



United States  
Department of  
Agriculture

Natural  
Resources  
Conservation  
Service

# New Mexico Basin Outlook Report February 1, 2018



Bare ground and trace amounts of snow at the Shuree SNOTEL site on 1/29/18. Last year at this time Shuree had a depth of 35 inches with 9 inches of snow water equivalent.

Photo courtesy of Chris Romero, NRCS

# 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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## Summary

January did little to improve conditions across New Mexico. Snowpack levels have dropped across the south and have only improved marginally in the northern basins now bringing statewide snow water equivalent totals to just 13 percent of the median. With another well below average month behind us New Mexico is setting record low levels for both precipitation and snowpack. This includes historic snow courses, some of which have been consistently measured for over 70 years! With little relief in sight conditions have continued to deteriorate across New Mexico leaving 100 percent of the state in some category of drought. The late monsoon rains the state received have long since passed leaving moisture depletion in the upper layers of the soil over the past three months. Statewide streamflow forecasts remain extremely low with the possibility of setting records at many forecast points. Additionally, many points have less than a 10 percent chance of achieving even 50 percent of what would be considered normal runoff based on the current conditions. This is remarkable for a February forecast! From this juncture, receiving even near normal late winter and spring precipitation would still result in well below normal runoff. In fact, only a record setting series of precipitation events could bring basin moisture conditions close to normal. However, this scenario is extremely unlikely. Additionally, the current climate and drought outlooks indicate a continued pattern of dry conditions. Based on this information I highly encourage water users and managers to monitor drought conditions over the next several months to determine the impact of water supply shortfalls.

## Snowpack

February 1<sup>st</sup> snowpack ranged from a high of 36 to 0 percent of median across the northern mountains and southern portions of New Mexico. Current conditions continue to set record lows for both snowpack and precipitation. With trace amounts and even bare ground at stations normally covered in snow New Mexico is poised to set records and possibly experience one of the worst winters on record. Although slightly improved conditions exist in southern Colorado they remain consistently well below average across the southern San Juan's and Sangre De Cristo mountains. The window of opportunity to recapture this winter's snowpack has passed, and our chances for a recovery are all but non-existent without a major series of precipitation events. Based on the long range forecasts this is extremely unlikely to happen. Water users and managers should continue to monitor conditions over the next months to determine the impacts of drought conditions.

<b>NEW MEXICO STATEWIDE SNOWPACK</b>	Percent of Median	Last Year Percent of Median
CANADIAN RIVER BASIN	10	160
PECOS RIVER BASIN	10	102
RIO GRANDE BASIN	18	158
MIMBRES RIVER BASIN	0	135
SAN FRANCISCO-UPPER GILA RIVER BASIN	8	102
ZUNI-BLUEWATER BASINS	13	86
SAN JUAN RIVER BASIN	36	162
CHUSKA MOUNTAINS	19	167
RIO HONDO BASIN	3	64
<b>Statewide Snowpack Total</b>	<b>13</b>	<b>142</b>
# of sites	38	38

## Precipitation

January statewide precipitation was 40 percent of the average which is just 27 percent of average for the water year-to-date. Dry conditions continue to blanket all of New Mexico with well above average temperatures dominating the region. These above average temperatures have created a high evaporative demand situation. This has led to the accelerated use of water resources ultimately resulting in the vegetation and soil drying out much faster than under normal conditions. This coupled with the low precipitation has resulted in drought expansion throughout the state. With such a below average water year-to-date and long range forecasts supporting dry and warm weather the future degradation of soil conditions is highly possible. Based on the current forecasts water users and managers should expect shortfalls in water supply this spring.

## Reservoirs

Late monsoonal rains and early snowmelt in some regions has left many of New Mexico's reservoirs with near to above average storage for February 1<sup>st</sup>. Statewide reservoir storage remains at 70 percent of the average as compared to 57 percent last February. Based on current conditions across New Mexico and no means to replenish our reservoirs these values will continue to drop throughout the water year. Water-users should closely monitor streamflow forecasts as the water year progresses.

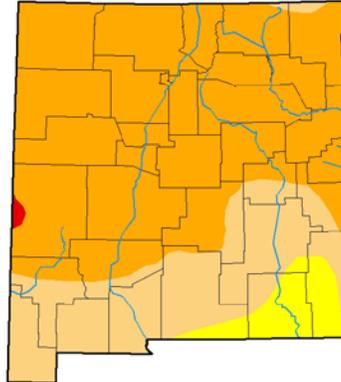
NEW MEXICO STATEWIDE	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Abiquiu Reservoir	121.0	120.9	154.6	1192.8	10%	10%	13%	78%	78%
Bluewater Lake	6.4	2.8	5.9	38.5	17%	7%	15%	108%	48%
Brantley Lake nr Carlsbad	43.3	36.6	19.8	1008.2	4%	4%	2%	219%	185%
Caballo Reservoir	37.7	25.6	78.1	332.0	11%	8%	24%	48%	33%
Cochiti Lake	48.0	44.7	60.9	491.0	10%	9%	12%	79%	73%
Conchas Lake	213.6	72.1	199.9	254.2	84%	28%	79%	107%	36%
Costilla Reservoir	11.0	5.7	6.5	16.0	69%	36%	41%	169%	88%
Eagle Nest Lake nr Eagle Nest, NM	42.7	30.7	53.5	79.0	54%	39%	68%	80%	57%
El Vado Reservoir	67.6	49.0	100.9	190.3	36%	26%	53%	67%	49%
Elephant Butte Reservoir	458.6	251.0	1299.0	2195.0	21%	11%	59%	35%	19%
Heron Reservoir	145.9	66.9	303.0	400.0	36%	17%	76%	48%	22%
Lake Avalon		2.9	2.3	4.0		73%	58%		126%
Lake Sumner	41.7	30.1	30.8	102.0	41%	30%	30%	136%	98%
Navajo Reservoir	1254.9	1305.8	1310.0	1696.0	74%	77%	77%	96%	100%
Santa Rosa Reservoir	94.3	51.5	54.7	438.3	22%	12%	12%	172%	94%
Basin-wide Total	2586.7	2093.4	3677.6	8433.3	31%	25%	44%	70%	57%
# of reservoirs	14	14	14	14	14	14	14	14	14

## Streamflow

The February 1<sup>st</sup>, 2018 forecast numbers from the NRCS show that all of New Mexico is well below average for all forecast points across the state. In the Rio Grande Basin snowpack and precipitation remain at or near record lows for the SNOTEL network period of record. In southern Colorado and the San Juan Basin most forecast points have a high probability of below normal spring and summer streamflow volumes. Additionally, the lower Canadian River Basin is experiencing record low snowpack resulting in some of the lowest February forecasts produced. Forecasts can vary based on changing conditions and there are several months remaining which could affect those figures. Snow is still certain to come however at this point New Mexico is so far behind the power curve that water supply shortages can be expected. Please continue to monitor conditions and read follow-up water supply reports as the water year progresses.

# New Mexico Drought Monitor, real versus perceived conditions?

## U.S. Drought Monitor New Mexico



January 30, 2018  
(Released Thursday, Feb. 1, 2018)  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	84.13	66.03	0.27	0.00
Last Week (1-23-2018)	0.00	100.00	83.78	59.99	0.00	0.00
3 Months Ago (10-31-2017)	83.45	16.55	1.88	0.00	0.00	0.00
Start of Calendar Year (1-1-2018)	7.01	92.99	45.97	4.76	0.00	0.00
Start of Water Year (9-30-2017)	85.16	14.84	0.00	0.00	0.00	0.00
One Year Ago (1-30-2017)	88.05	11.95	2.49	0.00	0.00	0.00

**Intensity:**  
■ D0 Abnormally Dry ■ D3 Extreme Drought  
■ D1 Moderate Drought ■ D4 Exceptional Drought  
■ D2 Severe Drought

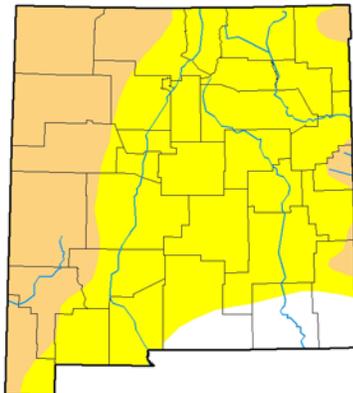
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:  
Richard Heim  
NCEI/NOAA



<http://droughtmonitor.unl.edu>

## U.S. Drought Monitor New Mexico



December 26, 2017  
(Released Thursday, Dec. 28, 2017)  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	7.14	92.86	30.16	0.00	0.00	0.00
Last Week (12-19-2017)	10.40	89.60	17.38	0.00	0.00	0.00
3 Months Ago (09-26-2017)	85.16	14.84	0.00	0.00	0.00	0.00
Start of Calendar Year (1-1-2017)	66.20	33.80	4.28	0.00	0.00	0.00
Start of Water Year (9-30-2016)	85.16	14.84	0.00	0.00	0.00	0.00
One Year Ago (12-27-2016)	85.55	34.45	4.28	0.00	0.00	0.00

**Intensity:**  
■ D0 Abnormally Dry ■ D3 Extreme Drought  
■ D1 Moderate Drought ■ D4 Exceptional Drought  
■ D2 Severe Drought

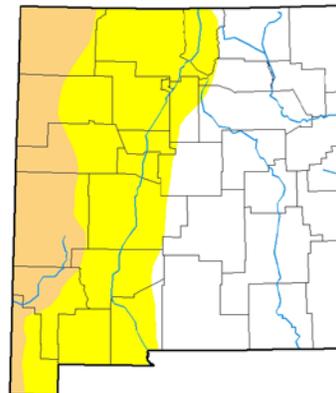
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:  
David Miskus  
NOAA/NWS/NCEP/CI/CPC



<http://droughtmonitor.unl.edu>

## U.S. Drought Monitor New Mexico



November 28, 2017  
(Released Thursday, Nov. 30, 2017)  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	48.91	51.09	15.23	0.00	0.00	0.00
Last Week (11-21-2017)	79.85	21.15	4.64	0.00	0.00	0.00
3 Months Ago (09-29-2017)	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year (1-1-2017)	66.20	33.80	4.28	0.00	0.00	0.00
Start of Water Year (9-30-2016)	85.16	14.84	0.00	0.00	0.00	0.00
One Year Ago (11-28-2016)	49.23	52.77	4.92	0.00	0.00	0.00

**Intensity:**  
■ D0 Abnormally Dry ■ D3 Extreme Drought  
■ D1 Moderate Drought ■ D4 Exceptional Drought  
■ D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:  
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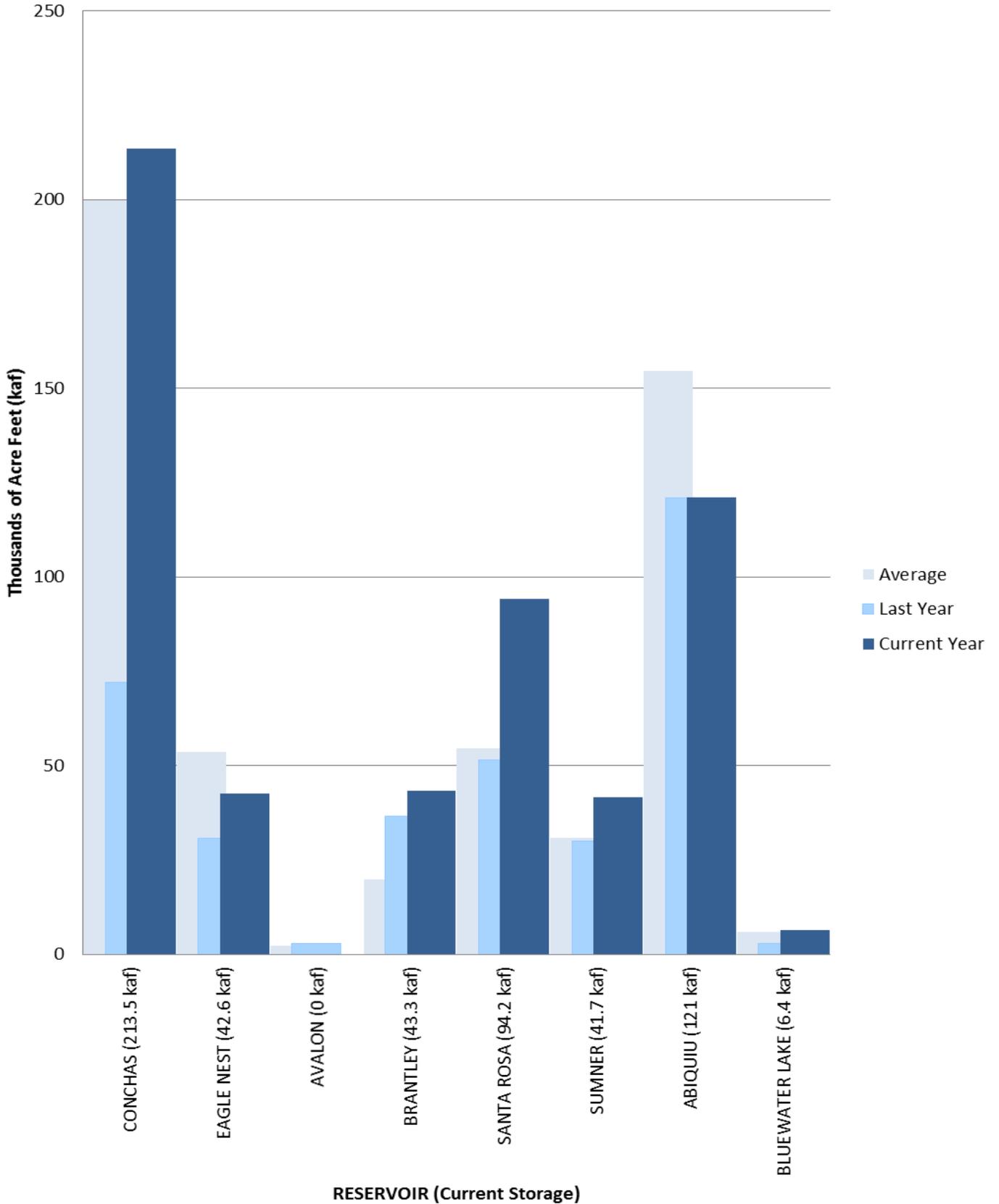


<http://droughtmonitor.unl.edu>

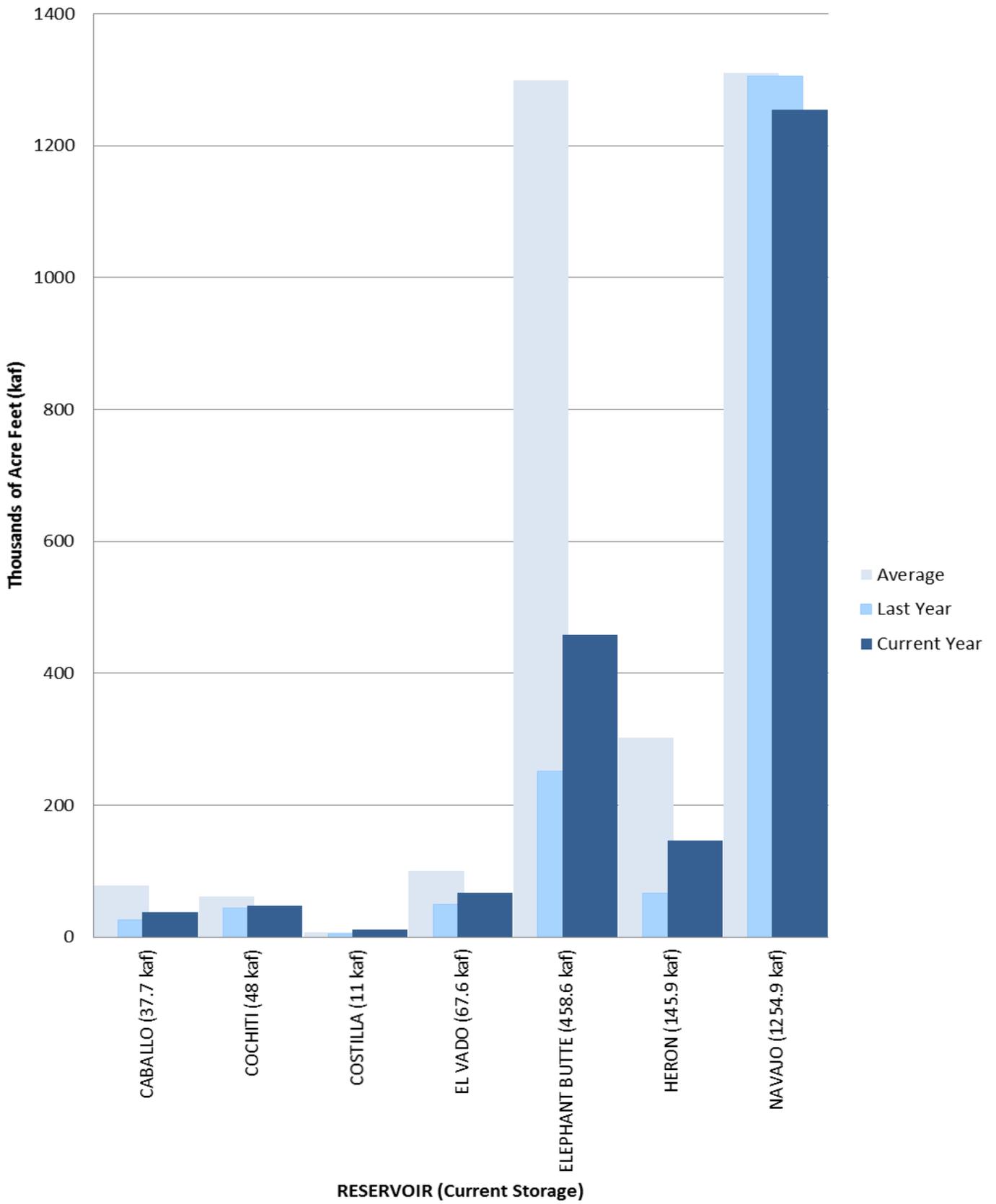
Every week, The U.S. Drought Monitor is produced in partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. This useful tool uses multiple inputs, including precipitation received, to give an indication of the extent and severity of drought conditions nationwide.

Drought has continued to expand over the Land of Enchantment through the month of January as a dry weather pattern has persisted over the Southwest. While there were several weather systems to impact New Mexico through January, these systems were predominately dry and produced little precipitation in any form. Most weather stations in the state had less than 25% of normal precipitation for January with several having the driest water year on record as of January 31st. Temperatures for most of the state were also above normal for the month with many mountain areas having temperature departures of 2° to 4°F above normal. Portions of the Eastern Plains and the Sacramento Mountains had the opposite trend with dry, cold outbreaks bringing temperature departures to -2° to -4°F below normal at some locations. In general, this combination of generally dry and warm weather conditions has led to increased evapotranspiration rates and an increased rate of depletion of soil moisture from the upper soil layers, especially over the Eastern Plains.

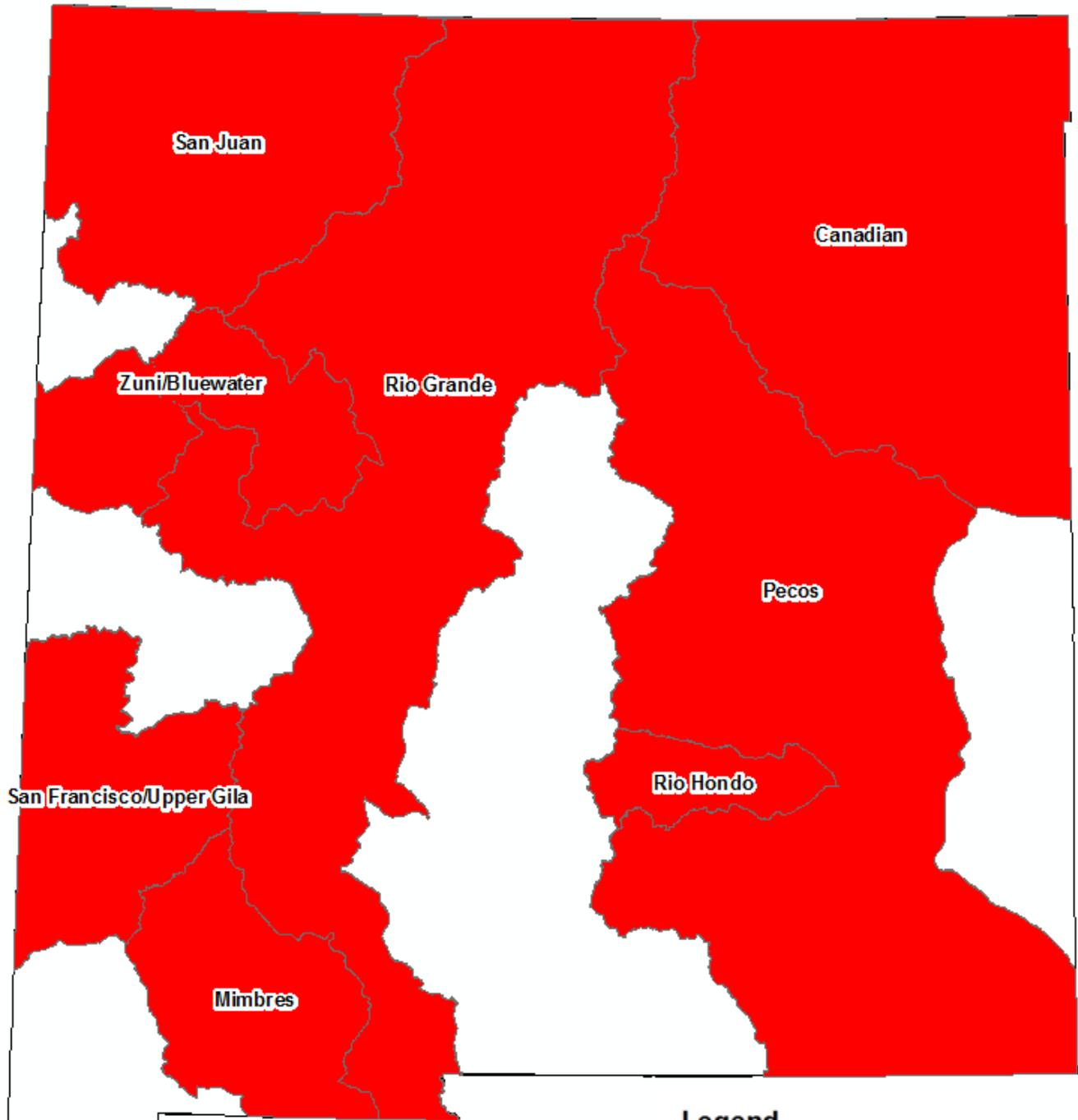
# Statewide Reservoir Storage



# Statewide Reservoir Storage



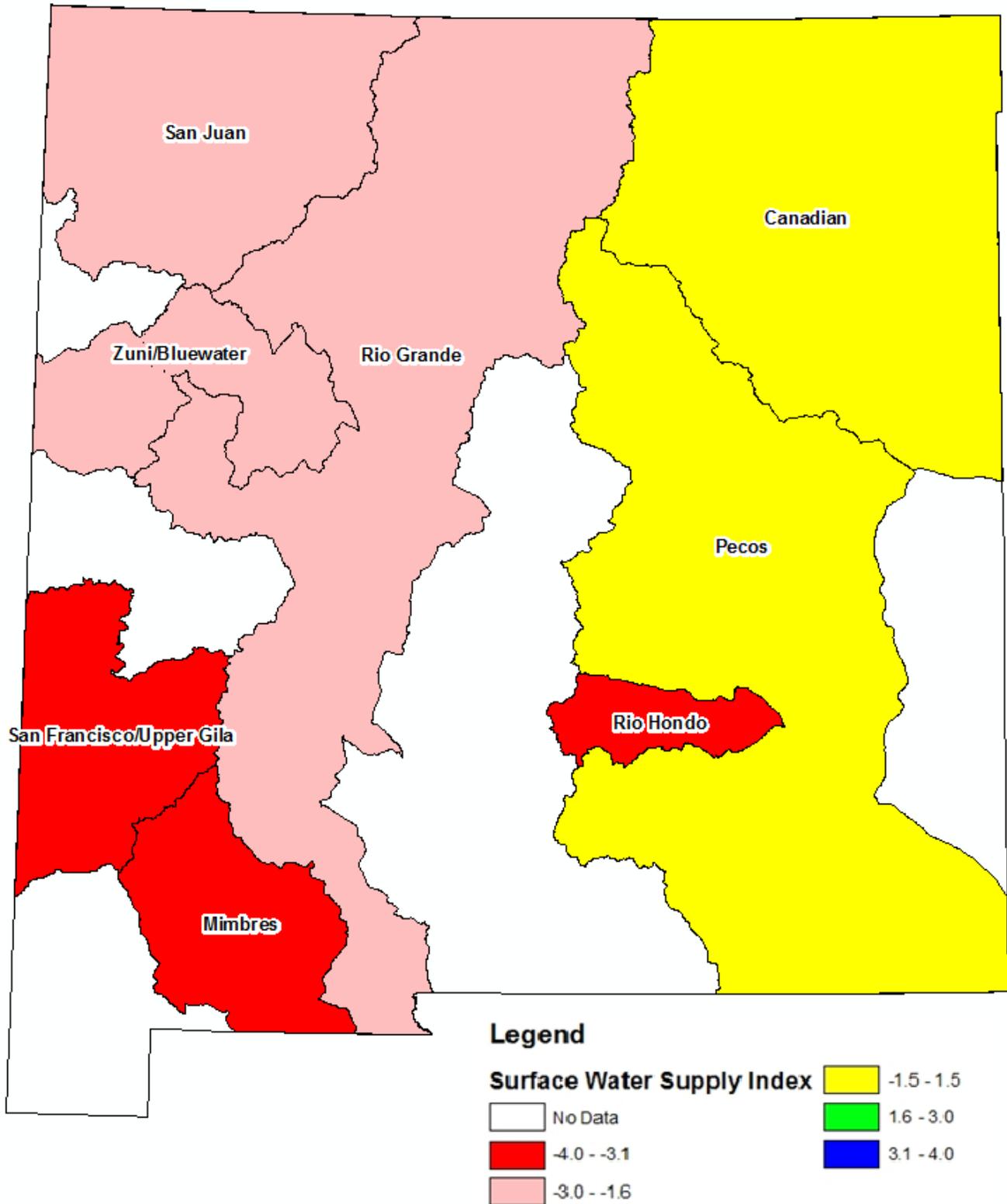
# New Mexico Percent of Median Snowpack as of February 1, 2018



## Legend



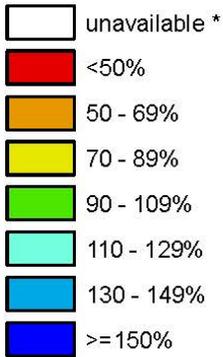
# New Mexico Surface Water Supply Index as of February 1, 2018



# New Mexico SNOTEL Current Snow Water Equivalent (SWE) % of Normal

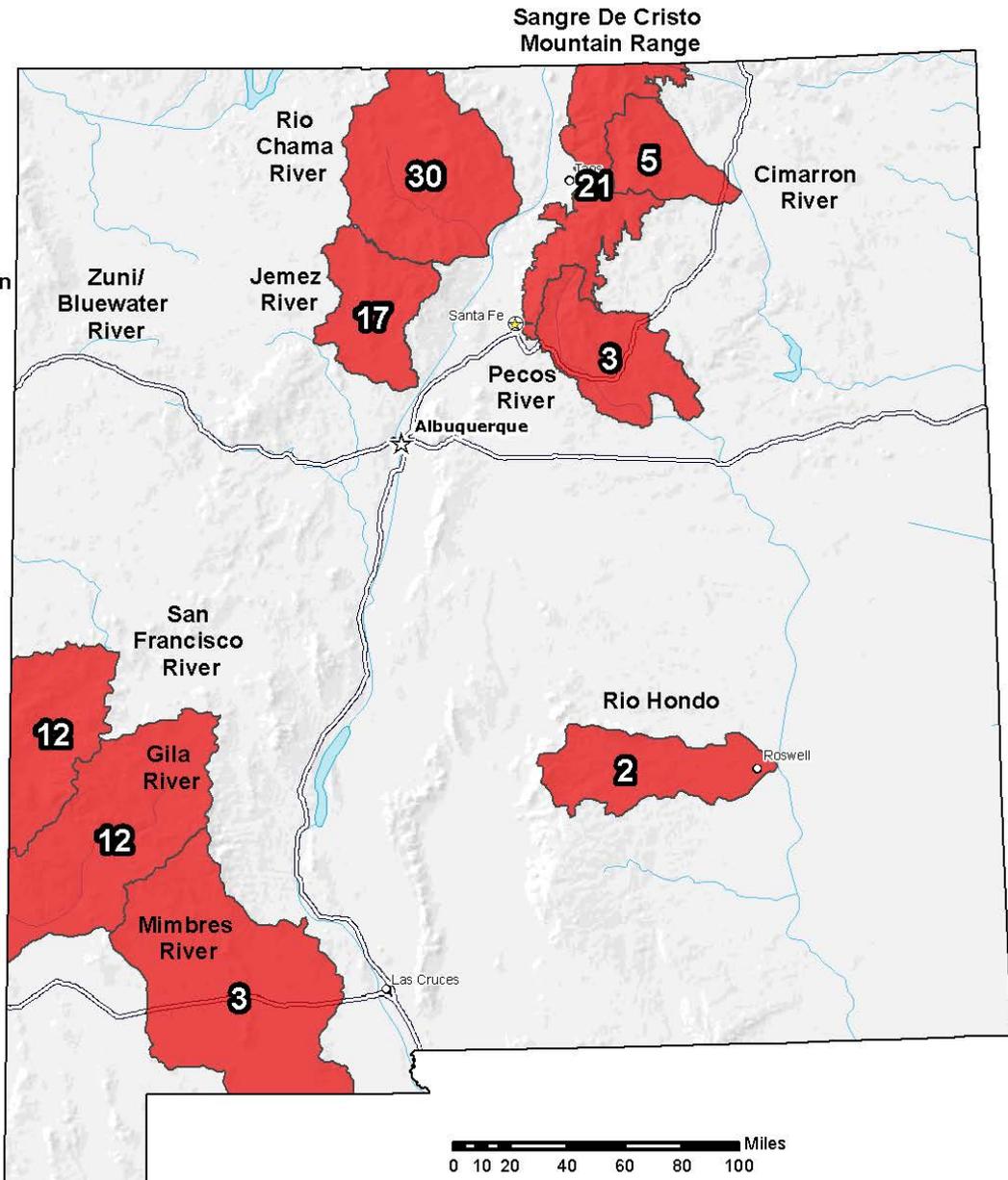
**Feb 05, 2018**

Current Snow Water Equivalent (SWE) Basin-wide Percent % of 1981-2010 Median



\* Data unavailable at time of posting or measurement is not representative at this time of year

**Provisional Data  
Subject to Revision**



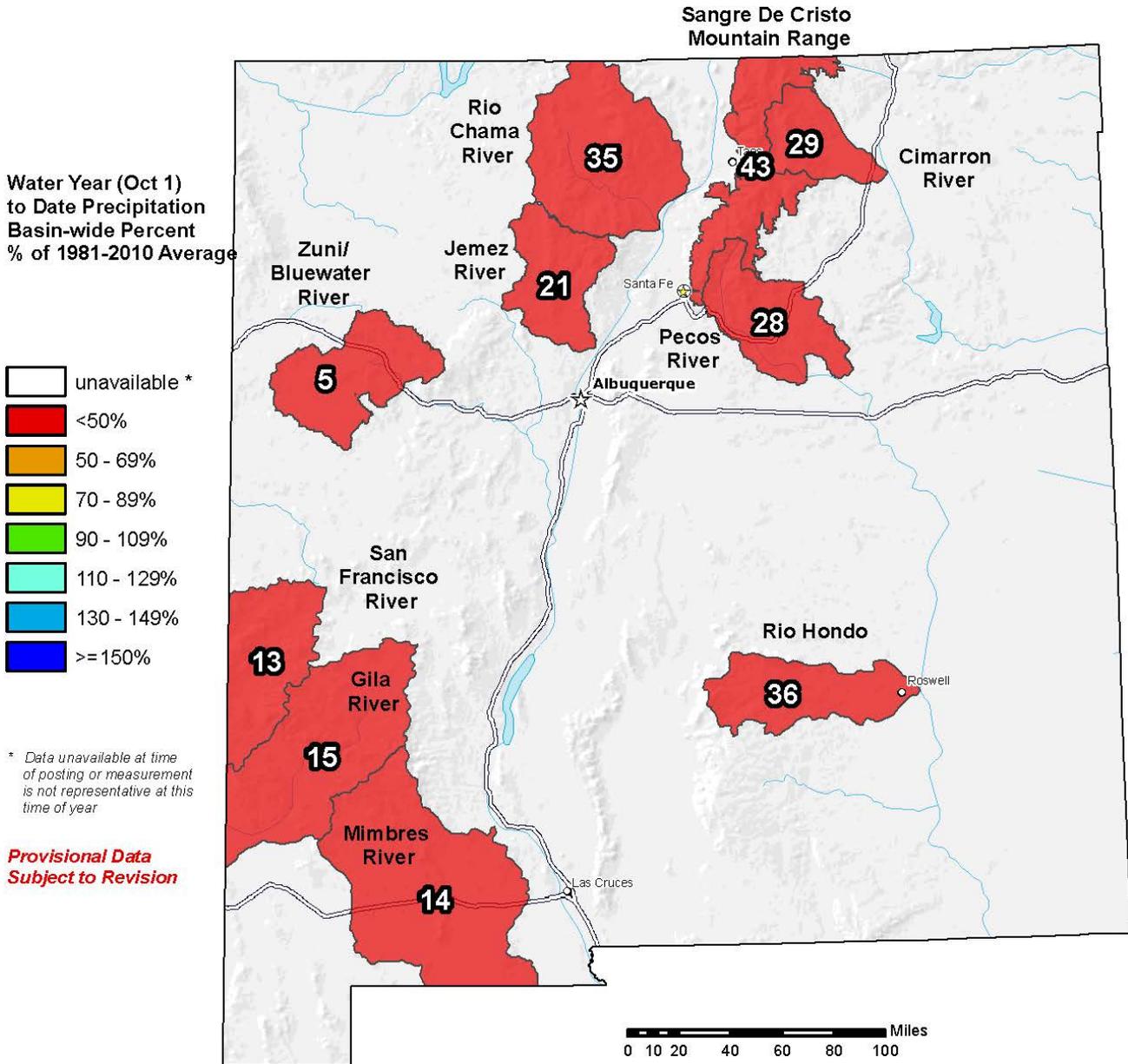
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:  
USDA/NRCS National Water and Climate Center  
Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>

# New Mexico

## SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

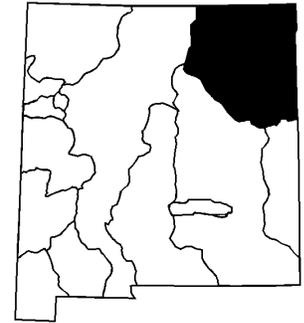
**Feb 05, 2018**



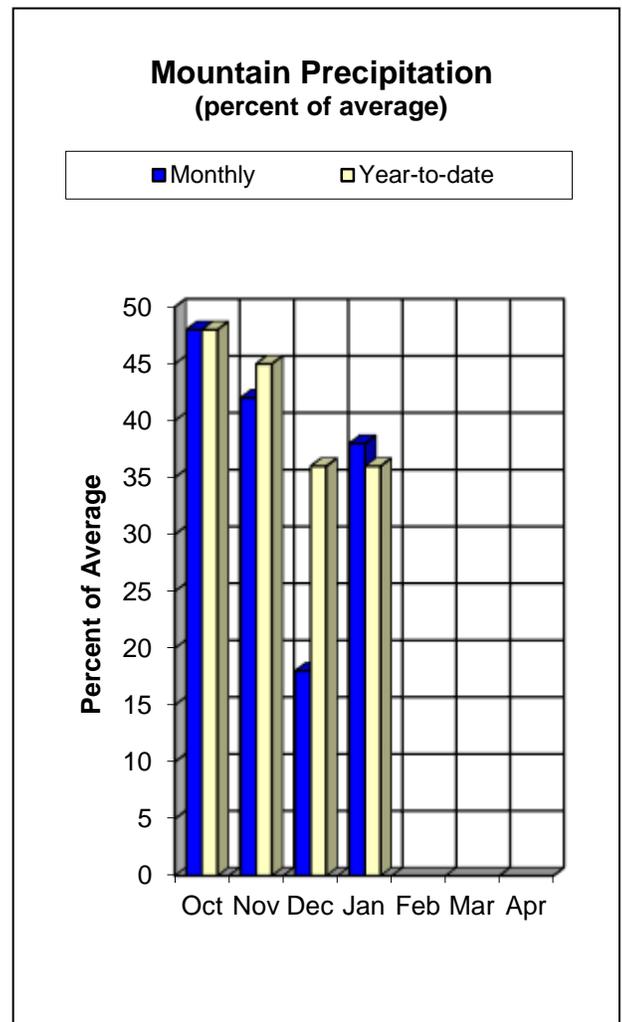
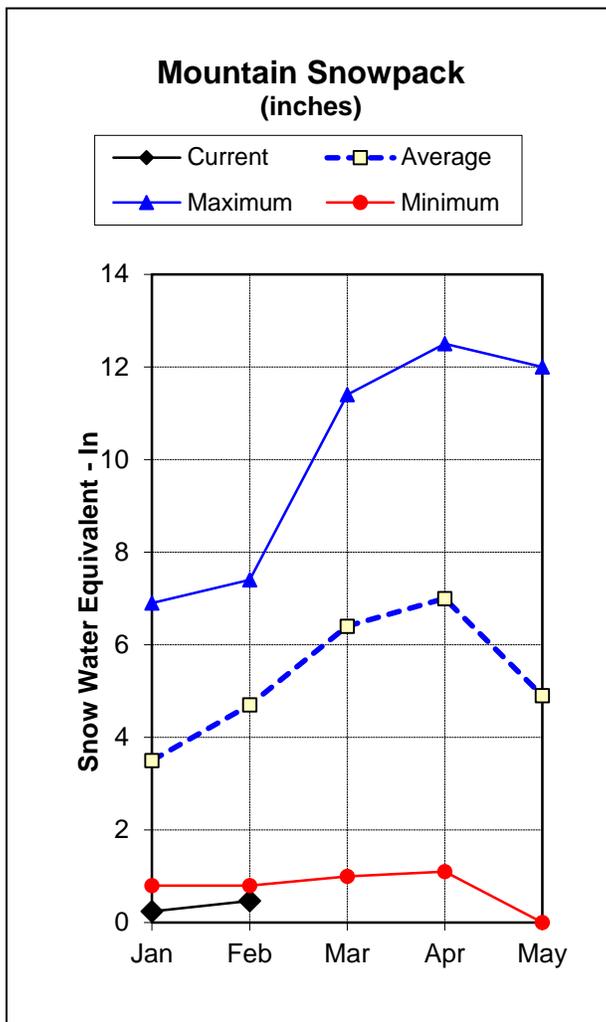
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:  
 USDA/NRCS National Water and Climate Center  
 Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>

# Canadian River Basin Water Supply Outlook Report as of February 1, 2018



The Canadian River Basin forecasts for the March to June time period all remain well below average for this time of year. They range from 23 percent of average for the Vermejo River near Dawson, to 9 percent of average for the Cimarron River near Cimarron. Rayado Creek near Cimarron is forecast to be 13 percent of the average for the same time period. Water year-to-date precipitation in the Canadian River Basin remains well below the average at 36 percent, as compared to 106 percent last year at this time. Monthly precipitation for January in the basin was only 38 percent of the average. Snowpack in the basin remains extremely low at 10 percent of the median! This is a decrease of 88 percent from last January. Reservoirs are currently holding 256,300 acre-feet of storage which is an increase of 153,500 acre feet from last year at this time. Reservoir storage in the Canadian River Basin is currently at 77 percent of capacity which reflects 101 percent of the average stored water in February.



## Canadian River Basin Streamflow Forecasts - February 1, 2018

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	0.37	1.04	1.78	23%	2.8	4.9	7.8
Eagle Nest Reservoir Inflow	MAR-JUN	0.23	0.6	1	9%	1.55	2.7	11.2
Cimarron R nr Cimarron <sup>2</sup>	MAR-JUN	0	0.5	1.4	9%	6.9	15	15.8
Ponil Ck nr Cimarron	MAR-JUN	0.11	0.41	0.8	11%	1.38	2.6	7.2
Rayado Ck nr Cimarron	MAR-JUN	0.07	0.41	0.9	13%	1.67	3.5	7
Conchas Reservoir Inflow <sup>3</sup>	MAR-JUN	0.01	0.91	3.2	11%	7.7	20	30

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

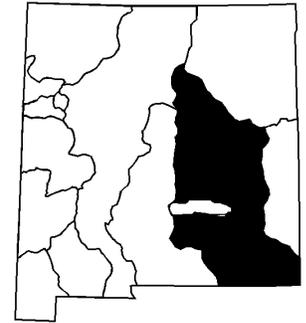
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

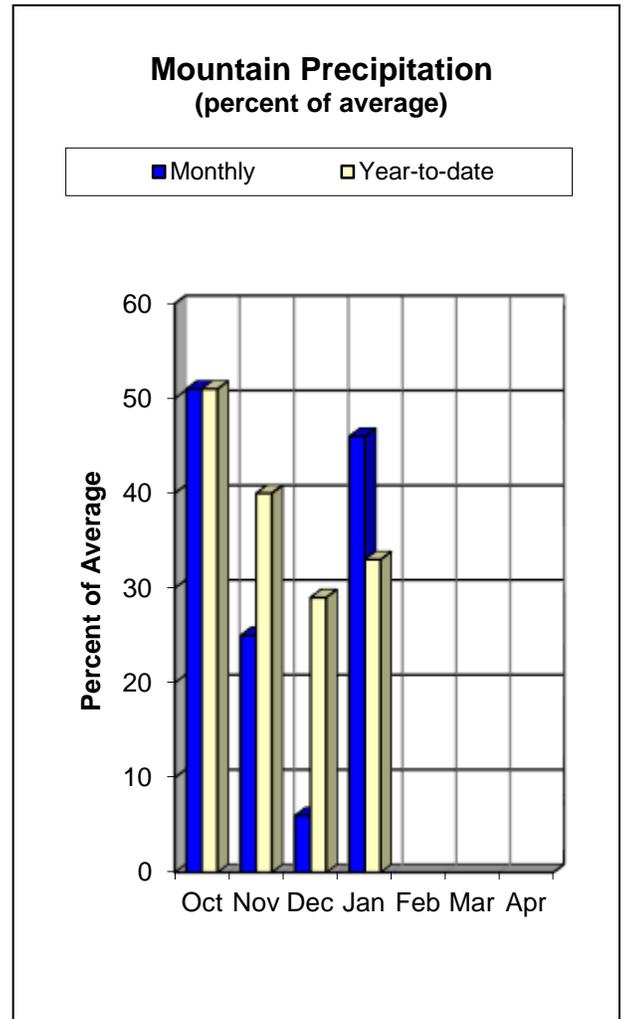
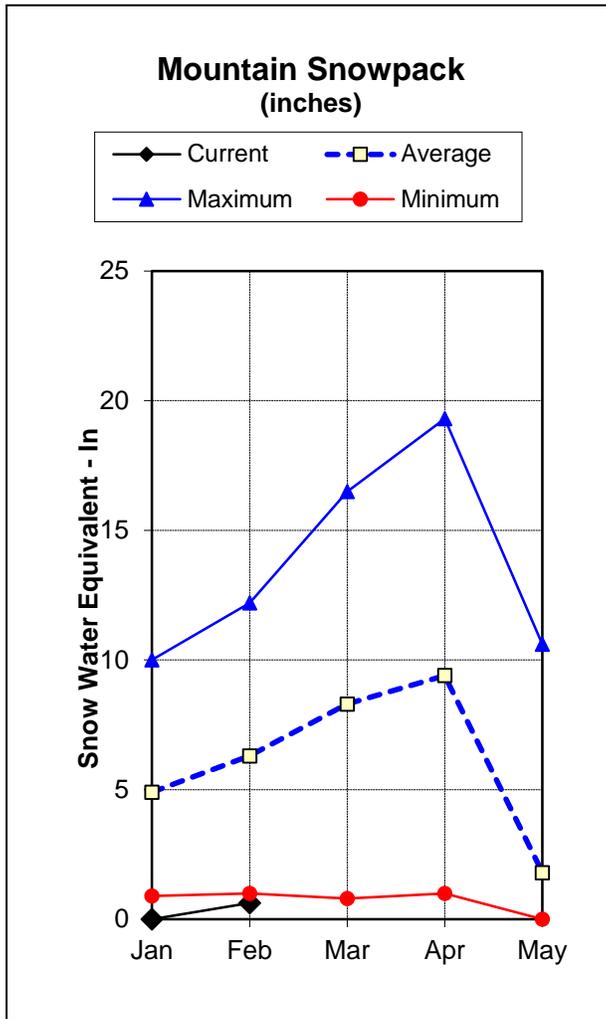
Reservoir Storage End of January, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Conchas Lake	213.6	72.1	199.9	254.4
Eagle Nest Lake nr Eagle Nest, NM	42.7	30.7	53.5	79.0
Basin-wide Total	256.3	102.8	253.4	333.4
# of reservoirs	2	2	2	2

Watershed Snowpack Analysis February 1, 2018	# of Sites	% Median	Last Year % Median
CANADIAN RIVER BASIN	10	10%	160%

# Pecos River Basin Water Supply Outlook Report as of February 1, 2018



Streamflow forecasts in the Pecos River Basin for the March to July timeframe are well below average. They range from 26 percent of average for the Pecos River near Pecos, to 11 percent of average for the Pecos River above Santa Rosa Lake. January was an improvement over last month yet still only received 46 percent of the average precipitation. This now puts the basin at 33 percent of average for the water year-to-date. This is 75 percent below last year's average of 108 percent! Snowpack levels in the Pecos River Basin are at just 10 percent of median. Last year at this time the basin had received 102 percent of the median snowpack. As of February 1<sup>st</sup> reservoir storage in the basin is at 179,400 acre-feet, which is 7 percent of the average capacity and 170 percent of the average. Last year reservoir storage was 112 percent of the average at this time.



## Pecos River Basin Streamflow Forecasts - February 1, 2018

 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	4.1	9.8	15	26%	21	33	57
Pecos R nr Anton Chico	MAR-JUL	0	1.84	7	11%	15.5	34	63
Gallinas Ck nr Montezuma	MAR-JUL	0	0.6	1.8	18%	3.6	7.5	9.8
Pecos R ab Santa Rosa Lk	MAR-JUL	0	1.6	6	11%	13.2	29	56

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

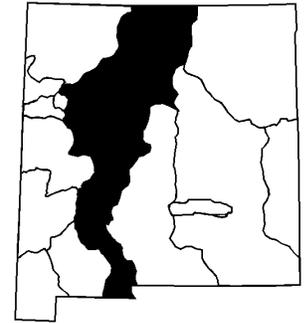
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

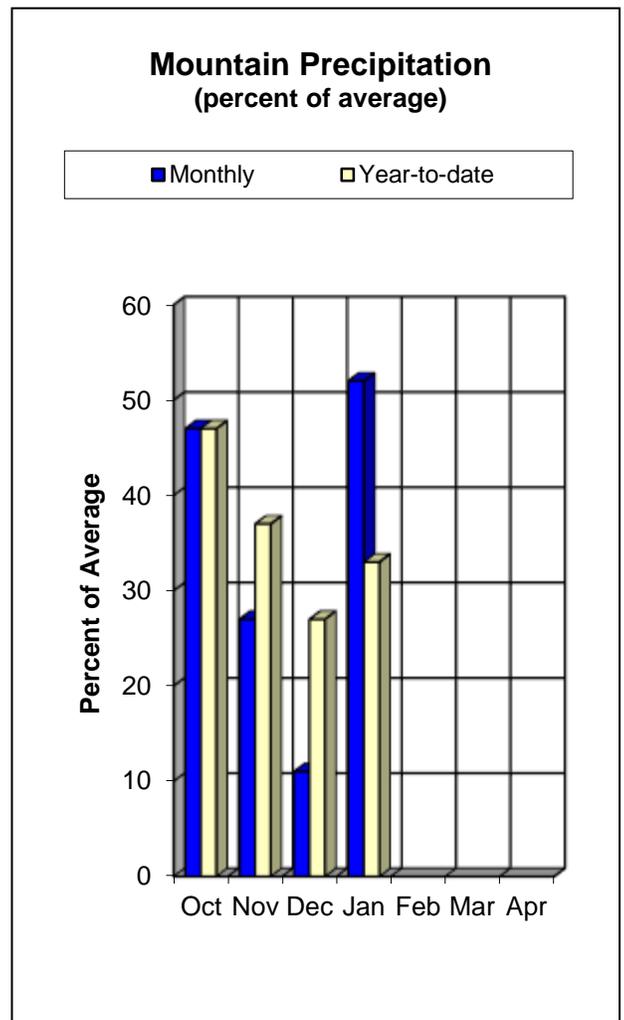
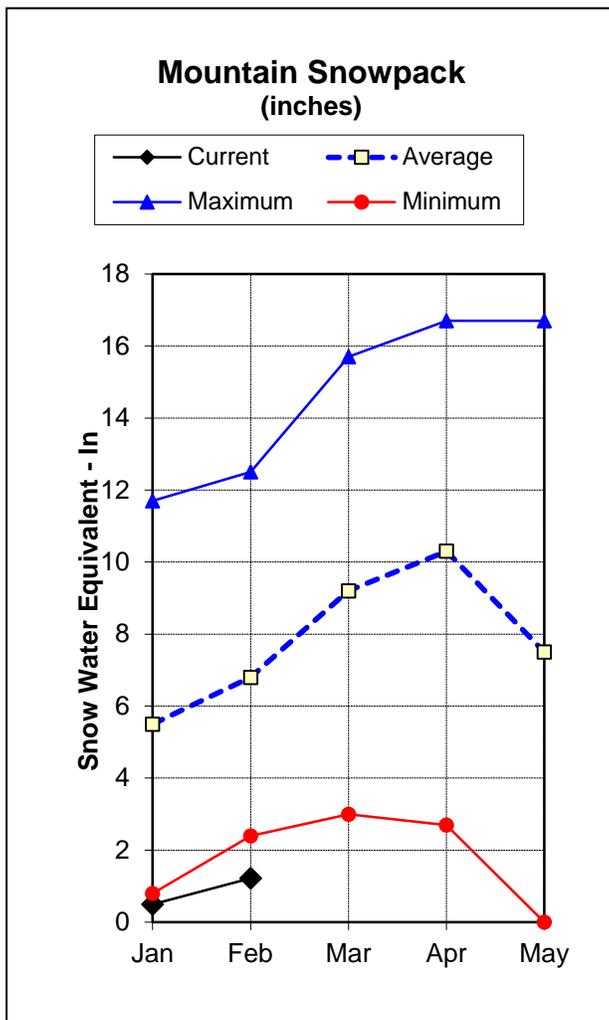
Reservoir Storage End of January, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Lake Avalon		2.9	2.3	4.0
Brantley Lake nr Carlsbad	43.3	36.6	19.8	1008.2
Santa Rosa Reservoir	94.3	51.5	54.7	432.2
Lake Sumner	41.7	30.1	30.8	102.0
Basin-wide Total	179.4	118.2	105.3	1542.4
# of reservoirs	3	3	3	3

Watershed Snowpack Analysis February 1, 2018	# of Sites	% Median	Last Year % Median
PECOS RIVER BASIN	5	10%	102%

# Rio Grande Basin Water Supply Outlook Report as of February 1, 2018



Streamflow forecasts for the Rio Grande Basin remain well below normal. Currently ranging from 15 to 50 percent in the north to as low as single digits in the southern portions of the basin. For the April to September forecasts, the Rio Grande near Del Norte is 50 percent of the average. Further south at Costilla Creek near Costilla the forecasts show 33 percent of average for the March to July time period. Additionally, for the March to July forecasts the Jemez River near Jemez is at only 16 percent of the average! The Rio Grande at Otowi Bridge is now just 21 percent of average. Water year-to-date precipitation remains well below average at 33 percent which is 100 percent below last year's total at this time. This is due to January only receiving half of the average precipitation for the month. This is 184 percent less than last year at this time! Snowpack in the basin has only marginally improved at just 18 percent of median. This is 140 percent below last year's median! Snowpack in southern Colorado affecting the Rio Grande has also only slightly improved at 31 percent of average which is a decrease of 120 percent from last year. Current reservoir storage in the basin is 896,200 acre-feet. This is 329,700 KAF more than the basin had at this time last year and 45 percent of the average.



## Rio Grande Basin Streamflow Forecasts - February 1, 2018

 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 <sup>2</sup>	APR-SEP	130	199	255	50%	320	420	515
Platoro Reservoir Inflow	APR-JUL	21	28	33	59%	38	47	56
	APR-SEP	23	30	36	58%	42	52	62
Conejos R nr Mogote <sup>2</sup>	APR-SEP	60	84	103	53%	123	156	194
Costilla Reservoir Inflow	MAR-JUL	2.5	4	5.2	47%	6.6	8.9	11.1
Costilla Ck nr Costilla <sup>2</sup>	MAR-JUL	2.9	6	8.7	33%	11.9	17.6	26
Red R bl Fish Hatchery nr Questa	MAR-JUL	3.7	6.7	9.3	27%	12.3	17.5	34
Rio Hondo nr Valdez	MAR-JUL	0.62	2	3.4	18%	5.2	8.4	18.4
Rio Pueblo de Taos nr Taos	MAR-JUL	0.31	1.58	3	18%	4.9	8.4	17
Rio Lucero nr Arroyo Seco	MAR-JUL	0.69	1.78	2.8	26%	4.1	6.3	10.9
Rio Pueblo de Taos bl Los Cordovas	MAR-JUL	0	0.32	2.4	7%	6.4	15.9	36
Embudo Ck at Dixon	MAR-JUL	0.01	2.1	5.8	12%	11.2	22	48
El Vado Reservoir Inflow <sup>2</sup>	MAR-JUL	11.1	32	53	24%	78	125	225
	APR-JUL	9.2	28	48	23%	72	116	205
Santa Cruz R at Cundiyo	MAR-JUL	0.66	1.79	2.9	16%	4.2	6.6	18.3
Nambe Falls Reservoir Inflow	MAR-JUL	0.24	0.63	1.01	16%	1.48	2.3	6.5
Tesuque Ck ab diversions	MAR-JUL	0.02	0.11	0.23	17%	0.39	0.7	1.34
Rio Grande at Otowi Bridge <sup>2</sup>	MAR-JUL	42	98	150	21%	210	325	720
Santa Fe R nr Santa Fe <sup>2</sup>	MAR-JUL	0.02	0.2	0.43	10%	0.75	1.37	4.3
Jemez R nr Jemez	MAR-JUL	1.19	3.9	6.6	16%	10.1	16.5	42
Jemez R bl Jemez Canyon Dam	MAR-JUL	0	0.48	1.8	5%	4	8.7	34
Rio Grande at San Marcial <sup>2</sup>	MAR-JUL	-335	-155	-33	-6%	89	270	510

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

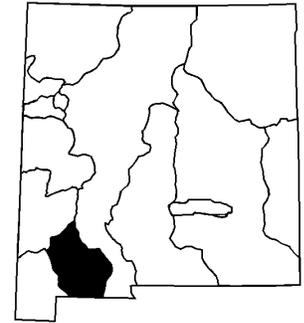
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of January, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Abiquiu Reservoir	121.0	120.9	154.6	1198.5
Bluewater Lake	6.4	2.8	5.9	38.5
Caballo Reservoir	37.7	25.6	78.1	332.0
Cochiti Lake	48.0	44.7	60.9	491.0
Costilla Reservoir	11.0	5.7	6.5	16.0
El Vado Reservoir	67.6	49.0	100.9	184.8
Elephant Butte Reservoir	458.6	251.0	1299.0	2195.0
Heron Reservoir	145.9	66.9	303.0	400.0
Basin-wide Total	896.2	566.5	2008.9	4855.8
# of reservoirs	8	8	8	8

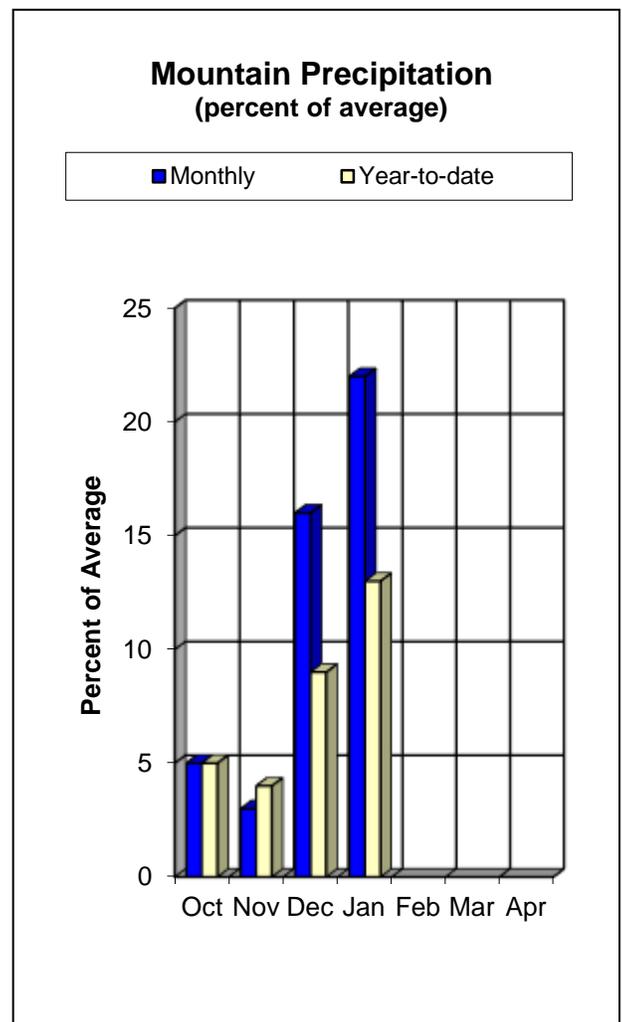
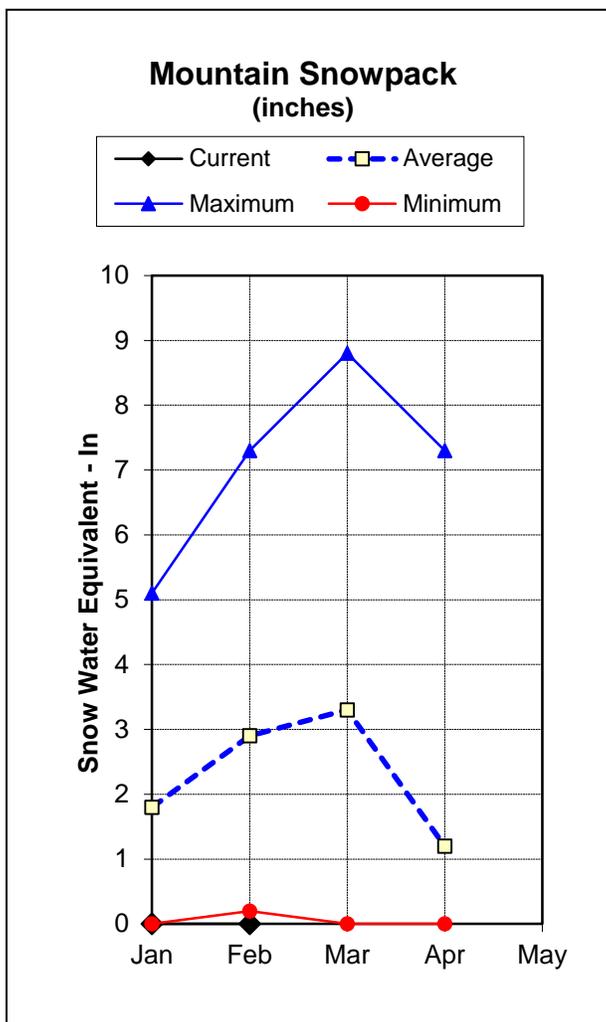
Watershed Snowpack Analysis February 1, 2018	# of Sites	% Median	Last Year % Median
RIO GRANDE BASIN	19	18%	158%

# Mimbres River Basin Water Supply Outlook Report as of February 1, 2018



The March through July forecast for the Mimbres River at Mimbres is currently at 27 percent of the average. Water year-to-date precipitation remains low at just 13 percent of average as compared to 139 percent last year at this time. Additionally, January saw just 22 percent of the average precipitation! So little precipitation coupled with warm temperatures has reduced what little snowpack the Mimbres had accumulated to zero.

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, 2018

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 <sup>3</sup>	FEB-MAY	0.05	0.24	0.5	27%	0.91	1.85	1.82

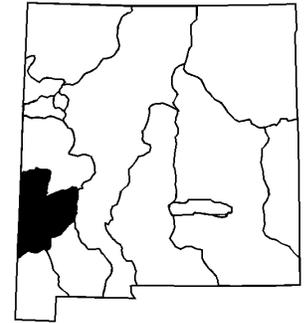
1) 90% and 10% exceedance probabilities are actually 95% and 5%

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

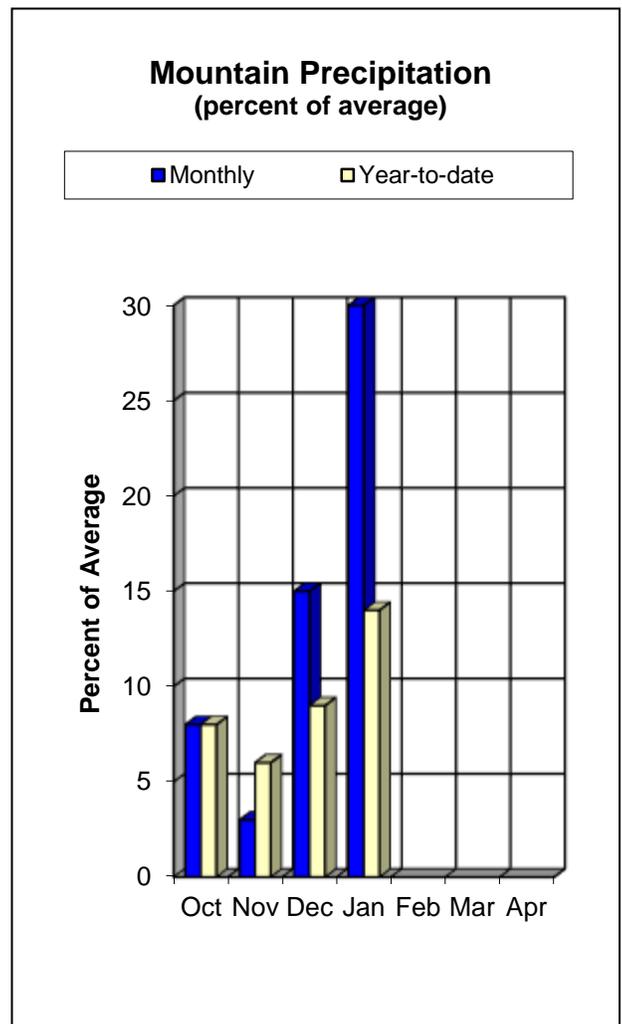
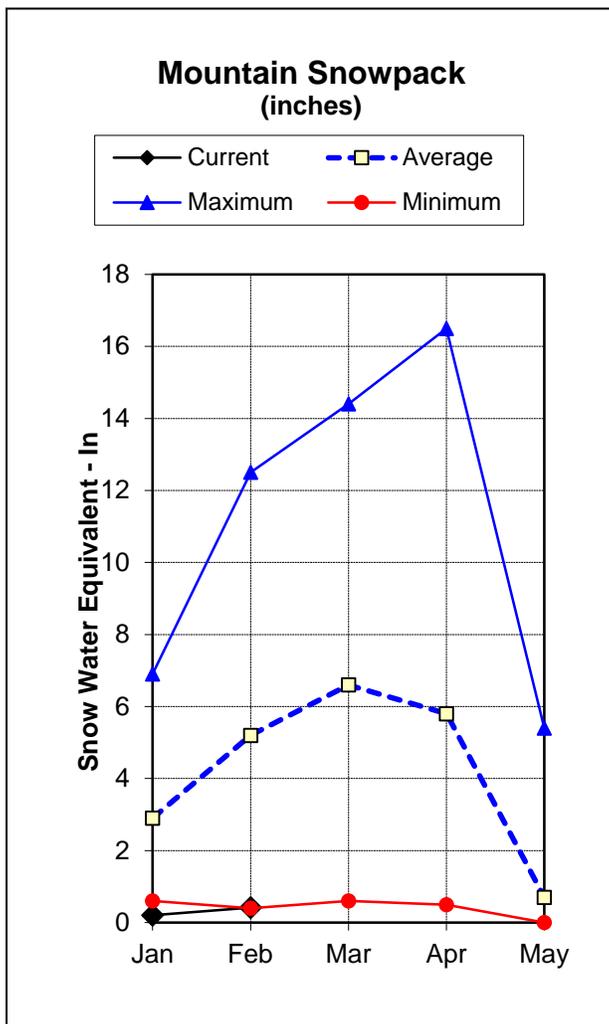
Watershed Snowpack Analysis February 1, 2018	# of Sites	% Median	Last Year % Median
MIMBRES RIVER BASIN	2	0%	135%

# San Francisco / Upper Gila River Basin Water Supply Outlook Report as of February 1, 2018



Streamflow forecasts for the San Francisco/Upper Gila River Basin remain well below average this water year. For the February through May forecast the Gila River at Gila is at only 24 percent of the average. For the same time period the San Francisco River at Clifton is currently forecasted to be 24 percent of the average. The water year-to-date precipitation remains low at only 14 percent of the average with January receiving just 30 percent of the average precipitation. Snow in the Mimbres Basin is well below the median at just 8 percent.

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, 2018

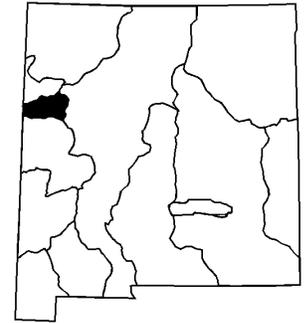
Forecast Exceedance Probabilities for Risk Assessment  
Chance that actual volume will exceed forecast

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 <sup>3</sup>	FEB-MAY	3.3	7.6	12	24%	17.9	30	50
Gila R bl Blue Ck nr Virden <sup>3</sup>	FEB-MAY	0.06	5	13	21%	25	49	63
San Francisco R at Glenwood <sup>3</sup>	FEB-MAY	0.51	2	4	22%	6.9	13.4	18.2
San Francisco R at Clifton <sup>3</sup>	FEB-MAY	0.18	5	12	24%	22	42	51

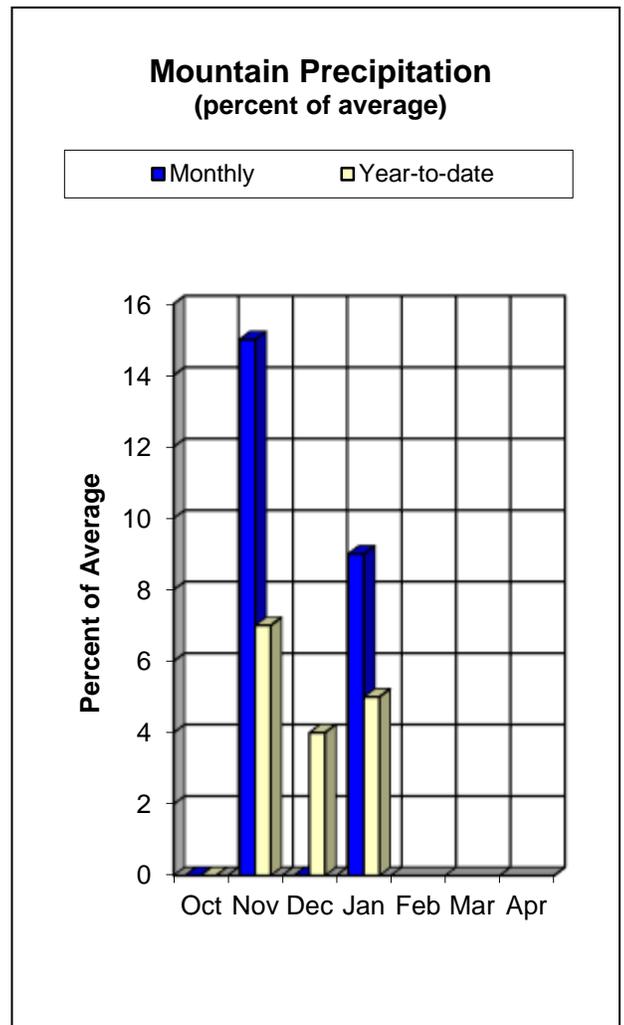
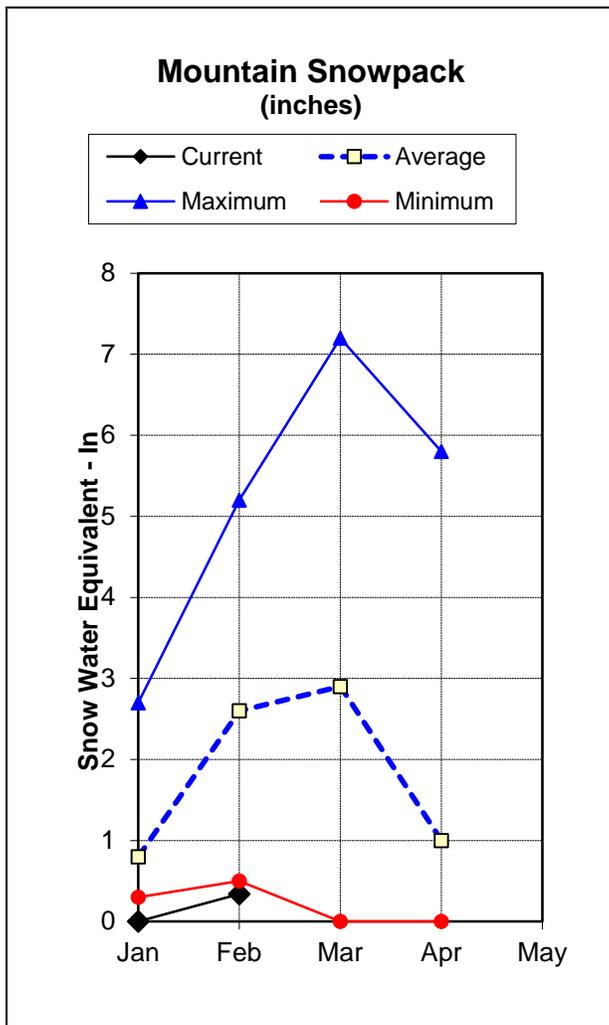
- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Watershed Snowpack Analysis February 1, 2018	# of Sites	% Median	Last Year % Median
SAN FRANCISCO-UPPER GILA RIVER BASIN	7	8%	102%

# Zuni / Bluewater Basins Water Supply Outlook Report as of February 1, 2018



Both the Zuni/Bluewater Basins continue to struggle through this water year. The Rio Nutria near Ramah is currently forecast at only 14 percent of the average. Additionally, the Zuni River above Black Rock is forecast at 37 percent of the average for the February to May timeframe. The Zuni-Bluewater Basins have received just 5 percent of the average precipitation for the water year-to-date, and only 9 percent throughout the month of January. Snow did fall in the region throughout January however it was just enough to be measurable at 13 percent of median. Bluewater Lake remains higher than last January at 6,400 acre feet versus 2,800. This is 108 percent of the average as compared to 48 percent last year at this time.



## Zuni-Bluewater Basins Streamflow Forecasts - February 1, 2018

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)
Rio Nutria nr Ramah <sup>3</sup>	FEB-MAY	0	0.04	0.2	14%	0.54	1.55	1.4
Zuni R ab Black Rock Reservoir <sup>3</sup>	FEB-MAY	0	0.01	0.14	37%	0.33	0.62	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

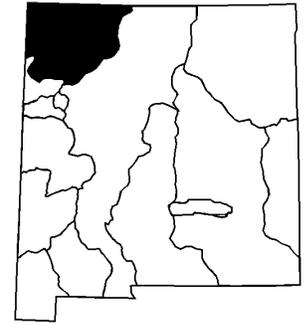
3) Median value used in place of average

Reservoir Storage End of January, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Bluewater Lake	6.4	2.8	5.9	38.5
Basin-wide Total	6.4	2.8	5.9	38.5
# of reservoirs	1	1	1	1

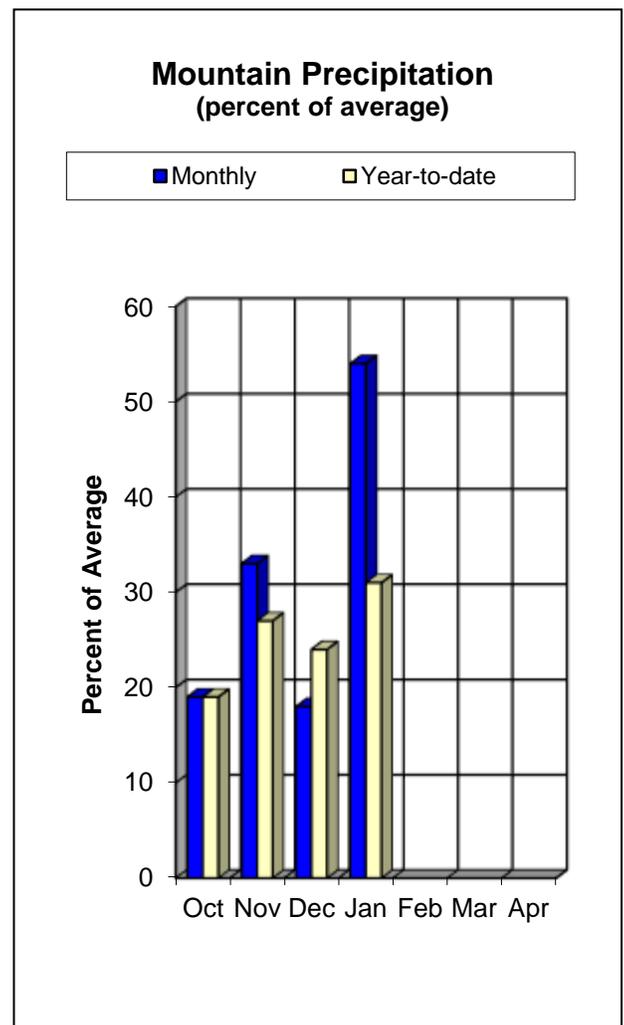
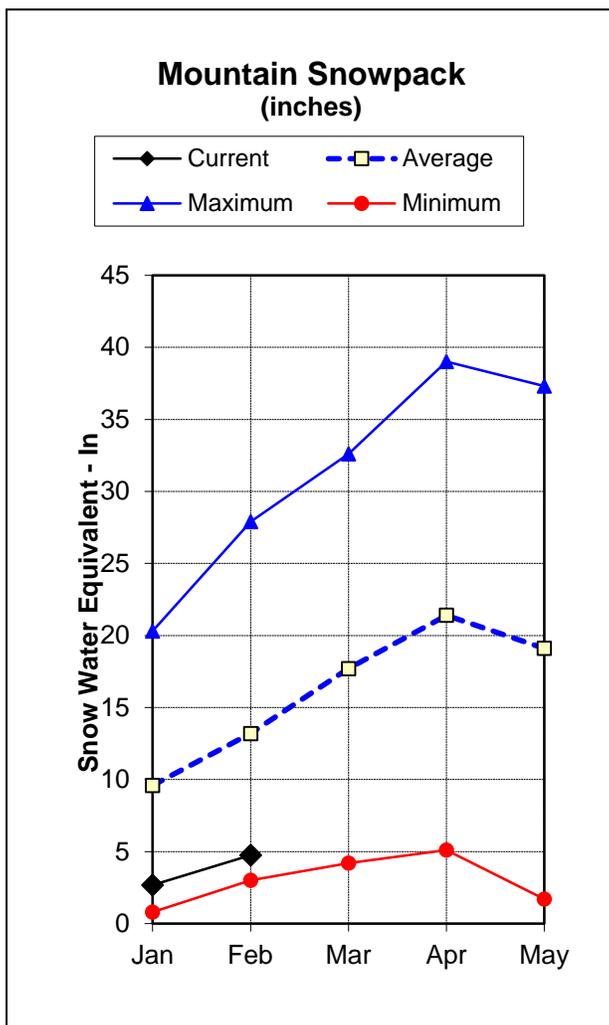
  

Watershed Snowpack Analysis February 1, 2018	# of Sites	% Median	Last Year % Median
ZUNI-BLUEWATER BASINS	5	13%	86%

# San Juan River Basin Water Supply Outlook Report as of February 1, 2018



The April to July forecasts are well below average for this time of year. Ranging from 52 percent of average for the Rio Blanco at Blanco Diversion to just 6 percent for South Creek near Monticello. Additionally, the Animas River at Durango has decreased slightly to 45 percent of the average. Water year-to-date precipitation is at 31 percent of the average, which is a 102 percent decrease from last year at this time. January remained a somewhat dry month for the basin only receiving 54 percent of the average rainfall. Snowpack in the basin remains well below the median at just 36 percent. This is a decrease of 126 percent from last year at this time! Navajo reservoir storage contains 1,254,900 acre-feet or 96 percent of the average. This is close to what the reservoir held last year at the end of January. This equates to 77 percent of the average capacity for the reservoir.



## San Juan River Basin Streamflow Forecasts - February 1, 2018

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 <sup>2</sup>	APR-JUL	14.1	22	28	52%	35	46	54
Navajo R at Oso Diversion <sup>2</sup>	APR-JUL	16.6	26	33	51%	41	55	65
Navajo Reservoir Inflow <sup>2</sup>	APR-JUL	106	179	240	33%	310	430	735
Animas R at Durango	APR-JUL	100	145	180	43%	220	285	415
La Plata R at Hesperus	APR-JUL	3.4	5.7	7.6	33%	9.9	13.7	23

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

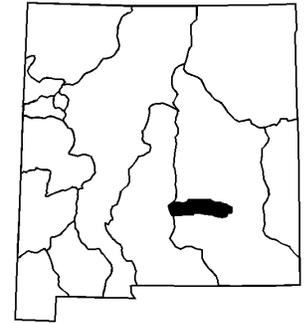
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of January, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Navajo Reservoir	1254.9	1305.8	1310.0	1696.0
Basin-wide Total	1254.9	1305.8	1310.0	1696.0
# of reservoirs	1	1	1	1

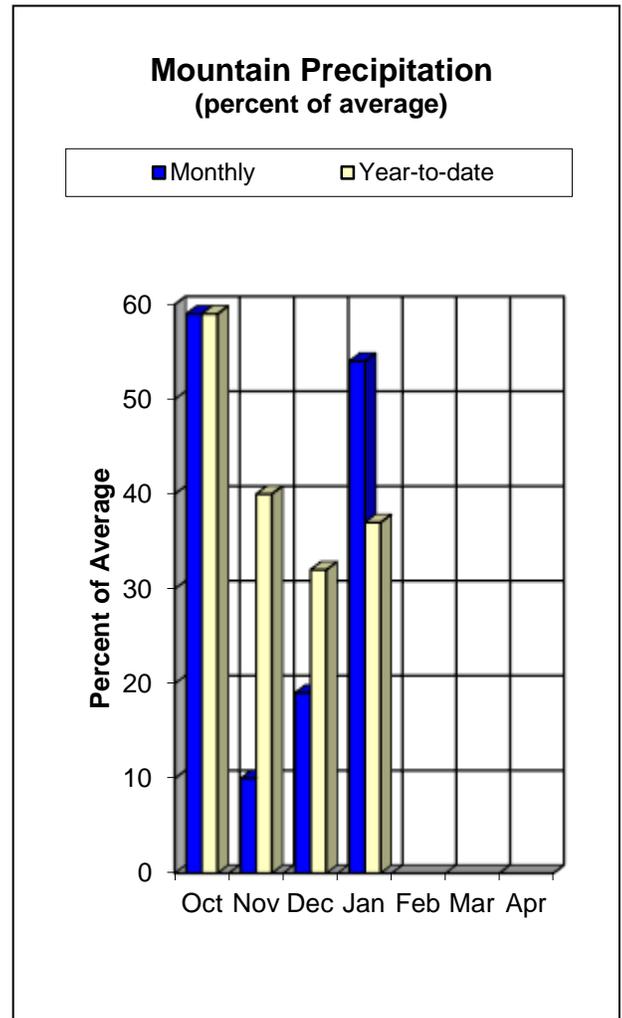
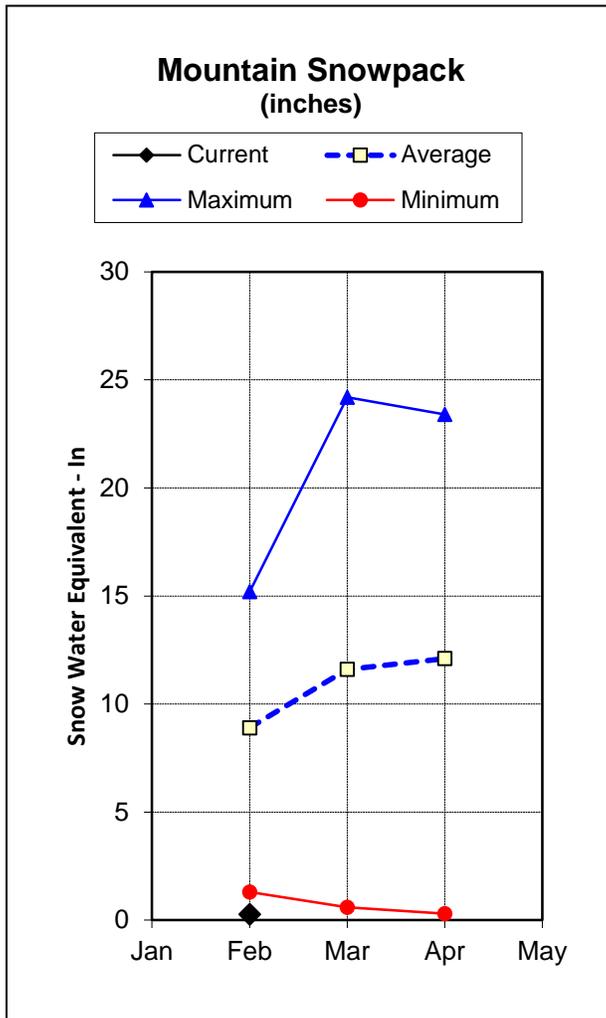
Watershed Snowpack Analysis February 1, 2018	# of Sites	% Median	Last Year % Median
SAN JUAN RIVER BASIN	12	36%	162%

# Rio Hondo Basin Water Supply Outlook Report as of February 1, 2018



The streamflow forecast for the March to June time period has dropped by half to just 15 percent of average for the Rio Ruidoso at Hollywood. Water year-to-date precipitation is at 37 percent of average with the Rio Hondo Basin receiving just over half of the average rainfall for January. Snowpack levels have decreased even more and are now at just 3 percent of the median. This is a decrease of 61 percent from last year at this time. This measurement however should be used with caution as the Sierra Blanca SNOTEL site was impacted by the Little Bear Fire four 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, 2018

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	0.01	0.4	1	15%	1.86	3.6	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, 2018	# of Sites	% Median	Last Year % Median
RIO HONDO BASIN	1	3%	64%

NEW MEXICO STATEWIDE	Network	Elevation (ft)	Depth (in)	SWE (in)	Median (in)	% Median	Last Year SWE (in)	Last Year % Median
Alamitos	SC	9320	0	0.0	4.4	0%	4.8	109%
Aztec #2	SC	9880	0	0.0	2.3	0%	6.6	287%
Bateman	SNOTEL	9300	7	1.6	6.9	23%	13.5	196%
Boon	SC	8140	2	0.6	4.6	13%	3.3	72%
Bowl Canyon	SC	8980	7	1.2	5.8	21%	11.2	193%
Chamita	SNOTEL	8400	6	1.2	6.5	18%	13.4	206%
Dan Valley	SC	7640	2	0.4	3.1	13%	2.0	65%
Elk Cabin	SNOTEL	8210	1	0.4	3.8	11%	2.4	63%
Emory Pass #2	SC	7800			0.9			
Frisco Divide	SNOTEL	8000	1	0.1	2.5	4%	2.0	80%
Gallegos Peak	SNOTEL	9800	7	1.4	6.1	23%	8.5	139%
Hematite Park	SC	9500	3	0.3	3.4	9%	8.1	238%
Hidden Valley	SC	8480	5	1.0			9.1	
Hopewell	SNOTEL	10000	12	2.1	11.0	19%	19.0	173%
Hummingbird - Aerial And Snow Course	SC	10550			8.9			
Lookout Mountain	SNOTEL	8500	0	0.0	2.3	0%	2.6	113%
McGaffey	SC	8120	1	0.6	2.7	22%	2.0	74%
Mcknight Cabin	SNOTEL	9240	0	0.0	2.4	0%	5.0	208%
Mcknight Cabin Aerial Marker	SC	9300			2.1			
Mcknight Cabin Snow Course	SC	9300						
Missionary Spring	SC	7940	0	0.0	3.6	0%	3.2	89%
Navajo Whiskey Ck	SNOTEL	9050	0	0.0			11.9	
North Costilla	SNOTEL	10600	2	0.6	3.6	17%	6.9	192%
Ojo Redondo	SC	8200	0	0.0	3.4	0%	2.5	74%
Palo	SNOTEL	9350	1	0.4			6.5	
Palo	SC	9300	5	0.6	4.6	13%	5.4	117%
PanchueLa	SC	8400	0	0.0			0.7	
Post Office Flats	SC	8400			2.7			
Quemazon	SNOTEL	9500	1	0.3	6.7	4%	8.3	124%
Red River Pass #2	SNOTEL	9850	3	1.1	5.0	22%	8.0	160%
Rice Park	SNOTEL	8460	1	0.8	5.0	16%	6.3	126%
Rice Park	SC	8460			4.3			
Rio En Medio	SC	10300	4	1.0	6.2	16%	6.4	103%
Rio Santa Barbara	SNOTEL	10664	8	1.5			10.1	
San Antonio Sink	SNOTEL	9100	5	0.8			12.7	
San Antonio Sink	SC	9200	3	0.0	5.2	0%	11.8	227%
Santa Fe	SNOTEL	11445	7	1.5	9.5	16%	10.9	115%
Senorita Divide #2	SNOTEL	8600	6	1.6	5.6	29%	7.9	141%
Shuree	SNOTEL	10100	1	0.2			9.0	
Shuree	SC	10097	0	0.0	2.2	0%	8.4	382%
Sierra Blanca	SNOTEL	10280	1	0.3	8.9	3%	5.7	64%
Signal Peak	SNOTEL	8360	0	0.0	3.9	0%	3.5	90%
Silver Creek Divide	SNOTEL	9000	5	1.4	6.1	23%	7.5	123%
State Line	SC	8000	0	0.0	1.8	0%	1.9	106%
Taos Canyon	SC	9100	5	0.5	4.0	13%	5.3	133%
Taos Powderhorn	SNOTEL	11057	8	2.0			18.2	
Taos Powderhorn	SC	11250	14	1.6	14.2	11%	23.3	164%
Tolby	SNOTEL	10180	2	0.7	5.5	13%	7.8	142%
Tolby	SC	10180			5.7			
Tres Ritos	SNOTEL	8600	0	0.0			3.7	
Tres Ritos	SC	8600	2	0.5	4.0	13%	5.3	133%
Vacas Locas	SNOTEL	9306	9	2.2	7.9	28%	11.6	147%
Wesner Springs	SNOTEL	11120	1	0.5	9.5	5%	9.7	102%
Whiskey Creek	SC	9050	7	1.4	6.3	22%	13.6	216%
Whitewater - Aerial And Snow Course	SC	10750			17.8			
Basin Index						13%		142%
# of sites						38		38

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**New Mexico**  
**Basin Outlook Report**  
Natural Resources Conservation Service  
Albuquerque, NM

