

New Mexico Basin Outlook Report January 1, 2019



Statewide snowpack is at 91 percent of the median! December storms bring fresh snow to the Taos Powderhorn SNOTEL site!
Photo courtesy of Logan Peterson, 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

The month of December brought with it declining temperatures beginning a late transition to more winter like weather. Small gains were made against both long and short-term precipitation deficits, particularly in the Sangre de Cristo mountains and adjacent foothills and plains throughout northeastern New Mexico. In addition, the end of December brought with it storms which dropped beneficial precipitation across most of New Mexico. Southern and eastern New Mexico saw up to 3 inches of precipitation with snow in the higher elevations allowing for small reductions in the drought status across much of the state. However, regions such as the Four Corners area with large shortfalls in precipitation will require consistent storms to replenish such a large deficit. Current snow water equivalent (SWE) values have fluctuated considerably across New Mexico this fall, with current values at or near average. Reservoir storage continues to remain a concern, as water levels have been severely impacted by long-term drought and the accumulated precipitation deficit. However, water year 2019 is off to decent start with the oceanic indicators of an El Nino event imminent. The looming question is whether the atmospheric indicators will cooperate and deliver snow to the southwest. Water users and managers should continue to monitor conditions to determine the extent of winter conditions across the state.

Snowpack

Following up on the heels of one of the worst winters New Mexico has had the January 1st snowpack looks very promising. Most basins are close to average or slightly above. Ranging from 108 percent of median in the Zuni-Bluewater Basins to a low of 63 percent in the San Juan River Basin. With a statewide snowpack average of 91 percent of median as compared to 5 percent last year we are off to an excellent start. However, with depleted reservoirs, soil-moisture deficits, and this past winters persistent high temperatures the state is attempting to recover from a multi-year deficit. This magnifies the importance of the need for more consistent storm tracks and colder temperatures which continually refresh the snowpack and hold it in place until spring. The past trend of early winter snowpack followed by early melt out (1-2 months in some regions) has left the state in a deficit that has taken years to accrue. With months of the snow accumulation period still ahead of us and the weather forecast mildly cooperating it looks promising that conditions over the next several months could significantly improve.

NEW MEXICO STATEWIDE SNOWPACK	Percent of Median	Last Year Percent of Median
CANADIAN RIVER BASIN	101	7
PECOS RIVER BASIN	96	0
RIO GRANDE BASIN	85	10
MIMBRES RIVER BASIN	66	0
SAN FRANCISCO-UPPER GILA RIVER BASIN	82	8
ZUNI-BLUEWATER BASINS	108	0
SAN JUAN RIVER BASIN	63	27
CHUSKA MOUNTAINS	0	0
RIO HONDO BASIN	103	6
Statewide Snowpack Total	91	5
# of sites	20	20

Precipitation

Storm systems at the end of December and beginning of January affected the Southwest significantly. Beneficial precipitation was delivered across southern and eastern New Mexico. Rainfall totals from 0.5-3.0 inches slightly improving conditions in areas which have been under D0-D1 drought status. In the north-central region of the state there were continued improvements in the D1-D4 drought categories after receiving 1-2 inches of precipitation in the Albuquerque area. Additionally, the southwestern region of Colorado also received 0.5-1.0 inch of precipitation ultimately removing the D0 category from Baca County. The Four Corners region continues to struggle despite receiving significant precipitation during this event. Multiple years of below average precipitation in a semi-arid environment has significantly impacted the areas ability to recover from such a deficit. Based on current long-range models the forecast favors the formation of a weak El Nino during the 2018-19 winter. Water users and managers should continue to monitor the evolution of the forecast to help determine their water supply needs as the water-year progresses.

Reservoirs

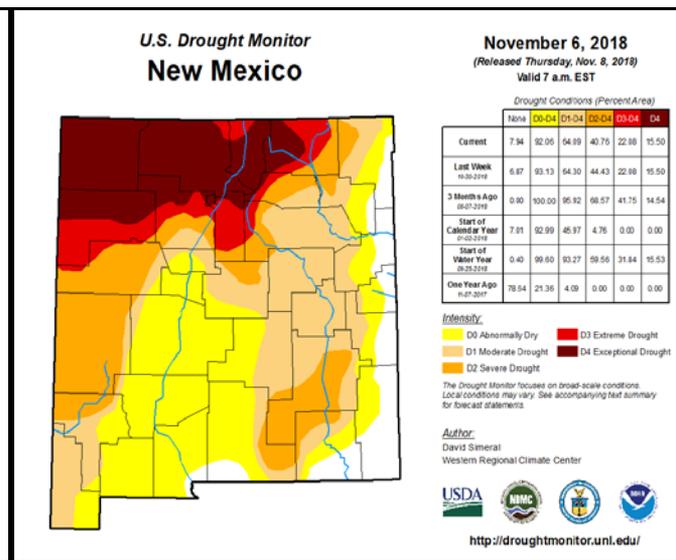
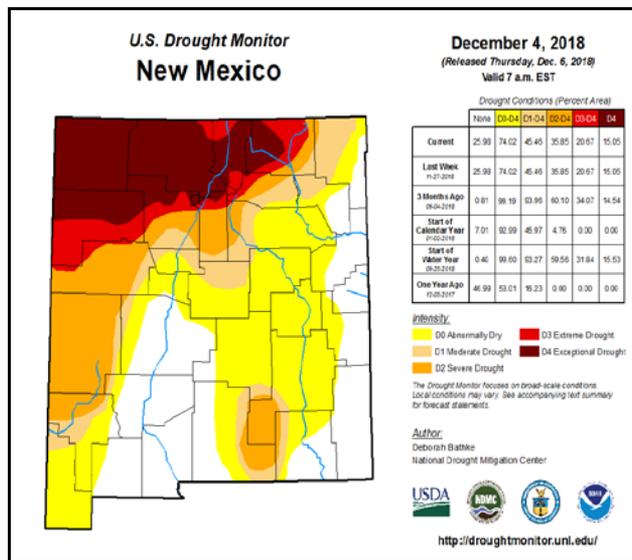
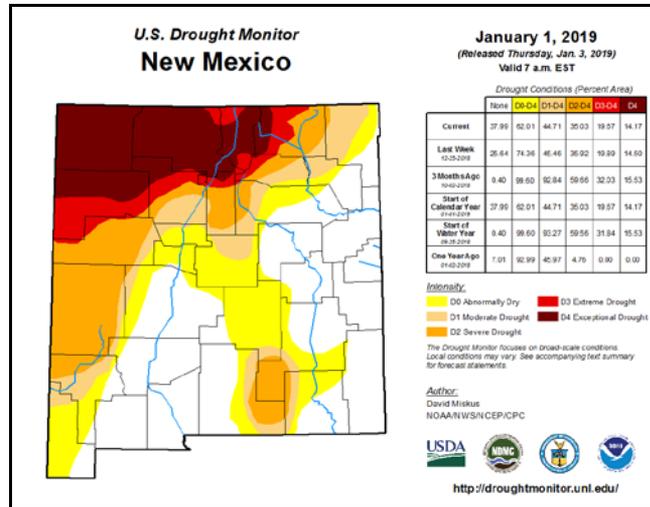
After recovering from one of the worst winters on record, many of the state's reservoirs reflect the poor snow conditions New Mexico has experienced these past several years. Statewide reservoir storage is currently at 41 percent of the average as compared to 70 percent last year at this time. This equates to 43 percent of the average capacity and just 18 percent of the actual capacity. The previous winter's early snow-melt and rainfall contributed to decent storage numbers however that water has since been dispersed leaving many of the state's reservoirs very low. New Mexico is counting on good snowpack this water year to replenish an already depleted water supply. Water-users should continue to monitor weather conditions to evaluate their water needs as the winter 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	78.1	117.7	152.7	1192.8	7%	10%	13%	51%	77%
Bluewater Lake	3.1	6.5	5.7	38.5	8%	17%	15%	55%	114%
Brantley Lake nr Carlsbad	29.8	40.4	17.1	1008.2	3%	4%	2%	174%	237%
Caballo Reservoir	26.7	37.1	68.0	332.0	8%	11%	20%	39%	55%
Cochiti Lake	43.6	46.9	63.1	491.0	9%	10%	13%	69%	74%
Conchas Lake	129.6	211.5	197.9	254.2	51%	83%	78%	65%	107%
Costilla Reservoir		10.6	6.0	16.0		66%	38%		177%
Eagle Nest Lake nr Eagle Nest, NM	33.3	42.4	53.0	79.0	42%	54%	67%	63%	80%
El Vado Reservoir	12.5	72.2	102.8	190.3	7%	38%	54%	12%	70%
Elephant Butte Reservoir	114.9	425.1	1267.0	2195.0	5%	19%	58%	9%	34%
Heron Reservoir	56.3	146.7	308.0	400.0	14%	37%	77%	18%	48%
Lake Avalon	0.0		2.0	4.0	0%		50%	0%	
Lake Sumner	28.6	39.1	26.7	102.0	28%	38%	26%	107%	147%
Navajo Reservoir	878.7	1269.6	1341.0	1696.0	52%	75%	79%	66%	95%
Santa Rosa Reservoir	53.4	94.7	54.4	438.3	12%	22%	12%	98%	174%
Basin-wide Total	1488.5	2549.9	3657.4	8417.3	18%	30%	43%	41%	70%
# of reservoirs	13	13	13	13	13	13	13	13	13

Streamflow

Due to current staffing, most official forecasts only will be available February through May. If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov.

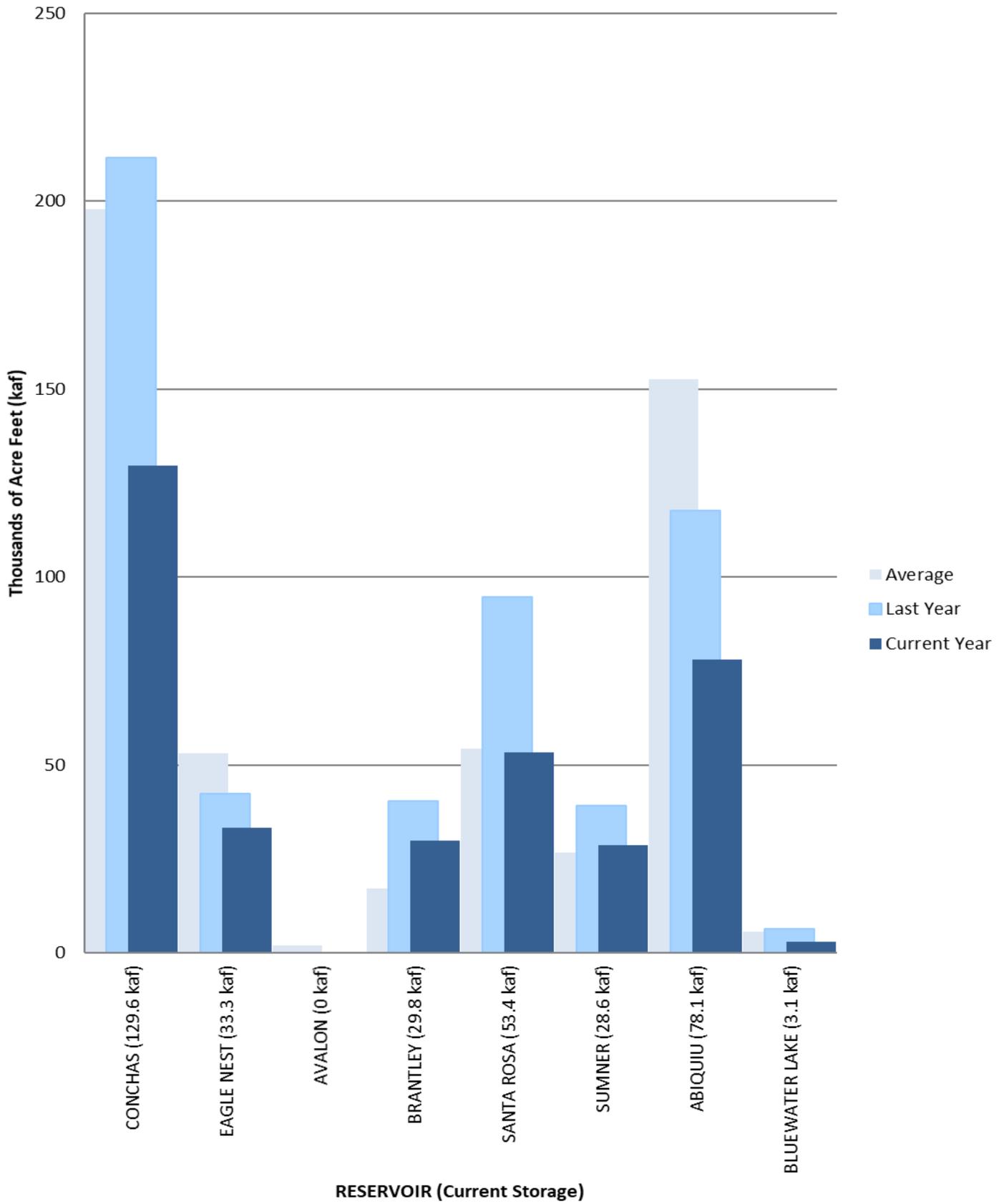
New Mexico Drought Monitor, real versus perceived conditions?



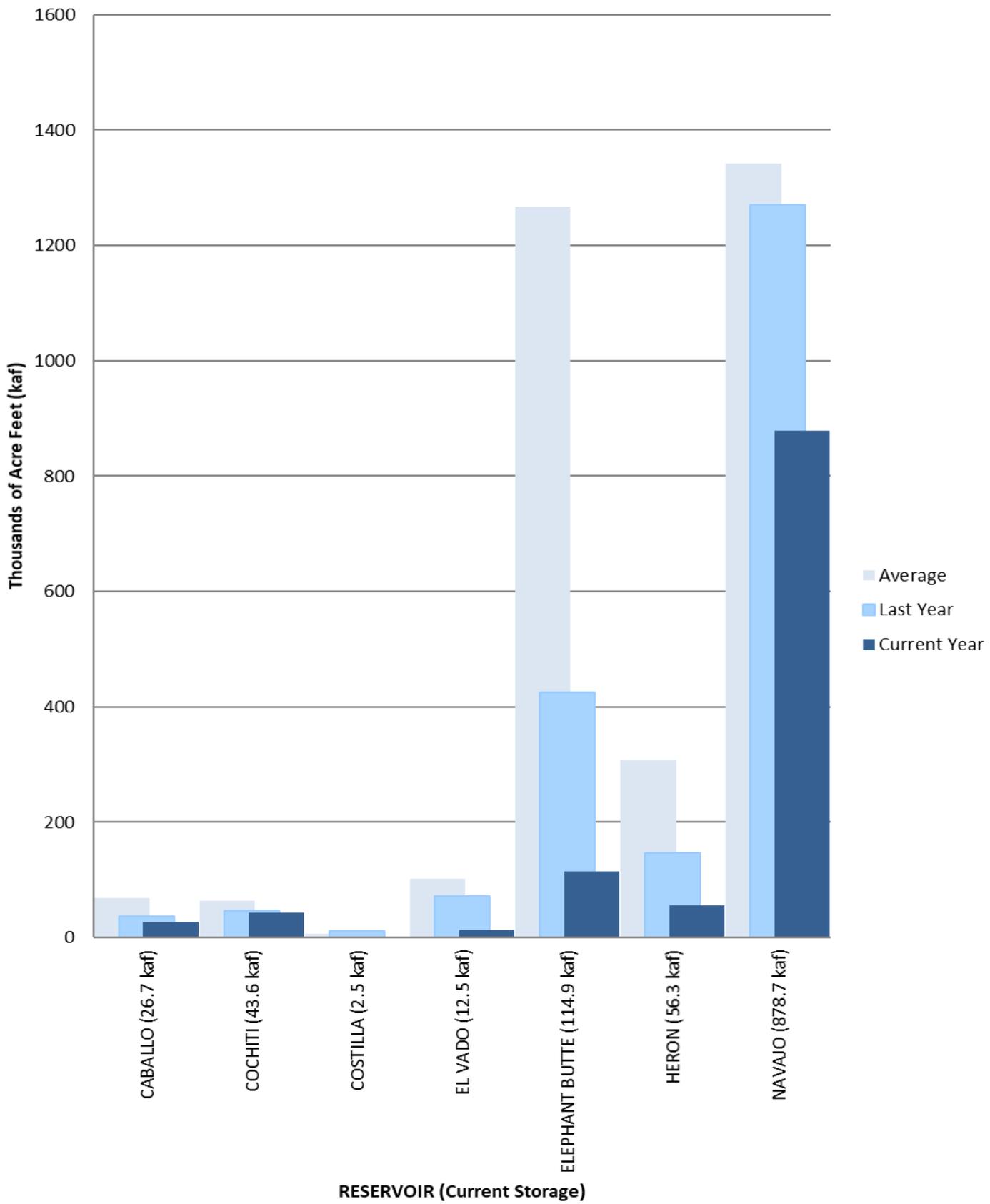
Every week, The U.S. Drought Monitor is produced in partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. This useful tool uses multiple inputs, including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

Drought conditions continued over a significant portion of New Mexico at the start of 2019 with the most severe areas located in the Northern Mountains and the Four Corners region. While moisture from the 2018 Monsoon Season helped to alleviate or eliminate drought conditions over a large portion of the state, some areas did not see enough rainfall during the monsoon or the later October 2018 rain event to improve drought conditions. November 2018 remained mostly dry over western New Mexico with most precipitation falling over eastern NM. Although November trended dry, temperatures trended below normal, thus reducing evapotranspiration demands and preventing any deterioration in drought conditions. December 2018 became more active with several storm systems moving through the Southwestern US and Southern Rockies. While these systems helped to raise precipitation totals in many hard hit areas, the large deficits in the 12-15 month period, recent storm tracks that have not favored the Four Corners and Upper Rio Grande, and low water content snow have limited changes on the USDM in the D3/D4 areas. Sustained above normal precipitation events through the spring will be required to show significant improvement in the hardest hit areas on the USDM in NM.

Statewide Reservoir Storage



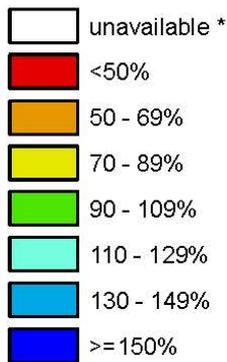
Statewide Reservoir Storage



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

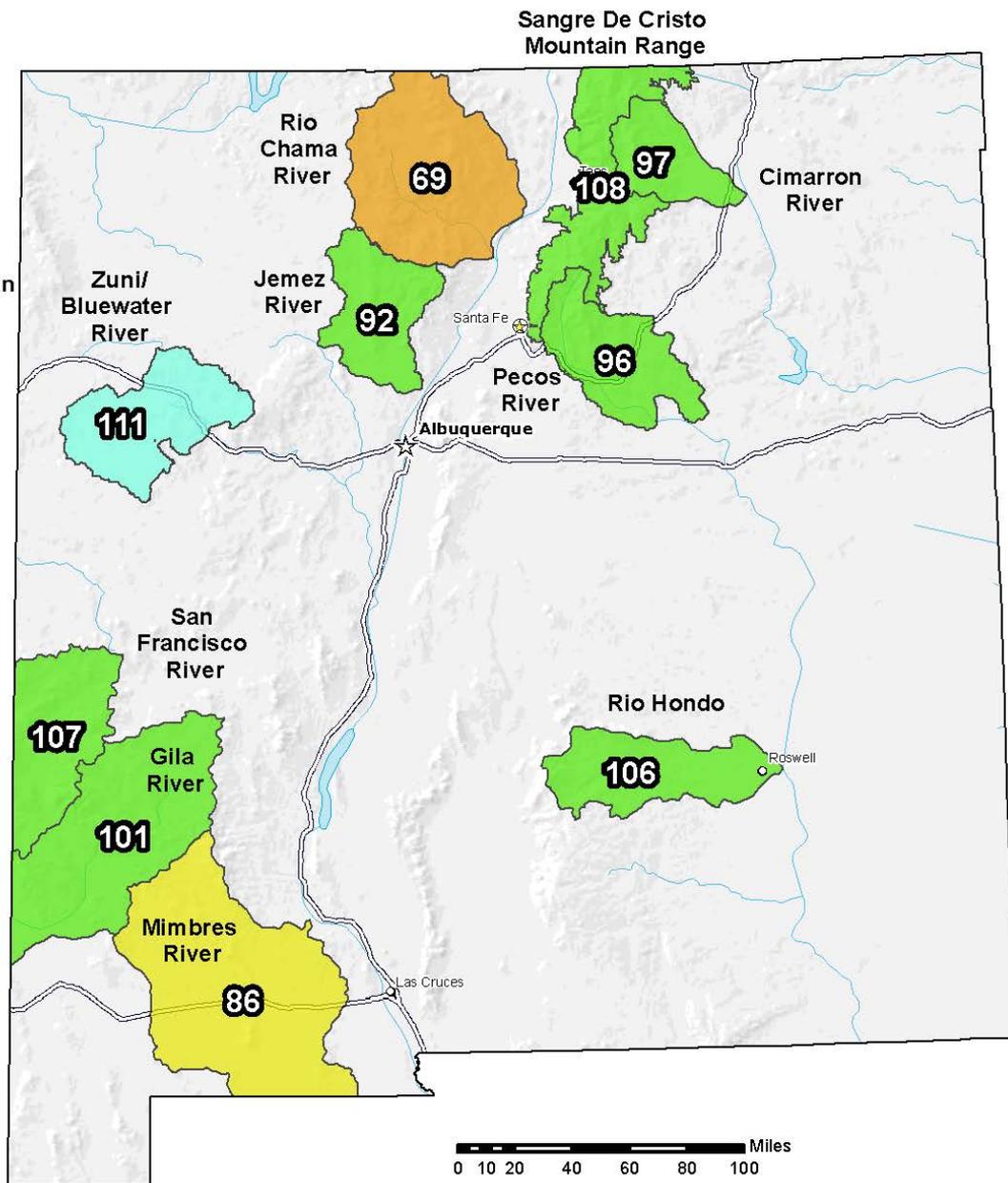
Jan 03, 2019

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**

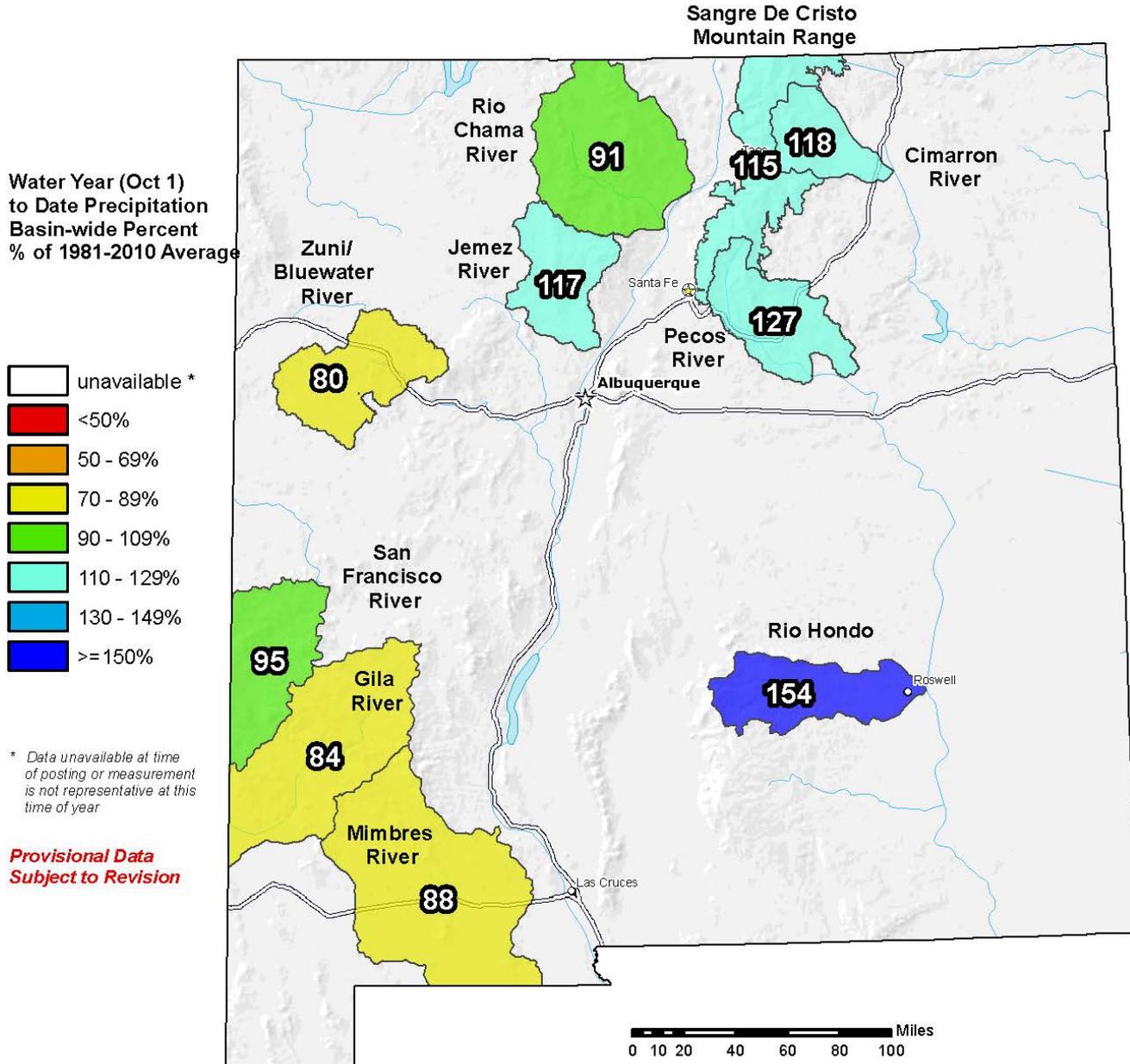


The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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

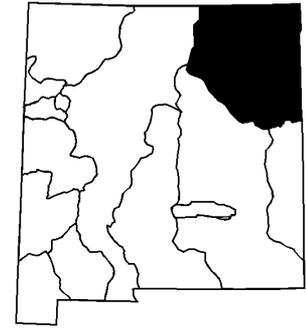
Jan 03, 2019



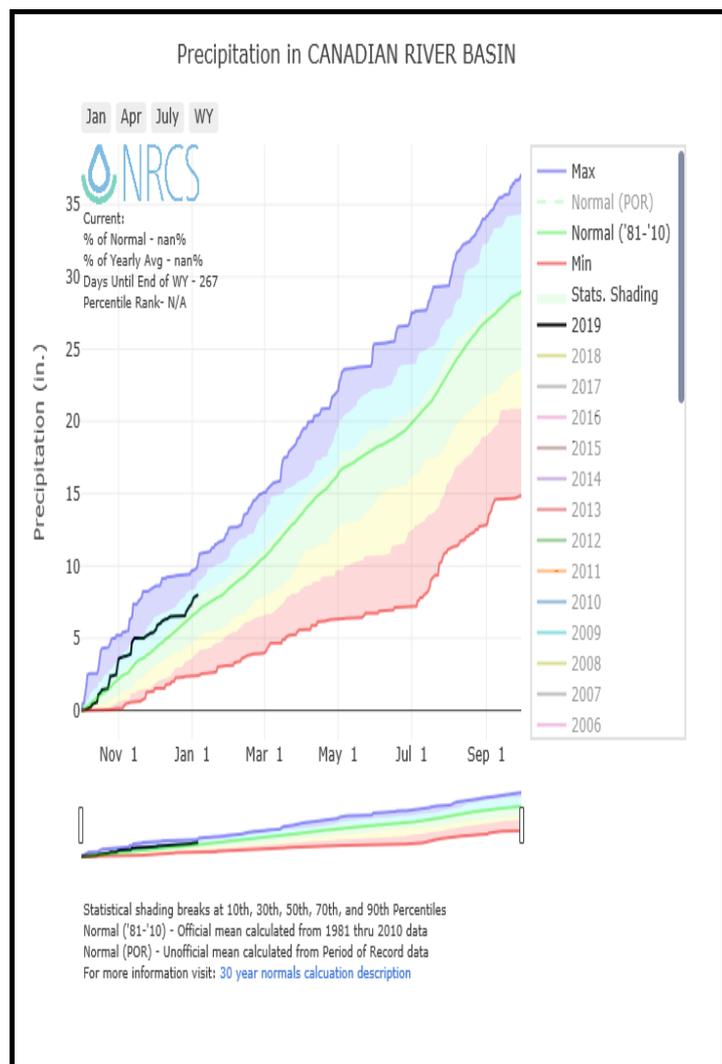
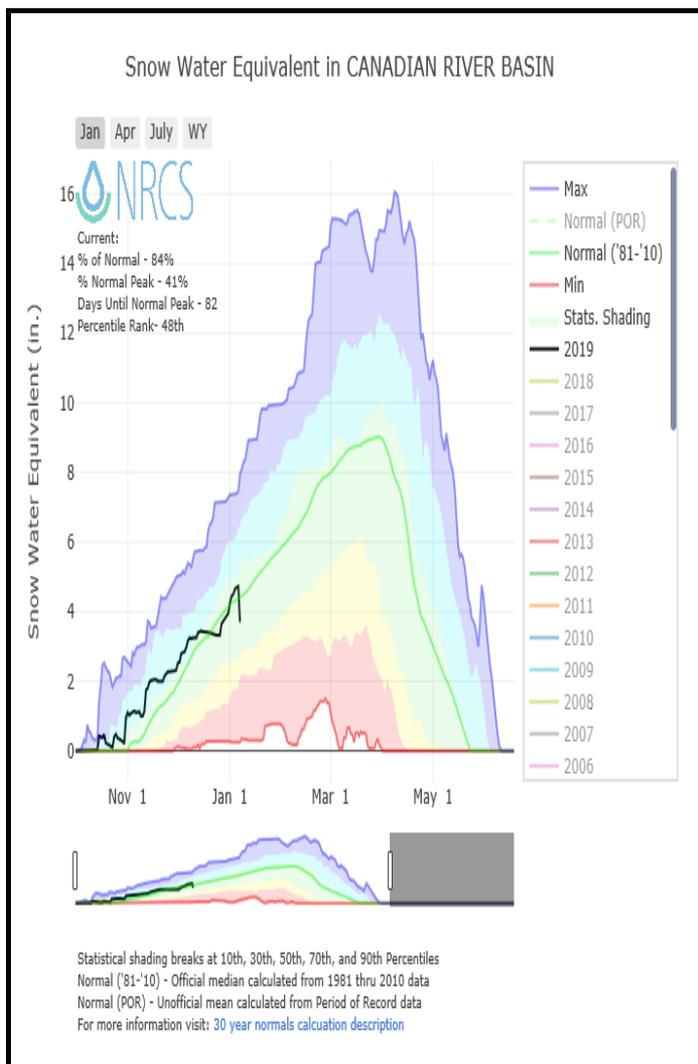
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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 January 1, 2019



Due to current staffing, most official forecasts only will be available February through May. If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov. The month of December received 90 percent of the average amount of precipitation for the month. This puts the water year-to-date average amount of precipitation at 115 percent as compared to 36 percent last year at this time! Snowpack in the basin is at 101 percent of the median. This is a big increase from 7 percent at this time last year! Reservoirs are currently holding 162,900 acre-feet of storage, which is a decrease of 91,000 acre-feet from last year at this time. This equates to 75 percent of the average capacity and 65 percent of the average stored water for the basin at the end of December.



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**Canadian River Basin
Streamflow Forecasts - January 1, 2019**

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								
Eagle Nest Reservoir Inflow								
Cimarron R nr Cimarron ²								
Ponil Ck nr Cimarron								
Rayado Ck nr Cimarron								
Conchas Reservoir Inflow ³								

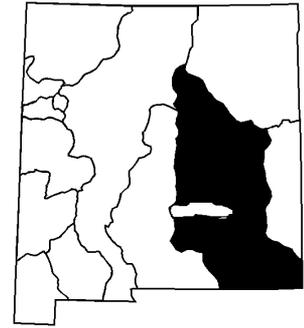
- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Conchas Lake	129.6	211.5	197.9	254.4
Eagle Nest Lake nr Eagle Nest, NM	33.3	42.4	53.0	79.0
Basin-wide Total	162.9	253.9	250.9	333.4
# of reservoirs	2	2	2	2

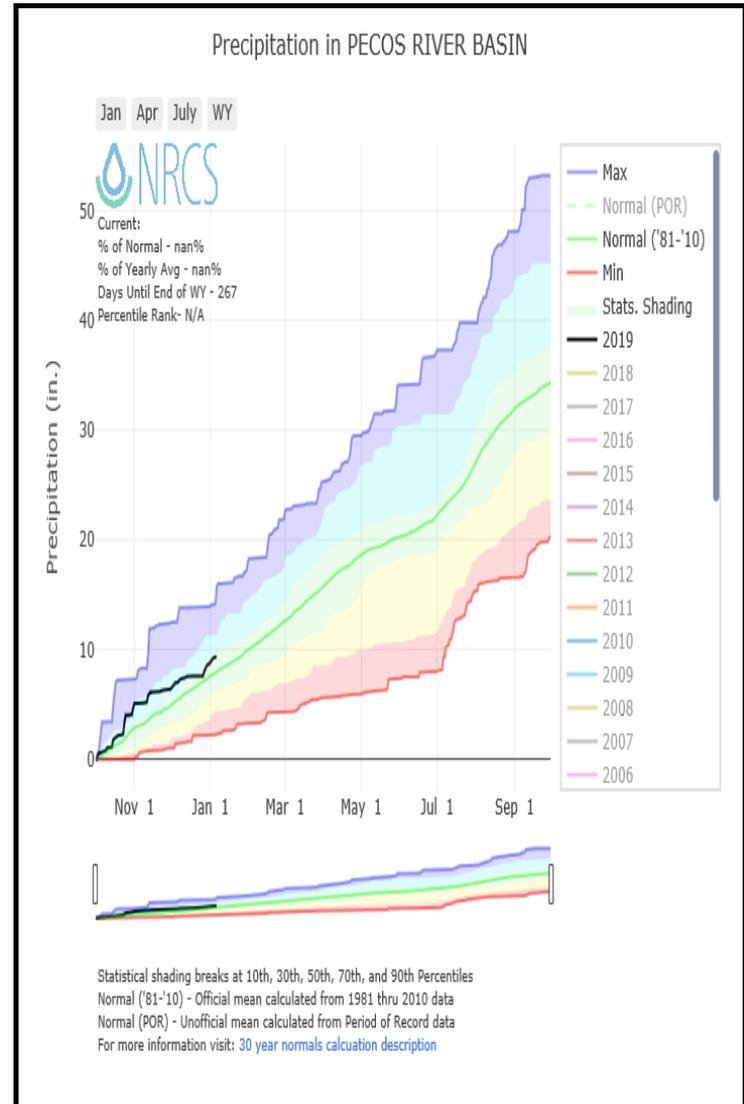
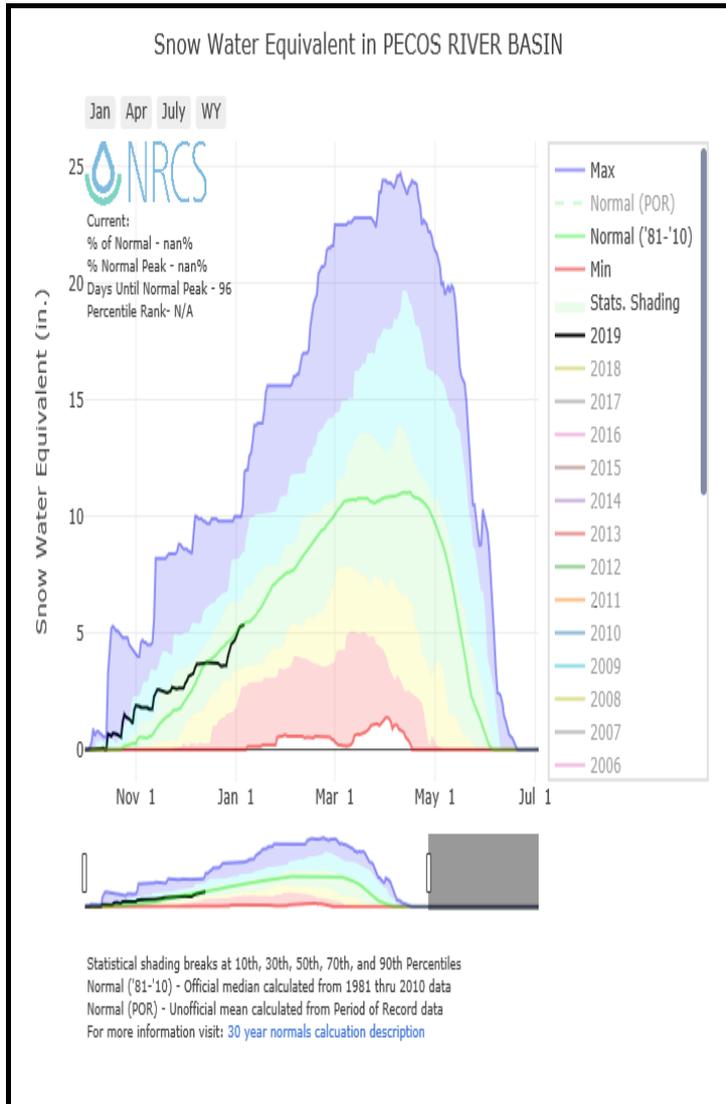
Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
CANADIAN RIVER BASIN	4	101%	7%

If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov

Pecos River Basin Water Supply Outlook Report as of January 1, 2019



Due to current staffing, most official forecasts only will be available February through May. If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov. December received 90 percent of the average precipitation for the month, putting the basin at 116 percent of average for the water year-to-date. This is 87 percent above last year's average of 29 percent! Snowpack in the Pecos River Basin is at 96 percent of the median! Last year at this time the basin had zero snowpack. As of January 1st, reservoir storage in the basin is at 111,800 acre-feet. This is just 6 percent of the average capacity and 114 percent of the average stored water. Last year at this time reservoir storage was 177 percent of the average.



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**Pecos River Basin
Streamflow Forecasts - January 1, 2019**

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								
Pecos R nr Anton Chico								
Gallinas Ck nr Montezuma								
Pecos R ab Santa Rosa Lk								

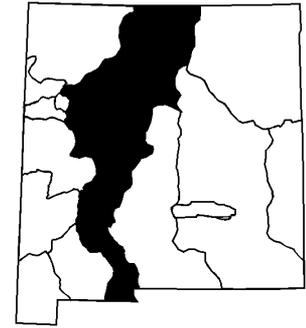
- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Lake Avalon	0.0		2.0	4.0
Brantley Lake nr Carlsbad	29.8	40.4	17.1	1008.2
Santa Rosa Reservoir	53.4	94.7	54.4	432.2
Lake Sumner	28.6	39.1	26.7	102.0
Basin-wide Total	111.8	174.3	98.2	1542.4
# of reservoirs	3	3	3	3

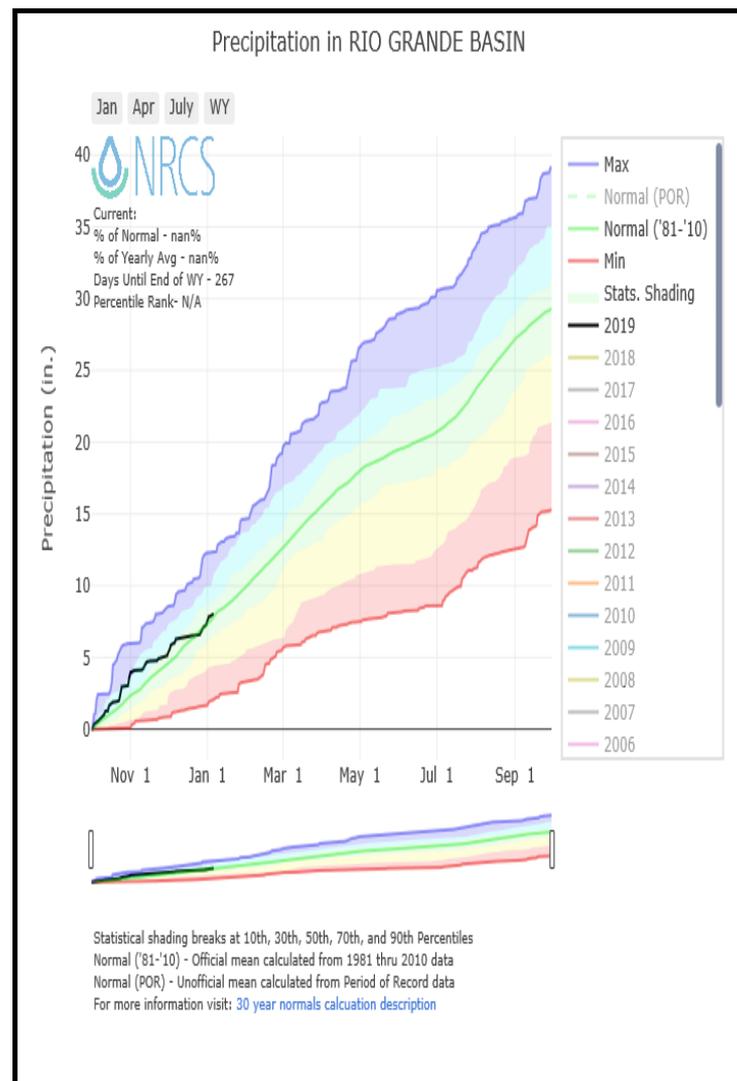
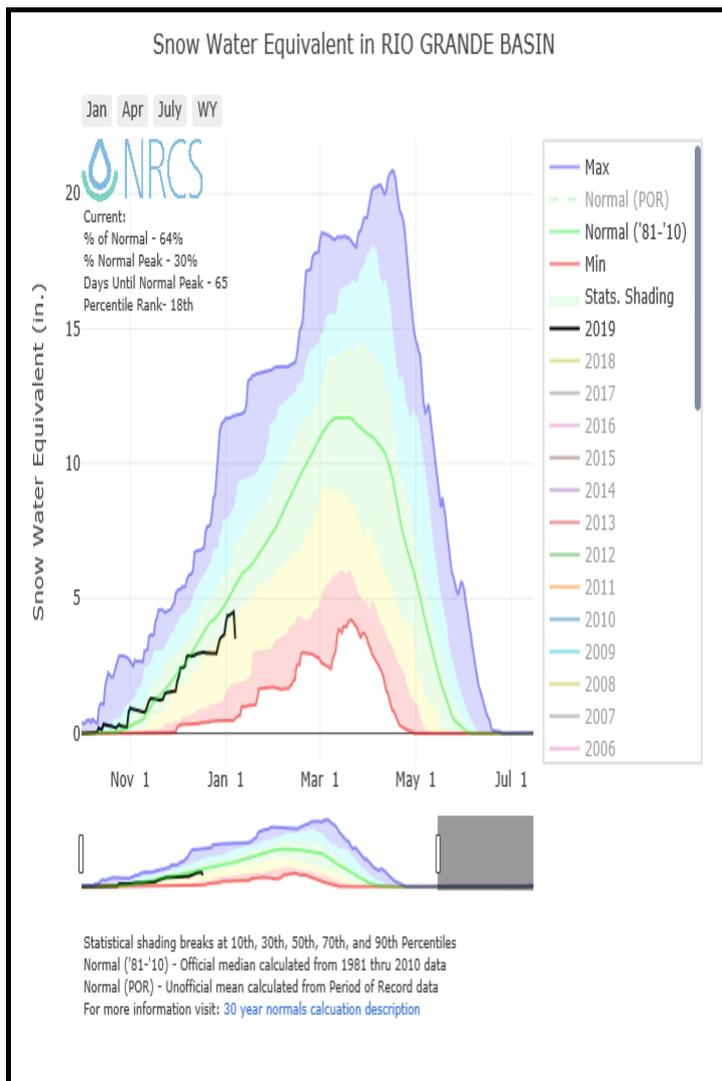
Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
PECOS RIVER BASIN	3	96%	0%

If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov

Rio Grande Basin Water Supply Outlook Report as of January 1, 2019



Due to current staffing, most official forecasts only will be available February through May. If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov. December was a slightly below average month for precipitation in the basin accumulating 82 percent of the average leaving the water year-to-date precipitation at 103 percent of the average. Snowpack in the basin is just below normal at 85 percent of the median. This is 75 percent above last year's median! Snowpack in southern Colorado near the headwaters of the Rio Grande is 70 percent of the median as compared to 29 percent last year at this time. Current reservoir storage in the basin is very low at 335,200 acre-feet which is a decrease of 517,000 acre-feet from this time last year! This is 41 percent of the average capacity in the basin and 43 percent of the average stored water.



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**Rio Grande Basin
Streamflow Forecasts - January 1, 2019**

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								
Platoro Reservoir Inflow								
Conejos R nr Mogote ²								
Costilla Reservoir Inflow								
Costilla Ck nr Costilla ²								
Red R bl Fish Hatchery nr Questa								
Rio Hondo nr Valdez								
Rio Pueblo de Taos nr Taos								
Rio Lucero nr Arroyo Seco								
Rio Pueblo de Taos bl Los Cordovas								
Embudo Ck at Dixon								
El Vado Reservoir Inflow ²								
Santa Cruz R at Cundiyo								
Nambe Falls Reservoir Inflow								
Tesuque Ck ab diversions								
Rio Grande at Otowi Bridge ²								
Santa Fe R nr Santa Fe ²								
Jemez R nr Jemez								
Jemez R bl Jemez Canyon Dam								
Rio Grande at San Marcial ²								

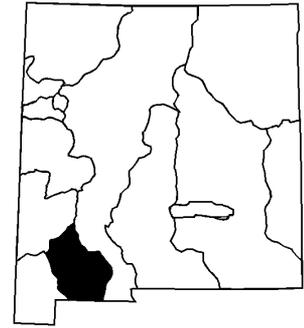
- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Abiquiu Reservoir	78.1	117.7	152.7	1198.5
Bluewater Lake	3.1	6.5	5.7	38.5
Caballo Reservoir	26.7	37.1	68.0	332.0
Cochiti Lake	43.6	46.9	63.1	491.0
Costilla Reservoir		10.6	6.0	16.0
El Vado Reservoir	12.5	72.2	102.8	184.8
Elephant Butte Reservoir	114.9	425.1	1267.0	2195.0
Heron Reservoir	56.3	146.7	308.0	400.0
Basin-wide Total	335.2	852.2	1967.3	4839.8
# of reservoirs	7	7	7	7

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
RIO GRANDE BASIN	11	85%	10%

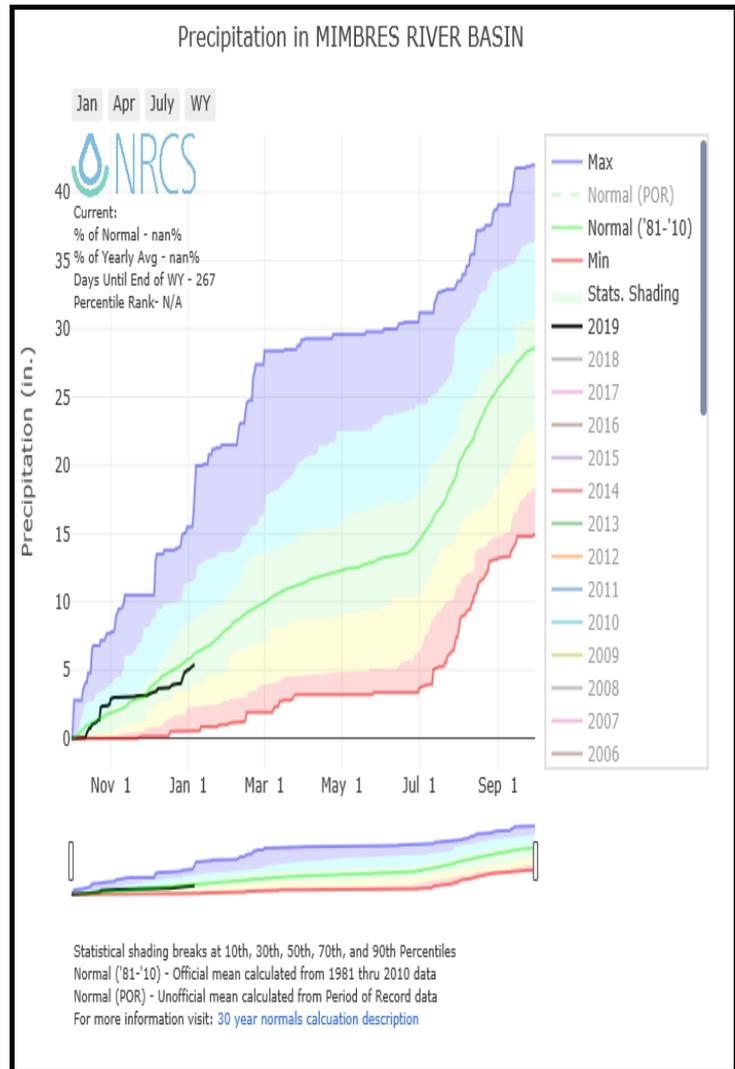
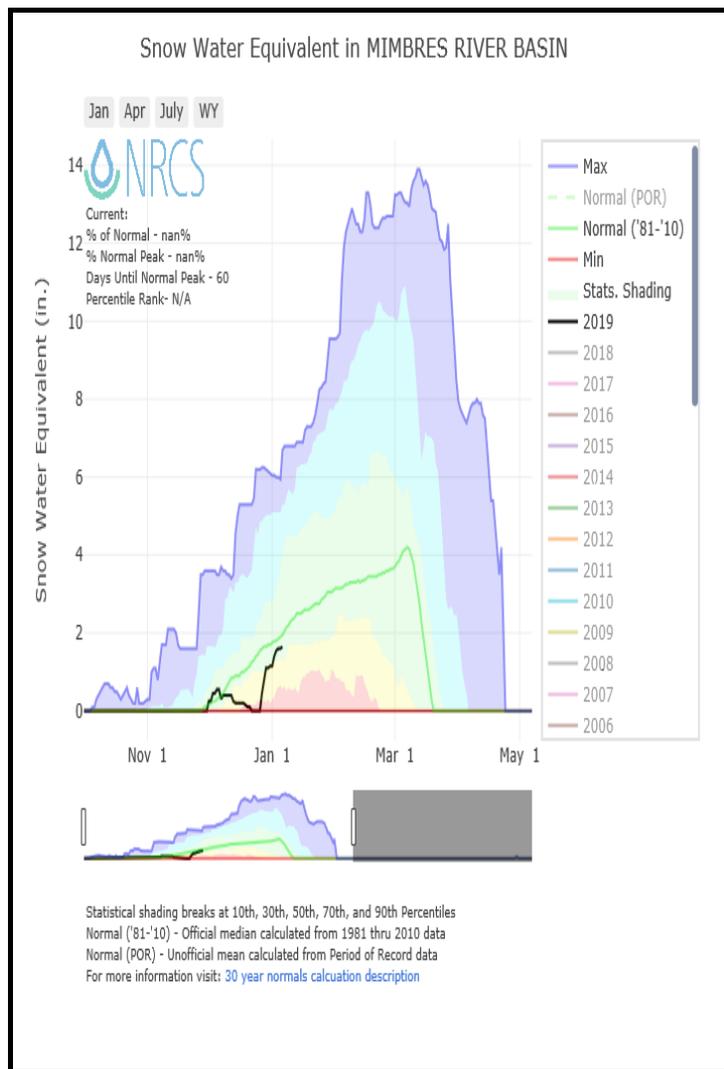
If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov

Mimbres River Basin Water Supply Outlook Report as of January 1, 2019



Due to current staffing, most official forecasts only will be available February through May. If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov. December received 81 percent of the average monthly precipitation bringing the water year-to-date total up to 87 percent of the average. Snowpack in the basin is currently at 66 percent of the median as compared to 0 percent last year at this time.

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



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Mimbres River Basin
Streamflow Forecasts - January 1, 2019

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

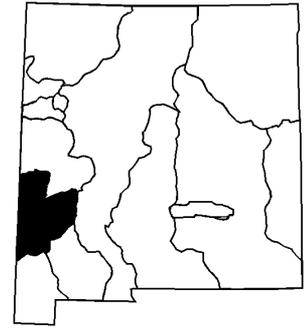
MIMBRES RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Mimbres R at Mimbres ³								

- 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 January 1, 2019	# of Sites	% Median	Last Year % Median
MIMBRES RIVER BASIN	2	66%	0%

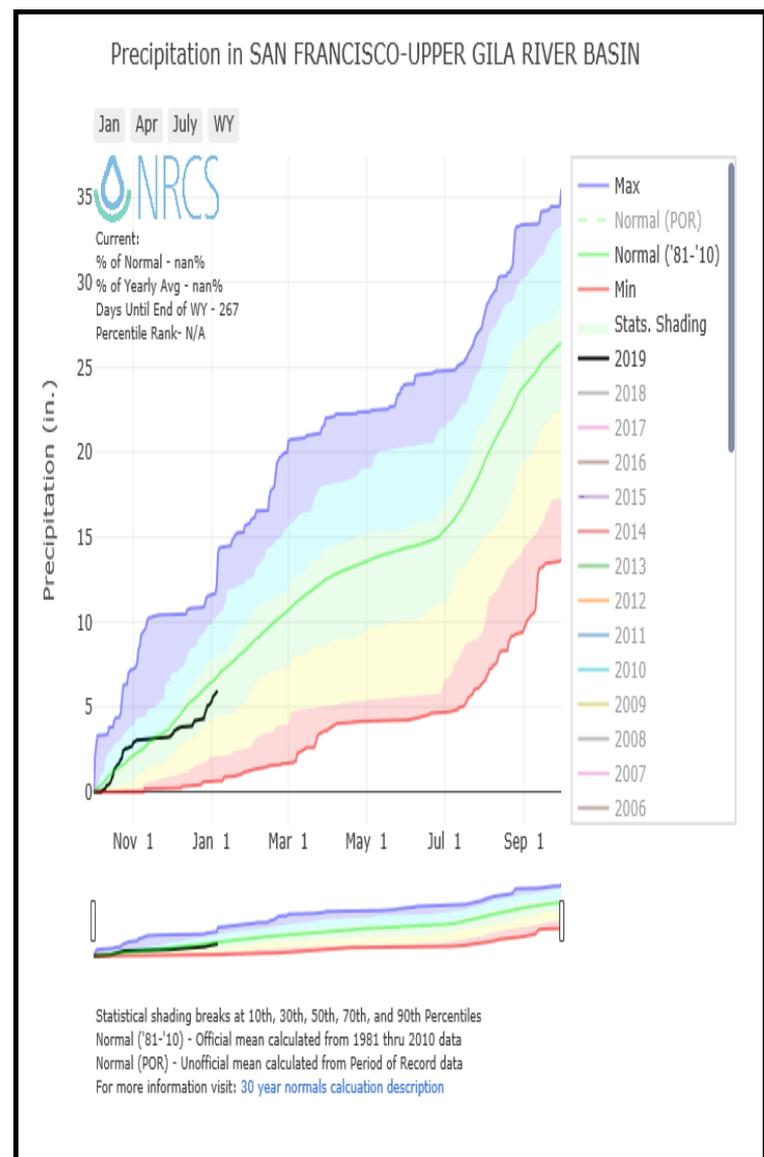
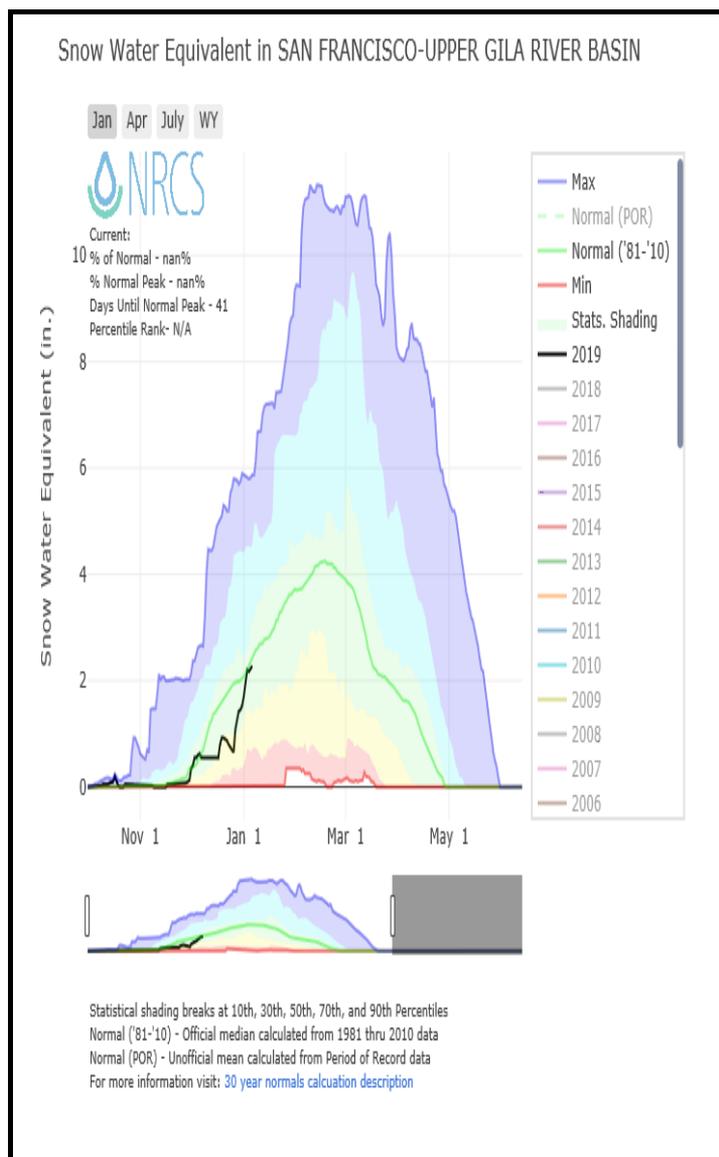
If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov

San Francisco / Upper Gila River Basin Water Supply Outlook Report as of January 1, 2019



Due to current staffing, most official forecasts only will be available February through May. If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov. Water year-to-date precipitation is at 82 percent of the average with December receiving 77 percent of the average monthly precipitation. Snowpack in the basin is currently at 82 percent of the median as compared to 8 percent at this time last year.

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.



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San Francisco-Upper Gila River Basin Streamflow Forecasts - January 1, 2019

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

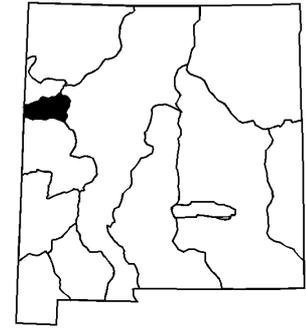
SAN FRANCISCO-UPPER GILA RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
<hr/>								
Gila R at Gila ³								
Gila R bl Blue Ck nr Virden ³								
San Francisco R at Glenwood ³								
San Francisco R at Clifton ³								

- 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

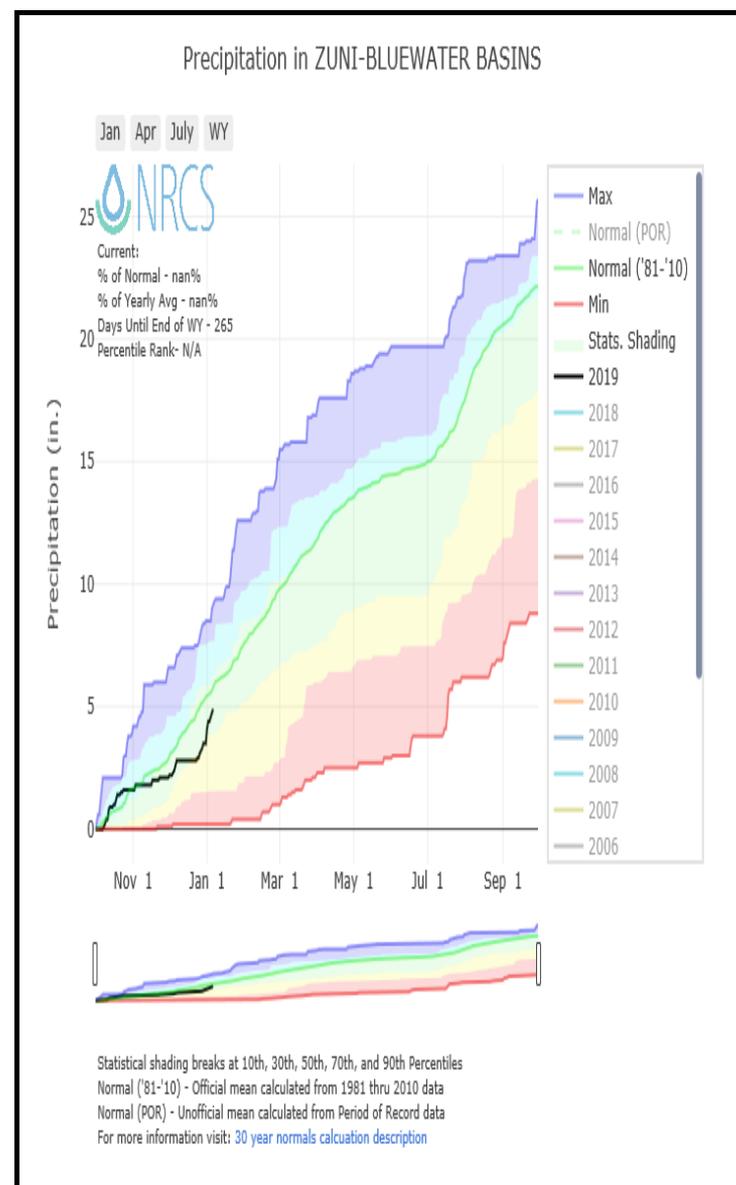
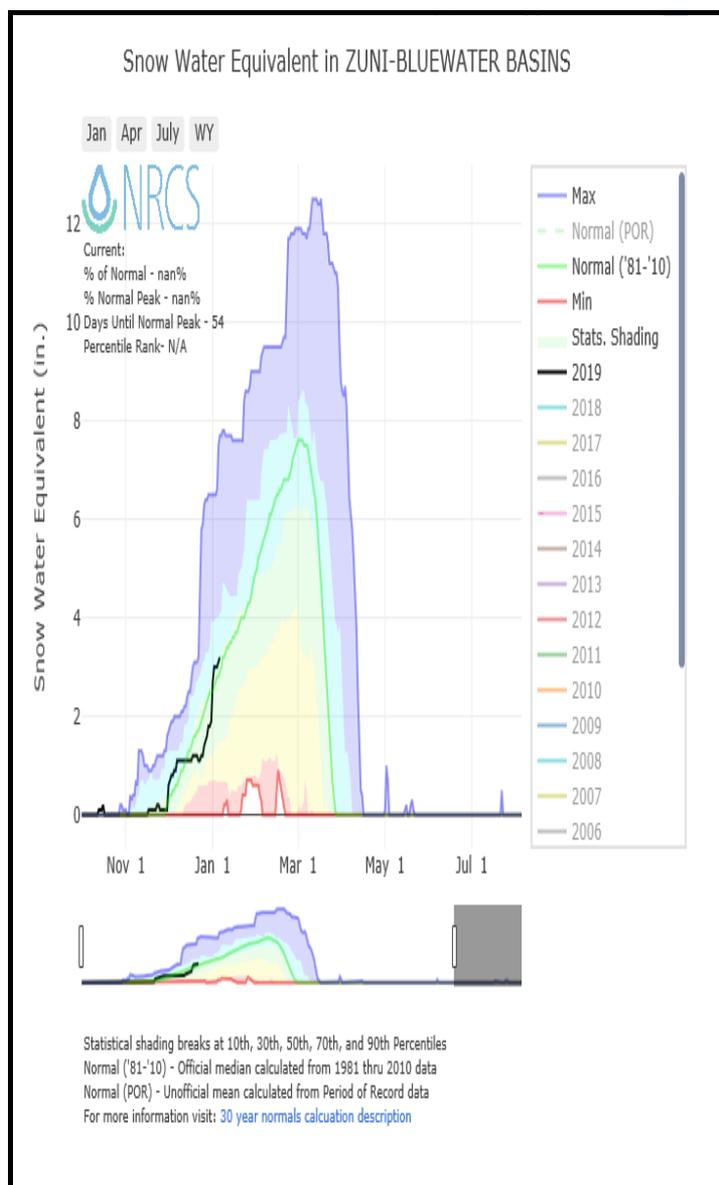
Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
SAN FRANCISCO-UPPER GILA RIVER BASIN	4	82%	8%

If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov

Zuni / Bluewater Basins Water Supply Outlook Report as of January 1, 2019



Due to current staffing, most official forecasts only will be available February through May. If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov. Snowpack in the basin is at 108 percent of the median as compared to zero percent at this time last year! December saw gains in precipitation as well having received 79 percent of the average. This puts the water year-to-date total at 76 percent of the average. Bluewater Lake currently holds 3,100 acre-feet of water versus 6,500 acre-feet at this time last year. This is 55 percent of the average water stored as compared to 114 percent last year at this time.



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**Zuni-Bluewater Basins
Streamflow Forecasts - January 1, 2019**

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								
Zuni R ab Black Rock Reservoir ³								

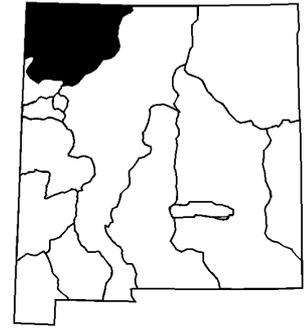
- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Bluewater Lake	3.1	6.5	5.7	38.5
Basin-wide Total	3.1	6.5	5.7	38.5
# of reservoirs	1	1	1	1

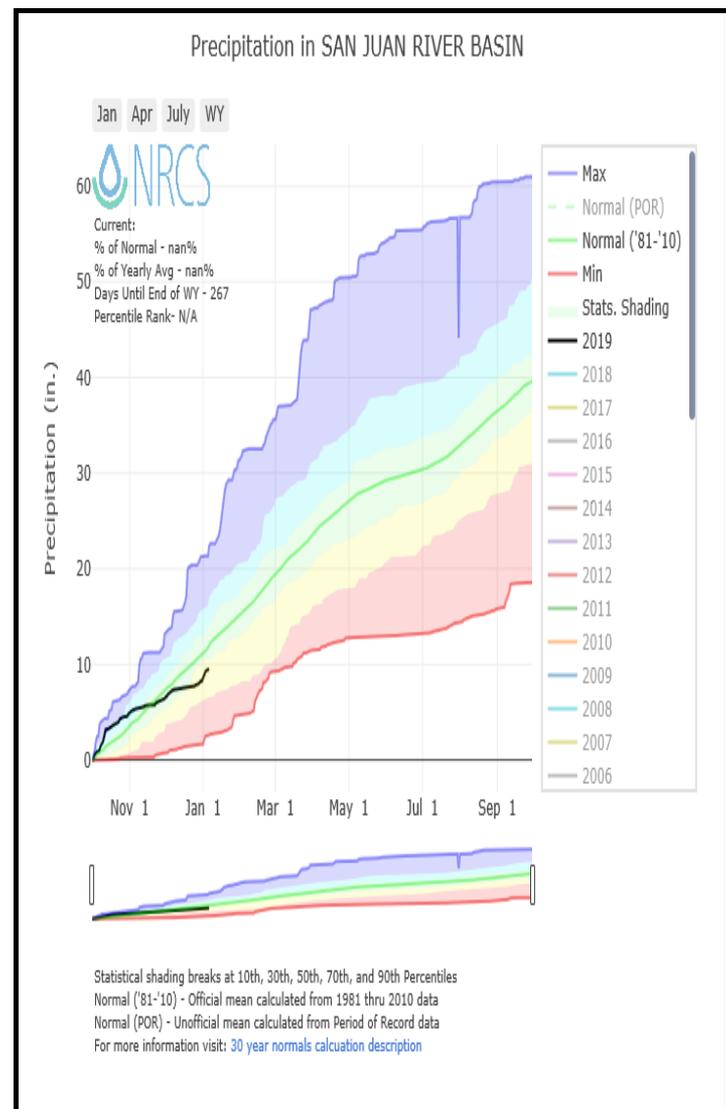
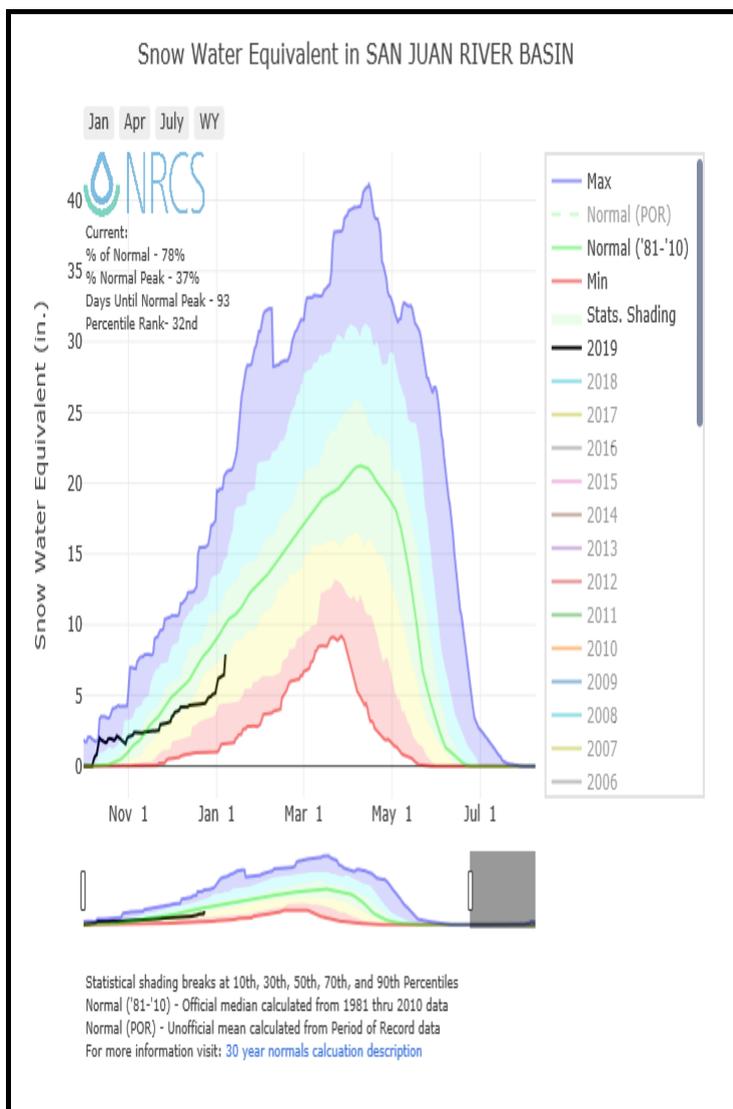
Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
ZUNI-BLUEWATER BASINS	1	108%	0%

If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov

San Juan River Basin Water Supply Outlook Report as of January 1, 2019



Due to current staffing, most official forecasts only will be available February through May. If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov. December received 54 percent of the average monthly precipitation bringing the water year-to-date total to 77 percent of the average. Snowpack in the basin remains below the median at just 63 percent, however this is an increase from the meager 27 percent at this time last year! Navajo reservoir storage contains 878,700 acre-feet or 66 percent of the average water stored at the end of December. This equates to 79 percent of the average capacity for the reservoir.



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**San Juan River Basin
Streamflow Forecasts - January 1, 2019**

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								
Navajo R at Oso Diversion ²								
Navajo Reservoir Inflow ²								
Animas R at Durango								
La Plata R at Hesperus								

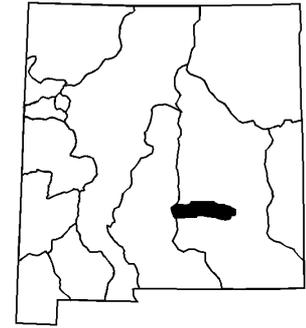
- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of December, 2018	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Navajo Reservoir	878.7	1269.6	1341.0	1696.0
Basin-wide Total	878.7	1269.6	1341.0	1696.0
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis January 1, 2019	# of Sites	% Median	Last Year % Median
SAN JUAN RIVER BASIN	11	63%	27%

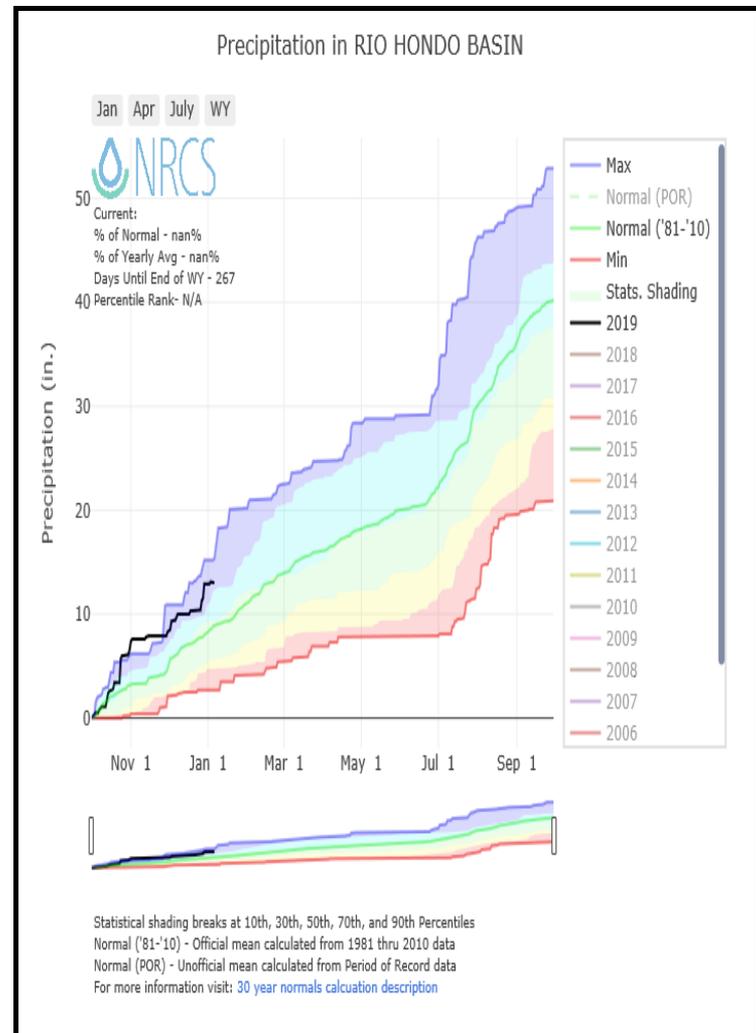
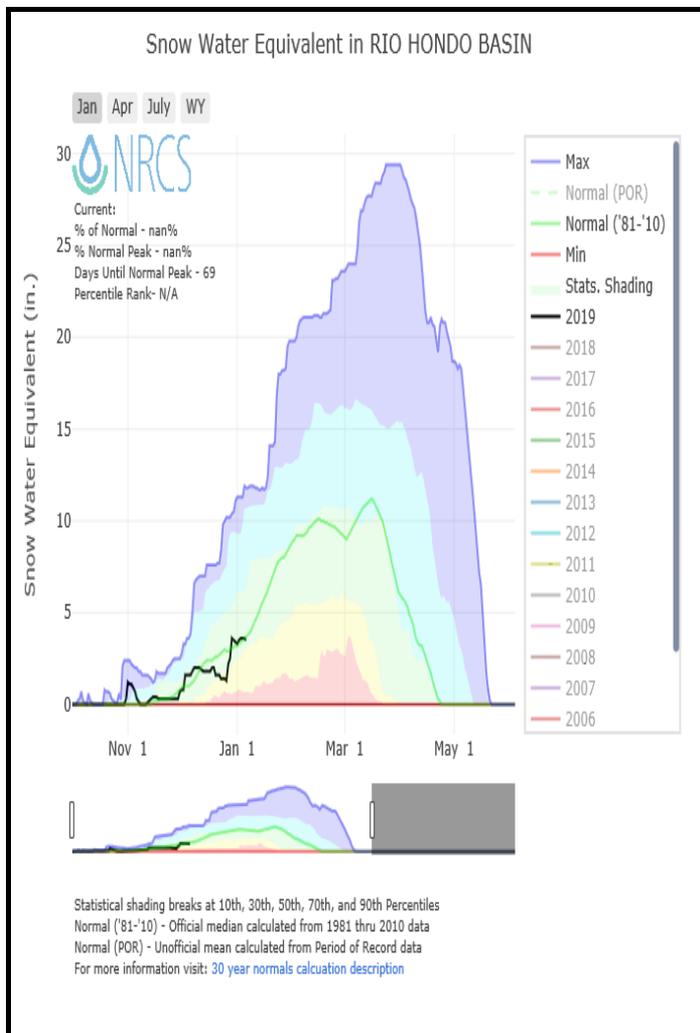
If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov

Rio Hondo Basin Water Supply Outlook Report as of January 1, 2019



Due to current staffing, most official forecasts only will be available February through May. If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov. December was a great month for the Rio Hondo having received 145 percent of the average monthly precipitation. This puts the water year-to-date total at 154 percent of the average! Snowpack in the basin is currently at 103 percent of the median as compared to 6 percent at this time last year! This measurement however should be used with caution as the Sierra Blanca SNOTEL site was impacted by the Little Bear Fire four years ago.

It should be noted that the switch to using median snowpack values four 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 - January 1, 2019

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								

- 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 January 1, 2019	# of Sites	% Median	Last Year % Median
RIO HONDO BASIN	1	103%	6%

If you rely on the January or June forecasts, please contact Cara McCarthy, cara.s.mccarthy@por.usda.gov

NEW MEXICO STATEWIDE	Network	Elevation (ft)	Depth (in)	SWE (in)	Median (in)	% Median	Last Year SWE (in)	Last Year % Median
Alamitos	SC	9320						
Aztec #2	SC	9880						
Bateman	SNOTEL	9300	24	4.3	4.3	100%	0.4	9%
Boon	SC	8140			1.4		0.0	0%
Bowl Canyon	SC	8980			3.5		0.0	0%
Chamita	SNOTEL	8400	22	2.6	4.0	65%	0.0	0%
Dan Valley	SC	7640			1.2		0.0	0%
Elk Cabin	SNOTEL	8210	6	1.6	1.8	89%	0.0	0%
Frisco Divide	SNOTEL	8000	8	0.9	1.5	60%	0.0	0%
Gallegos Peak	SNOTEL	9800	26	4.4	4.1	107%	0.3	7%
Hematite Park	SC	9500						
Hidden Valley	SC	8480					0.0	
Hopewell	SNOTEL	10000	27	4.4	7.1	62%	0.7	10%
Lookout Mountain	SNOTEL	8500	5	0.8	1.4	57%	0.3	21%
Mcgaffey	SC	8120			1.0		0.0	0%
Mcknight Cabin	SNOTEL	9240	9	1.3	1.6	81%	0.0	0%
Missionary Spring	SC	7940			1.1		0.0	0%
Navajo Whiskey Ck	SNOTEL	9050	24	3.9			0.0	
North Costilla	SNOTEL	10600	23	3.9	2.6	150%	0.0	0%
Ojo Redondo	SC	8200						
Palo	SNOTEL	9350	18	3.8			0.0	
Palo	SC	9300						
PanchueLa	SC	8400						
Quemazon	SNOTEL	9500	27	3.8	4.6	83%	0.0	0%
Red River Pass #2	SNOTEL	9850	21	3.2	3.6	89%	0.5	14%
Rice Park	SNOTEL	8460	17	2.7	2.5	108%	0.0	0%
Rio En Medio	SC	10300						
Rio Santa Barbara	SNOTEL	10664	32	6.9			0.3	
San Antonio Sink	SNOTEL	9100	16	2.4			0.4	
San Antonio Sink	SC	9200						
Santa Fe	SNOTEL	11445	34	7.0	6.5	108%	0.0	0%
Senorita Divide #2	SNOTEL	8600	20	2.5	2.8	89%	0.0	0%
Shuree	SNOTEL	10100	23	4.0			0.0	
Shuree	SC	10097						
Sierra Blanca	SNOTEL	10280	20	3.3	3.2	103%	0.2	6%
Signal Peak	SNOTEL	8360	8	1.0	1.9	53%	0.0	0%
Silver Creek Divide	SNOTEL	9000	18	4.1	3.5	117%	0.4	11%
State Line	SC	8000			0.6		0.0	0%
Taos Canyon	SC	9100						
Taos Powderhorn	SNOTEL	11057	37	8.0			0.8	
Taos Powderhorn	SC	11250			12.0		0.6	5%
Tolby	SNOTEL	10180	24	4.0	3.8	105%	0.6	16%
Tres Ritos	SNOTEL	8600	11	1.3			0.0	
Tres Ritos	SC	8600						
Vacas Locas	SNOTEL	9306	28	4.5	4.8	94%	0.0	0%
Wesner Springs	SNOTEL	11120	29	5.9	6.8	87%	0.0	0%
Whiskey Creek	SC	9050			3.5		0.0	0%
Basin Index						91%	5%	
# of sites						20	20	

Issued by:

Matt Lohr
Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Released by:

J. Xavier Montoya
State Conservationist
Natural Resources Conservation Service
Albuquerque, New Mexico

Report Created by:

Chris Romero
Natural Resources Conservation Service
Water Supply Specialist
Albuquerque, NM



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



New Mexico
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Natural Resources Conservation Service
Albuquerque, New Mexico

