



United States
Department of
Agriculture

Natural
Resources
Conservation
Service

New Mexico Basin Outlook Report March 1, 2018



A good foot of fresh snow fell over the Taos ski valley and northern New Mexico during the last week of February.

Although not enough to make a big dent in the states snow deficit it was sure nice to see winter!

Photo courtesy of Aaron Miller, NRCS

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

For more water supply and resource management information, contact:

Chris Romero
Snow Survey Hydrologic Technician
Natural Resources Conservation Service
100 Sun Avenue NE, Suite 602
Albuquerque, NM 87109
(505) 761-4431

Rick Strait
State Soil Scientist
Natural Resources Conservation Service
100 Sun Avenue NE, Suite 602
Albuquerque, NM 87109
(505) 761-4433

<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

With another month of winter behind us conditions across New Mexico have seen little improvement. In sharp contrast to conditions across the northern Rockies and Pacific Northwest where they have good water year-to-date moisture accumulations, the southwest experienced intensifying drought and a lack of vital snowpack statewide. Outside of the heavy but short lived mid-month precipitation in the south and a late February snow event in the northern mountains, the state's SWE values have reached or are approaching historical lows. With a significant portion of New Mexico's water supply contingent on snowmelt coupled with poor spring runoff prospects, the burden of managing the states reservoirs will become heavier than normal. Drought has continued to expand across the state and even into southwestern Colorado. Prior to the late month storm in the northern mountains, D3 conditions were expanded into the region where SWE values were at or near zero. In addition, the heaviest precipitation from these storms missed the Four Corners region, continuing to worsen the long-term precipitation deficit. For New Mexico it's a story of too little too late, and the lack of beneficial moisture has become evident statewide. Soil moisture levels and many crop condition ratings have continued to decline as above average temperatures and high winds begin to quickly dry out any rain or snow received. Water users and managers should continue to monitor conditions to determine the extent of drought impacts across the state.

Snowpack

March 1st snowpack ranged from a high of 58 percent in the San Juan Basin to 5 percent in the Mimbres River Basin. Current conditions continue to set record lows for both snowpack and precipitation. The Rio Hondo Basin received a large amount of mid-month precipitation bolstering their snowpack levels to 54 percent of median. However, rising temperatures throughout the remainder of the month and increased winds have lessened the benefits of this most recent snowfall. This is the same story across all of New Mexico. Conditions have improved marginally in southern Colorado and the upper and middle Sangre De Cristo mountains, yet remain consistently well below average across New Mexico. Knowing that we historically receive a majority of our snowpack from December to February means that the window of opportunity to recapture this winter's snowpack has definitely passed. This is not to say that we will not continue to receive snow, but that we should begin to focus on the need for precipitation this spring and managing what snowpack and streamflow we can capture for future use. Please continue to monitor conditions over the next months to determine the severity of drought conditions.

NEW MEXICO STATEWIDE SNOWPACK	Percent of Median	Last Year Percent of Median
CANADIAN RIVER BASIN	19	97
PECOS RIVER BASIN	18	77
RIO GRANDE BASIN	34	119
MIMBRES RIVER BASIN	5	42
SAN FRANCISCO-UPPER GILA RIVER BASIN	14	60
ZUNI-BLUEWATER BASINS	25	85
SAN JUAN RIVER BASIN	58	151
CHUSKA MOUNTAINS	21	104
RIO HONDO BASIN	54	59
Statewide Snowpack Total	28	102
# of sites	36	36

Precipitation

February statewide precipitation was 111 percent of the average which is 44 percent of average for the water year-to-date. Despite receiving significant but short lived amounts of moisture across much of the state, dry conditions continue to persist. Above average temperatures continue to create a high evaporative demand situation, most notably in the southern tier of New Mexico. This scenario of warm temperatures, a lack of moisture, and little to no snowpack continues to accelerate the demand for water resources. Reservoirs which have been storing moisture from this past fall and early snowmelt this winter will quickly become depleted without timely major spring precipitation events. Based on the current forecasts water users and managers should expect shortfalls in water supply this spring.

Reservoirs

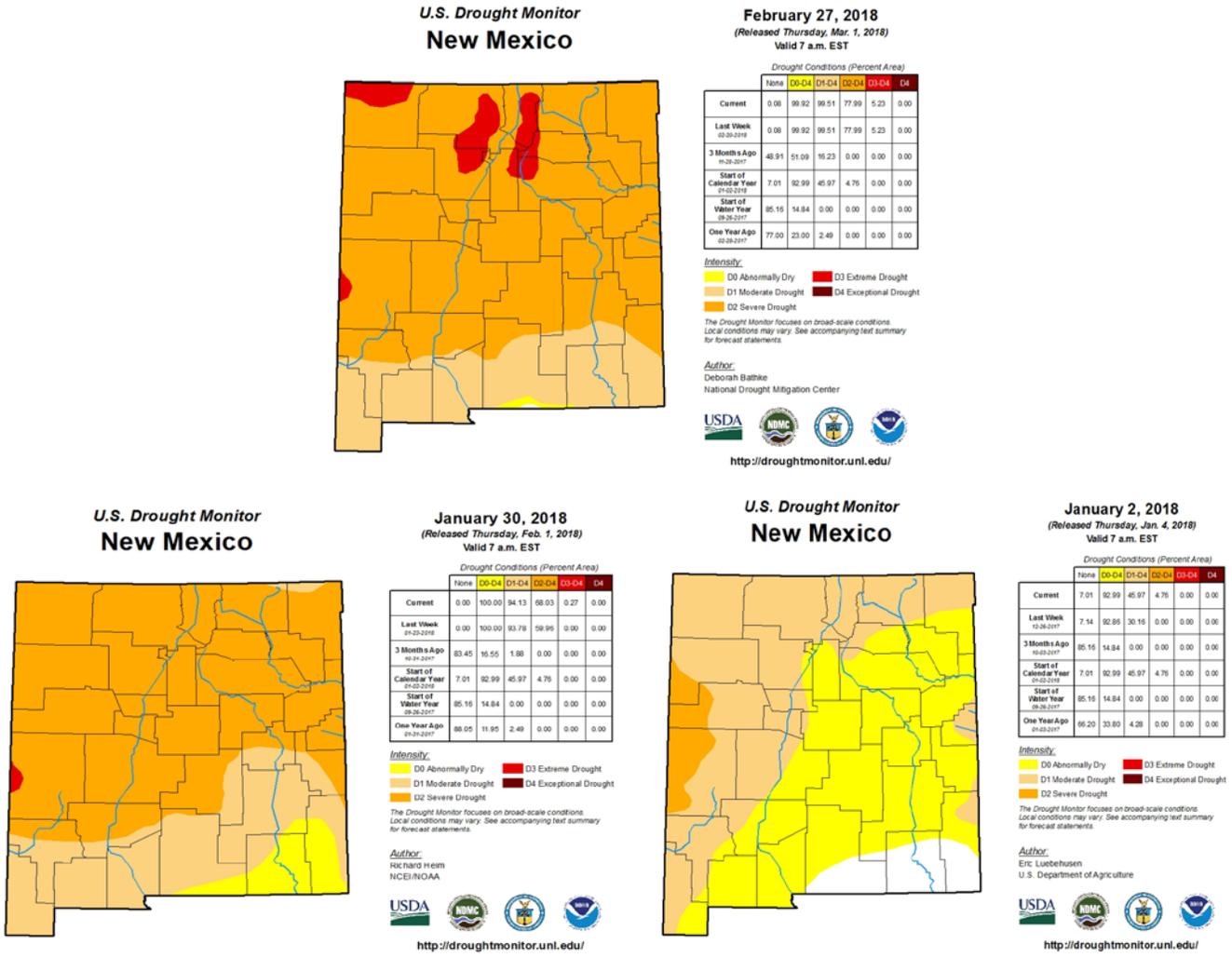
Late monsoonal rains and early snowmelt in some regions continues to provide many of New Mexico's reservoirs with near to above average storage for March 1st. Statewide reservoir storage has remained constant at 71 percent of the average as compared to 60 percent last March. Based on current conditions across New Mexico these values will continue to drop as the agricultural season begins to ramp up. Water-users should definitely keep an eye on next month's streamflow forecasts and expect shortfalls this spring.

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	125.0	123.8	154.8	1192.8	10%	10%	13%	81%	80%
Bluewater Lake	6.2	7.8	6.6	38.5	16%	20%	17%	95%	117%
Brantley Lake nr Carlsbad	44.9	37.7	22.9	1008.2	4%	4%	2%	196%	164%
Caballo Reservoir	44.5	29.6	101.1	332.0	13%	9%	30%	44%	29%
Cochiti Lake	48.1	46.0	58.3	491.0	10%	9%	12%	83%	79%
Conchas Lake	213.2	73.6	202.0	254.2	84%	29%	79%	106%	36%
Costilla Reservoir	11.4	6.1	6.9	16.0	71%	38%	43%	166%	89%
Eagle Nest Lake nr Eagle Nest, NM	42.8	31.9	54.1	79.0	54%	40%	68%	79%	59%
El Vado Reservoir	70.6	52.8	100.8	190.3	37%	28%	53%	70%	52%
Elephant Butte Reservoir	482.8	295.3	1305.0	2195.0	22%	13%	59%	37%	23%
Heron Reservoir	139.9	68.7	297.8	400.0	35%	17%	74%	47%	23%
Lake Avalon	0.0	3.1	2.6	4.0	0%	78%	65%	0%	119%
Lake Sumner	42.5	32.4	33.1	102.0	42%	32%	32%	129%	98%
Navajo Reservoir	1246.0	1339.1	1292.0	1696.0	73%	79%	76%	96%	104%
Santa Rosa Reservoir	93.9	51.3	53.2	438.3	21%	12%	12%	177%	96%
Basin-wide Total	2612.0	2199.1	3691.2	8437.3	31%	26%	44%	71%	60%
# of reservoirs	15	15	15	15	15	15	15	15	15

Streamflow

The March 1st, 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 continues to be 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. Near the headwaters of the Rio Grande and across the southern San Juan's there were marginal increases in forecast streamflow volumes due to late month storms. Yet, even the northern most forecast points are well below the average. Having missed out on much of the recent snowfall, the lower Canadian River Basin as well as the Pecos continue to produce extremely low March forecasts. This trend continues to the south with all basins producing streamflow forecasts less than fifty percent of the average. Please continue to monitor conditions and read follow-up water supply reports as we move into spring.

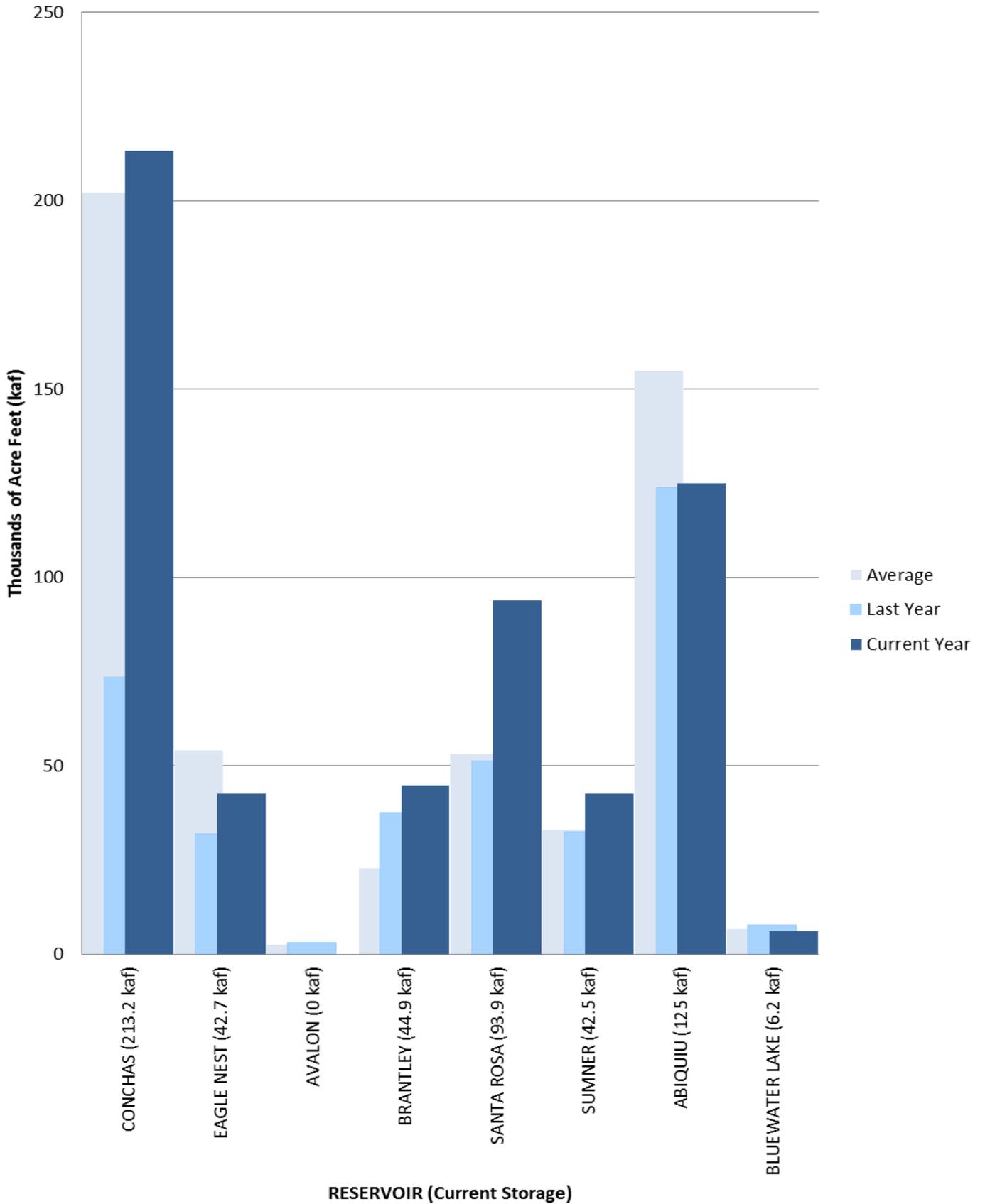
New Mexico Drought Monitor, real versus perceived conditions?



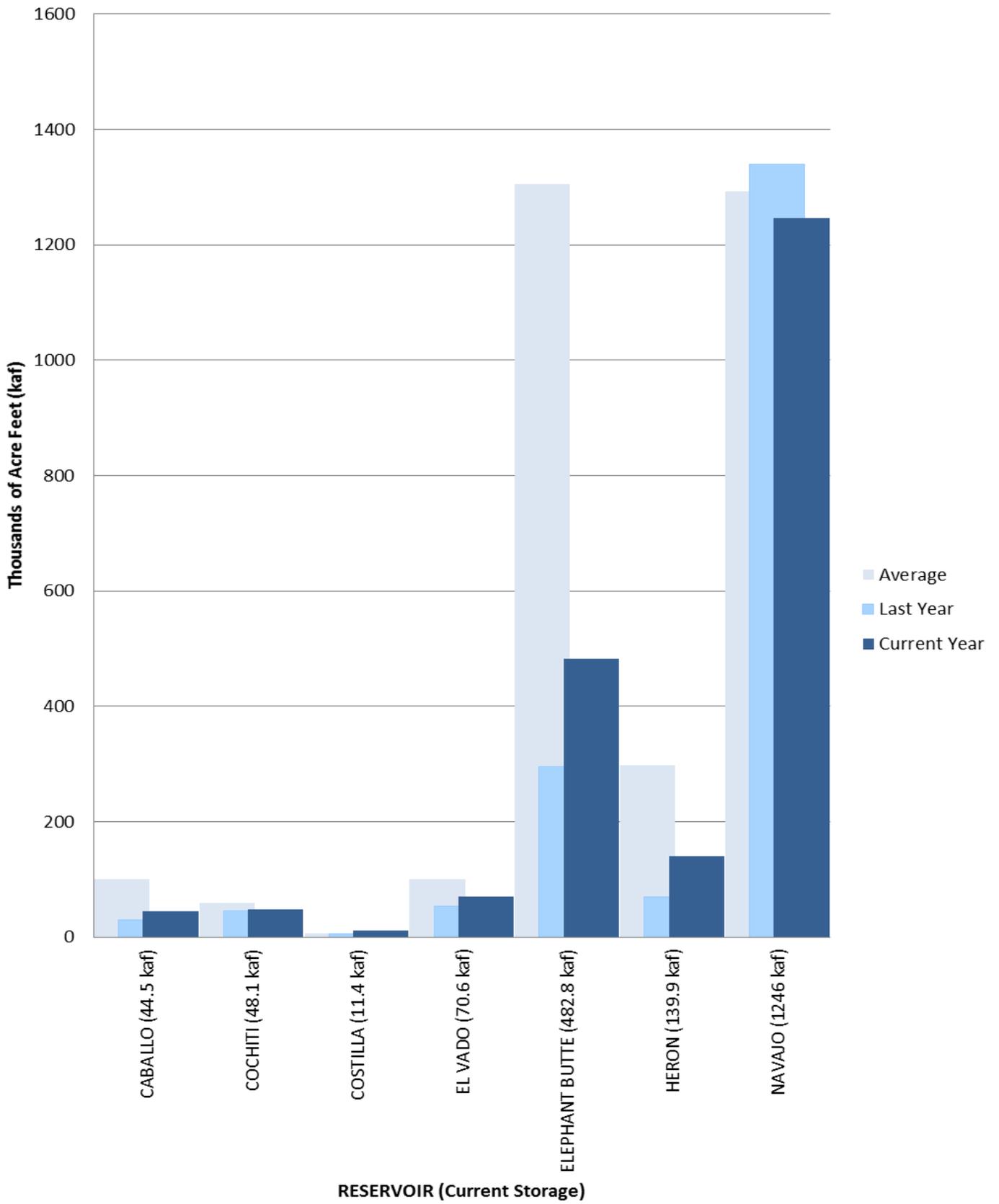
Every week, The U.S. Drought Monitor is produced in partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. This useful tool uses multiple inputs, including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

Although February 2018 saw the return of some precipitation to New Mexico, overall drought conditions expanded during the month. The continued predominately dry conditions saw drought conditions deteriorate over San Juan County and portions of the San Juan and Sangre de Cristo Mountains into D3 or Extreme Drought during the month. D2 (Severe Drought) also expanded over the month through southeastern New Mexico. Many weather stations have above normal precipitation values in the short term (30-45 days), but this is primarily due to a single precipitation event mid-month which produced precipitation totals which are not typical during what is usually the driest period of the year. Conversely, well below normal precipitation totals in the Northern Mountains (which normally see their most precipitation in winter) have led to the deterioration in conditions as mentioned above. Temperatures for February 2018 were above normal for almost all areas of New Mexico with the greatest departures in portions of the Sangre De Cristo and Sacramento Mountains (+4-6°F). As with January, the above normal temperatures have led to an increase in evaporative demand over much of the state which continues to deplete top soil moisture.

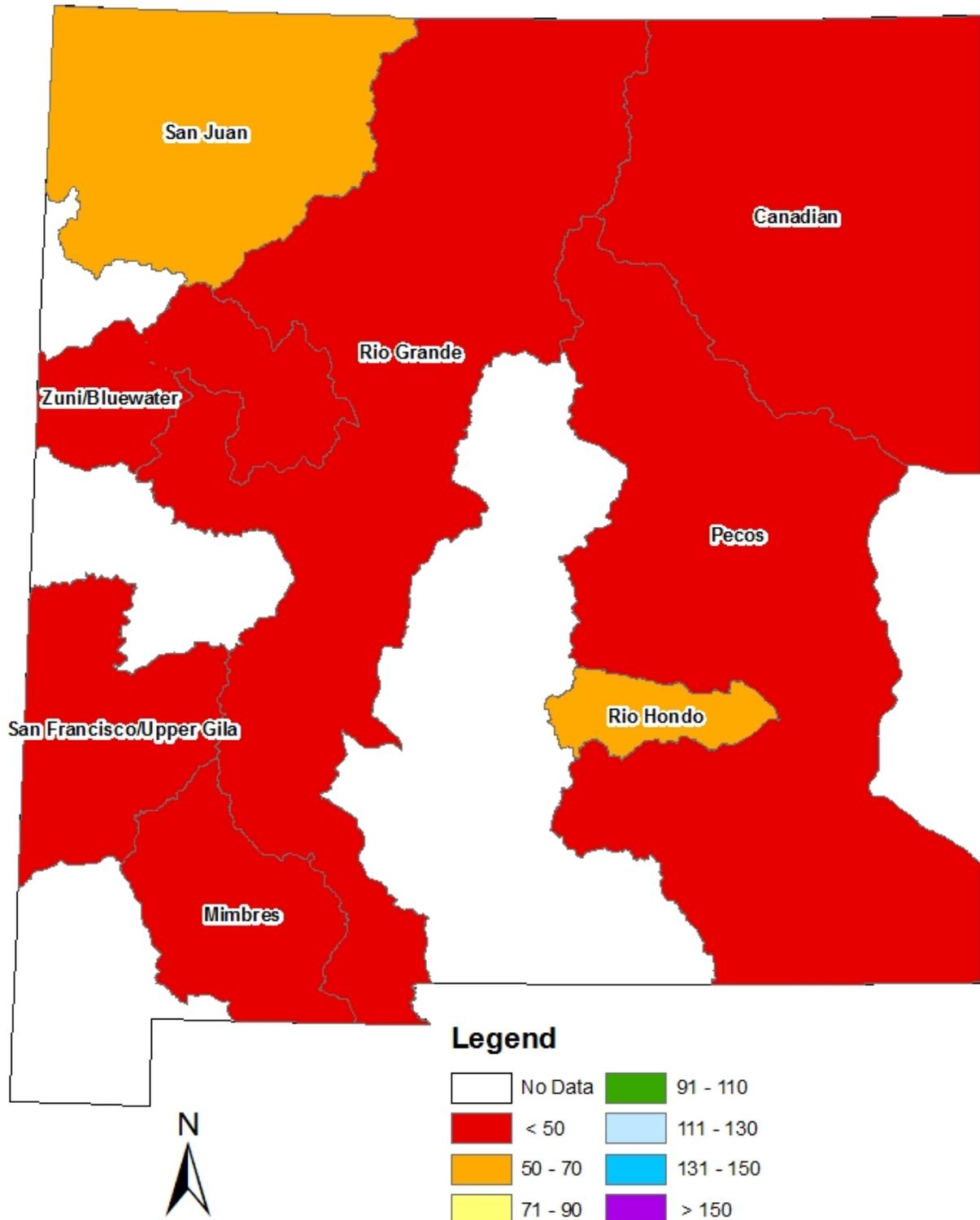
Statewide Reservoir Storage



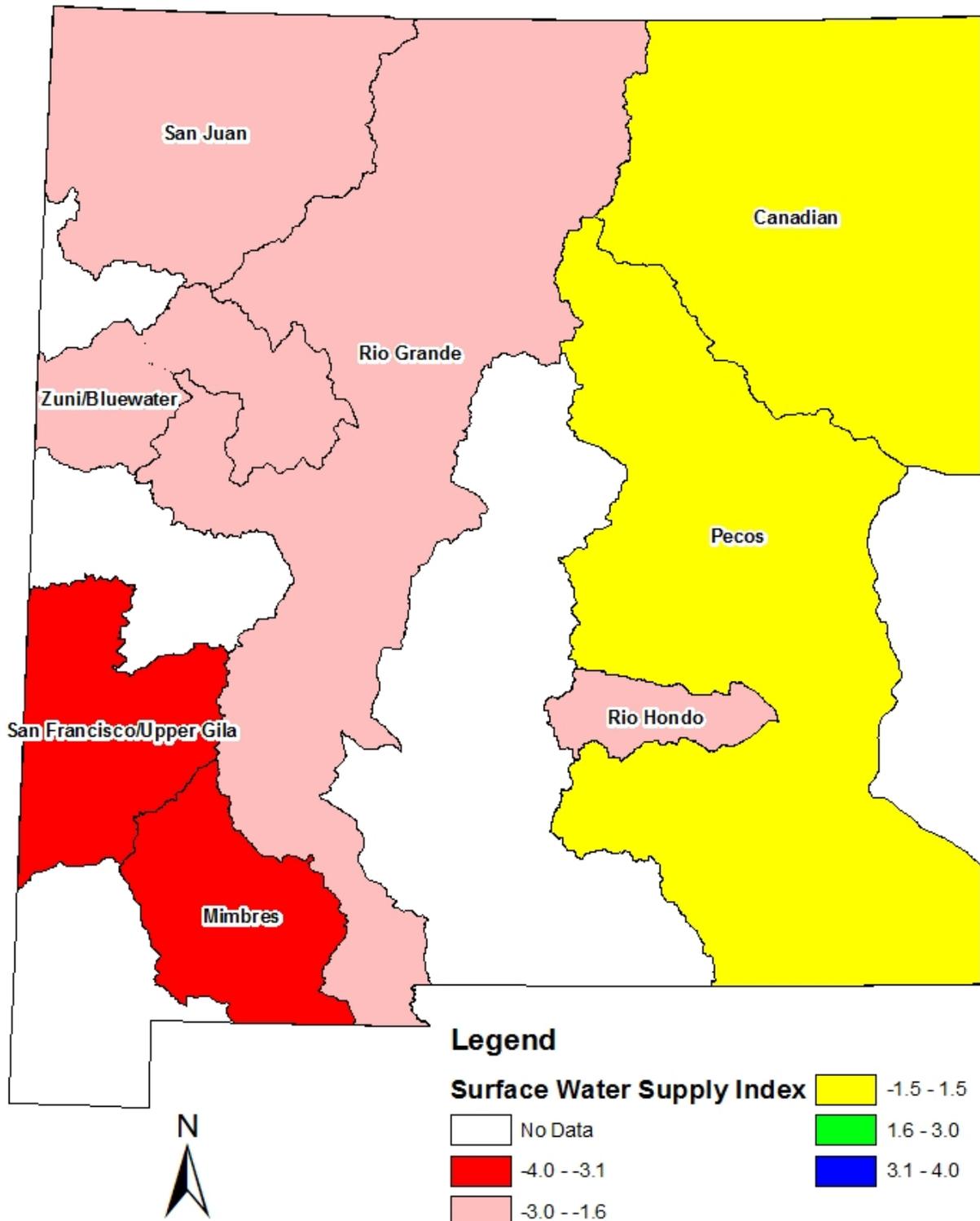
Statewide Reservoir Storage



New Mexico Percent of Median Snowpack as of March 1, 2018



New Mexico Surface Water Supply Index as of March 1, 2018

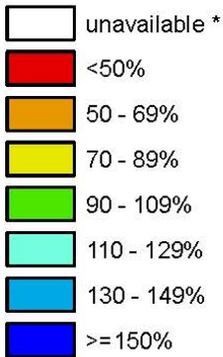


New Mexico

SNOTEL Current Snow Water Equivalent (SWE) % of Normal

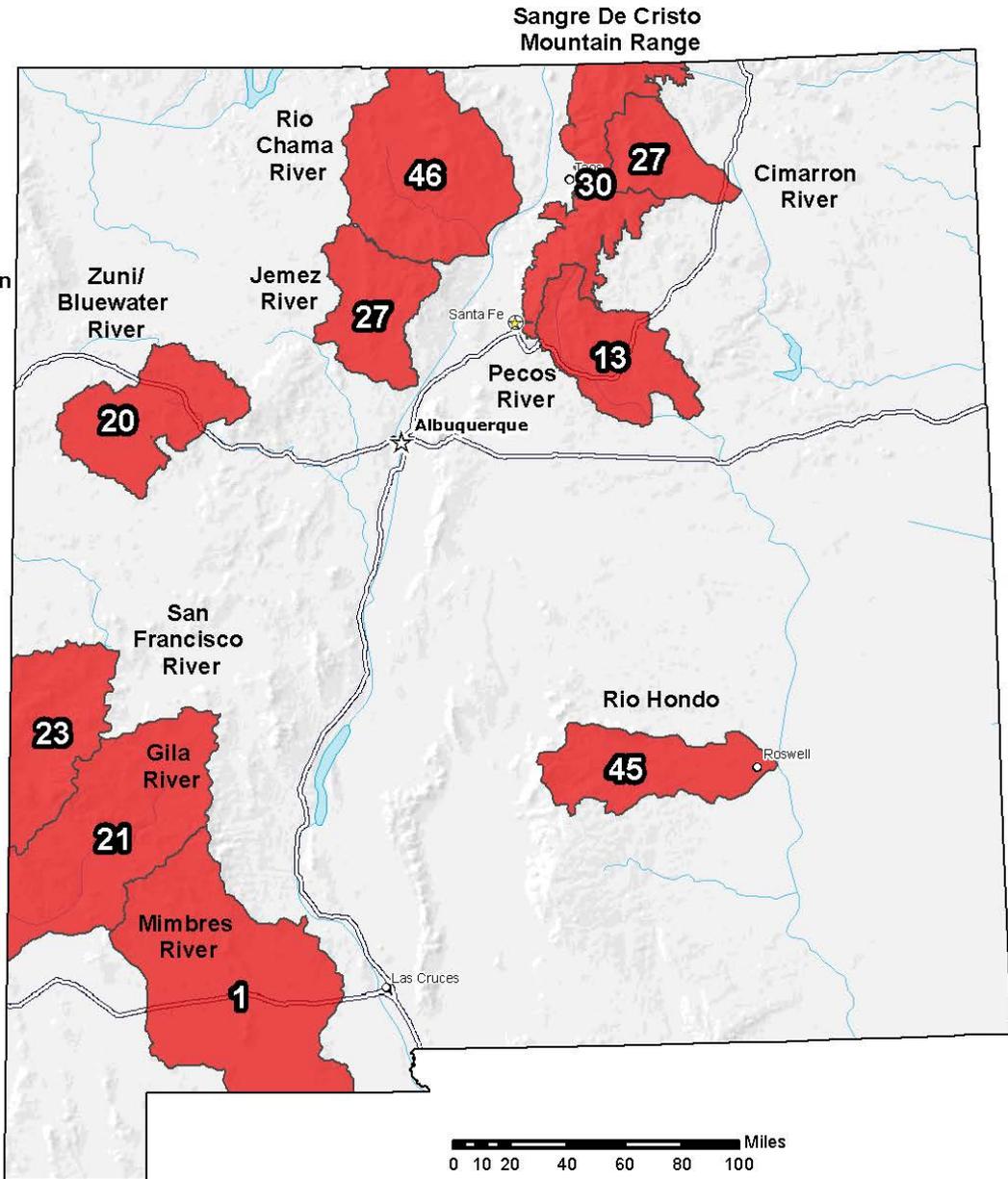
Mar 06, 2018

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).

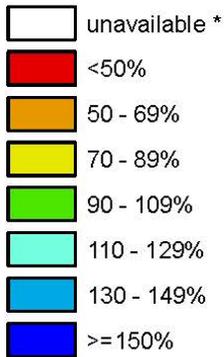
Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
<http://www.wcc.nrcs.usda.gov>

New Mexico

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

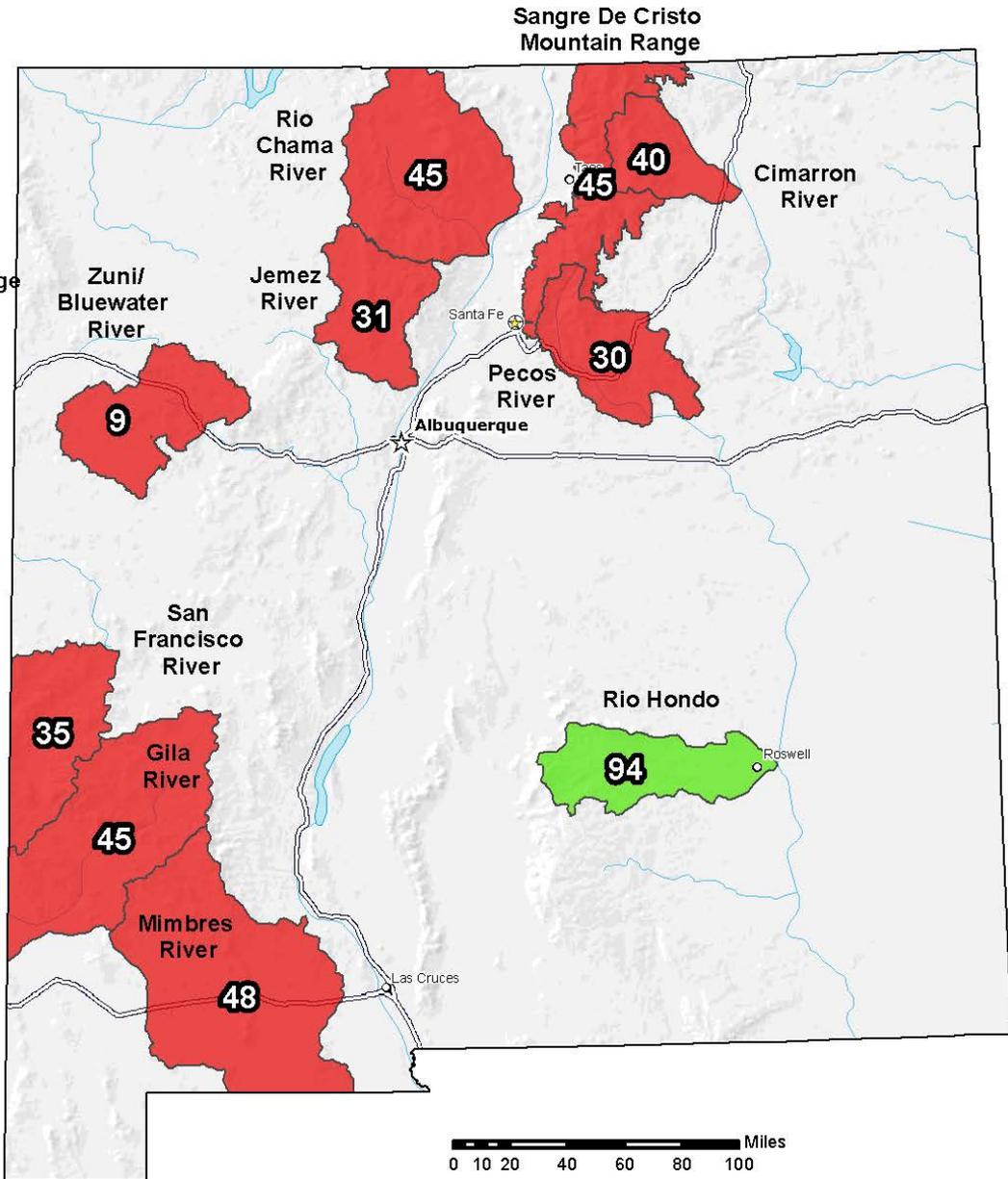
Mar 06, 2018

Water Year (Oct 1)
to Date Precipitation
Basin-wide Percent
% of 1981-2010 Average



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

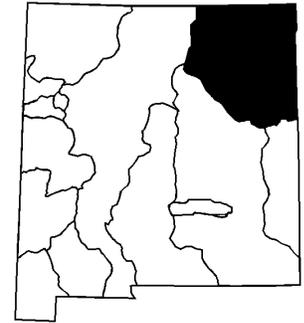
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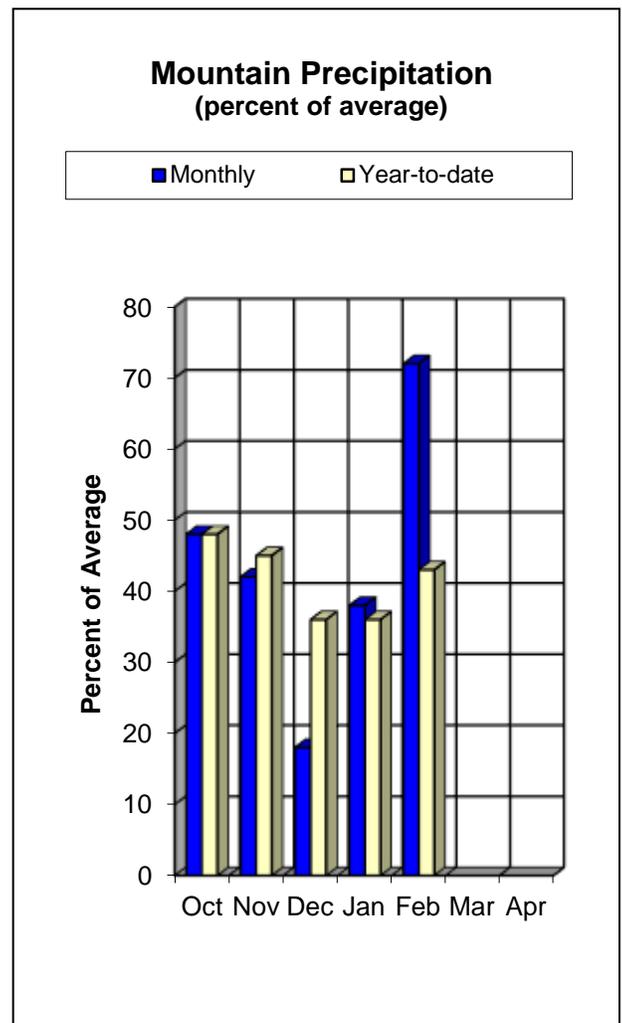
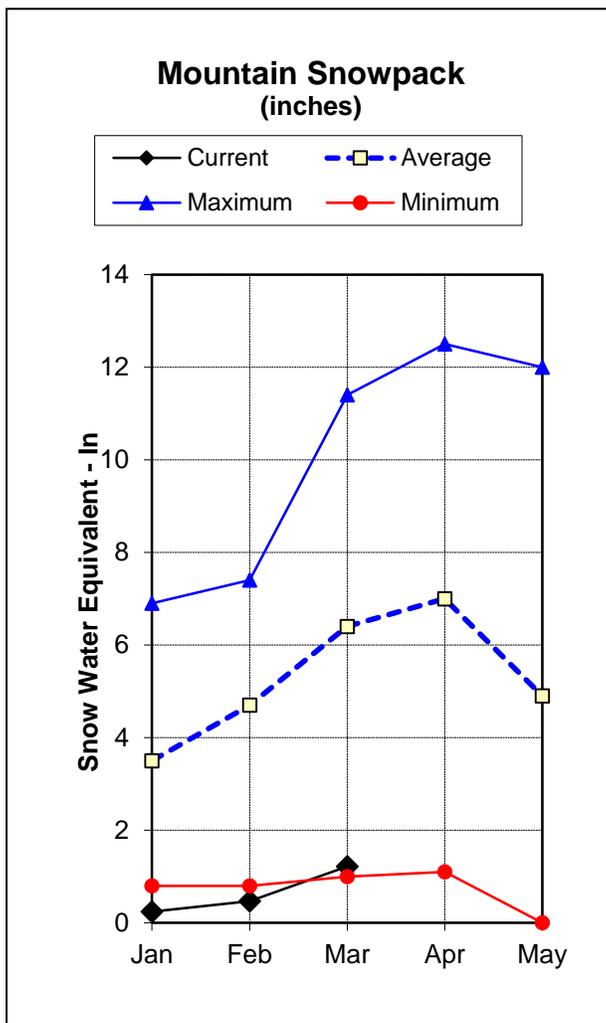
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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 March 1, 2018



The Canadian River Basin forecasts for the March to June time period still remain well below average for this time of year. They range from 20 percent of average for the Vermejo River near Dawson, to 6 percent of average for the Cimarron River near Cimarron. Rayado Creek near Cimarron is still forecast to be 13 percent of the average for the same time period. Due to moisture received during the month of February, water year-to-date precipitation in the Canadian River Basin has increased slightly, however remains well below the average at 43 percent, as compared to 95 percent last year at this time. Monthly precipitation for February in the basin was 72 percent of the average. Snowpack in the basin increased throughout February yet remains extremely low at 19 percent of the median. This is a decrease of 78 percent from last February. Reservoirs are currently holding 256,000 acre-feet of storage, which is an increase of 150,500 acre feet from last year at this time. Reservoir storage in the Canadian River Basin is currently at 77 percent of capacity. This equates to 100 percent of the average stored water for the basin as of the end of February.



Canadian River Basin Streamflow Forecasts - March 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	0.3	0.9	1.58	20%	2.5	4.6	7.8
Eagle Nest Reservoir Inflow	MAR-JUN	0.06	0.3	0.63	6%	1.14	2.3	11.2
Cimarron R nr Cimarron ²	MAR-JUN	0.1	0.5	1.02	6%	7.1	16.1	15.8
Ponil Ck nr Cimarron	MAR-JUN	0.12	0.41	0.76	11%	1.27	2.4	7.2
Rayado Ck nr Cimarron	MAR-JUN	0.12	0.46	0.88	13%	1.5	2.9	7
Conchas Reservoir Inflow ³	MAR-JUN	0.04	1.33	4.2	14%	9.6	24	30

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

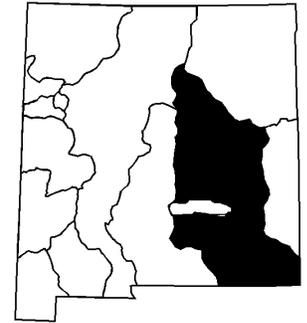
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

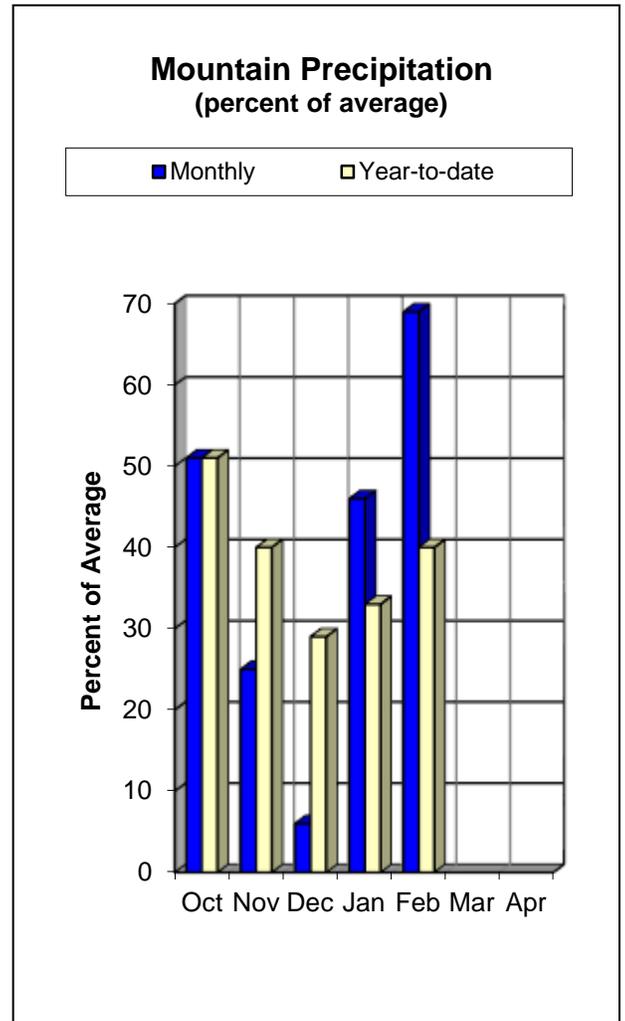
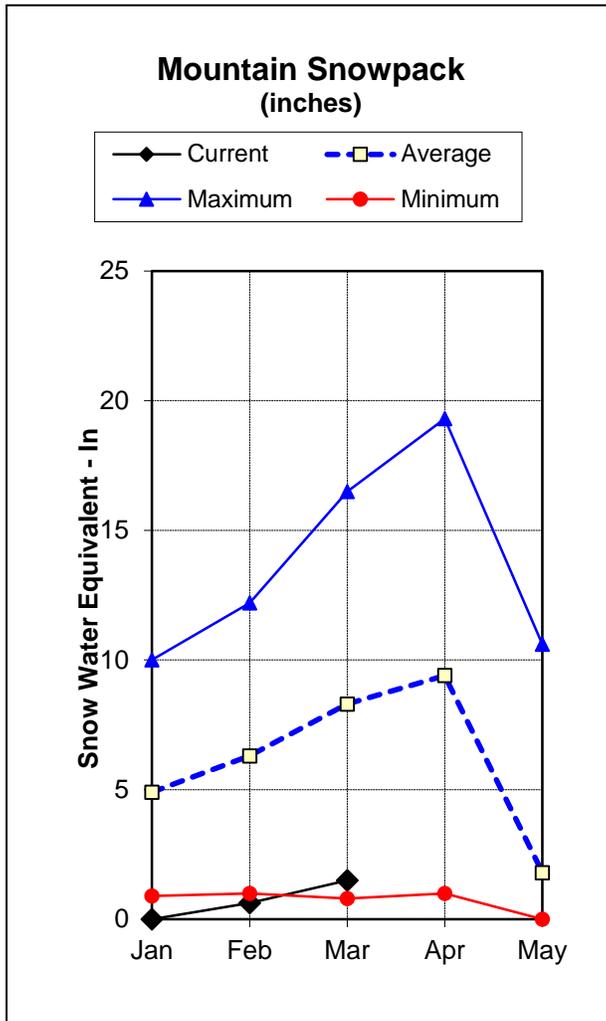
Reservoir Storage End of February, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Conchas Lake	213.2	73.6	202.0	254.4
Eagle Nest Lake nr Eagle Nest, NM	42.8	31.9	54.1	79.0
Basin-wide Total	256.0	105.5	256.1	333.4
# of reservoirs	2	2	2	2

Watershed Snowpack Analysis March 1, 2018	# of Sites	% Median	Last Year % Median
CANADIAN RIVER BASIN	9	19%	97%

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



Streamflow forecasts in the Pecos River Basin for the March to July timeframe remain unchanged from the previous month. 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. February received 69 percent of the average precipitation for the month, putting the basin at 40 percent of average for the water year-to-date. This is 50 percent below last year's average of 97 percent. Snowpack levels in the Pecos River Basin remain low at 18 percent of median. Last year at this time the basin had received 77 percent of the median snowpack. As of March 1st reservoir storage in the basin is at 181,300 acre-feet. This equals 7 percent of the average capacity and 162 percent of the average stored water. Last year reservoir storage was 111 percent of the average at this time.



Pecos River Basin Streamflow Forecasts - March 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	4.5	10	15	26%	21	32	57
Pecos R nr Anton Chico	MAR-JUL	0	2.3	7	11%	14.1	29	63
Gallinas Ck nr Montezuma	MAR-JUL	0.06	0.95	2.2	22%	3.9	7.4	9.8
Pecos R ab Santa Rosa Lk	MAR-JUL	0	1.89	6	11%	12.4	26	56

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

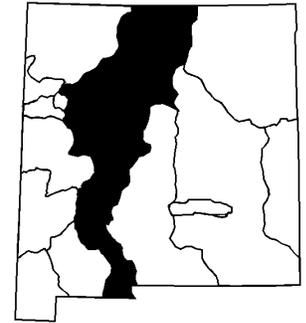
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

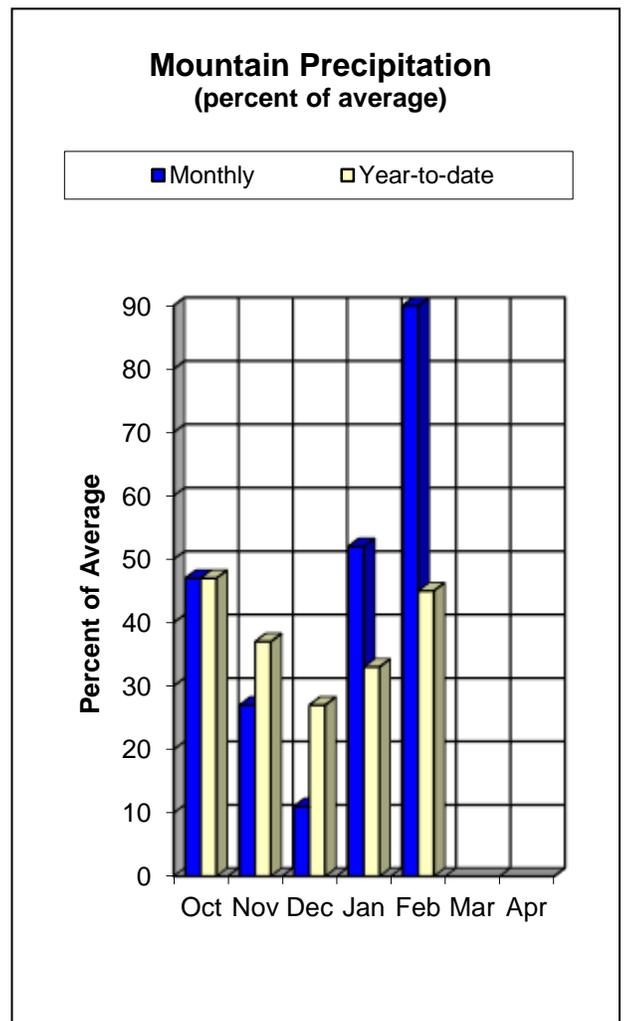
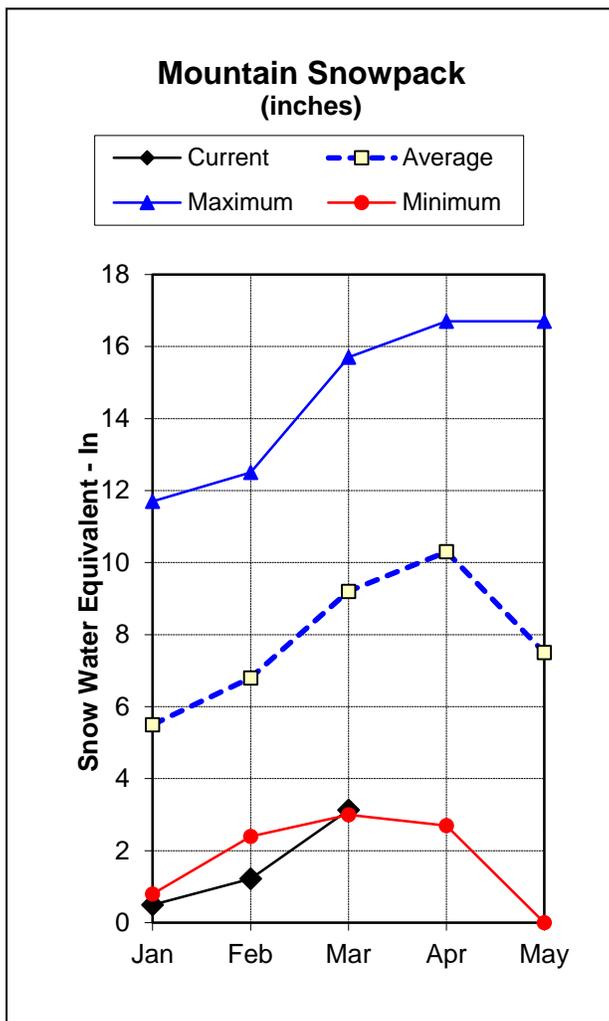
Reservoir Storage End of February, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Lake Avalon	0.0	3.1	2.6	4.0
Brantley Lake nr Carlsbad	44.9	37.7	22.9	1008.2
Santa Rosa Reservoir	93.9	51.3	53.2	432.2
Lake Sumner	42.5	32.4	33.1	102.0
Basin-wide Total	181.3	124.4	111.8	1546.4
# of reservoirs	4	4	4	4

Watershed Snowpack Analysis March 1, 2018	# of Sites	% Median	Last Year % Median
PECOS RIVER BASIN	5	18%	77%

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



Streamflow forecasts for the Rio Grande Basin have increased slightly in the northern mountains, yet remain well below normal further to the south. Currently ranging from 18 to 68 percent in the north to single digit percentages below Jemez Dam. For the April to September forecasts, the Rio Grande near Del Norte is 60 percent of the average. Further south at Costilla Creek near Costilla the forecasts remains at 33 percent of average for the March to July time period. Additionally, for the March to July forecasts the Jemez River near Jemez has increased marginally to 19 percent of the average! The Rio Grande at Otowi Bridge is forecast at only 25 percent of average. Water year-to-date precipitation has increased slightly from 33 percent to 45 percent of the average. This is due to February being a wet month in the basin having received 90 percent of the average precipitation. Snowpack in the basin has almost doubled throughout the month from 18 to 34 percent of median. This is however 85 percent below last year's median! Snowpack in southern Colorado near the headwaters of the Rio Grande has also improved from 31 to 55 percent of median. Current reservoir storage in the basin is 928,600 acre-feet. This is 298,400 more acre-feet than the basin had at this time last year and 46 percent of the average.



Rio Grande Basin Streamflow Forecasts - March 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 ²	APR-SEP	172	250	310	60%	375	485	515
Platoro Reservoir Inflow	APR-JUL	25	33	38	68%	44	53	56
	APR-SEP	27	35	42	68%	48	59	62
Conejos R nr Mogote ²	APR-SEP	75	102	123	63%	145	181	194
Costilla Reservoir Inflow	MAR-JUL	2.2	3.7	5	45%	6.4	8.9	11.1
Costilla Ck nr Costilla ²	MAR-JUL	2.5	5.7	8.7	33%	12.3	18.7	26
Red R bl Fish Hatchery nr Questa	MAR-JUL	5.1	9.1	12.5	37%	16.4	23	34
Rio Hondo nr Valdez	MAR-JUL	1.2	2.9	4.6	25%	6.5	10.1	18.4
Rio Pueblo de Taos nr Taos	MAR-JUL	0.34	1.6	3	18%	4.8	8.3	17
Rio Lucero nr Arroyo Seco	MAR-JUL	1.05	2.3	3.5	32%	4.9	7.5	10.9
Rio Pueblo de Taos bl Los Cordovas	MAR-JUL	0	0.5	2.4	7%	5.7	13.2	36
Embudo Ck at Dixon	MAR-JUL	0.34	3.9	8.4	18%	14.8	27	48
El Vado Reservoir Inflow ²	MAR-JUL	21	44	64	28%	87	129	225
	APR-JUL	17.9	39	58	28%	80	120	205
Santa Cruz R at Cundiyo	MAR-JUL	1.59	3.2	4.7	26%	6.4	9.4	18.3
Nambe Falls Reservoir Inflow	MAR-JUL	0.54	1.11	1.61	25%	2.2	3.2	6.5
Tesuque Ck ab diversions	MAR-JUL	0.04	0.18	0.33	25%	0.51	0.86	1.34
Rio Grande at Otowi Bridge ²	MAR-JUL	54	121	182	25%	255	385	720
Santa Fe R nr Santa Fe ²	MAR-JUL	0.17	0.43	0.67	16%	0.96	1.5	4.3
Jemez R nr Jemez	MAR-JUL	2.1	5.1	7.8	19%	11.2	17.1	42
Jemez R bl Jemez Canyon Dam	MAR-JUL	0.09	1.29	2.9	9%	5.2	9.6	34
Rio Grande at San Marcial ²	MAR-JUL	-330	-136	-4.5	-1%	127	320	510

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

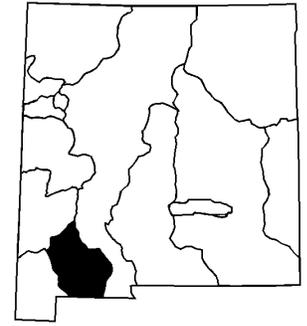
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of February, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Abiquiu Reservoir	125.0	123.8	154.8	1198.5
Bluewater Lake	6.2	7.8	6.6	38.5
Caballo Reservoir	44.5	29.6	101.1	332.0
Cochiti Lake	48.1	46.0	58.3	491.0
Costilla Reservoir	11.4	6.1	6.9	16.0
El Vado Reservoir	70.6	52.8	100.8	184.8
Elephant Butte Reservoir	482.8	295.3	1305.0	2195.0
Heron Reservoir	139.9	68.7	297.8	400.0
Basin-wide Total	928.6	630.2	2031.3	4855.8
# of reservoirs	8	8	8	8

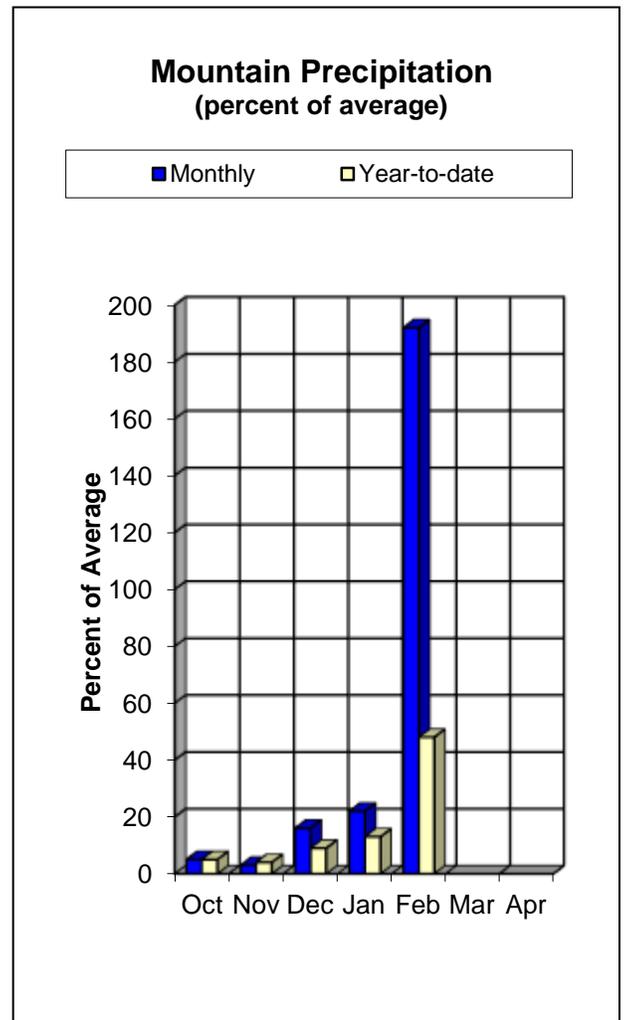
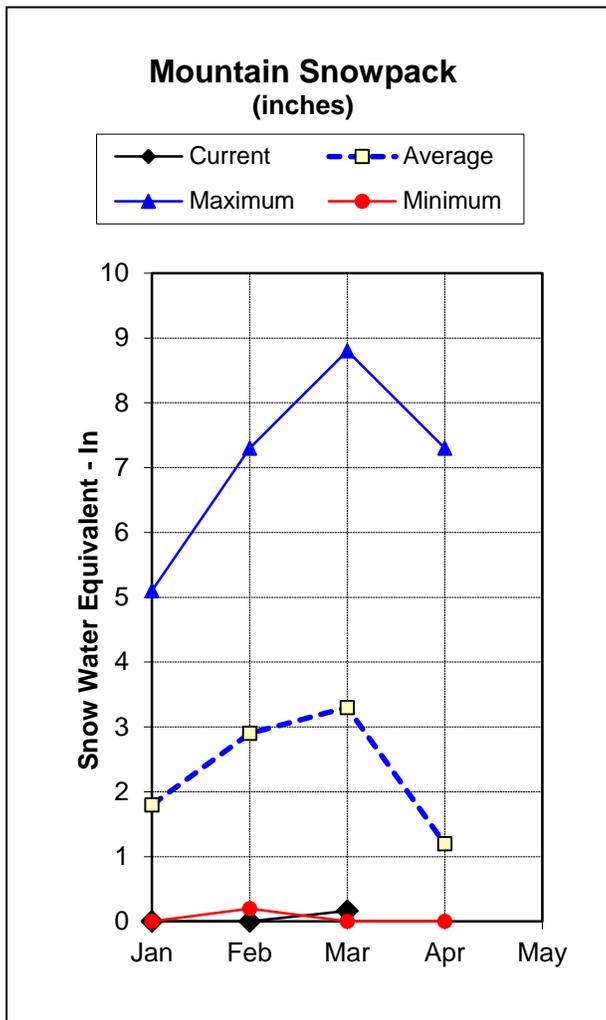
Watershed Snowpack Analysis March 1, 2018	# of Sites	% Median	Last Year % Median
RIO GRANDE BASIN	19	34%	119%

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



The March through May forecast for the Mimbres River at Mimbres is currently at 31 percent of the average. Water year-to-date precipitation remains low at 48 percent of the average, yet reflects a great deal of moisture the region received throughout February. Throughout the month the Mimbres Basin received 192 percent of the average precipitation! However, despite receiving all this moisture, it was just too warm to turn all of it to snow. Snowpack in the basin is at just 5 percent of the median!

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 - March 1, 2018

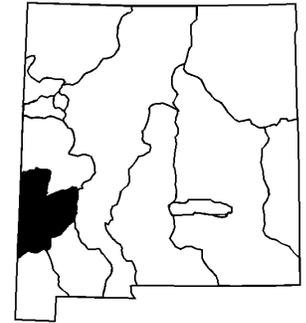
Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

MIMBRES RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Mimbres R at Mimbres ³	MAR-MAY	0.05	0.22	0.46	31%	0.83	1.67	1.5

- 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

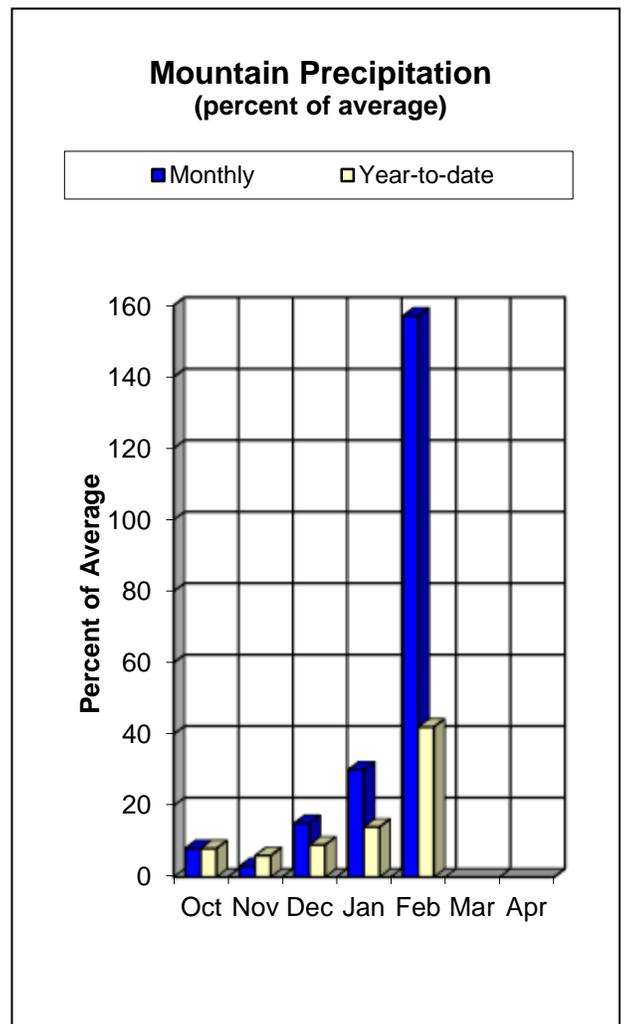
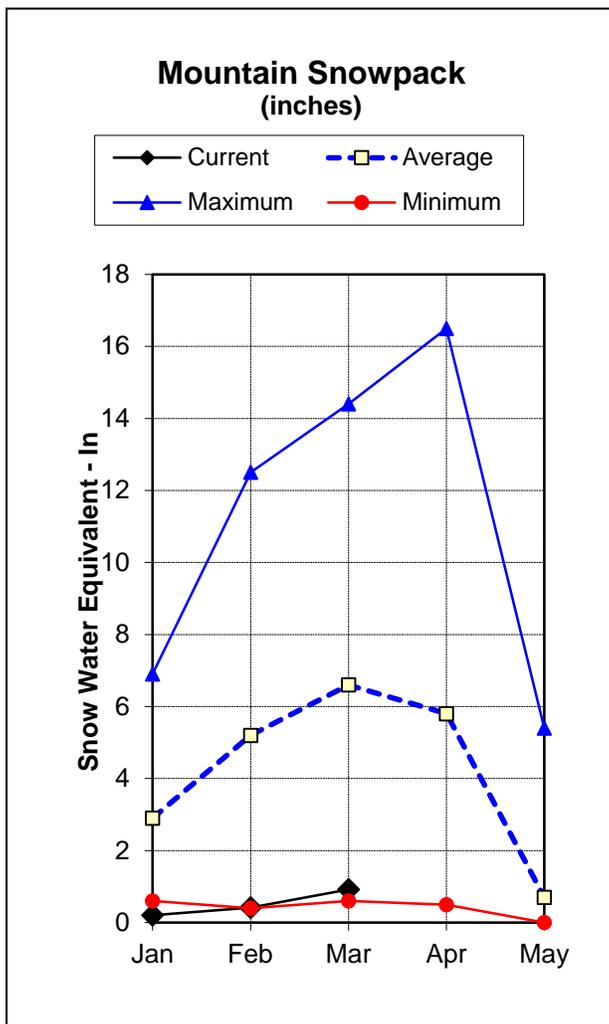
Watershed Snowpack Analysis March 1, 2018	# of Sites	% Median	Last Year % Median
MIMBRES RIVER BASIN	2	5%	42%

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



Streamflow forecasts for the San Francisco/Upper Gila River Basin remain well below average this water year. For the March through May forecast the Gila River at Gila is at 32 percent of the average. For the same time period the San Francisco River at Clifton is currently forecasted to be 29 percent of the average. Water year-to-date precipitation has increased from 14 to 42 percent of the average with February receiving 157 percent of the average precipitation. Snow in the basin is well below the median at 14 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 - March 1, 2018

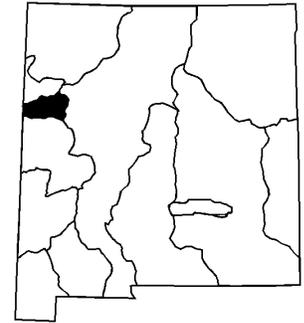
Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

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 ³	MAR-MAY	4.3	7.7	10.8	32%	14.6	22	34
Gila R bl Blue Ck nr Virden ³	MAR-MAY	0.9	5.6	11	26%	18.3	32	43
San Francisco R at Glenwood ³	MAR-MAY	0.34	1.34	2.6	17%	4.5	8.8	15.2
San Francisco R at Clifton ³	MAR-MAY	0.73	5.4	11	29%	18.6	33	38

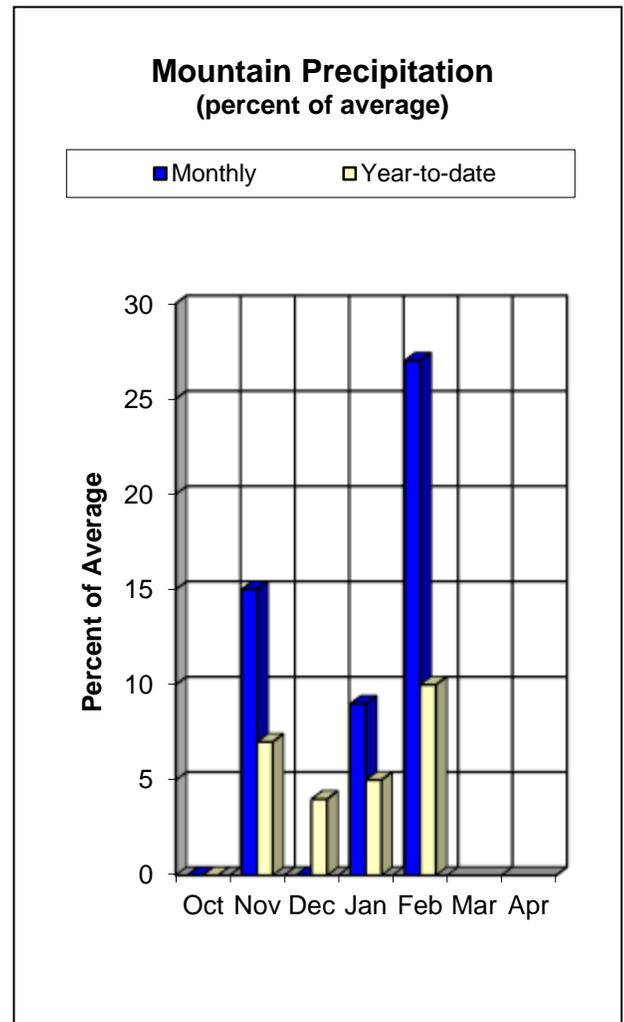
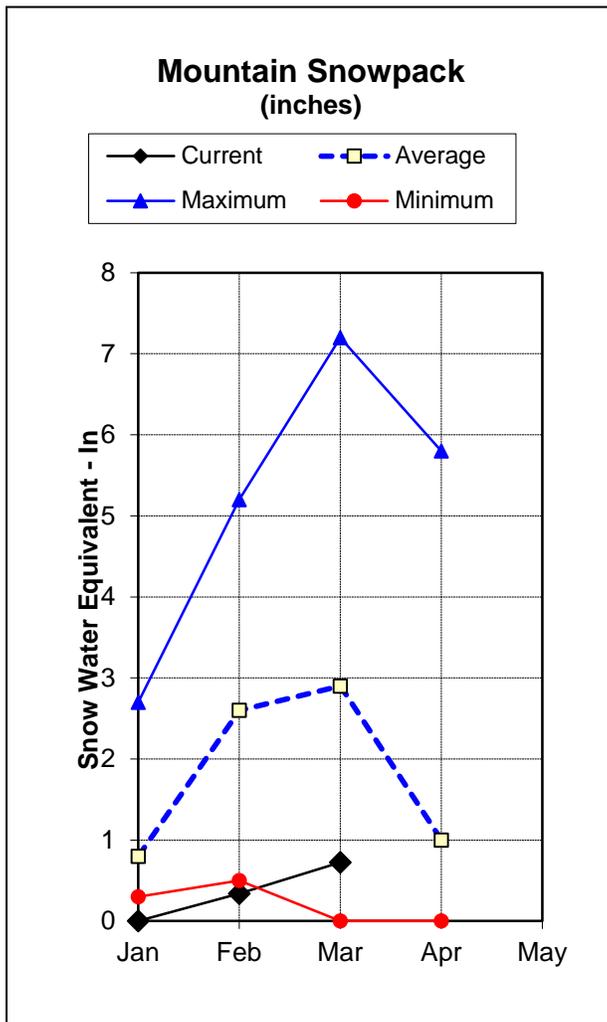
- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Watershed Snowpack Analysis March 1, 2018	# of Sites	% Median	Last Year % Median
SAN FRANCISCO-UPPER GILA RIVER BASIN	7	14%	60%

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



The Zuni/Bluewater Basins received a dose of snow this month, yet the region continues to struggle with decreasing snowpack values. The Rio Nutria near Ramah is currently forecast at only 9 percent of the average. Additionally, the Zuni River above Black Rock is forecast at just 22 percent of the average for the March to May timeframe. The Zuni-Bluewater Basins have received just 10 percent of the average precipitation for the water year-to-date, and only 27 percent throughout the month of February. Snow did fall in the region throughout February bringing the basin up to 25 percent of median. Bluewater Lake has dropped slightly to 6,200 acre feet versus 7,800 last February. This is 95 percent of the average as compared to 117 percent last year at this time.



Zuni-Bluewater Basins Streamflow Forecasts - March 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 ³	MAR-MAY	0	0.01	0.1	9%	0.33	1.06	1.12
Zuni R ab Black Rock Reservoir ³	MAR-MAY	0	0	0.05	22%	0.38	1.91	0.23

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

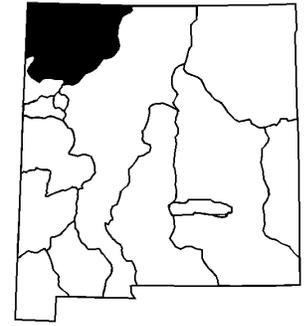
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

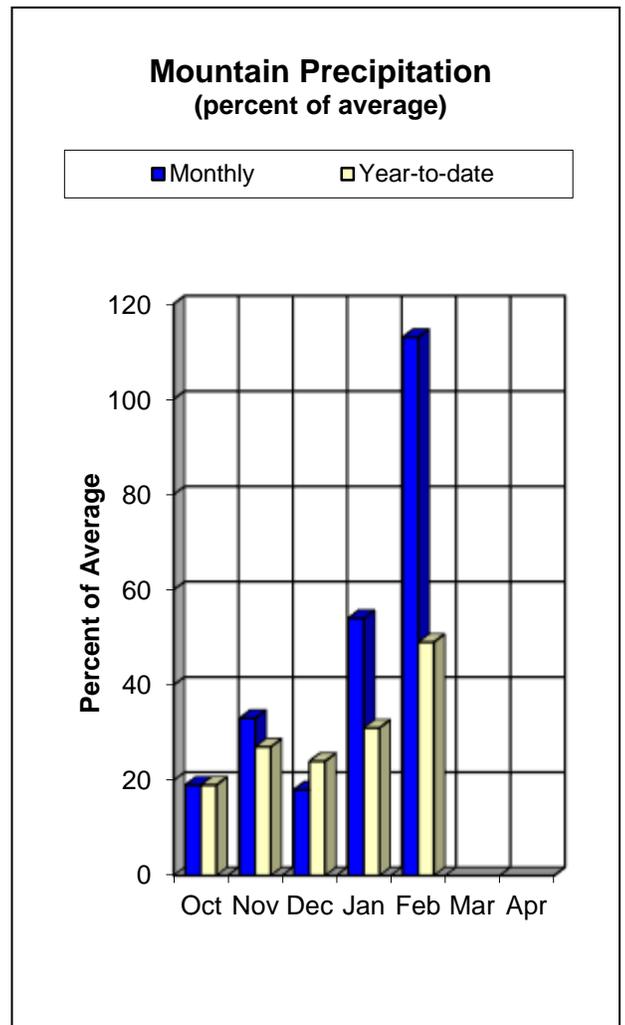
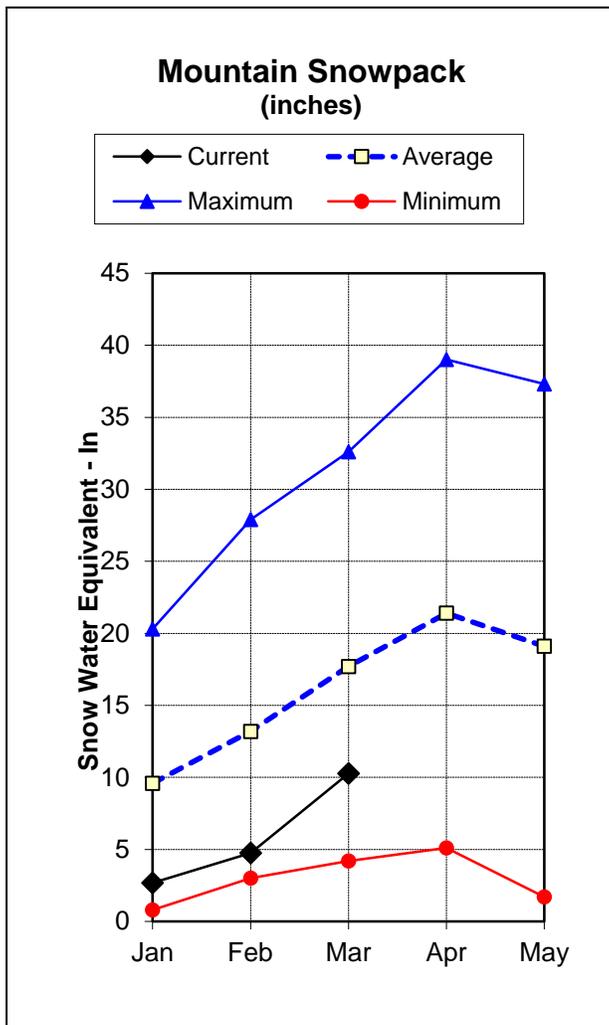
Reservoir Storage End of February, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Bluewater Lake	6.2	7.8	6.6	38.5
Basin-wide Total	6.2	7.8	6.6	38.5
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis March 1, 2018	# of Sites	% Median	Last Year % Median
ZUNI-BLUEWATER BASINS	5	25%	85%

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



The April to July forecasts have improved yet still remain below average for this time of year. Ranging from 61 percent of average for the Rio Blanco at Blanco Diversion to 8 percent for South Creek near Monticello. Additionally, the Animas River at Durango remains unchanged at 46 percent of the average. Water year-to-date precipitation has increased to 49 percent of the average due to February receiving 113 percent of the average rainfall for the month. Snowpack in the basin remains well below the median at just 58 percent. This is a decrease of 93 percent from last year at this time! Navajo reservoir storage contains 1,246,000 acre-feet or 96 percent of the average. This equates to 76 percent of the average capacity for the reservoir.



San Juan River Basin Streamflow Forecasts - March 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 ²	APR-JUL	18.1	27	33	61%	41	53	54
Navajo R at Oso Diversion ²	APR-JUL	21	32	40	62%	48	63	65
Navajo Reservoir Inflow ²	APR-JUL	151	235	300	41%	370	495	735
Animas R at Durango	APR-JUL	112	156	190	46%	230	290	415
La Plata R at Hesperus	APR-JUL	3.7	5.9	7.6	33%	9.5	12.8	23

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

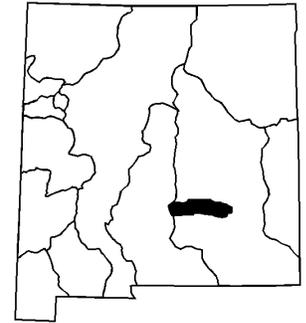
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of February, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Navajo Reservoir	1246.0	1339.1	1292.0	1696.0
Basin-wide Total	1246.0	1339.1	1292.0	1696.0
# of reservoirs	1	1	1	1

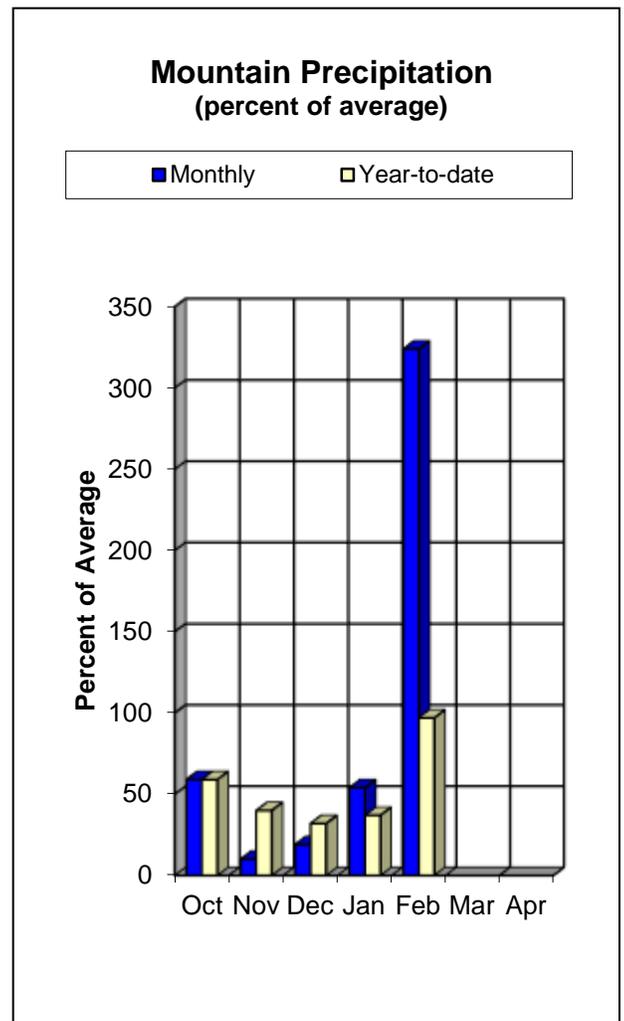
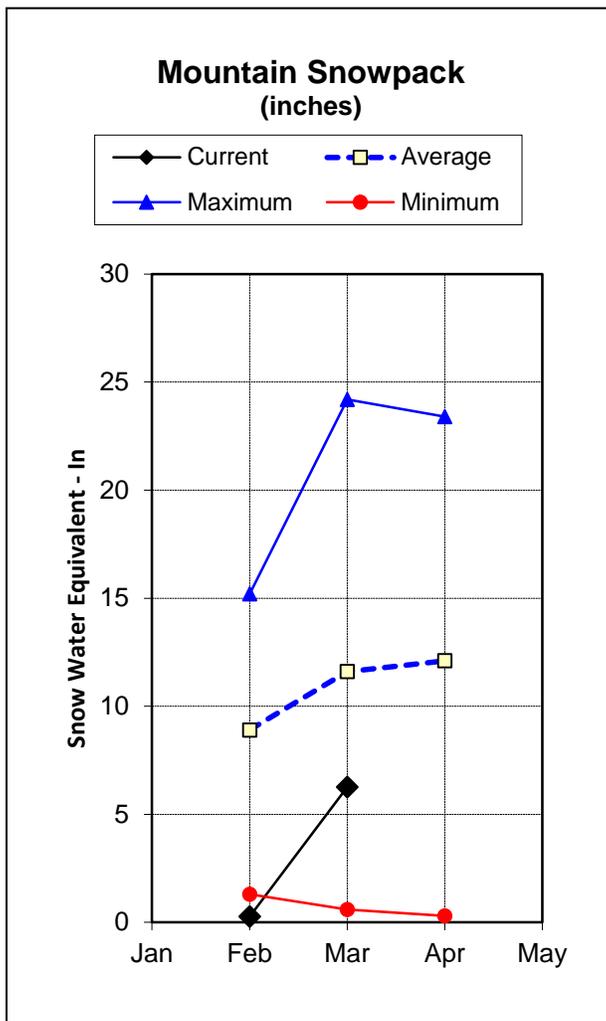
Watershed Snowpack Analysis March 1, 2018	# of Sites	% Median	Last Year % Median
SAN JUAN RIVER BASIN	12	58%	151%

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



The streamflow forecast for the March to June time period has increased to 33 percent of average for the Rio Ruidoso at Hollywood. Water year-to-date precipitation is now at 97 percent of average in the basin after receiving 324 percent of the average rainfall for February! This helped to increase snowpack levels to 54 percent of the median. This is just 5 percent less than 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.



Data Current as of: 3/5/2018 3:10:23 PM

Rio Hondo Basin Streamflow Forecasts - March 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	0.31	1.23	2.2	33%	3.5	5.8	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 March 1, 2018	# of Sites	% Median	Last Year % Median
RIO HONDO BASIN	1	54%	59%

NEW MEXICO STATEWIDE	Network	Elevation (ft)	Depth (in)	SWE (in)	Median (in)	% Median	Last Year SWE (in)	Last Year % Median
Alamitos	SC	9320	2	0.3	6.4	5%	3.9	61%
Aztec #2	SC	9880	4	0.8	3.5	23%	3.6	103%
Bateman	SNOTEL	9300	18	4.2	10.9	39%	15.9	146%
Boon	SC	8140	8	1.4	4.5	31%	5.1	113%
Bowl Canyon	SC	8980	12	2.8	8.7	32%		
Chamita	SNOTEL	8400	15	3.7	9.5	39%	17.3	182%
Dan Valley	SC	7640	5	0.8	3.5	23%	1.5	43%
Elk Cabin	SNOTEL	8210	1	0.3	4.8	6%	0.6	13%
Frisco Divide	SNOTEL	8000	0	0.0	2.4	0%	1.2	50%
Gallegos Peak	SNOTEL	9800	19	3.7	9.8	38%	9.7	99%
Hematite Park	SC	9500	6	0.9	5.0	18%	6.9	138%
Hidden Valley	SC	8480	4	0.8			8.2	
Hopewell	SNOTEL	10000	30	6.0	16.2	37%	24.2	149%
Lookout Mountain	SNOTEL	8500	0	0.0	0.6	0%	0.0	0%
Mcgaffey	SC	8120	6	0.9	1.4	64%	1.2	86%
Mcknight Cabin	SNOTEL	9240	1	0.4	3.1	13%	3.1	100%
Missionary Spring	SC	7940	2	0.4	4.1	10%	0.0	0%
Navajo Whiskey Ck	SNOTEL	9050	0	0.0			13.0	
North Costilla	SNOTEL	10600	3	0.7	5.9	12%	6.6	112%
Ojo Redondo	SC	8200	2	0.4	3.6	11%	1.4	39%
Palo	SNOTEL	9350	4	1.5			5.8	
Palo	SC	9300	14	1.9	6.8	28%	5.8	85%
PanchueLa	SC	8400					1.9	
Quemazon	SNOTEL	9500	3	1.4	8.4	17%	8.2	98%
Red River Pass #2	SNOTEL	9850	7	2.2	6.8	32%	8.8	129%
Rice Park	SNOTEL	8460	4	1.6	7.6	21%	8.4	111%
Rio En Medio	SC	10300	10	2.1	8.4	25%	6.8	81%
Rio Santa Barbara	SNOTEL	10664	20	3.9			12.0	
San Antonio Sink	SNOTEL	9100	19	3.8			16.1	
San Antonio Sink	SC	9200	16	3.7	7.1	52%	14.0	197%
Santa Fe	SNOTEL	11445	18	3.8	13.4	28%	12.6	94%
Senorita Divide #2	SNOTEL	8600	14	3.3	8.7	38%	8.2	94%
Shuree	SNOTEL	10100	6	1.3			9.4	
Shuree	SC	10097	8	1.0	2.7	37%		
Sierra Blanca	SNOTEL	10280	16	4.9	9.1	54%	5.4	59%
Signal Peak	SNOTEL	8360	0	0.0	4.3	0%	0.0	0%
Silver Creek Divide	SNOTEL	9000	8	2.6	8.3	31%	8.7	105%
State Line	SC	8000	0	0.0	1.4	0%	0.8	57%
Taos Canyon	SC	9100	10	1.2	5.6	21%	2.7	48%
Taos Powderhorn	SNOTEL	11057	19	4.7			22.9	
Taos Powderhorn	SC	11250	35	5.9	20.3	29%	22.2	109%
Tolby	SNOTEL	10180	7	1.4	7.2	19%	8.4	117%
Tres Ritos	SNOTEL	8600	0	0.0			0.8	
Tres Ritos	SC	8600	5	1.0	5.8	17%	2.8	48%
Vacas Locas	SNOTEL	9306	22	4.8	11.7	41%	13.4	115%
Wesner Springs	SNOTEL	11120	5	1.7	12.1	14%	11.0	91%
Whiskey Creek	SC	9050	11	2.6	9.3	28%	11.0	118%
Basin Index						28%		102%
# of sites						36		36

Issued by

**Leonard Jordan
Chief
Natural Resources Conservation Service
Conservation Service
U.S. Department of Agriculture**

Released by

**J. Xavier Montoya
State Conservationist
Natural Resources

Albuquerque, New Mexico**



100 Sun Ave. NE, Suite 602
Albuquerque, NM 87109



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

