



United States
Department of
Agriculture

Natural
Resources
Conservation
Service

New Mexico Basin Outlook Report April 1, 2018



What a difference one month makes! Taos Canyon at the top of Palo Flechado Pass at approximately 9100ft. Right photo taken at the end of March, left one month ago.

Photo courtesy of Aaron Miller, 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

The weather patterns which have dominated the southwest since the beginning of the water year continued through the month of March. Typically a month which helps kick-start the growing season left eastern New Mexico and areas of southern Colorado in severe drought. Additionally, as we move toward summer these deficits have become difficult if not impossible to recover from. With shortages in water year-to-date precipitation ranging from 2 to 3.5 inches in eastern NM, and up to 9 inches in the Four Corners and higher elevations it is unlikely that this will be made up prior to the monsoon season. Fire danger continues to be a major concern, especially for those areas that saw a much wetter than average summer and now have fuel which has been exposed to long stretches of dry and windy days. The time period of peak snowpack has come and gone leaving behind some of the lowest streamflow forecasts on record. Furthermore, during a time when we can expect low elevation melt off and a bump in runoff we are not. This is an indicator that these low elevation sites did not yield as much snow as expected. This is also an indicator that the upper elevation snowpack is not melting as of yet and that over the next several weeks we can expect a slight increase in runoff as the rest of New Mexico's snowpack begins its decline. The month of April will be an important time for New Mexico as we evaluate how much of our snowpack goes to runoff, infiltrates the soil, and makes its way to our reservoirs. Water users and managers should continue to monitor conditions to determine the extent of drought impacts across the state.

Snowpack

The continued trend of New Mexico missing out on significant precipitation during the winter persisted throughout March and the start of spring. April 1st snowpack ranged from a high of 82 percent in the Zuni/Bluewater Basins to 4 percent in the Canadian River Basin. Three of New Mexico's southern basins have already melted out having been continuously exposed to exceptionally dry and warm conditions throughout the water year. The San Juan basin is just above 50 percent of median emphasizing how far north the storm tracks this winter have swayed. This leaves southern Colorado and portions of northern New Mexico in severe drought as we move towards summer. Historically we are passed the snow accumulation season and as spring continues temperatures will rise and we can expect a decrease in precipitation. The short-term outlook is not extremely favorable based on the climatology of the region. 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	4	52
PECOS RIVER BASIN	13	58
RIO GRANDE BASIN	26	98
MIMBRES RIVER BASIN	0	0
SAN FRANCISCO-UPPER GILA RIVER BASIN	0	0
ZUNI-BLUEWATER BASINS	82	0
SAN JUAN RIVER BASIN	54	122
CHUSKA MOUNTAINS	8	67
RIO HONDO BASIN	0	0
Statewide Snowpack Total	16	77
# of sites	38	38

Precipitation

While copious amounts of precipitation fell across much of the western US in late March little to no water made its way to New Mexico during this event. As a result statewide monthly precipitation is just 39 percent of the average which is 43 percent for the water year-to-date. The deterioration of conditions throughout the month has led to a southward extension of D3 drought conditions into west-central and east-central New Mexico. Above average temperatures continue to dominate the state creating a high evaporative demand situation and degrading soil moisture quality. This scenario of warm temperatures, a lack of moisture, and little to no snowpack throughout the winter months will plague the state as we move into the warmer months and the demand for water resources becomes ever more critical. Our states 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 long-range forecasts water users and managers should expect shortfalls in water supply this spring.

Reservoirs

Early low and mid-elevation snowmelt in some regions continues to provide many of New Mexico's reservoirs with near to above average storage for April 1st. Statewide reservoir storage has remained fairly constant over the past several months at 69 percent of the average as compared to 65 percent last water year. This is 44 percent of the average capacity as compared to 29 percent at this time last year. Water-users should continue to monitor reservoir conditions as temperatures rise and the high-elevation snowpack begins to melt off. Shortfalls in reservoir water supply can be expected this spring and summer.

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	125.2	122.4	153.9	1198.5	10%	10%	13%	81%	80%
Bluewater Lake	6.1	11.3	9.7	38.5	16%	29%	25%	63%	116%
Brantley Lake nr Carlsbad	38.0	34.6	30.1	1008.2	4%	3%	3%	126%	115%
Caballo Reservoir	57.9	78.3	84.6	332.0	17%	24%	25%	68%	93%
Cochiti Lake	47.4	47.7	58.0	491.0	10%	10%	12%	82%	82%
Conchas Lake	211.5	72.3	202.7	254.4	83%	28%	80%	104%	36%
Costilla Reservoir		6.9	7.3	16.0		43%	46%		94%
Eagle Nest Lake nr Eagle Nest, NM	43.0	34.1	55.6	79.0	54%	43%	70%	77%	61%
El Vado Reservoir	72.1	57.1	113.0	184.8	39%	31%	61%	64%	51%
Elephant Butte Reservoir	434.9	312.8	1283.0	2195.0	20%	14%	58%	34%	24%
Heron Reservoir	139.9	86.7	287.7	400.0	35%	22%	72%	49%	30%
Lake Avalon		1.7	1.6	4.0		43%	39%		109%
Lake Sumner	41.0	30.6	29.7	102.0	40%	30%	29%	138%	103%
Navajo Reservoir	1236.4	1460.5	1310.0	1696.0	73%	86%	77%	94%	111%
Santa Rosa Reservoir	93.2	54.6	52.4	432.2	22%	13%	12%	178%	104%
Basin-wide Total	2546.5	2403.0	3670.4	8411.6	30%	29%	44%	69%	65%
# of reservoirs	13	13	13	13	13	13	13	13	13

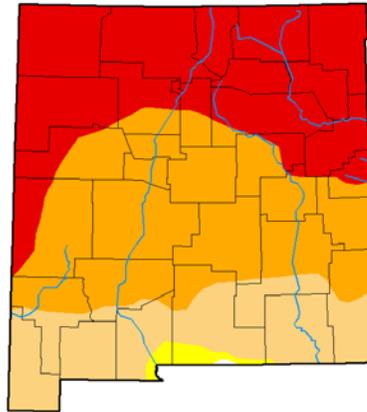
* Due to a gauge malfunction Costilla Reservoir data is unavailable at this time

Streamflow

The April 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 all forecast points affecting New Mexico are well below normal. The headwaters of the Rio Grande has the highest forecast streamflow volumes at just 50 percent of the average! All forecast points moving south decrease in value exponentially as we move into portions of the state most exposed to the warm and dry conditions throughout winter. 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?

U.S. Drought Monitor New Mexico



April 3, 2018
(Released Thursday, Apr. 5, 2018)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D1	D1-D2	D2-D3	D3-D4	D4
Current	0.08	99.92	98.57	78.12	38.87	0.00
Last Week (03-27-2018)	0.08	99.92	98.54	77.89	34.05	0.00
3 Months Ago (01-03-2018)	7.01	92.99	45.97	4.76	0.00	0.00
Start of Calendar Year (01-01-2018)	7.01	92.99	45.97	4.76	0.00	0.00
Start of Water Year (09-26-2017)	85.16	14.84	0.00	0.00	0.00	0.00
One Year Ago (04-04-2017)	60.58	49.42	2.52	0.00	0.00	0.00

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

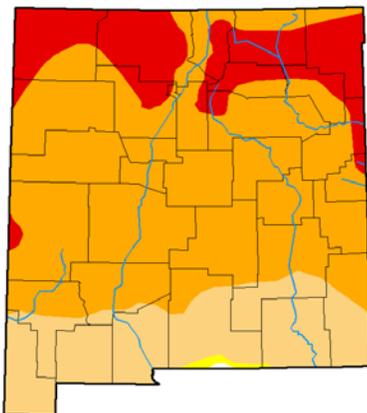
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
David Miskus
NOAA/NWS/NCEP/ICPC



<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor New Mexico



March 6, 2018
(Released Thursday, Mar. 8, 2018)
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D1	D1-D2	D2-D3	D3-D4	D4
Current	0.08	99.92	99.51	77.99	17.08	0.00
Last Week (03-27-2018)	0.08	99.92	99.51	77.99	5.23	0.00
3 Months Ago (12-09-2017)	46.99	53.01	16.23	0.00	0.00	0.00
Start of Calendar Year (01-01-2018)	7.01	92.99	45.97	4.76	0.00	0.00
Start of Water Year (09-26-2017)	85.16	14.84	0.00	0.00	0.00	0.00
One Year Ago (03-07-2017)	78.52	21.48	2.58	0.00	0.00	0.00

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

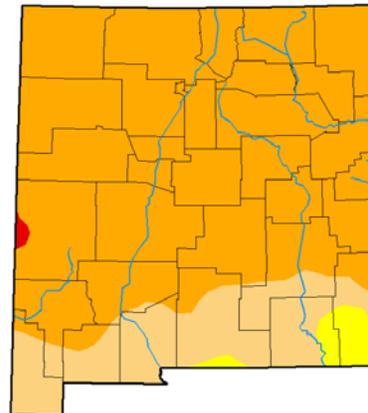
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
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<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor New Mexico



February 6, 2018
(Released Thursday, Feb. 8, 2018)
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D1	D1-D2	D2-D3	D3-D4	D4
Current	0.00	100.00	97.42	79.66	0.27	0.00
Last Week (01-30-2018)	0.00	100.00	94.13	68.03	0.27	0.00
3 Months Ago (10-07-2017)	79.64	21.36	4.09	0.00	0.00	0.00
Start of Calendar Year (01-01-2018)	7.01	92.99	45.97	4.76	0.00	0.00
Start of Water Year (09-26-2017)	85.16	14.84	0.00	0.00	0.00	0.00
One Year Ago (02-07-2017)	87.89	12.11	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:
Eric Luebbehusen
U.S. Department of Agriculture

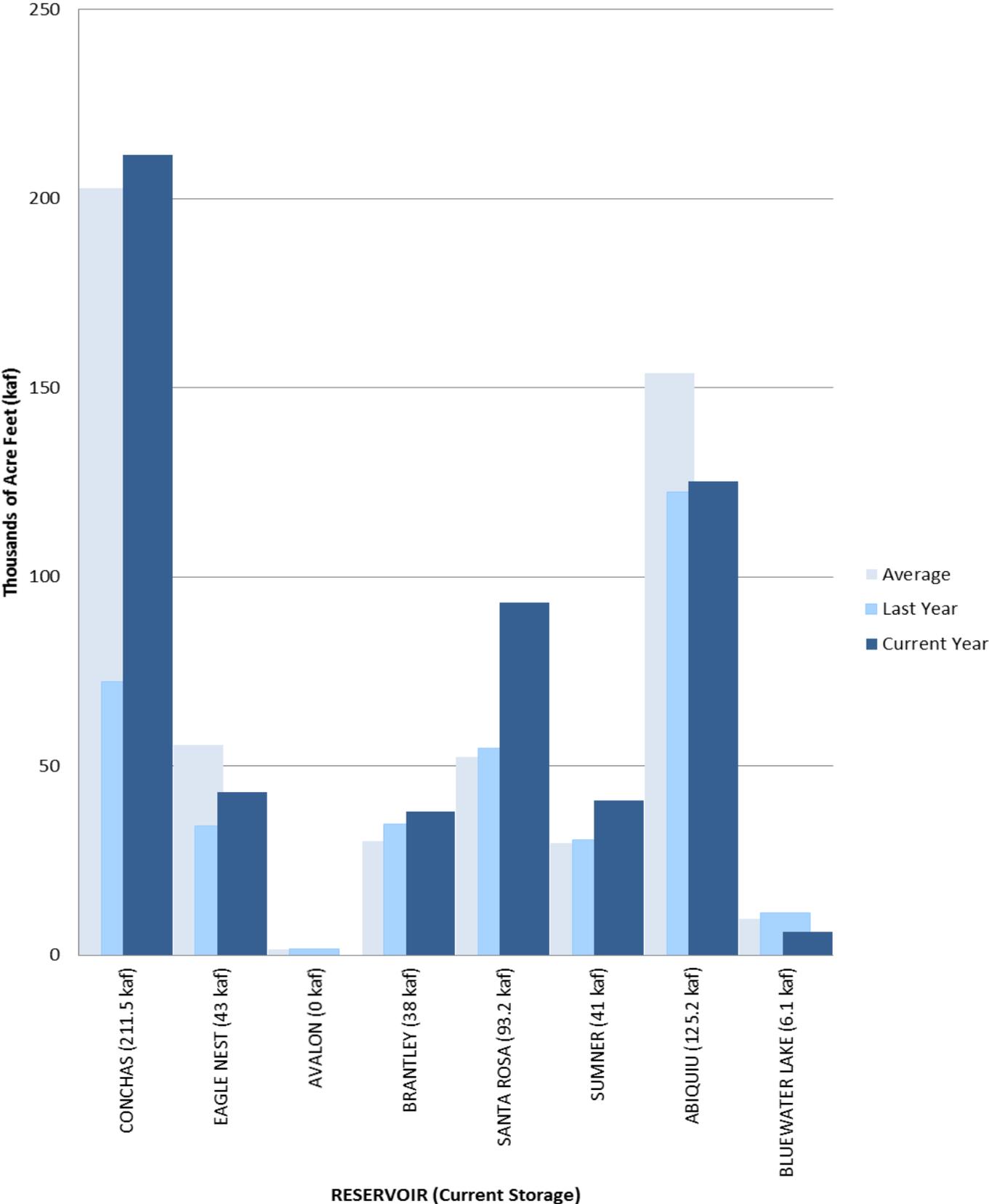


<http://droughtmonitor.unl.edu/>

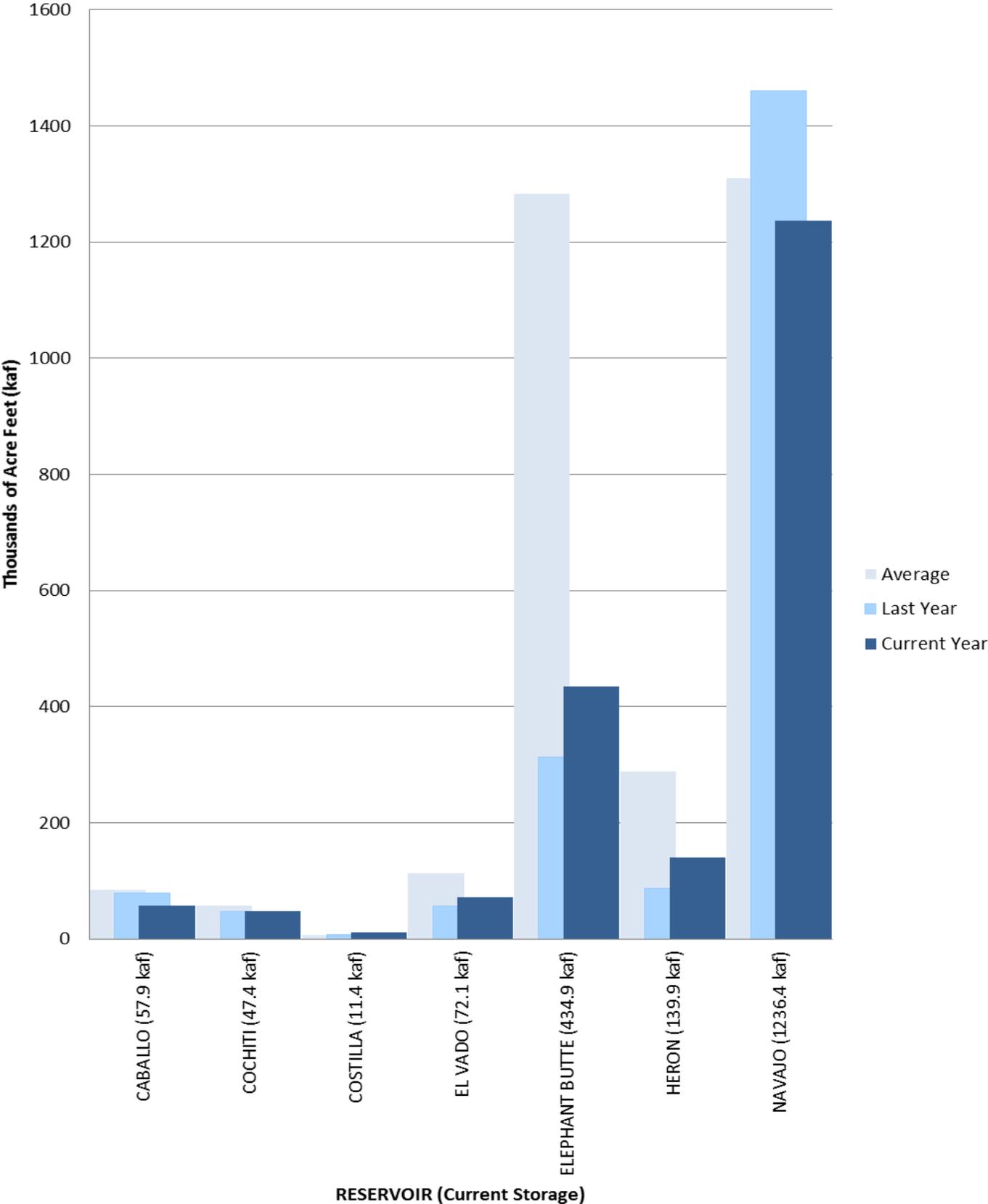
Every week, The U.S. Drought Monitor is produced in partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. This useful tool uses multiple inputs, including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

March did little to improve drought conditions with precipitation departures from normal dominating the southwest especially over the northern third of New Mexico. Robust rain events have skewed the 30-90 day departure from normal values, however these events have not been enough to satisfy the long-term moisture demands and deficits in the hydrologic system. Temperatures over New Mexico were almost all above normal with the exception of several stations in the upper Rio Grande Valley. Statewide temperatures have generally been up to +2F, with areas in the Eastern Plains seeing departures of up to +6F. This has ultimately resulted in natural streamflow's utilizing residual moisture from the previous water year which is now being reflected in our current streamflow forecasts. These above normal temperatures continue to create an increase in evaporative demand over much of the state depleting top soil moisture.

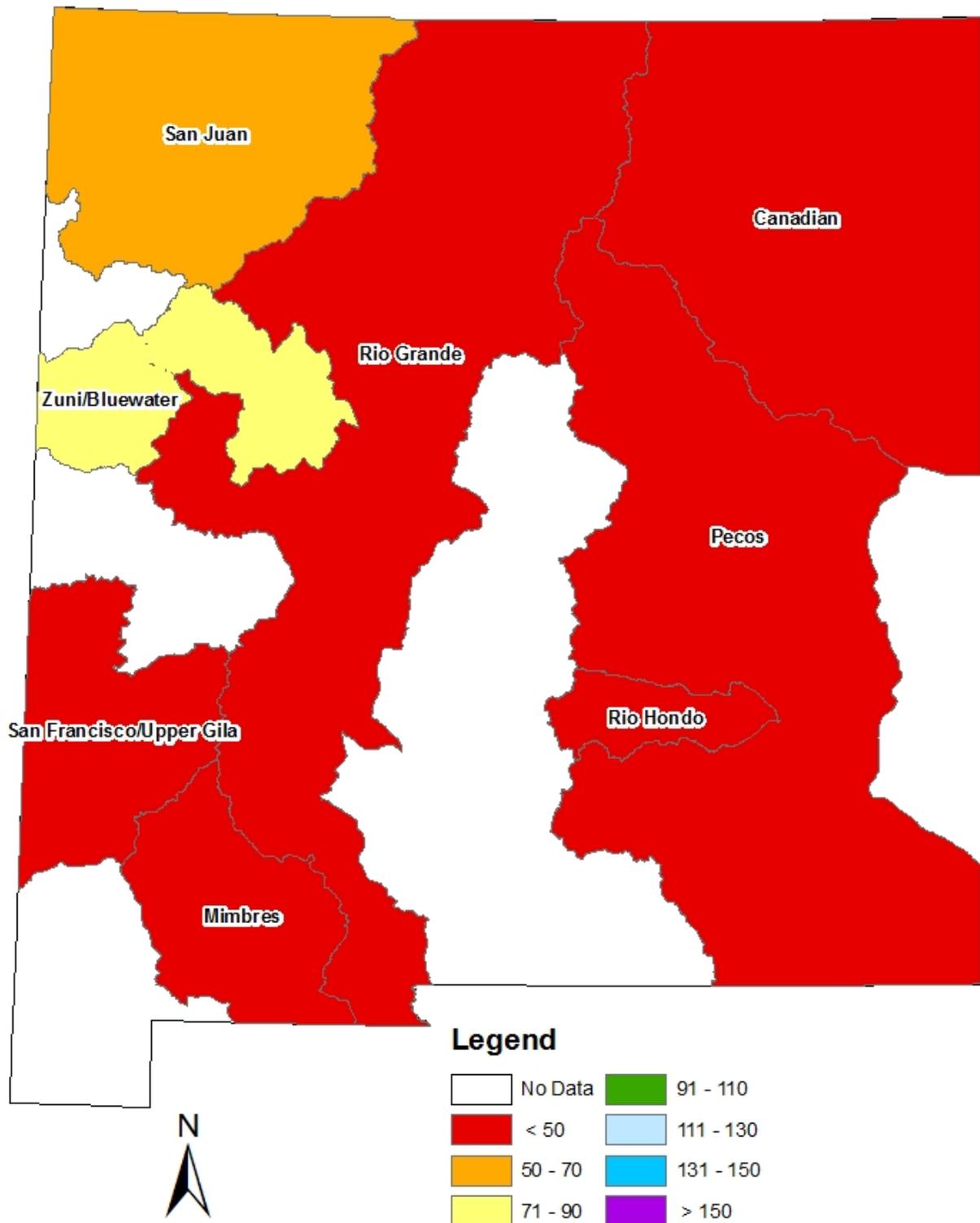
Statewide Reservoir Storage



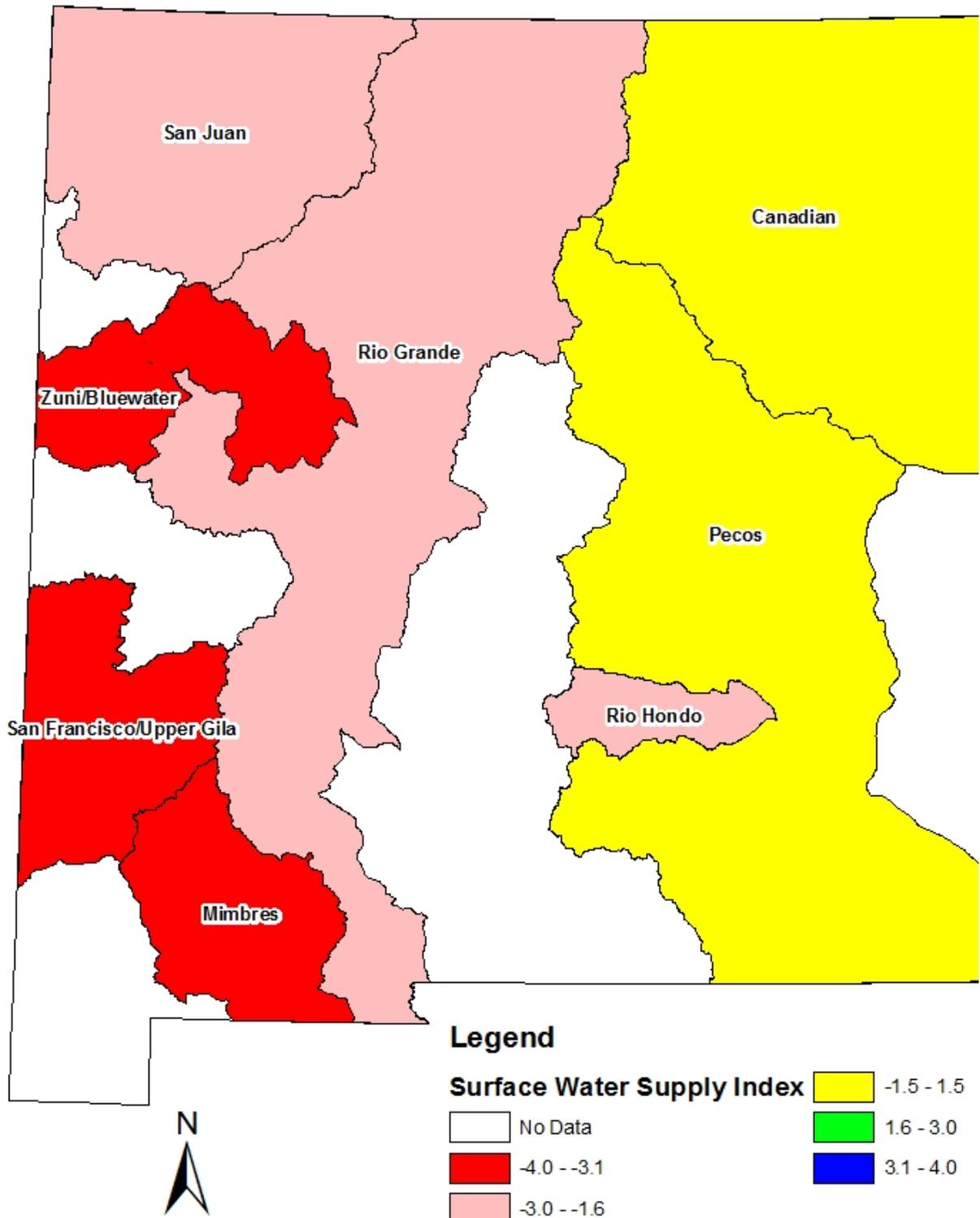
Statewide Reservoir Storage



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



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



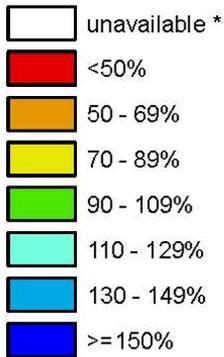
New Mexico

SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Apr 05, 2018

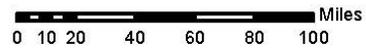
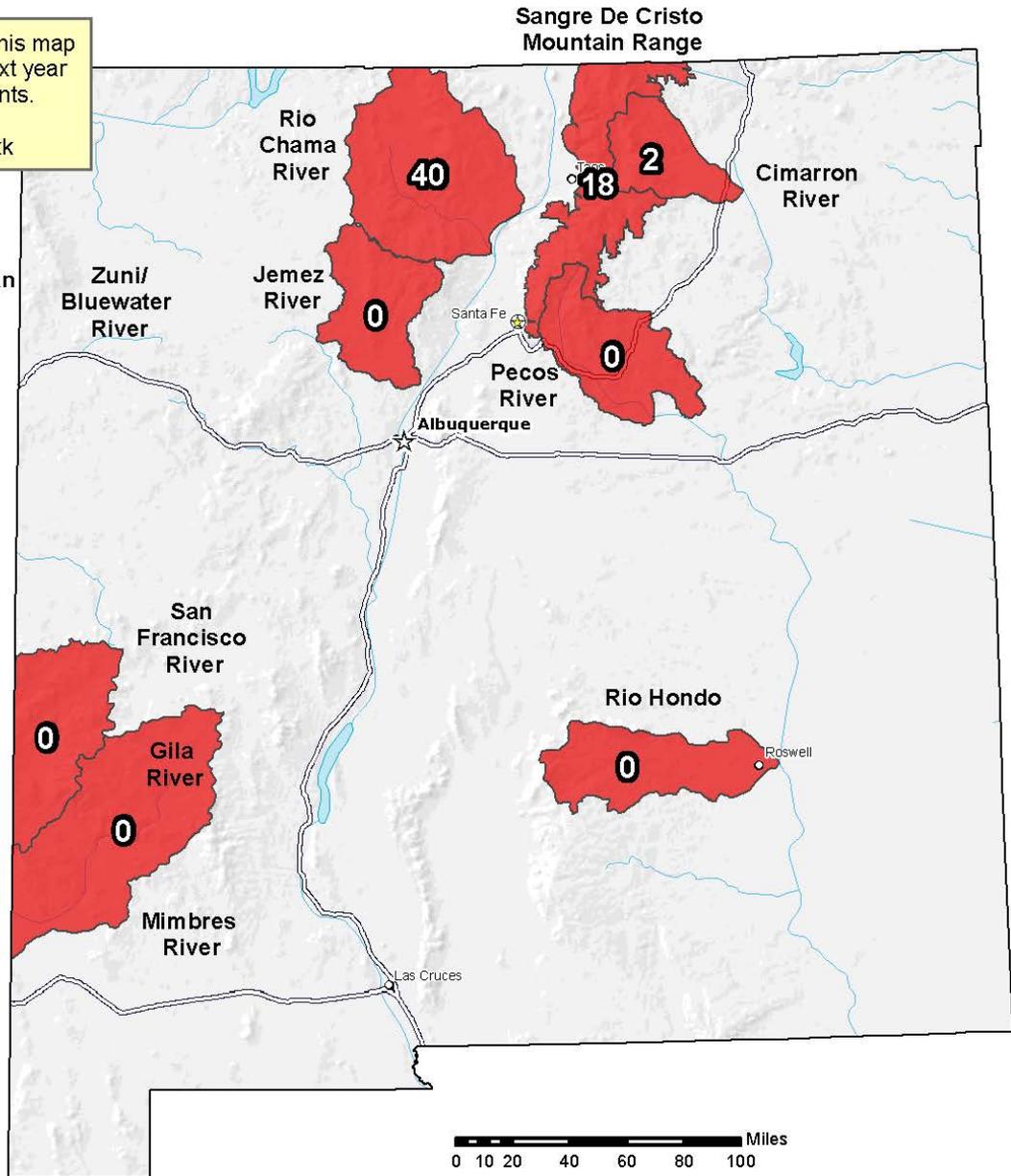
Notice: We anticipate this map will not be available next year due to staffing constraints.
 Alternate maps:
<https://go.usa.gov/xnzxk>

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>

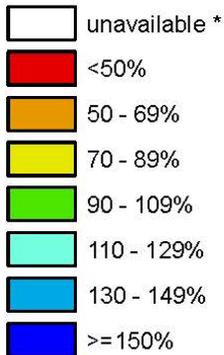
New Mexico

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

Apr 05, 2018

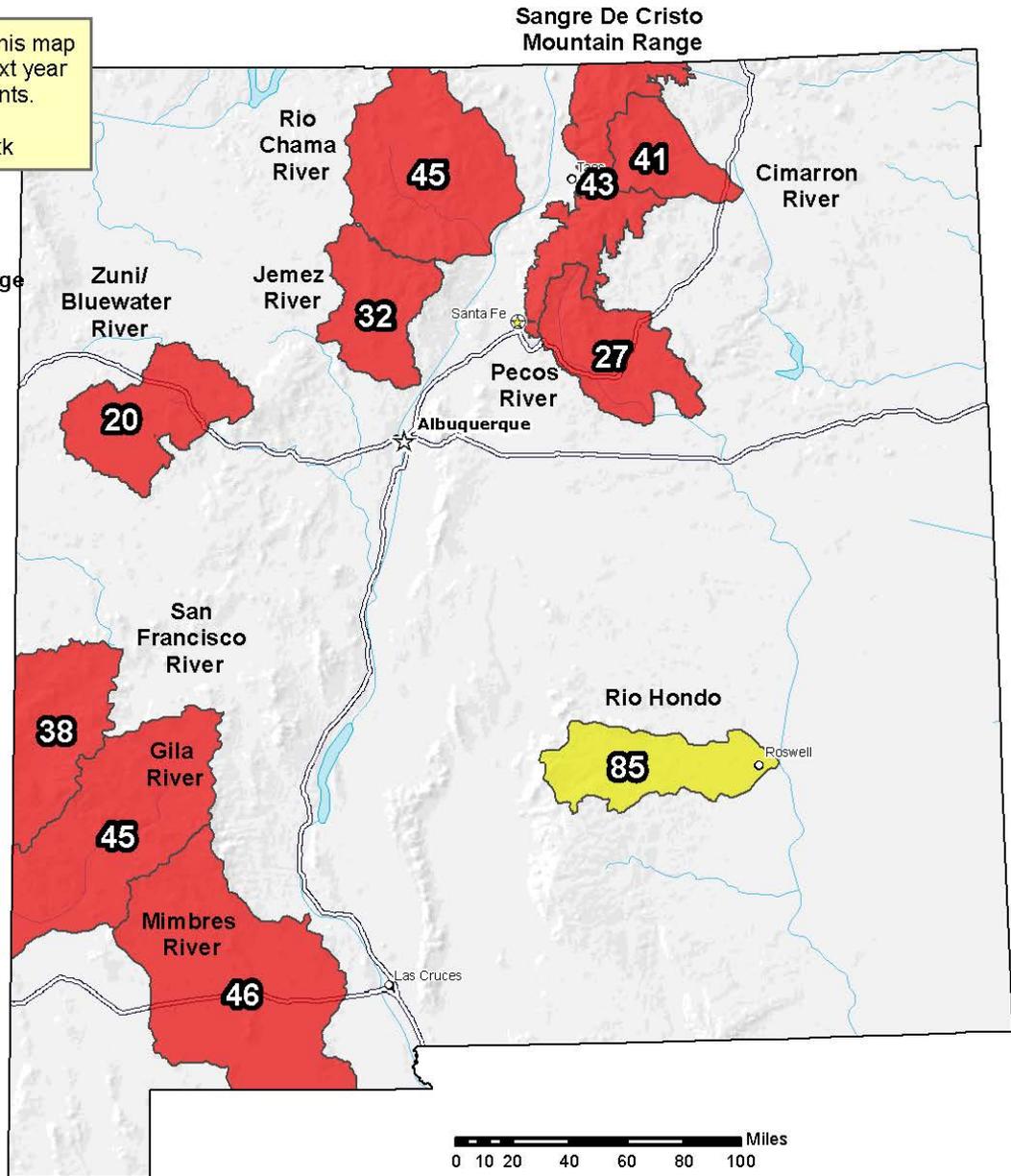
Notice: We anticipate this map will not be available next year due to staffing constraints.
 Alternate maps:
<https://go.usa.gov/xnzxk>

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

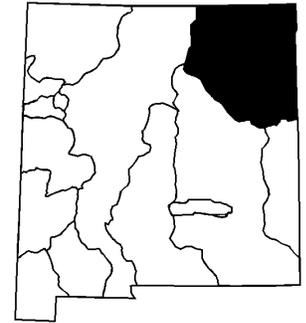
**Provisional Data
Subject to Revision**



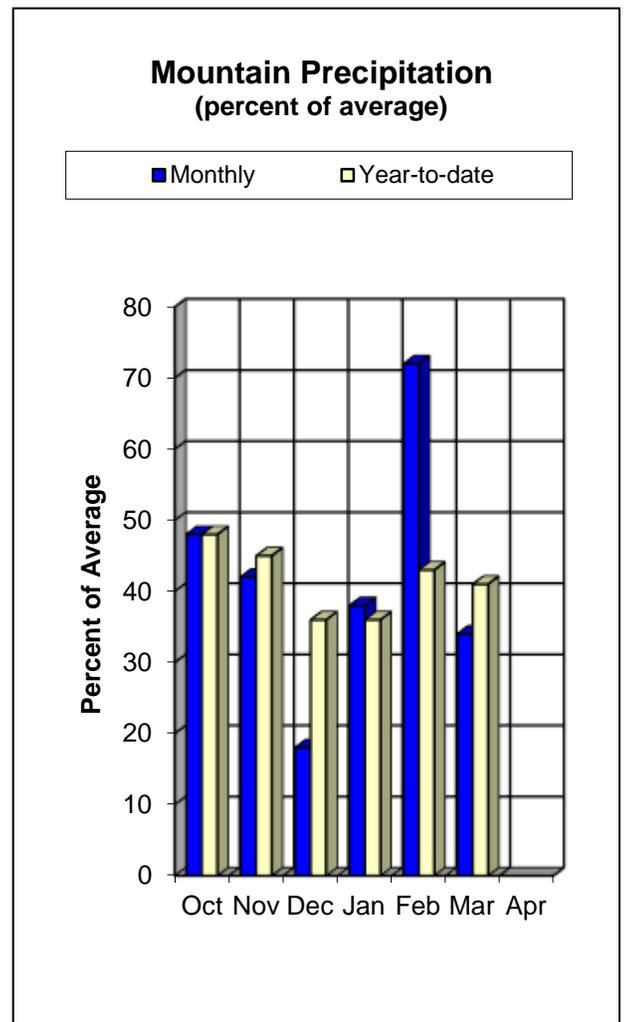
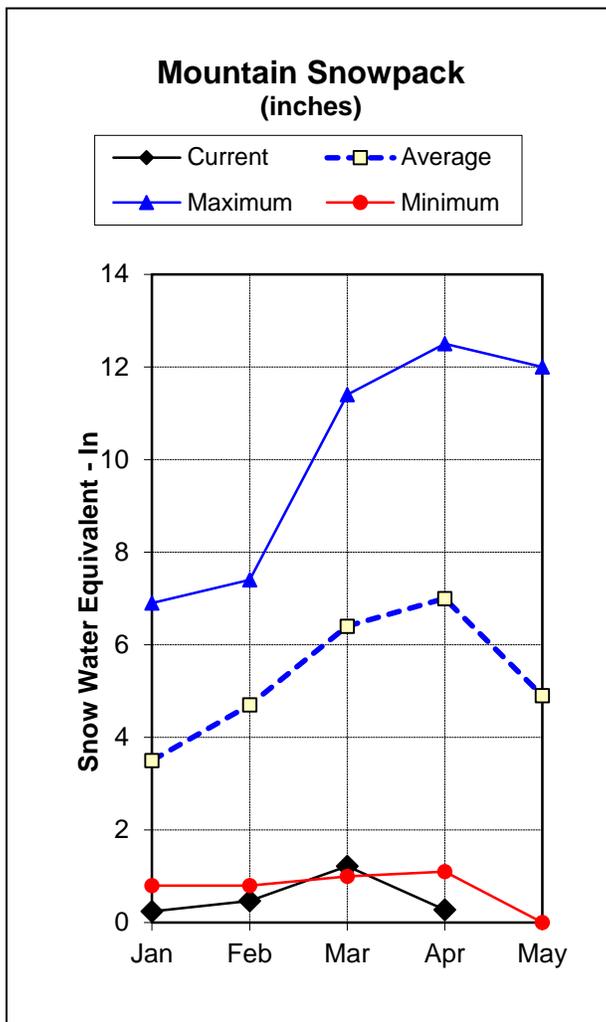
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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 April 1, 2018



The Canadian River Basin forecasts for the April to June time period remain well below average for this time of year. Currently the Canadian is forecast at 14 percent of the average for the Vermejo River near Dawson, to 9 percent of average for Rayado Creek near Cimarron. The Conchas Reservoir inflow is forecast to be 19 percent of the average. The month of March saw well below the average amount of precipitation having only received 34 percent of the average. Water year-to-date precipitation in the Canadian River Basin has decreased slightly and remains well below the average at 41 percent, as compared to 90 percent last year at this time. Snowpack in the basin is dismal this water year at only 4 percent of the median. This is a decrease of 48 percent from last year at this time. Reservoirs are currently holding 254,500 acre-feet of storage, which is an increase of 148,100 acre feet from last year at this time. Reservoir storage in the Canadian River Basin is currently at 76 percent of capacity. This equates to 99 percent of the average stored water for the basin as of the end of March.



Canadian River Basin Streamflow Forecasts - April 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	0.69	1.06	1.5	19%	2.1	3.4	7.8
	APR-JUN	0.18	0.55	0.99	14%	1.59	2.9	7.2
Eagle Nest Reservoir Inflow	MAR-JUN	0.19	0.67	1.25	11%	2.1	3.9	11.2
	APR-JUN	0.03	0.33	0.85	10%	1.74	3.9	8.9
Cimarron R nr Cimarron ²	MAR-JUN	0.1	0.8	2.2	14%	7.4	15.1	15.8
	APR-JUN	0	0.6	1.55	12%	6.6	14	13.2
Ponil Ck nr Cimarron	MAR-JUN	0.15	0.44	0.76	11%	1.21	2.2	7.2
	APR-JUN	0.08	0.3	0.58	9%	0.99	1.88	6.7
Rayado Ck nr Cimarron	MAR-JUN	0.11	0.48	0.98	14%	1.74	3.4	7
	APR-JUN	0.02	0.22	0.59	9%	1.25	2.9	6.4
Conchas Reservoir Inflow ³	MAR-JUN	0.33	2.9	7	23%	13.9	31	30
	APR-JUN	0.06	1.51	4.6	19%	10.3	25	24

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

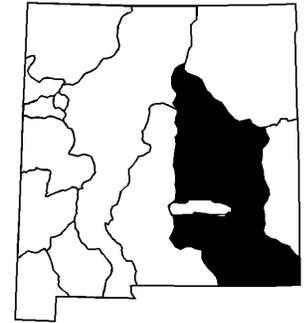
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

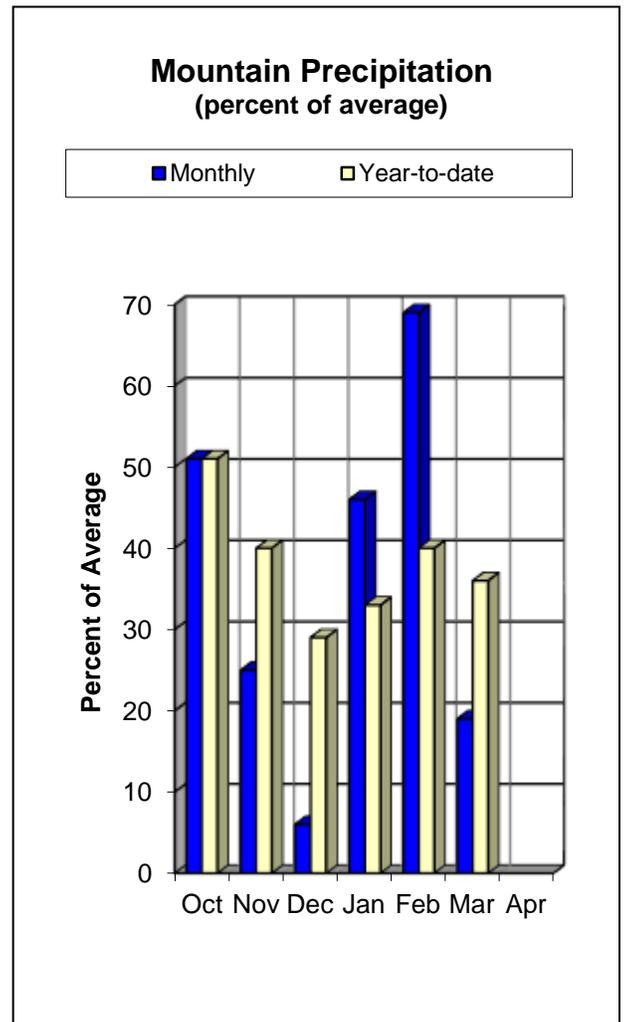
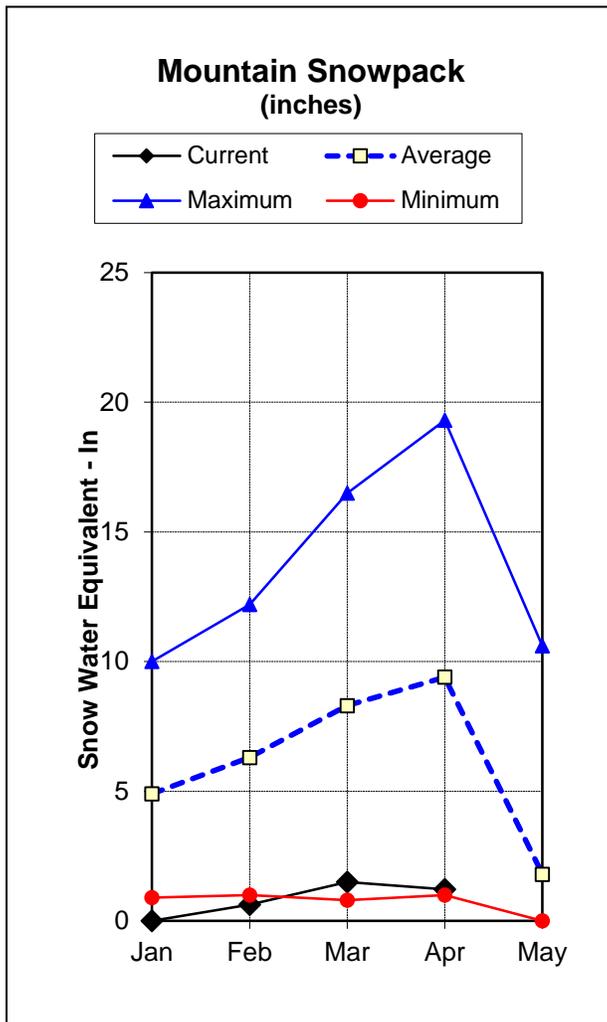
Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Conchas Lake	211.5	72.3	202.7	254.4
Eagle Nest Lake nr Eagle Nest, NM	43.0	34.1	55.6	79.0
Basin-wide Total	254.5	106.4	258.3	333.4
# of reservoirs	2	2	2	2

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
CANADIAN RIVER BASIN	10	4%	52%

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



Streamflow forecasts in the Pecos River Basin for the April to July timeframe for the most part remain unchanged from the previous month. They range from 24 percent of average for the Pecos River near Pecos, to 11 percent of average for the Pecos River above Santa Rosa Lake. March received only 19 percent of the average precipitation for the month, putting the basin at 36 percent of average for the water year-to-date. This is now 56 percent below last year's average of 92 percent. Snowpack levels in the Pecos River Basin remain low at 13 percent of median. Last year at this time the basin had received 58 percent of the median snowpack. As of April 1st reservoir storage in the basin is at 172,200 acre-feet. This remains 7 percent of the average capacity and 153 percent of the average stored water. Last year reservoir storage was 107 percent of the average at this time.



Pecos River Basin Streamflow Forecasts - April 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	4.2	9.3	14.3	25%	20	32	57
	APR-JUL	2.7	7.8	12.8	24%	18.9	30	53
Pecos R nr Anton Chico	MAR-JUL	0.54	0.86	4.4	7%	10.9	26	63
	APR-JUL	0.5	0.82	4.4	8%	10.9	26	57
Gallinas Ck nr Montezuma	MAR-JUL	0.53	0.68	1.57	16%	2.9	5.7	9.8
	APR-JUL	0.3	0.45	1.34	16%	2.7	5.5	8.6
Pecos R ab Santa Rosa Lk	MAR-JUL	0.79	1.82	5.8	10%	12.3	26	56
	APR-JUL	0.5	1.53	5.5	11%	12	26	52

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

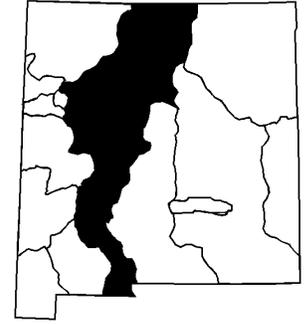
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

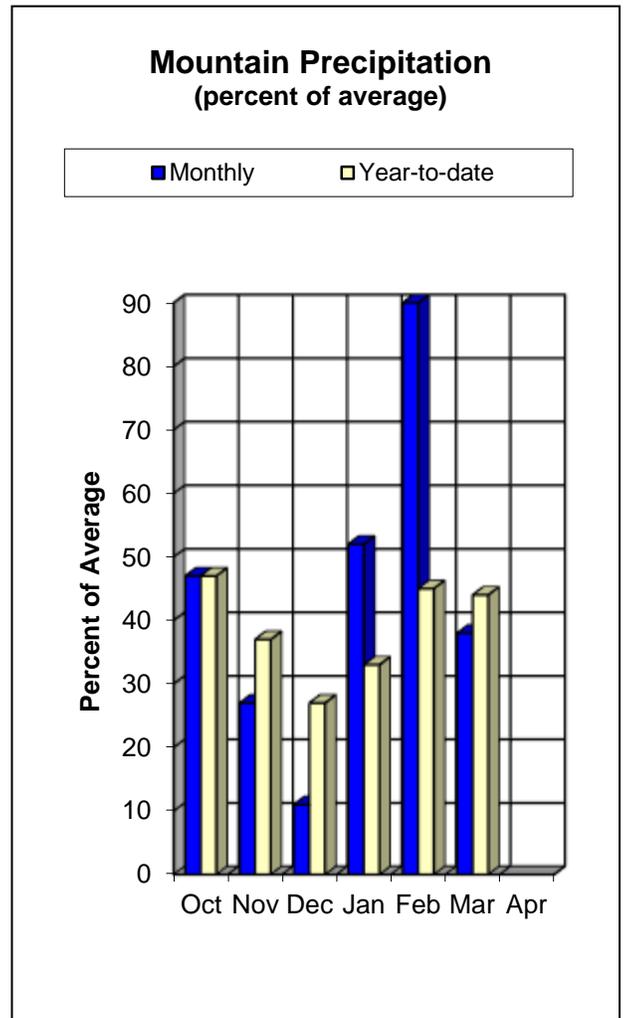
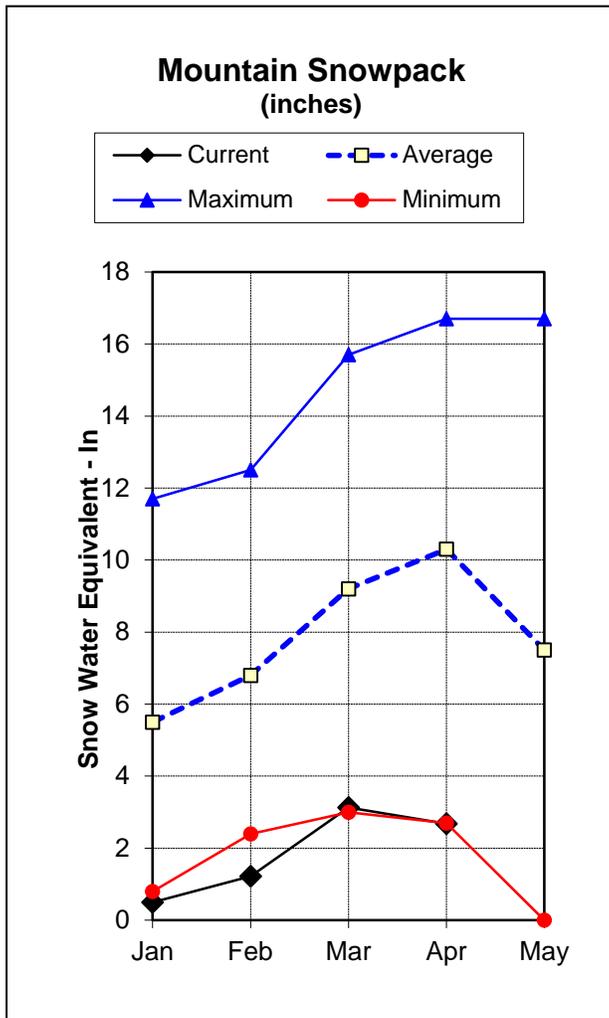
Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Lake Avalon		1.7	1.6	4.0
Brantley Lake nr Carlsbad	38.0	34.6	30.1	1008.2
Santa Rosa Reservoir	93.2	54.6	52.4	432.2
Lake Sumner	41.0	30.6	29.7	102.0
Basin-wide Total	172.2	119.8	112.2	1542.4
# of reservoirs	3	3	3	3

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
PECOS RIVER BASIN	5	13%	58%

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



The April to July streamflow forecasts for the Rio Grande Basin have decreased slightly in the northern mountains near the headwaters and even more so further to the south. Currently ranging from 13 to 59 percent in the north to single digit percentages below Jemez Dam. 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 forecast is at 25 percent of average for the April to July time period. Additionally, for the April to July forecasts the Jemez River near Jemez has decreased to 13 percent of the average! The Rio Grande at Otowi Bridge forecast has also decreased to only 16 percent of average. March was another below average month for precipitation having only received 38 percent of the average therefore leaving the water year-to-date precipitation at 44 percent of the average. Snowpack in the basin remains very low dropping from 34 to 26 percent of median. This is 72 percent below last year's median! Snowpack in southern Colorado near the headwaters of the Rio Grande has also decreased from 55 to 48 percent of median. Current reservoir storage in the basin is 883,400 acre-feet, however this does not include Costilla Reservoir which currently has a gauge malfunction.



Rio Grande Basin Streamflow Forecasts - April 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	156	215	260	50%	310	390	515
Platoro Reservoir Inflow	APR-JUL	23	29	33	59%	37	44	56
Conejos R nr Mogote ²	APR-SEP	68	88	103	53%	120	147	194
Costilla Reservoir Inflow	APR-JUL	1.22	2.5	3.6	35%	4.9	7.2	10.3
Costilla Ck nr Costilla ²	APR-JUL	1.04	3.4	5.9	25%	8.9	14.6	24
Red R bl Fish Hatchery nr Questa	MAR-JUL	4.9	7.2	9.2	27%	11.7	16	34
	APR-JUL	2.1	4.4	6.4	21%	8.9	13.2	31
Rio Hondo nr Valdez	MAR-JUL	1.36	2.3	3.1	17%	4.1	5.9	18.4
	APR-JUL	0.74	1.66	2.5	14%	3.5	5.3	17.4
Rio Pueblo de Taos nr Taos	MAR-JUL	0.61	0.97	1.71	10%	2.7	4.7	17
	APR-JUL	0.3	0.66	1.4	9%	2.4	4.4	15.9
Rio Lucero nr Arroyo Seco	MAR-JUL	0.88	1.55	2.2	20%	2.9	4.3	10.9
	APR-JUL	0.46	1.13	1.75	17%	2.5	3.9	10.3
Rio Pueblo de Taos bl Los Cordovas	MAR-JUL	1.64	1.74	2.9	8%	5	9.8	36
	APR-JUL	0.2	0.3	1.5	5%	3.6	8.4	33
Embudo Ck at Dixon	MAR-JUL	1.76	1.98	3.4	7%	6.2	12.6	48
	APR-JUL	0	0.22	1.64	4%	4.4	10.8	44
El Vado Reservoir Inflow ²	MAR-JUL	17.9	30	41	18%	53	75	225
	APR-JUL	13.3	25	36	18%	48	70	205
Santa Cruz R at Cundiyo	MAR-JUL	1.45	3	4.5	25%	6.4	9.7	18.3
	APR-JUL	0.93	2.5	4	24%	5.9	9.2	16.7
Nambe Falls Reservoir Inflow	MAR-JUL	0.6	1.1	1.58	24%	2.2	3.2	6.5
	APR-JUL	0.33	0.83	1.31	21%	1.89	2.9	6.1
Tesuque Ck ab diversions	MAR-JUL	0.1	0.21	0.34	25%	0.53	0.88	1.34
	APR-JUL	0.02	0.13	0.26	22%	0.45	0.8	1.19
Rio Grande at Otowi Bridge ²	MAR-JUL	69	106	141	20%	183	255	720
	APR-JUL	28	65	100	16%	142	215	635
Santa Fe R nr Santa Fe ²	MAR-JUL	0.18	0.45	0.71	17%	1.05	1.68	4.3
	APR-JUL	0.11	0.38	0.64	17%	0.98	1.61	3.8
Jemez R nr Jemez	MAR-JUL	2.8	4.5	6.1	15%	8.1	11.7	42
	APR-JUL	1.12	2.9	4.5	13%	6.5	10.1	35
Jemez R bl Jemez Canyon Dam	MAR-JUL	0.8	1.11	2	6%	3.5	6.7	34
	APR-JUL	0	0.31	1.2	4%	2.7	5.9	29
Rio Grande at San Marcial ²	MAR-JUL	-255	-126	-39	-8%	48	176	510
	APR-JUL	-275	-145	-58	-13%	29	157	440

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

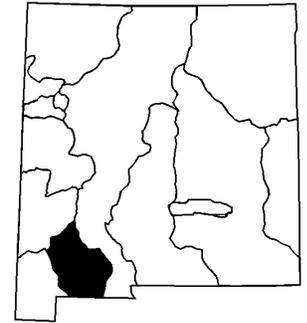
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Abiquiu Reservoir	125.2	122.4	153.9	1198.5
Bluewater Lake	6.1	11.3	9.7	38.5
Caballo Reservoir	57.9	78.3	84.6	332.0
Cochiti Lake	47.4	47.7	58.0	491.0
Costilla Reservoir	6.9	6.9	7.3	16.0
El Vado Reservoir	72.1	57.1	113.0	184.8
Elephant Butte Reservoir	434.9	312.8	1283.0	2195.0
Heron Reservoir	139.9	86.7	287.7	400.0
Basin-wide Total	883.4	716.3	1989.9	4839.8
# of reservoirs	7	7	7	7

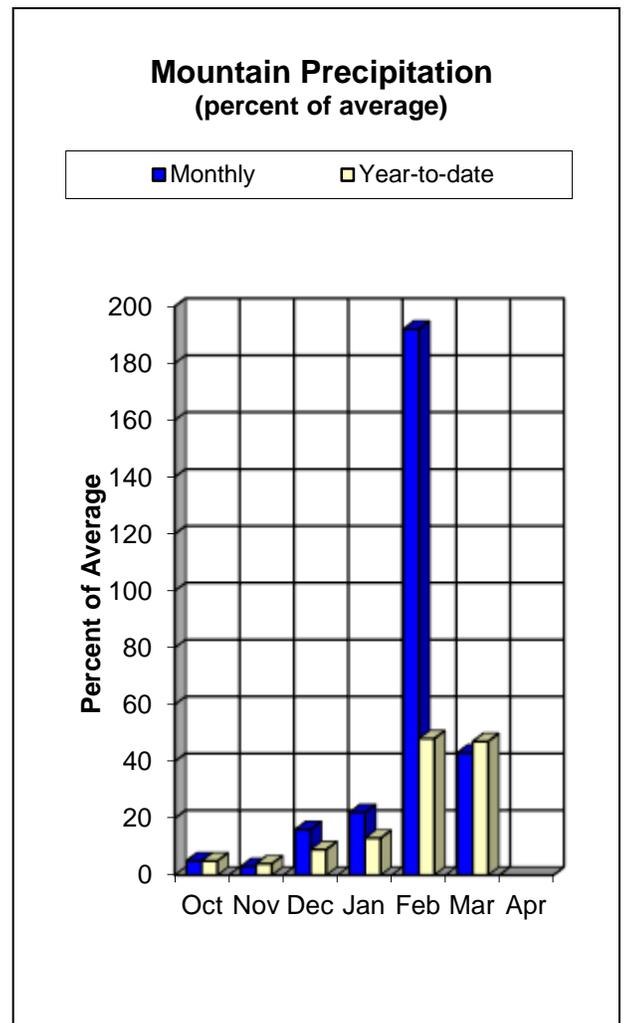
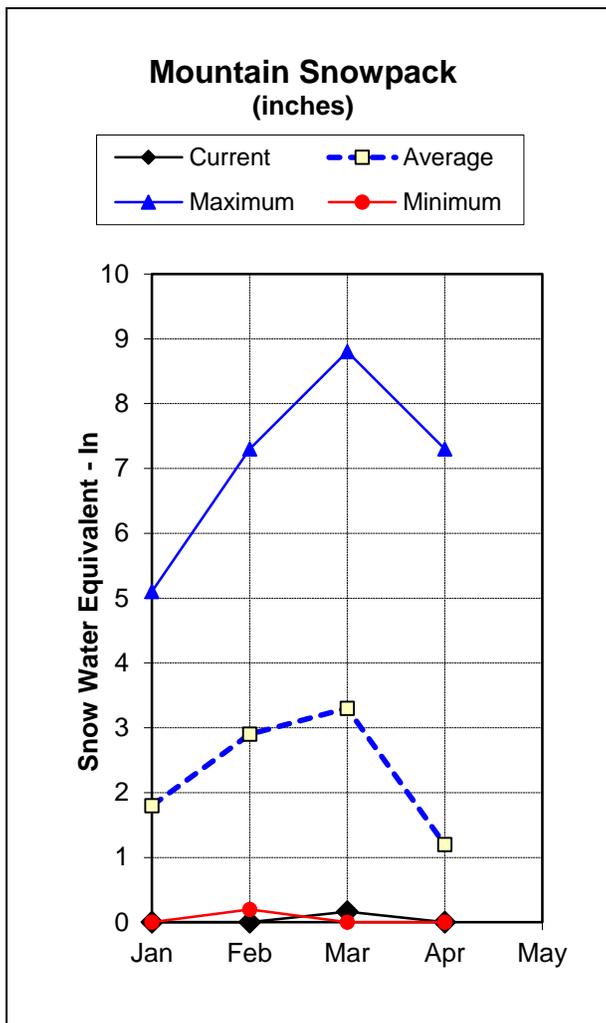
Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
RIO GRANDE BASIN	19	26%	98%

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



The April through May forecast for the Mimbres River at Mimbres is currently at 29 percent of the average. March received just 43 percent of the average monthly precipitation bringing the water year-to-date total to 47 percent of the average. Snowpack in the basin has melted out.

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 - April 1, 2018

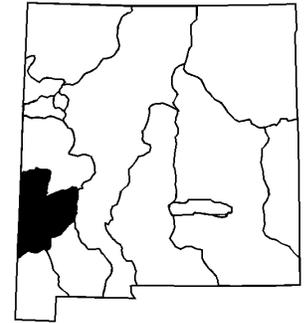
Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

MIMBRES RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Mimbres R at Mimbres ³	APR-MAY	0.05	0.17	0.32	29%	0.55	1.04	1.09

- 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

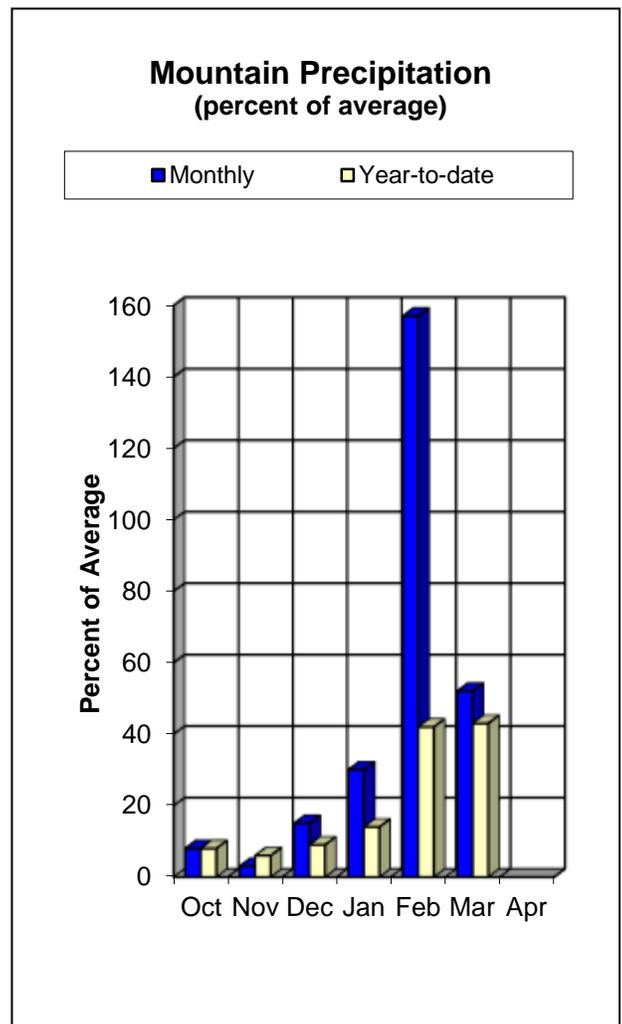
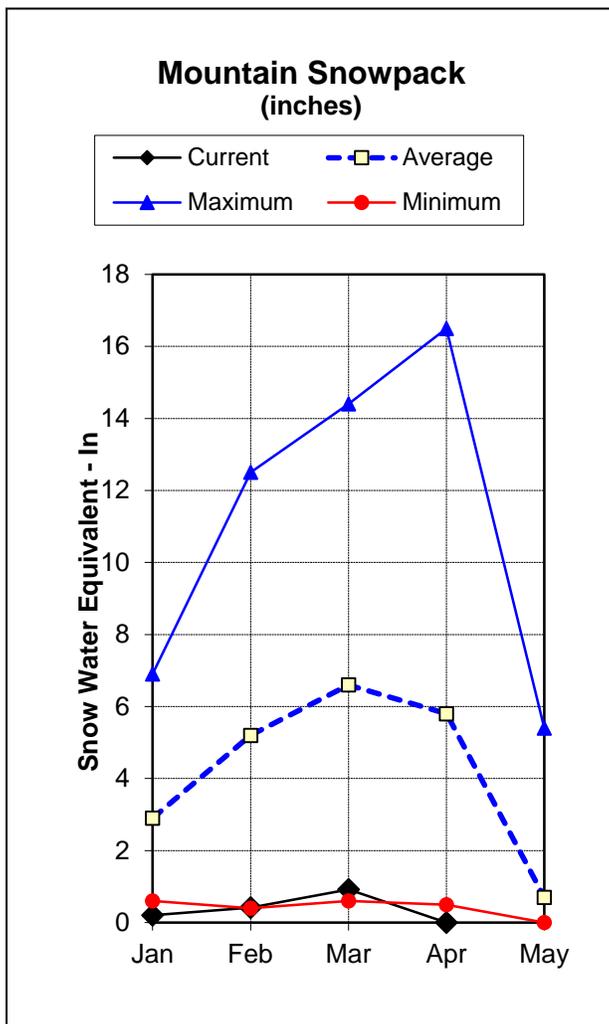
Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
MIMBRES RIVER BASIN	2		

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



Streamflow forecasts for the San Francisco/Upper Gila River Basin remain well below average this water year. For the April through May forecast the Gila River at Gila is at 35 percent of the average. For the same time period the San Francisco River at Clifton is currently forecasted to be 28 percent of the average. Water year-to-date precipitation has remained constant at 43 percent of the average with March receiving just half of the average monthly precipitation. Snowpack in the basin has melted out and is currently at zero 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 - April 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	APR-MAY	2.6	4.2	5.7	35%	7.5	10.7	16.5
Gila R bl Blue Ck nr Virden ³	APR-MAY	0.25	2.2	4.6	22%	7.9	14.4	21
San Francisco R at Glenwood ³	APR-MAY	0.25	0.74	1.3	18%	2.1	3.7	7.3
San Francisco R at Clifton ³	APR-MAY	0.54	2.6	4.9	28%	7.9	13.5	17.3

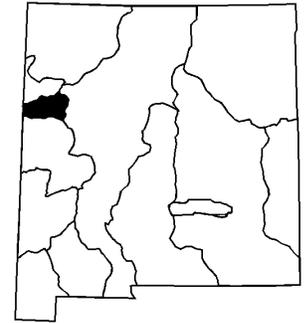
1) 90% and 10% exceedance probabilities are actually 95% and 5%

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

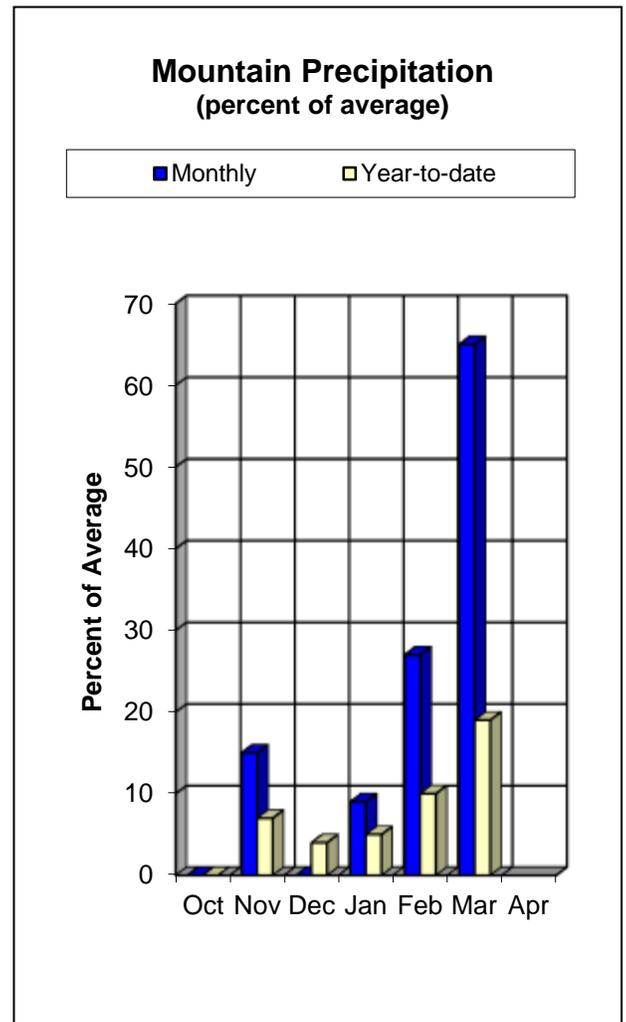
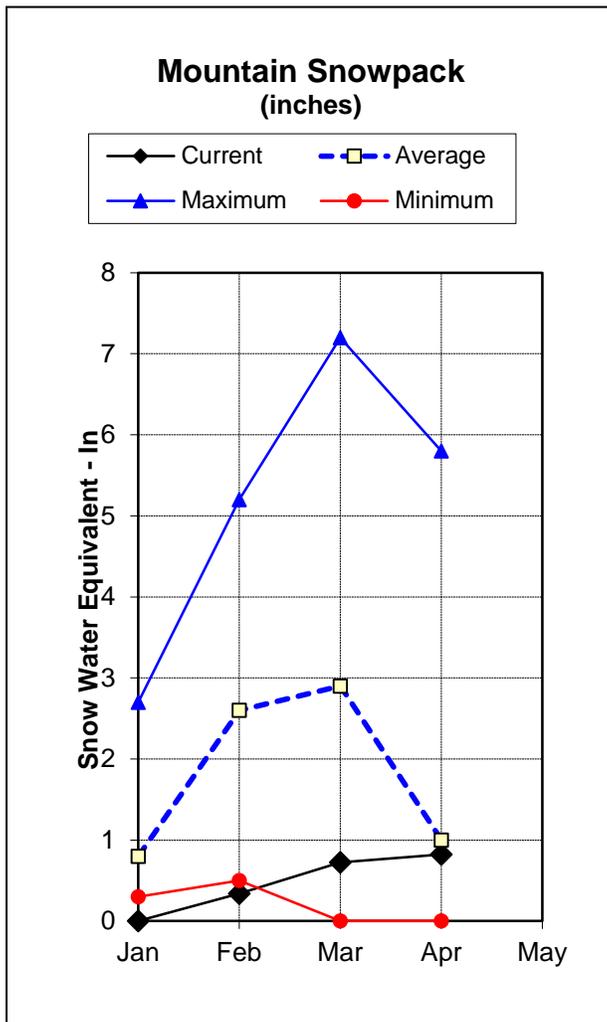
3) Median value used in place of average

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
SAN FRANCISCO-UPPER GILA RIVER BASIN	7	0%	0%

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



The Zuni/Bluewater Basins received a small amount of snow this month bringing the region to 82 percent of the median. This number is however inflated due to the fact that historically there has been little to no snow in the basin this time of year. The Rio Nutria near Ramah is currently forecast at only 5 percent of the average. Additionally, the Zuni River above Black Rock forecast is marginally better at 30 percent of the average for the April to May timeframe. March was a better month for precipitation having received 65 percent of the average, yet water year-to-date totals are very low at just 19 percent of the average. Bluewater Lake currently holds 6,100 acre feet of water versus 11,300 last year at this time. This is 63 percent of the average as compared to 116 percent last year at this time.



Zuni-Bluewater Basins Streamflow Forecasts - April 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	APR-MAY	0	0	0.01	5%	0.05	0.22	0.19
Zuni R ab Black Rock Reservoir ³	APR-MAY	0	0	0.03	30%	0.31	1.25	0.1

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

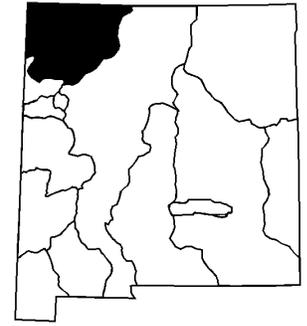
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

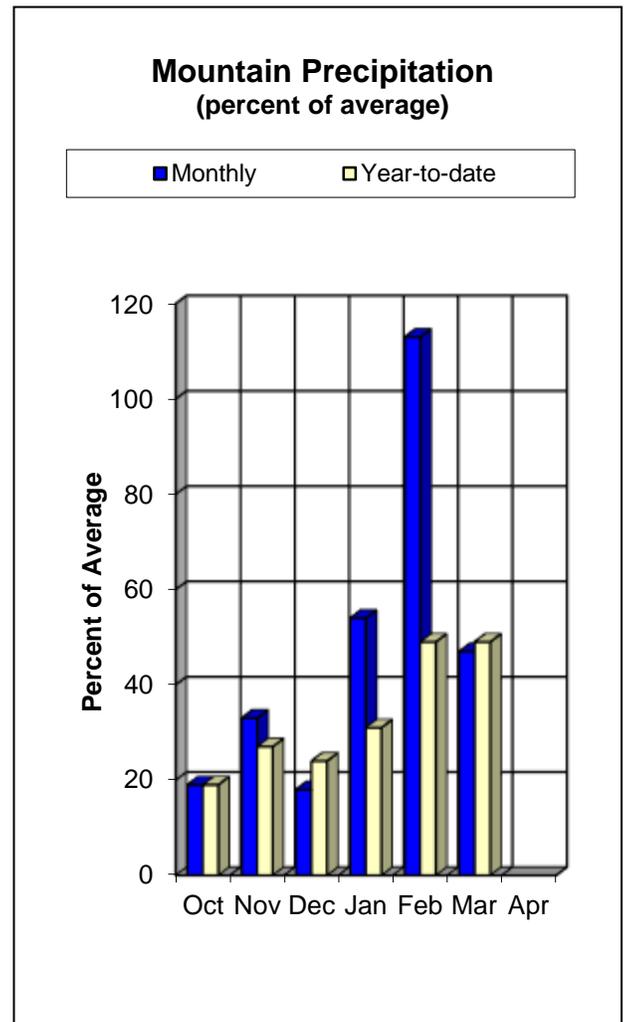
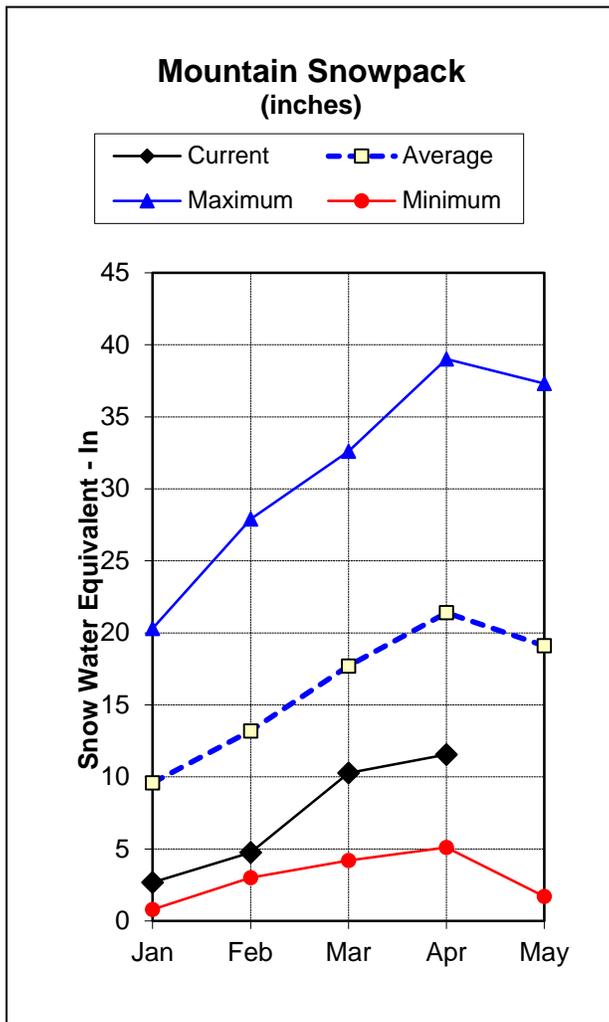
Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Bluewater Lake	6.1	11.3	9.7	38.5
Basin-wide Total	6.1	11.3	9.7	38.5
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
ZUNI-BLUEWATER BASINS	5	82%	0%

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



The April to July forecasts have dropped slightly from last month and still remain below average for this time of year. Ranging from 48 percent of average for the Rio Blanco at Blanco Diversion to 26 percent for the La Plata River at Hesperus. Additionally, the Animas River at Durango has also decreased from 46 to 33 percent of average. Water year-to-date precipitation remains the same at 49 percent of the average due to March receiving only 47 percent of the average rainfall for the month. Snowpack in the basin remains well below the median at just 54 percent. This is a decrease of 68 percent from last year at this time! Navajo reservoir storage contains 1,236,400 acre-feet or 69 percent of the average. This equates to 44 percent of the average capacity for the reservoir.



San Juan River Basin Streamflow Forecasts - April 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	16	22	26	48%	30	38	54
Navajo R at Oso Diversion ²	APR-JUL	19	25	30	46%	36	44	65
Navajo Reservoir Inflow ²	APR-JUL	108	164	210	29%	260	340	735
Animas R at Durango	APR-JUL	80	111	135	33%	161	205	415
La Plata R at Hesperus	APR-JUL	3.4	4.9	6	26%	7.3	9.4	23

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

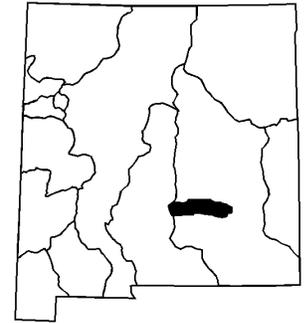
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of March, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Navajo Reservoir	1236.4	1460.5	1310.0	1696.0
Basin-wide Total	1236.4	1460.5	1310.0	1696.0
# of reservoirs	1	1	1	1

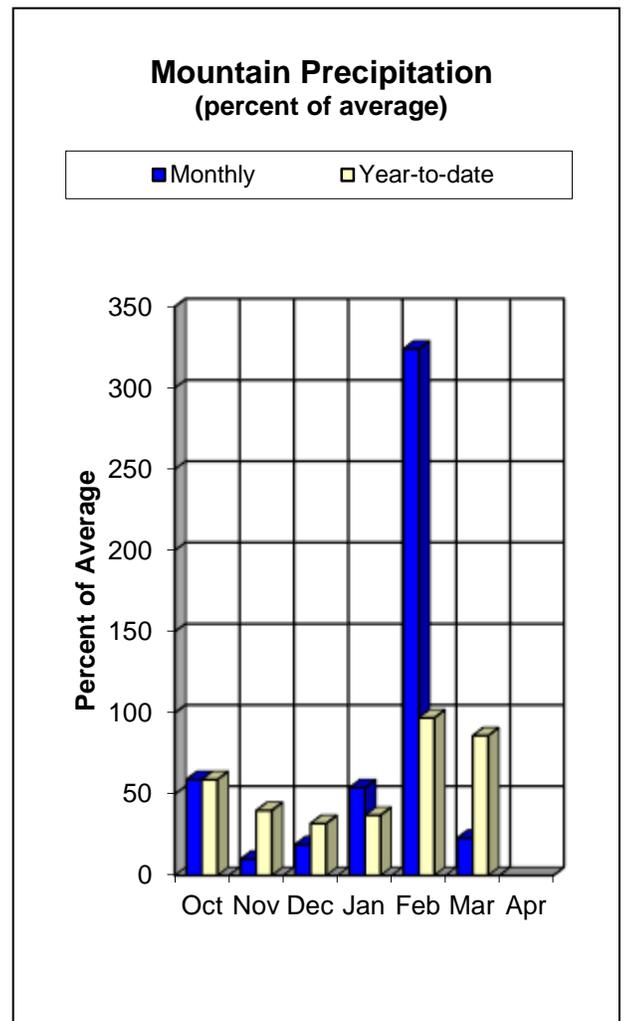
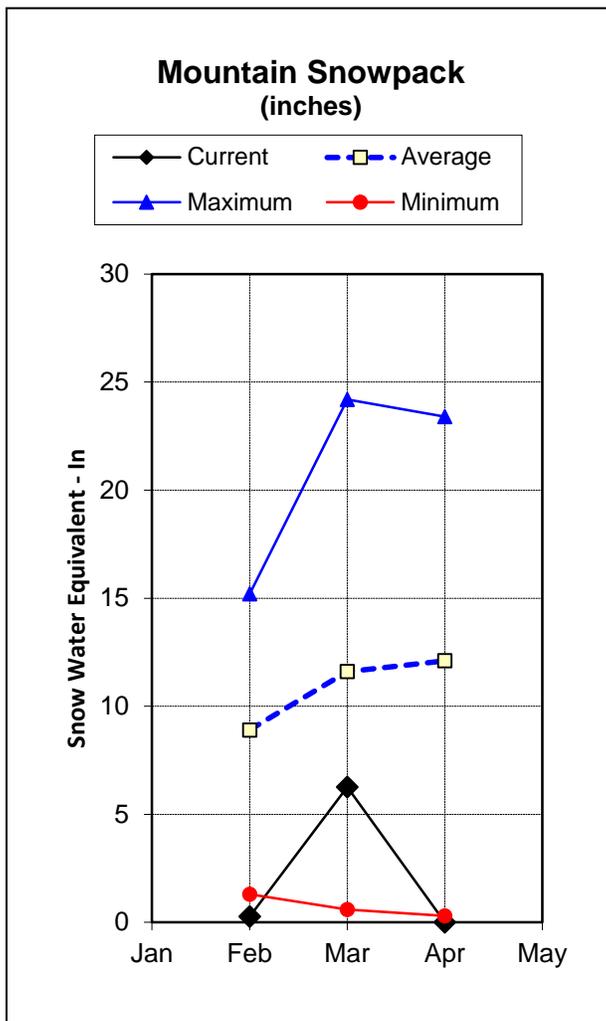
Watershed Snowpack Analysis April 1, 2018	# of Sites	% Median	Last Year % Median
SAN JUAN RIVER BASIN	12	54%	122%

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



The streamflow forecast for the April to June time period has decreased to 25 percent of average for the Rio Ruidoso at Hollywood. Water year-to-date precipitation has dropped slightly to 86 percent of average due to March only receiving 23 percent of the average rainfall for the month. Snowpack in the basin has currently melted out and is at zero percent. 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 - April 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	0.96	1.47	1.99	30%	2.7	3.9	6.7
	APR-JUN	0.21	0.72	1.24	25%	1.9	3.1	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 April 1, 2018	# of Sites	% Median	Last Year % Median
RIO HONDO BASIN	1	0%	0%

NEW MEXICO STATEWIDE	Network	Elevation (ft)	Depth	SWE (in)	Media n (in)	% Media	Last Year SWE (in)	Last Year % Median
Alamitos	SC	9320	4	0.5	5.2	10%	0.0	0%
Aztec #2	SC	9880	3	0.6	4.3	14%	0.0	0%
Bateman	SNOTEL	9300	10	4.0	12.2	33%	15.3	125%
Boon	SC	8140	4	0.5	0.8	63%	0.0	0%
Bowl Canyon	SC	8980	6	1.8	7.8	23%	7.2	92%
Chamita	SNOTEL	8400	0	0.0	7.9	0%	10.0	127%
Dan Valley	SC	7640	2	0.2	0.1	200%	0.0	0%
Elk Cabin	SNOTEL	8210	0	0.0	0.6	0%	0.0	0%
Frisco Divide	SNOTEL	8000	0	0.0	0.0		0.0	
Gallegos Peak	SNOTEL	9800	5	2.0	10.4	19%	7.6	73%
Hematite Park	SC	9500	1	0.2	3.6	6%	4.2	117%
Hidden Valley	SC	8480	0	0.0			2.5	
Hopewell	SNOTEL	10000	28	8.7	19.5	45%	25.7	132%
Lookout Mountain	SNOTEL	8500	0	0.0	0.0		0.0	
McGaffey	SC	8120	2	0.2	0.0		0.0	
Mcknight Cabin	SNOTEL	9240	0	0.0	0.0		0.0	
Missionary Spring	SC	7940	0	0.0	0.0		0.0	
Navajo Whiskey Ck	SNOTEL	9050	2	0.7			0.3	
North Costilla	SNOTEL	10600	0	0.0	4.8	0%	4.6	96%
Ojo Redondo	SC	8200	0	0.0	0.2	0%	0.0	0%
Palo	SNOTEL	9350	0	0.0			0.0	
Palo	SC	9300	3	0.8	7.4	11%	3.2	43%
PanchueLa	SC	8400	0	0.0				
Quemazon	SNOTEL	9500	0	0.0	7.0	0%	0.0	0%
Red River Pass #2	SNOTEL	9850	1	0.2	7.4	3%	5.6	76%
Rice Park	SNOTEL	8460	0	0.0	0.0		0.0	
Rio En Medio	SC	10300	5	1.2	9.1	13%	4.4	48%
Rio Santa Barbara	SNOTEL	10664	15	4.4			14.9	
San Antonio Sink	SNOTEL	9100	5	2.9			12.0	
San Antonio Sink	SC	9200	4	1.2	7.5	16%	9.8	131%
Santa Fe	SNOTEL	11445	14	4.2	15.9	26%	14.7	92%
Senorita Divide #2	SNOTEL	8600	0	0.0	8.5	0%	4.1	48%
Shuree	SNOTEL	10100	0	0.0			3.3	
Shuree	SC	10097	3	0.4	2.6	15%	2.2	85%
Sierra Blanca	SNOTEL	10280	0	0.0	5.9	0%	0.0	0%
Signal Peak	SNOTEL	8360	0	0.0	0.0		0.0	
Silver Creek Divide	SNOTEL	9000	0	0.0	7.0	0%	0.0	0%
State Line	SC	8000	1	0.0	0.0		0.0	
Taos Canyon	SC	9100	1	0.1	4.4	2%	1.1	25%
Taos Powderhorn	SNOTEL	11057	26	7.0			33.7	
Taos Powderhorn	SC	11250	31	8.3	25.8	32%	29.1	113%
Tolby	SNOTEL	10180	0	0.0	7.6	0%	3.9	51%
Tres Ritos	SNOTEL	8600	0	0.0			0.3	
Tres Ritos	SC	8600	1	0.2	4.4	5%	0.6	14%
Vacas Locas	SNOTEL	9306	2	1.1	8.1	14%	7.9	98%
Wesner Springs	SNOTEL	11120	0	0.0	16.0	0%	8.1	51%
Whiskey Creek	SC	9050	4	1.0	8.7	11%	8.1	93%
Basin Index						16%	77%	
# of sites						38	38	

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New Mexico
Basin Outlook Report
Natural Resources Conservation Service
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