800	39	9.5	6.1	156%	6.4	105%
Hematite Park	SC	9500	20	4.0	3.4	118%	1.8	53%
Hidden Valley	SC	8480	25	6.6			2.5	
Hopewell	SNOTEL	10000	44	10.9	11.0	99%	9.2	84%
Hummingbird - Aerial And Snow Course	SC	10550			8.9			
Lookout Mountain	SNOTEL	8500	7	2.5	2.3	109%	0.5	22%
Mcgaffey	SC	8120	8	2.5	2.7	93%	0.6	22%
Mcknight Cabin	SNOTEL	9240	14	4.9	2.4	204%	3.3	138%
Mcknight Cabin Aerial Marker	SC	9300						
Mcknight Cabin Snow Course	SC	9300			2.1			
Missionary Spring	SC	7940	11	2.4	3.6	67%	0.9	25%
Navajo Whiskey Ck	SNOTEL	9050	29	8.7			3.5	
North Costilla	SNOTEL	10600	18	4.7	3.6	131%	4.1	114%
Ojo Redondo	SC	8200			3.4		1.4	41%
Palo	SNOTEL	9350	20	4.9			3.9	
Palo	SC	9300	25	4.8	4.6	104%	4.0	87%
PanchueLa	SC	8400					2.4	
Post Office Flats	SC	8400			2.7		1.6	59%
Quemazon	SNOTEL	9500	23	6.4	6.7	96%	3.7	55%
Red River Pass #2	SNOTEL	9850	24	5.6	5.0	112%	4.3	86%
Rice Park	SNOTEL	8460	17	5.0	5.0	100%	5.2	104%
Rice Park	SC	8460			4.3		1.9	44%
Rio En Medio	SC	10300	29	8.1	6.2	131%	5.7	92%
Rio Santa Barbara	SNOTEL	10664	46	13.3			9.0	
San Antonio Sink	SNOTEL	9100	33	7.7			5.1	
San Antonio Sink	SC	9200	25	5.6	5.2	108%	2.9	56%
Santa Fe	SNOTEL	11445	49	14.8	9.5	156%	9.0	95%
Senorita Divide #2	SNOTEL	8600	26	7.2	5.6	129%	5.1	91%
Shuree	SNOTEL	10100	26	5.3			4.0	
Shuree	SC	10097			2.2		2.5	114%
Sierra Blanca	SNOTEL	10280	42	12.4	8.9	139%	6.1	69%
Signal Peak	SNOTEL	8360	14	5.0	3.9	128%	3.4	87%
Silver Creek Divide	SNOTEL	9000	20	6.2	6.1	102%	4.8	79%
State Line	SC	8000	10	2.2	1.8	122%	1.1	61%
Taos Canyon	SC	9100	23	4.5	4.0	113%	2.9	73%
Taos Powderhorn	SNOTEL	11057	47	13.9			9.5	
Taos Powderhorn	SC	11250	60	16.7	14.2	118%	8.8	62%
Tolby	SNOTEL	10180	28	6.3	5.5	115%	5.0	91%
Tolby	SC	10180			5.7			
Tres Ritos	SNOTEL	8600	18	3.8			1.7	
Tres Ritos	SC	8600	26	6.5	4.0	163%	2.6	65%
Vacas Locas	SNOTEL	9306	35	9.9	7.9	125%	7.3	92%
Wesner Springs	SNOTEL	11120	48	12.9	9.5	136%	6.7	71%
Whiskey Creek	SC	9050	32	8.9	6.3	141%	3.6	57%
Whitewater - Aerial And Snow Course	SC	10750			17.8			
Basin Index						120%		75%
# of sites						36		36

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