

New Mexico Basin Outlook Report April 1, 2020



Snow in the Northern Mountains beginning to look a little thin at the mid elevations. Photo of Rio En Medio Snow Course –
Elevation 10,300ft MSL
Photo Courtesy Of: Logan Peterson, NRCS

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

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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Summary

Early March left the southeastern portion of New Mexico with much needed moisture with some areas experiencing upwards of 150 percent of the average monthly precipitation. This resulted in the expansion of D0 drought status across eastern New Mexico. The remainder of the month saw isolated precipitation in the four corners region as well as snow in the higher elevations but no major accumulations. Snow water equivalent values also took a major hit state-wide as temperatures began to rise with some basins such as the Gila reporting as low as 29 percent of average. Overall a below average month for New Mexico when looking at the state as a whole. On average statewide streamflow forecasts are average to below average with the higher values in the southern half of the state as a result of melt out and timely precipitation. Melt out is occurring in the mid to low elevation basins with hopes that temperatures will remain cold enough in the northern mountains to retain the higher elevation snowpack until later in the spring. Water users and managers a. continue to monitor conditions to see how the forecasts develop as we progress into the water year.

Snowpack

The April 1st snowpack values continue to drop as winter snows slowed in the southern half of the state and began to taper off in the north. Statewide temperatures were also on the rise for much of March causing early winter snows to begin their transition to lower elevations as water. With the exception of the Canadian basin, all northern basins are just are below the average for April 1st while New Mexico's southern basins saw big drops in snowpack and received moisture as rain. Ranging from a high of 107 percent of median in the Canadian River Basin to a low of bare ground in the Mimbres Basin there remains a significant water supply difference between the northern and southern portions of the state. Statewide snowpack average is currently at 78 percent of the median as compared to 112 percent at this time last year.

NEW MEXICO STATEWIDE SNOWPACK	Percent of Median	Last Year Percent of Median
CANADIAN RIVER BASIN	107	133
PECOS RIVER BASIN	86	104
RIO GRANDE BASIN	80	121
MIMBRES RIVER BASIN	0	0
SAN FRANCISCO-UPPER GILA RIVER BASIN	31	13
ZUNI-BLUEWATER BASINS	0	0
SAN JUAN RIVER BASIN	97	151
CHUSKA MOUNTAINS	0	0
RIO HONDO BASIN	7	5
Statewide Snowpack Total	78	112
# of sites	21	21

Precipitation

Water year precipitation starting October 1 through February is currently at 96 percent of average. March saw mixed values throughout the state with isolated storms and localized weather making impacts throughout the month. Most northern areas in New Mexico saw below average monthly precipitation values. However, the southern half of the state received large amounts of isolated precipitation. The Mimbres received 139 percent of the average rain for the month along with the San Francisco and Upper Gila accumulating 114 percent of the average. The Rio Hondo received 214 percent of the average during the month due to major storm tracking directly over the region! 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

Reservoir storage across New Mexico currently remains significantly improved over last year at this time. Elephant Butte is currently at 552,900 acre-feet as compared to last year's 219,600. Navajo Reservoir is holding 1,292,500 acre-feet in comparison to 955,500 last year. Statewide reservoir storage is currently at 66 percent of the average as compared to 46 percent last year at this time. Total reservoir storage is 2,419,400 acre-feet as compared to 1,697,800 acre-feet last year. This equates to 44 percent of the average capacity and 29 percent of the actual capacity. Water-users should continue to monitor weather conditions to evaluate their water needs as the water-year progresses.

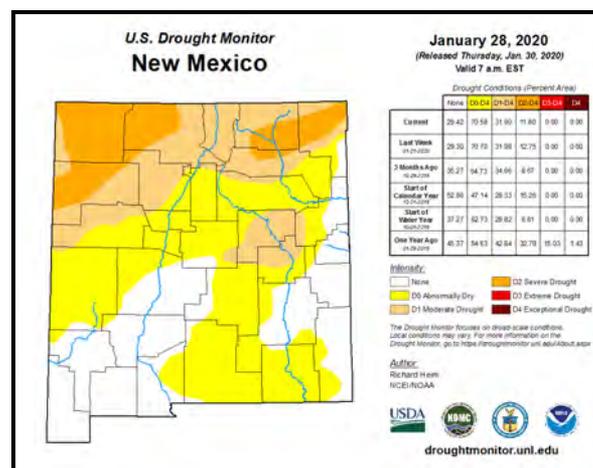
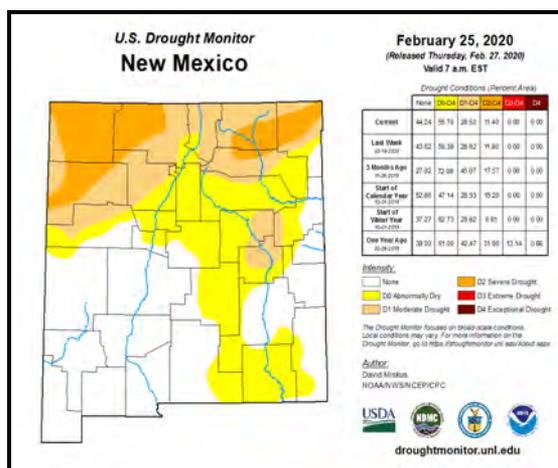
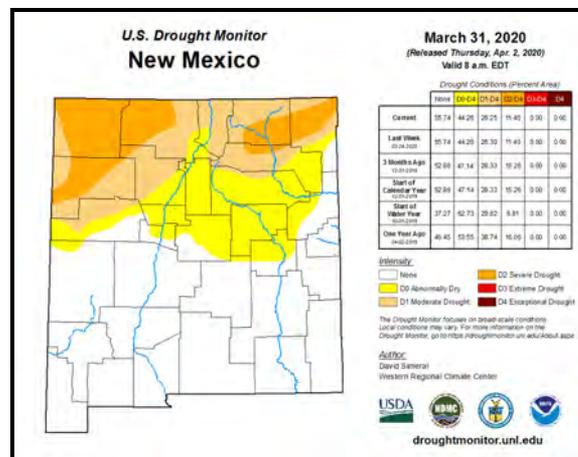
NEW MEXICO STATEWIDE	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
Abiquiu Reservoir	89.9	63.3	153.9	1192.8	8%	5%	13%	58%	41%
Bluewater Lake	7.2	11.6	9.7	38.5	19%	30%	25%	75%	119%
Brantley Lake nr Carlsbad	41.1	29.8	30.1	1008.2	4%	3%	3%	137%	99%
Caballo Reservoir	78.8	31.1	84.6	332.0	24%	9%	25%	93%	37%
Cochiti Lake	45.2	45.6	58.0	491.0	9%	9%	12%	78%	79%
Conchas Lake	72.1	128.1	202.7	254.2	28%	50%	80%	36%	63%
Costilla Reservoir		4.3	7.3	16.0		27%	46%		58%
Eagle Nest Lake nr Eagle Nest, NM	47.4	36.6	55.6	79.0	60%	46%	70%	85%	66%
El Vado Reservoir	27.0	25.7	113.0	190.3	14%	14%	59%	24%	23%
Elephant Butte Reservoir	552.9	219.6	1283.0	2195.0	25%	10%	58%	43%	17%
Heron Reservoir	108.4	59.2	287.7	400.0	27%	15%	72%	38%	21%
Lake Avalon	3.4	1.3	1.6	4.0	85%	33%	39%	218%	83%
Lake Sumner	25.7	32.9	29.7	102.0	25%	32%	29%	87%	111%
Navajo Reservoir	1292.5	955.5	1310.0	1696.0	76%	56%	77%	99%	73%
Santa Rosa Reservoir	27.8	57.5	52.4	438.3	6%	13%	12%	53%	110%
Basin-wide Total	2419.4	1697.8	3672.0	8421.3	29%	20%	44%	66%	46%
# of reservoirs	14	14	14	14	14	14	14	14	14

* Costilla stream gauge is currently inoperative

Streamflow

Forecasts across the state have dropped noticeably for most basins following a somewhat dry March. Isolated storms coupled with snow melt due to temperatures in the south has resulted in marginal increases in forecast values in the Mimbres, Gila, and Rio Hondo River Basins. Water users and managers should continue to watch the forecasts as water supply conditions evolve across the state.

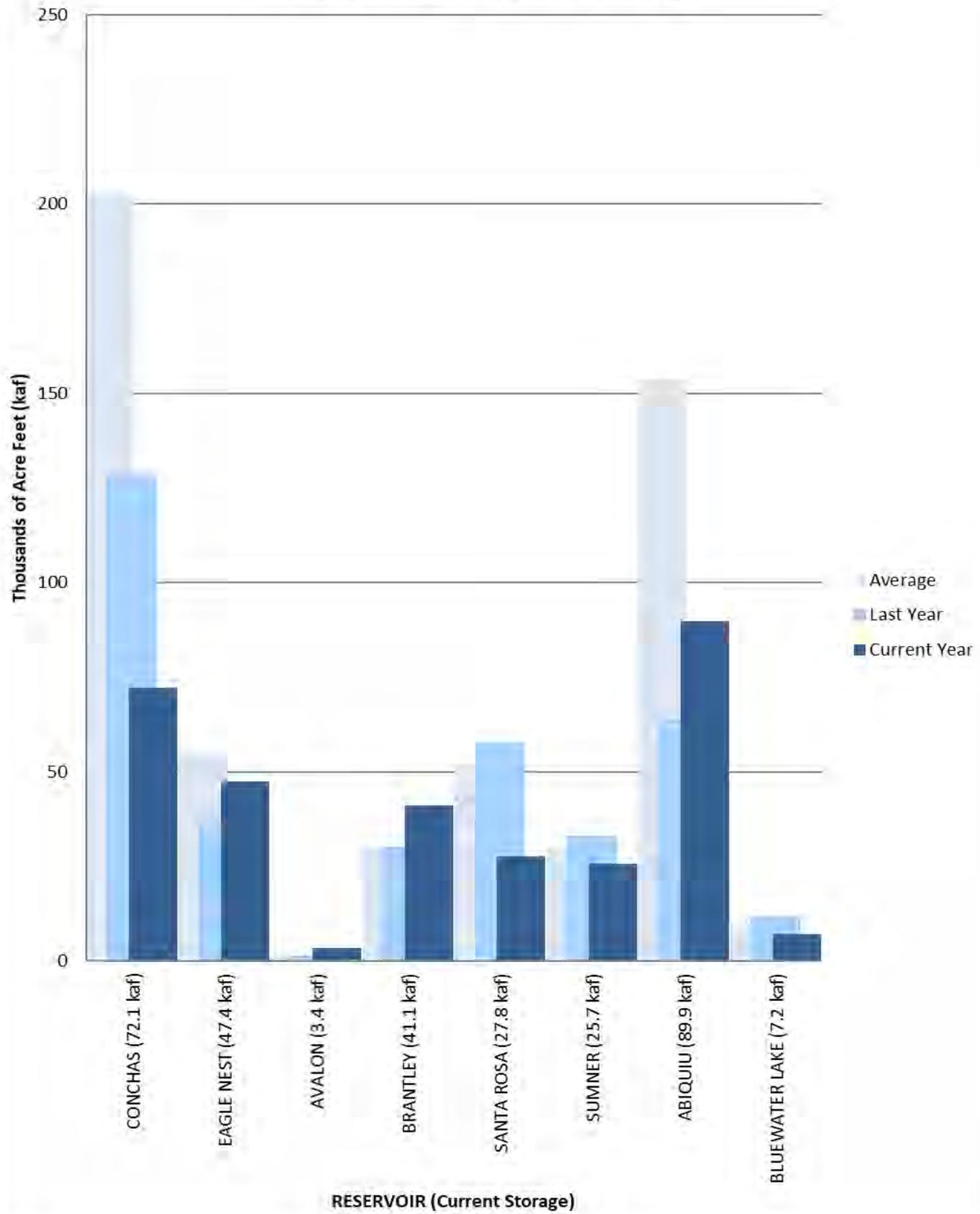
New Mexico Drought Monitor, real versus perceived conditions?



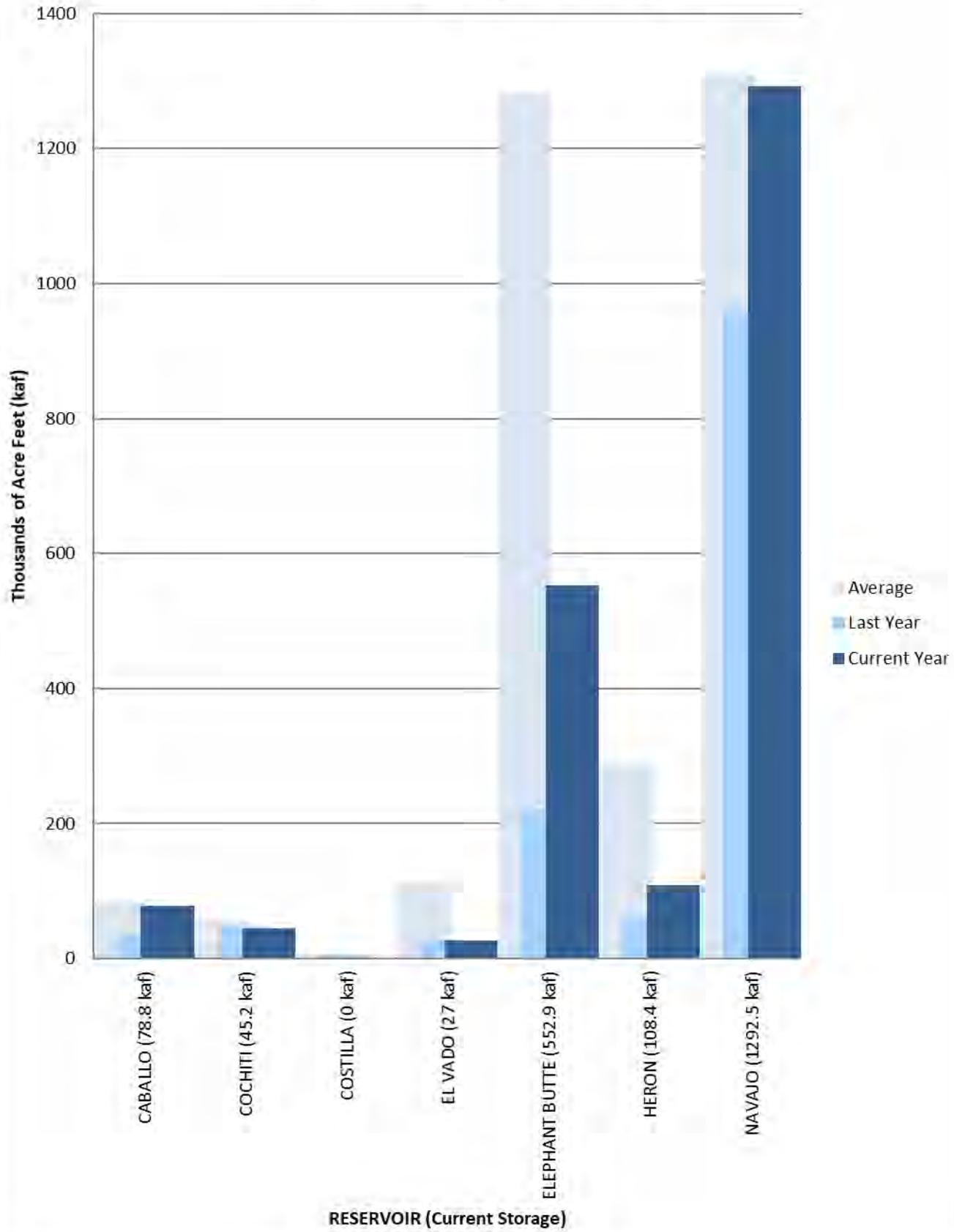
Every week, The U.S. Drought Monitor is produced in partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. This useful tool uses multiple inputs, including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

Drought remains firmly in place over the northern one-third of New Mexico due to a combination of a below normal 2019 monsoon season and a near to below normal winter 2019-2020. Temperatures for March remained significantly above normal, especially over the upper Rio Grande Valley and the Eastern Plains. When combined with the lack of precipitation and normal springtime winds, this has led to above normal evapotranspiration demands over northeastern New Mexico, helping to further impact already dry rangeland. Precipitation during March was mainly focused on the southern two-thirds of the state with the lower Rio Grande and Pecos Valleys seeing much of the precipitation. Higher elevations in the Chuska Mountains did well, however much of the lowland areas of the Four Corners didn't receive much of the needed precipitation to begin to improve conditions in that region. Finally, precipitation in the upper Rio Grande Valley and the Northeast Plains remained well below normal during March, continuing the moderate to severe drought in those areas.

Statewide Reservoir Storage

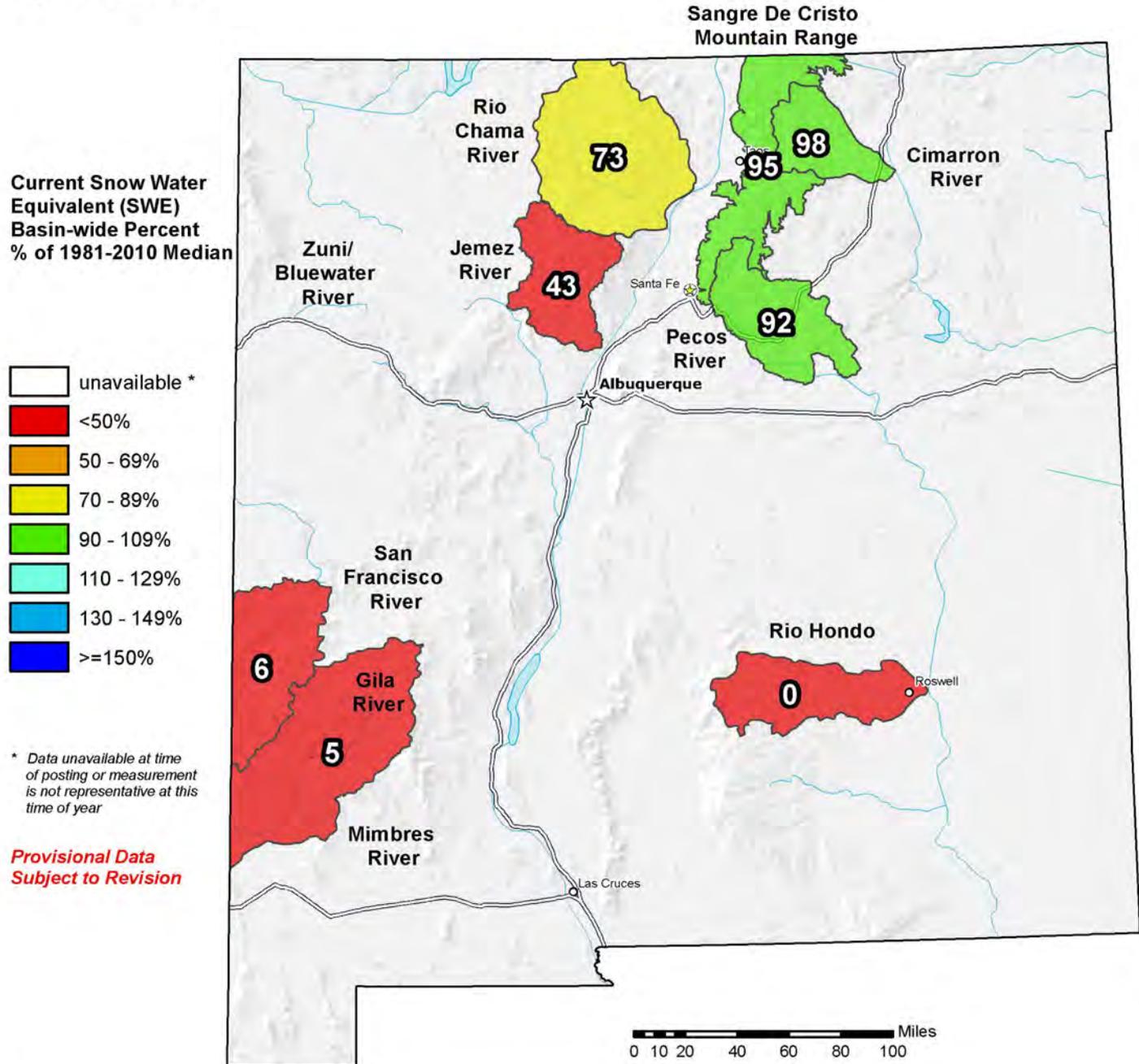


Statewide Reservoir Storage



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

Apr 06, 2020



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).

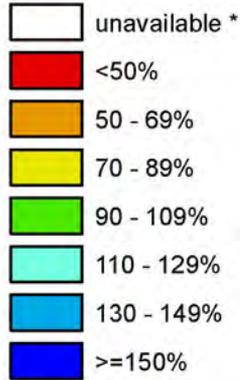
Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
<http://www.wcc.nrcs.usda.gov>

New Mexico

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

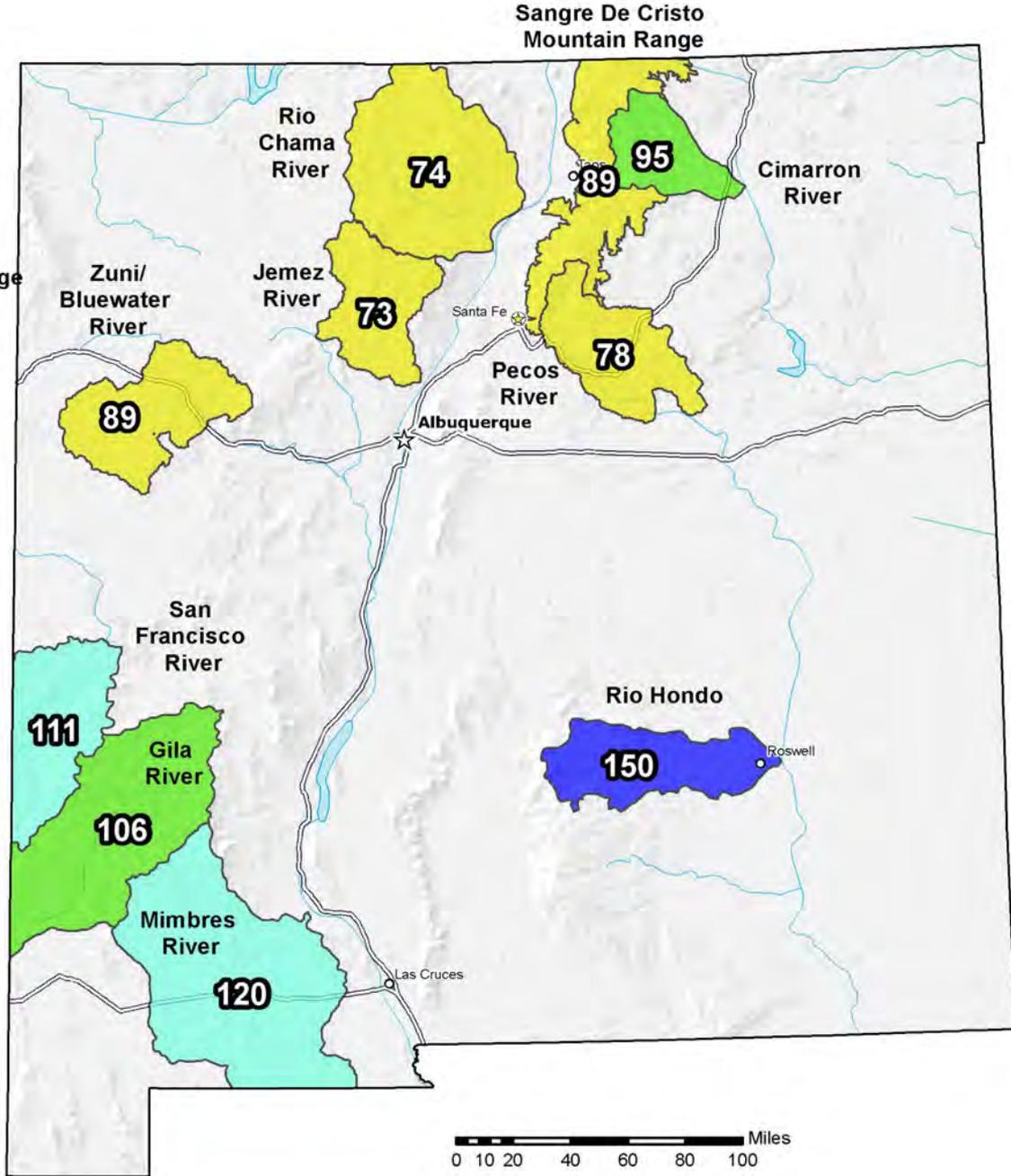
Apr 06, 2020

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

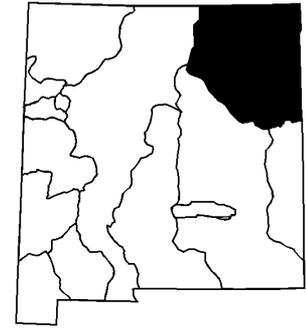
**Provisional Data
Subject to Revision**



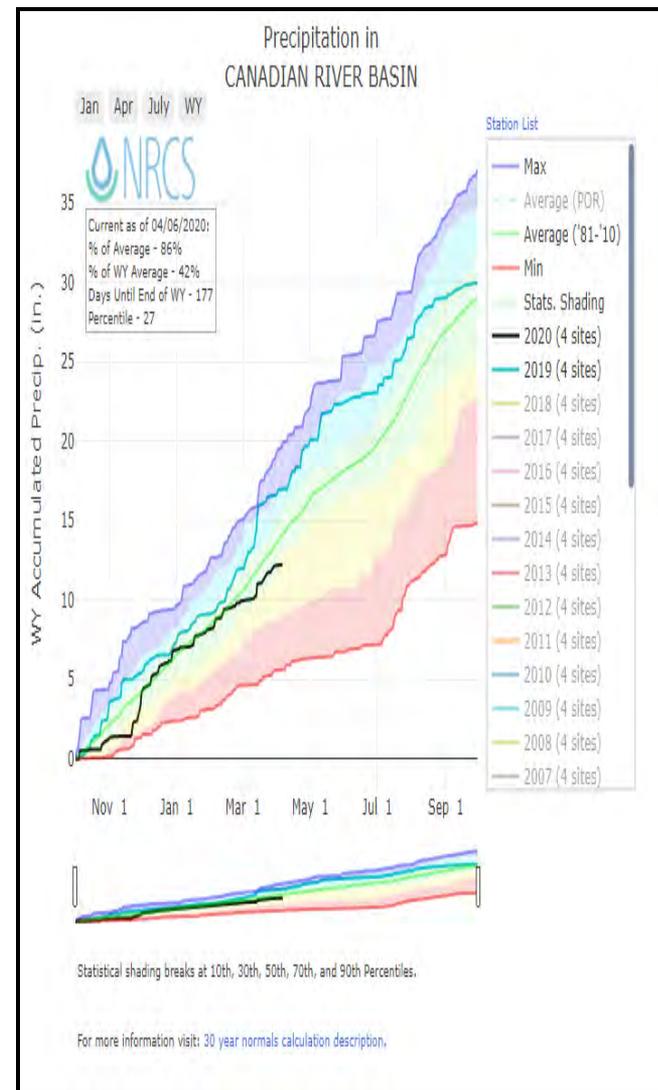
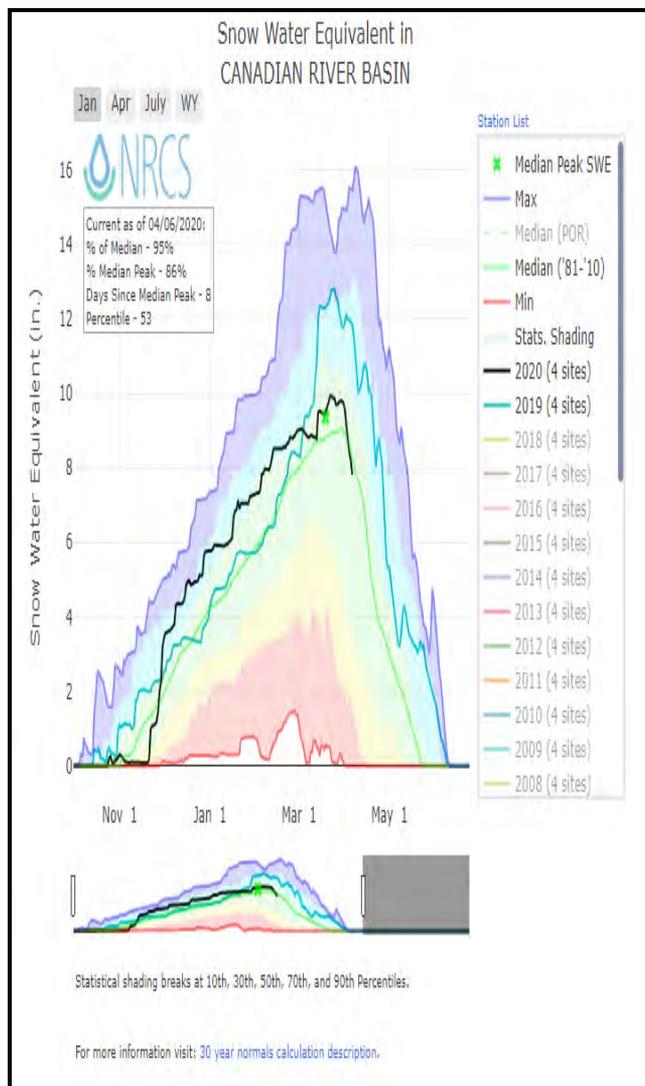
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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, 2020



The month of March received 71 percent of the average amount of precipitation for the month. This puts the water year-to-date average amount of precipitation at 89 percent as compared to 122 percent last year at this time. Snowpack in the basin is at 107 percent of the median. The April to June Forecasts are all well below the average with the highest being 81 percent of average at Rayado Creek near Cimarron. Reservoirs are currently holding 119,500 acre-feet of storage, which is a decrease of 45,200 acre-feet from last year at this time. This equates to 46 percent of the average stored water, as compared to 64 percent for the basin at the end of March last year.



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Canadian River Basin Streamflow Forecasts - April 1, 2020

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	2.5	4.1	5.5	71%	7.2	10.4	7.8
	APR-JUN	2.1	3.7	5.1	71%	6.8	10	7.2
Eagle Nest Reservoir Inflow	MAR-JUN	3.2	5.6	7.8	70%	10.5	15.4	11.2
	APR-JUN	1.67	3.8	6	67%	8.9	14.7	8.9
Cimarron R nr Cimarron ²	MAR-JUN	0.5	5.8	11	70%	16.2	24	15.8
	APR-JUN	0	3.7	8.7	66%	13.7	21	13.2
Ponil Ck nr Cimarron	MAR-JUN	2.3	3.8	5	69%	6.5	9.1	7.2
	APR-JUN	2.2	3.6	4.9	73%	6.4	9.2	6.7
Rayado Ck nr Cimarron	MAR-JUN	2.1	4.1	5.9	84%	8.2	12.6	7
	APR-JUN	1.5	3.3	5.2	81%	7.6	12.5	6.4
Conchas Reservoir Inflow ³	MAR-JUN	3.6	11.6	21	70%	34	63	30
	APR-JUN	2.9	10.3	19.5	81%	33	62	24

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

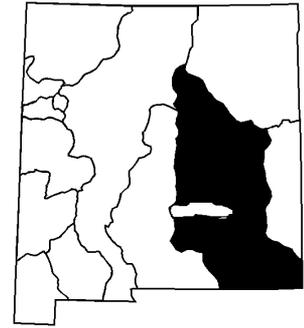
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

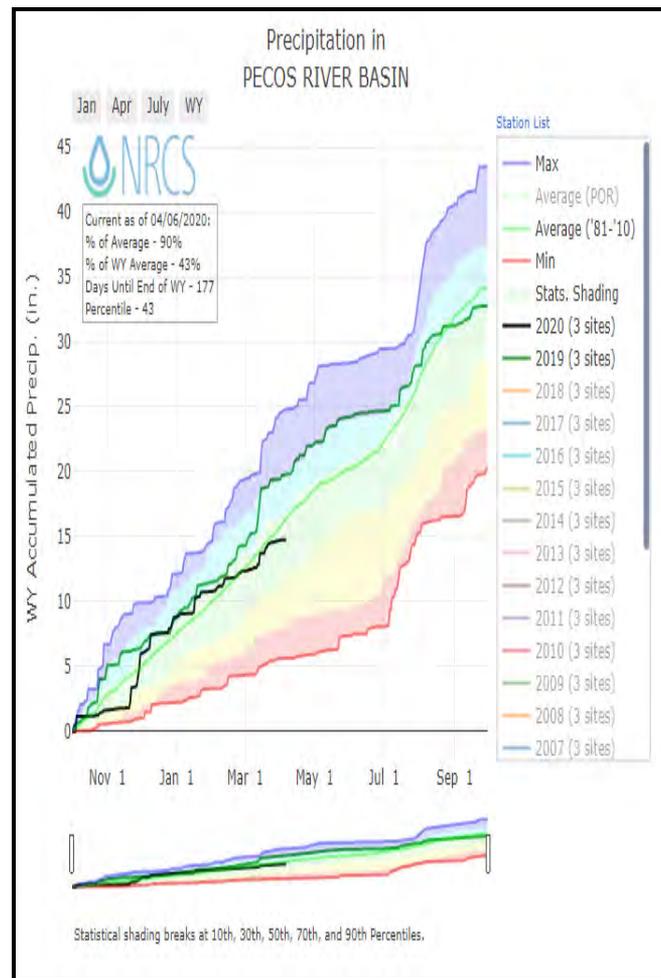
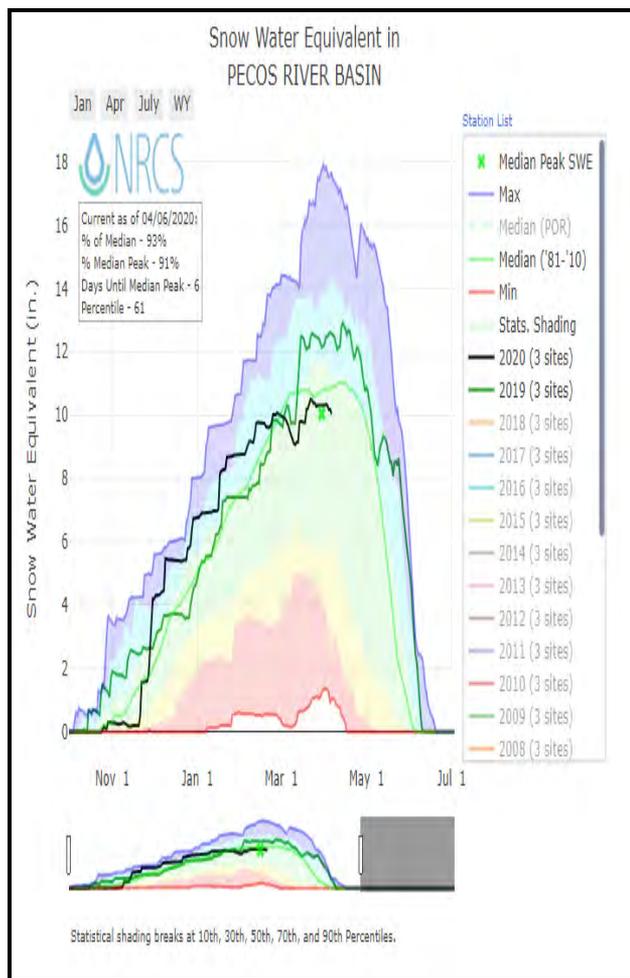
Reservoir Storage End of March, 2020	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Conchas Lake	72.1	128.1	202.7	254.4
Eagle Nest Lake nr Eagle Nest, NM	47.4	36.6	55.6	79.0
Basin-wide Total	119.5	164.7	258.3	333.4
# of reservoirs	2	2	2	2

Watershed Snowpack Analysis April 1, 2020	# of Sites	% Median	Last Year % Median
CANADIAN RIVER BASIN	4	107%	133%

Pecos River Basin Water Supply Outlook Report as of April 1, 2020



March received just 74 percent of the average precipitation for the month, putting the basin at 94 percent of average for the water year-to-date. Snowpack in the Pecos River Basin is at 86 percent of the median. Last year at this time the basin had 104 percent of the median snowpack. Forecasts in the Pecos Basin are all slightly below average ranging from 70 to 86 percent of average for the April to July time frame. As of April 1st, reservoir storage in the basin is at 98,000 acre-feet. This is 86 percent of the average stored water. Last year at this time reservoir storage was 107 percent of the average.



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Pecos River Basin Streamflow Forecasts - April 1, 2020

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

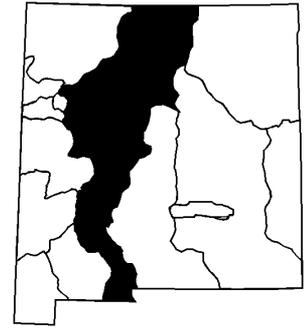
PECOS RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Pecos R nr Pecos	MAR-JUL	26	38	47	82%	58	76	57
	APR-JUL	22	34	43	81%	54	72	53
Pecos R nr Anton Chico	MAR-JUL	17.3	32	46	73%	62	92	63
	APR-JUL	11.2	26	40	70%	56	86	57
Gallinas Ck nr Montezuma	MAR-JUL	3.1	5.8	8.2	84%	11	16.1	9.8
	APR-JUL	2.3	5	7.4	86%	10.2	15.3	8.6
Pecos R ab Santa Rosa Lk	MAR-JUL	12.1	25	37	66%	52	78	56
	APR-JUL	10.6	24	36	69%	51	77	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

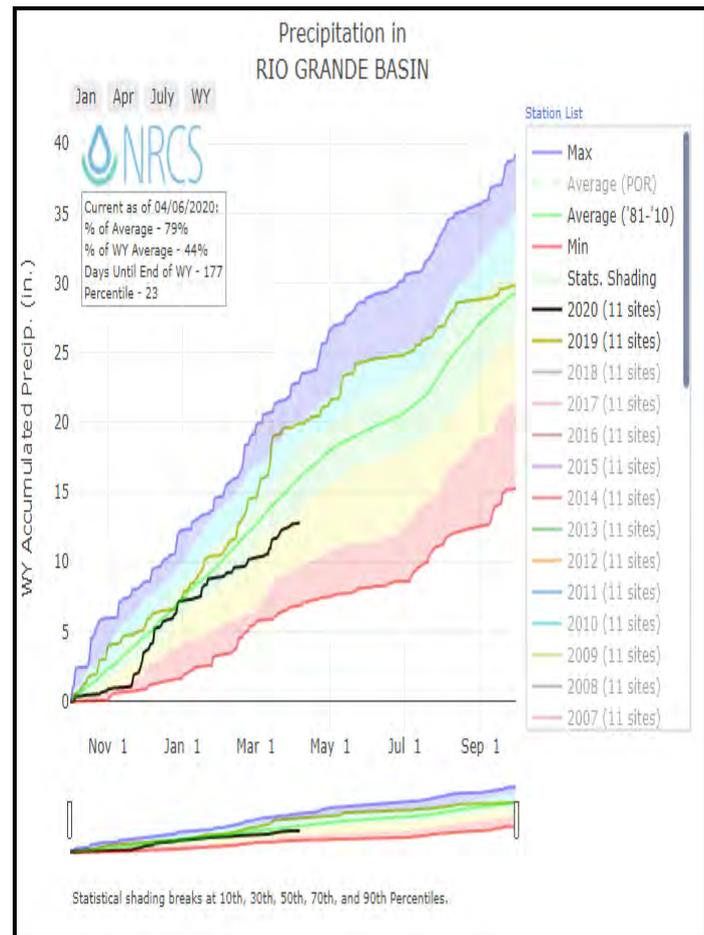
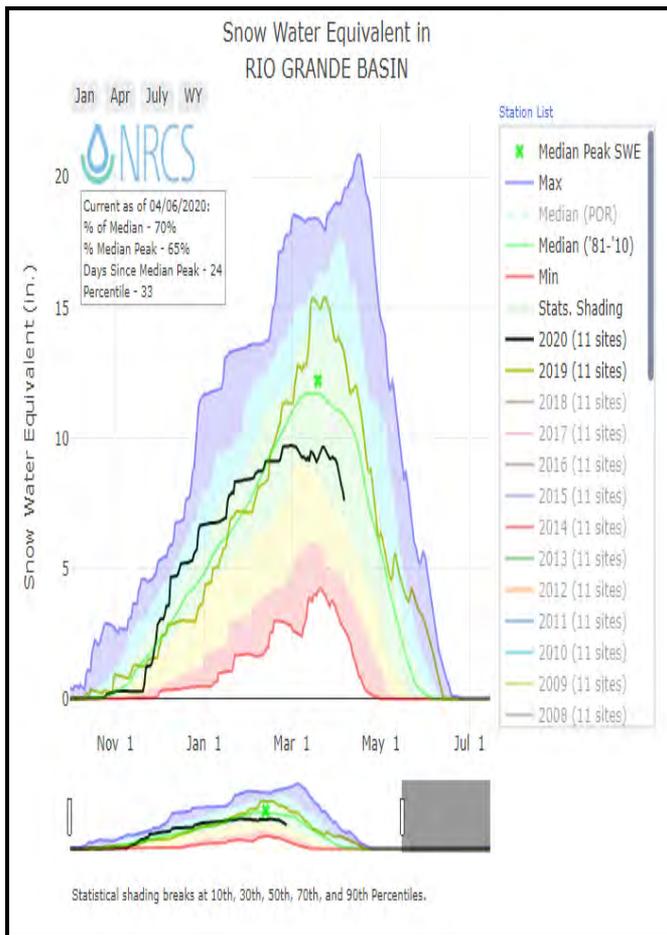
Reservoir Storage End of March, 2020	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Lake Avalon	3.4	1.3	1.6	4.0
Brantley Lake nr Carlsbad	41.1	29.8	30.1	1008.2
Santa Rosa Reservoir	27.8	57.5	52.4	432.2
Lake Sumner	25.7	32.9	29.7	102.0
Basin-wide Total	98.0	121.5	113.8	1546.4
# of reservoirs	4	4	4	4

Watershed Snowpack Analysis April 1, 2020	# of Sites	% Median	Last Year % Median
PECOS RIVER BASIN	4	86%	104%

Rio Grande Basin Water Supply Outlook Report as of April 1, 2020



March was another below average month for precipitation in the basin accumulating just 81 percent of the average leaving the water year-to-date precipitation at 82 percent of the average. Snowpack in the basin is also below the median at 80 percent. This is 41 percent below last year's median. Snowpack in southern Colorado near the headwaters of the Rio Grande is at 100 percent of the median as compared to 147 percent last year at this time. Forecasts for the Rio Grande Basin have continued to drop and currently range from 30 to 72 percent of average. Current reservoir storage in the basin remains well above last year's values. Current storage in the basin is 909,400 acre-feet as compared to 456,100 acre-feet from this time last year! This is 46 percent of the average stored water for the basin.



**Rio Grande Basin
Streamflow Forecasts - April 1, 2020**

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

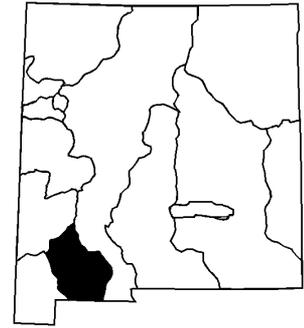
RIO GRANDE BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Rio Grande nr Del Norte ²	APR-SEP	230	300	355	69%	415	505	515
Platoro Reservoir Inflow	APR-JUL	29	36	40	71%	45	52	56
Conejos R nr Mogote ²	APR-SEP	31	38	43	69%	49	57	62
Costilla Reservoir Inflow	APR-SEP	85	108	125	64%	143	172	194
Costilla Ck nr Costilla ²	APR-JUL	4.1	6.3	8	78%	9.9	13.1	10.3
Red R bl Fish Hatchery nr Questa	APR-JUL	8.1	13.5	18	75%	23	32	24
Rio Horido nr Valdez	MAR-JUL	16.6	22	26	76%	30	38	34
	APR-JUL	13.7	18.9	23	74%	27	35	31
Rio Pueblo de Taos nr Taos	MAR-JUL	10.9	13.8	16	87%	18.4	22	18.4
	APR-JUL	10	12.9	15.1	87%	17.5	21	17.4
Rio Lucero nr Arroyo Seco	MAR-JUL	7.4	10.4	12.8	75%	15.4	19.9	17
	APR-JUL	6.2	9.2	11.6	73%	14.2	18.7	15.9
Rio Pueblo de Taos bl Los Cordovas	MAR-JUL	6.1	8.1	9.6	88%	11.2	13.8	10.9
	APR-JUL	5.5	7.5	9	87%	10.6	13.2	10.3
Embudo Ck at Dixon	MAR-JUL	8.8	14.8	20	56%	26	37	36
	APR-JUL	6.4	12.4	17.7	54%	24	35	33
El Vado Reservoir Inflow ²	MAR-JUL	13.2	22	30	63%	40	55	48
	APR-JUL	10.4	19.6	27	61%	37	52	44
Santa Cruz R at Cundiyo	MAR-JUL	80	106	125	56%	147	182	225
	APR-JUL	73	99	118	58%	140	175	205
Nambe Falls Reservoir Inflow	MAR-JUL	7.2	10.5	13.2	72%	16.3	21	18.3
	APR-JUL	5.7	9	11.7	70%	14.8	19.9	16.7
Tesuque Ck ab diversions	MAR-JUL	2.9	4.1	5	77%	6	7.7	6.5
	APR-JUL	2.4	3.6	4.5	74%	5.5	7.2	6.1
Rio Grande at Otowi Bridge ²	MAR-JUL	0.63	0.95	1.23	92%	1.55	2.1	1.34
	APR-JUL	0.35	0.67	0.95	80%	1.27	1.84	1.19
Santa Fe R nr Santa Fe ²	MAR-JUL	235	320	385	53%	455	580	720
	APR-JUL	180	265	330	52%	400	525	635
Jemez R nr Jemez	MAR-JUL	2	2.7	3.3	77%	3.9	5	4.3
	APR-JUL	1.36	2.1	2.7	71%	3.3	4.4	3.8
Jemez R bl Jemez Canyon Dam	MAR-JUL	11.6	15.5	18.5	44%	22	27	42
	APR-JUL	7.3	11.2	14.2	41%	17.7	23	35
Rio Grande at San Marcial ²	MAR-JUL	6.7	10.3	13.4	39%	17.1	23	34
	APR-JUL	3.4	7	10.1	35%	13.8	20	29
	MAR-JUL	-24	104	191	37%	275	405	510
	APR-JUL	-66	62	149	34%	235	365	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, 2020	Current: (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Abiquiu Reservoir	89.9	63.3	153.9	1198.5
Bluewater Lake	7.2	11.6	9.7	38.5
Caballo Reservoir	78.8	31.1	84.6	332.0
Cochiti Lake	45.2	45.6	58.0	491.0
Costilla Reservoir		4.3	7.3	16.0
El Vado Reservoir	27.0	25.7	113.0	184.8
Elephant Butte Reservoir	552.9	219.6	1283.0	2195.0
Heron Reservoir	108.4	59.2	287.7	400.0
Basin-wide Total	909.4	456.1	1989.9	4839.8
# of reservoirs	7	7	7	7

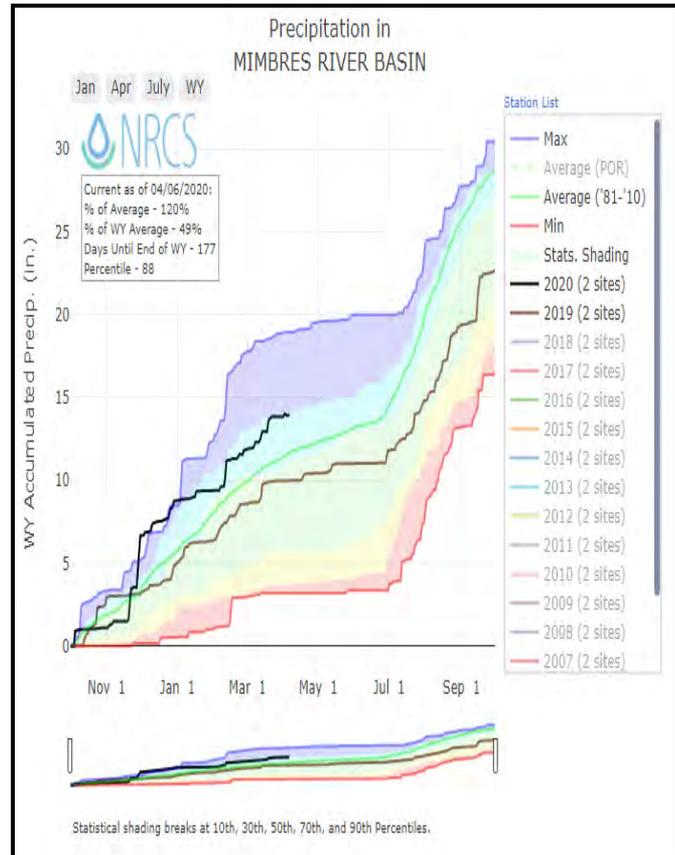
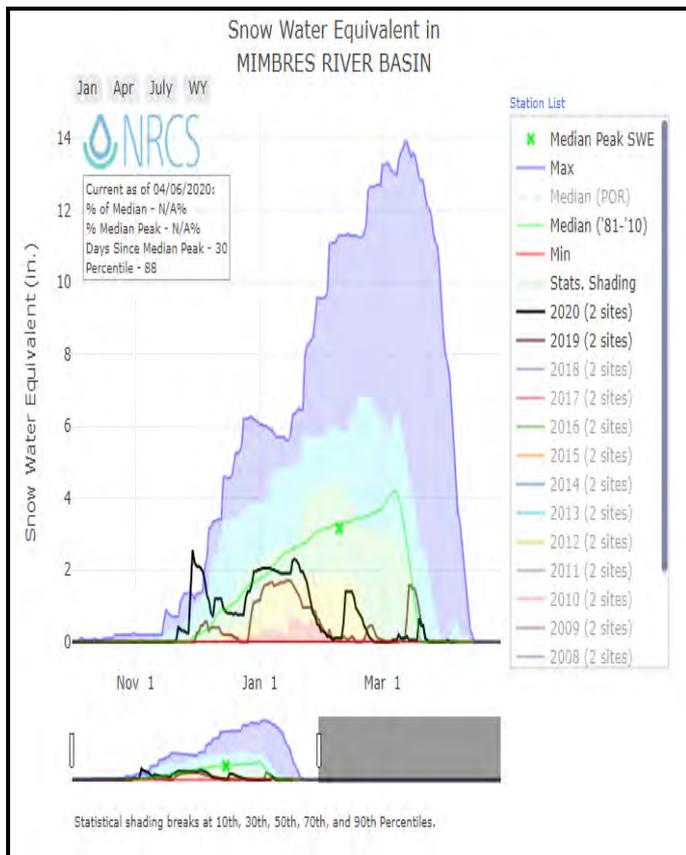
Watershed Snowpack Analysis April 1, 2020	# of Sites	% Median	Last Year % Median
RIO GRANDE BASIN	12	80%	121%

Mimbres River Basin Water Supply Outlook Report as of April 1, 2020



March was a wet month for the basin receiving 139 percent of the average monthly precipitation which now brings the water year-to-date total up to 122 percent of the average. As of April 1st, snowpack in the basin has melted out. Forecasts for the Mimbres River have increased significantly due to snow melt and recent precipitation are now at 145 percent of the average.

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 - April 1, 2020

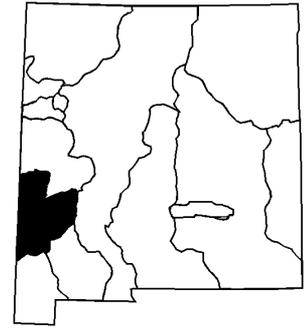
Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

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	0.59	1.1	1.58	145%	2.2	3.3	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

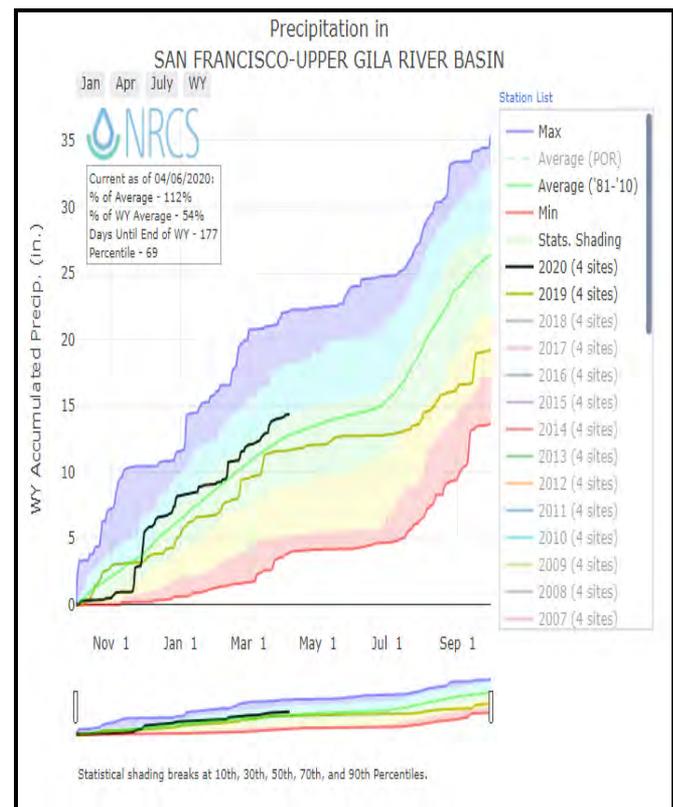
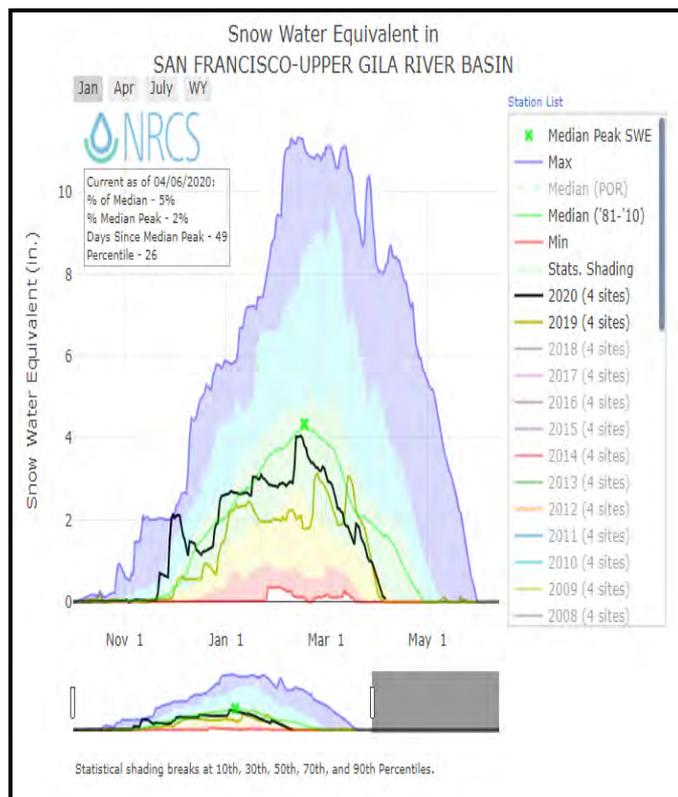
Watershed Snowpack Analysis April 1, 2020	# of Sites	% Median	Last Year % Median
MIMBRES RIVER BASIN	2		

San Francisco / Upper Gila River Basin Water Supply Outlook Report as of April 1, 2020



Water year-to-date precipitation is now at 113 percent of the average after receiving 114 percent of the average monthly precipitation! Snowpack in the basin is currently at 31 percent of the median as compared to 13 percent at this time last year. Forecasts for the basin currently range from 95 to 118 percent of the average.

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 - April 1, 2020

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	9.4	13.1	16.1	98%	19.6	25	16.5
Gila R bl Blue Ck nr Virden ³	APR-MAY	8	14.6	20	95%	27	38	21
San Francisco R at Glenwood ³	APR-MAY	4	6.4	8.6	118%	11.1	15.8	7.3
San Francisco R at Clifton ³	APR-MAY	8	13.7	18.5	107%	24	33	17.3

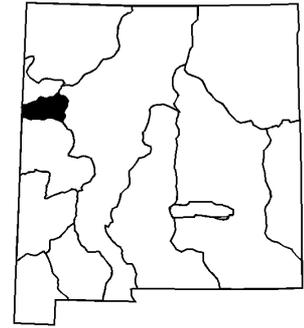
1) 90% and 10% exceedance probabilities are actually 95% and 5%

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

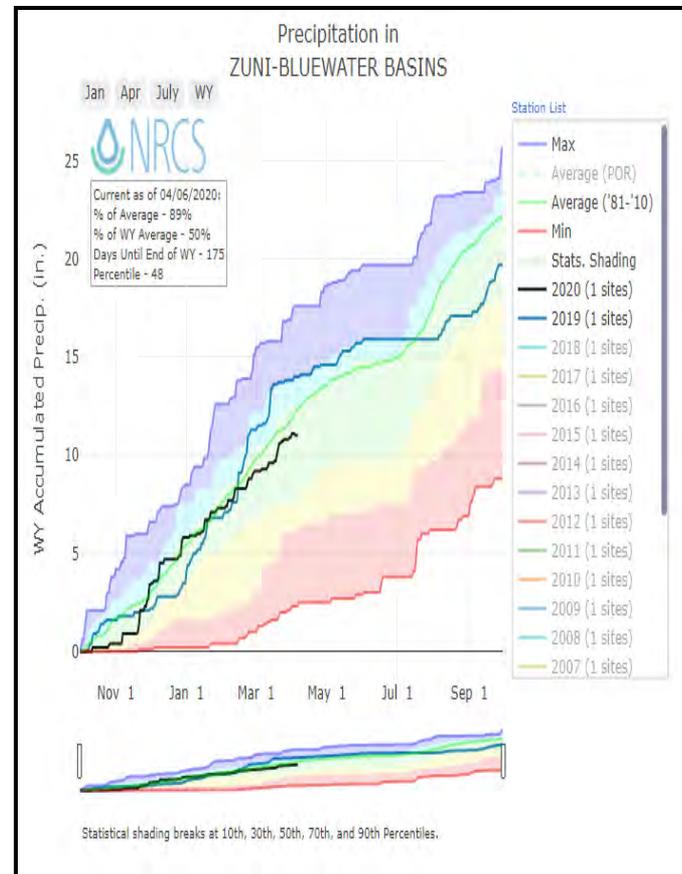
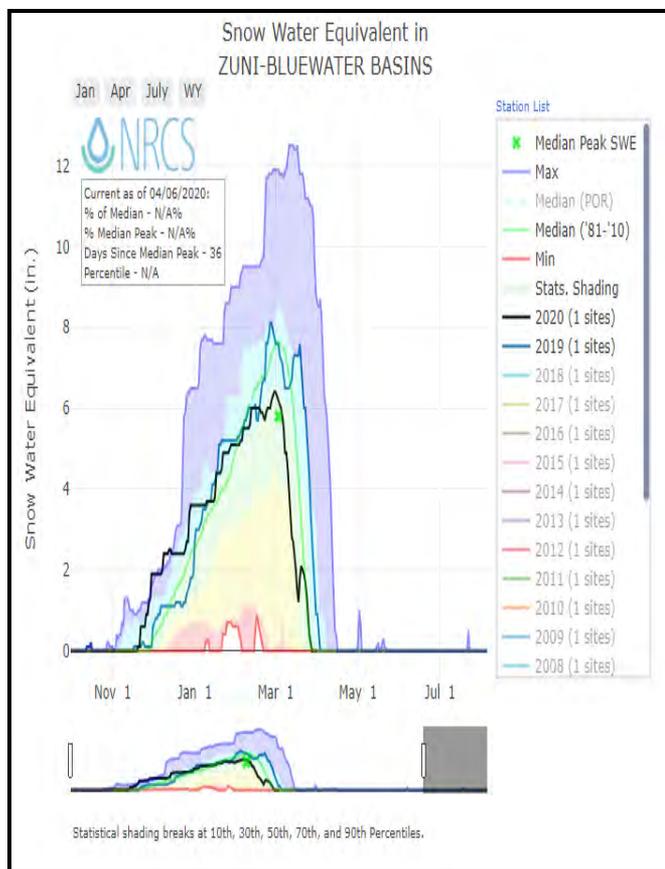
3) Median value used in place of average

Watershed Snowpack Analysis April 1, 2020	# of Sites	% Median	Last Year % Median
SAN FRANCISCO-UPPER GILA RIVER BASIN	4	31%	13%

Zuni / Bluewater Basins Water Supply Outlook Report as of April 1, 2020



Snowpack in the basin has melted out at this time. February received 95 percent of the average monthly precipitation. This puts the water year-to-date total at 94 percent of the average. Forecasts for the Rio Nutriah and Zuni River are average ranging from 70 to 100 percent. Bluewater Lake is currently at 7,200 acre-feet of water versus 11,600 acre-feet at this time last year.



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Zuni-Bluewater Basins Streamflow Forecasts - April 1, 2020

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

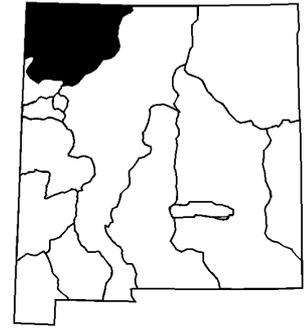
ZUNI-BLUEWATER BASINS	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Rio Nutria nr Ramah ³	APR-MAY	0	0.07	0.19	100%	0.41	0.98	0.19
Zuni R ab Black Rock Reservoir ³	APR-MAY	0	0	0.07	70%	0.41	1.2	0.1

- 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

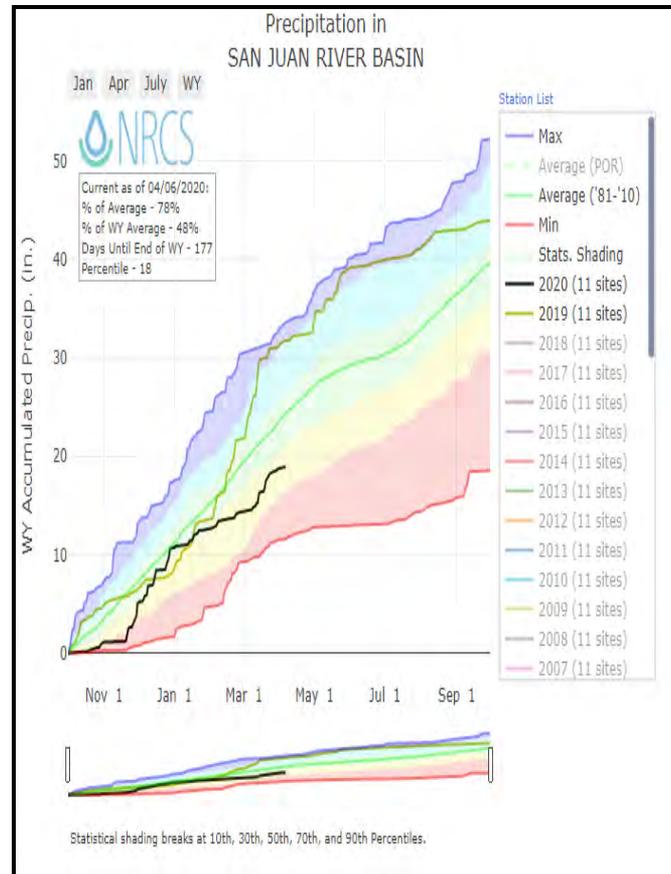
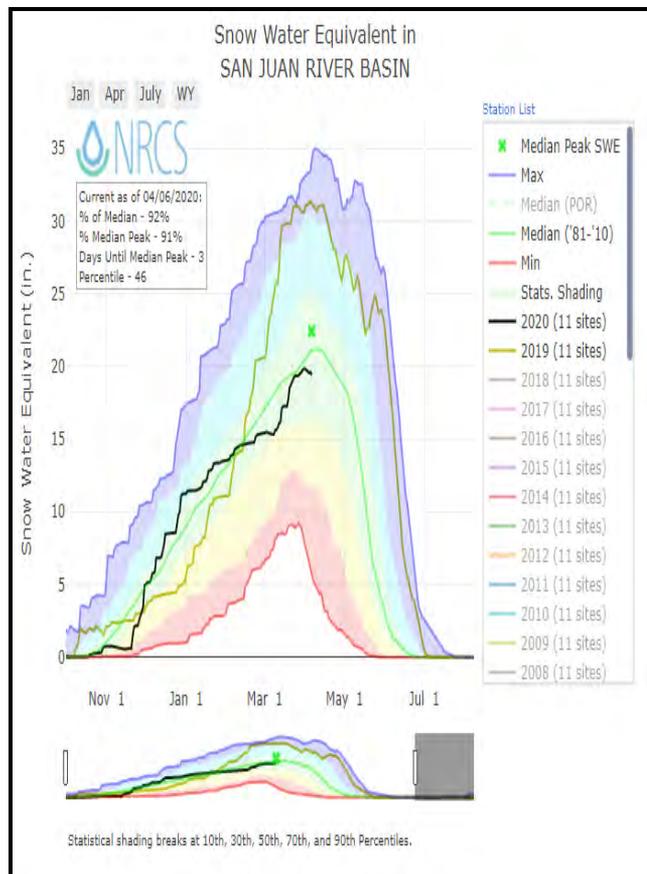
Reservoir Storage End of March, 2020	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Bluewater Lake	7.2	11.6	9.7	38.5
Basin-wide Total	7.2	11.6	9.7	38.5
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis April 1, 2020	# of Sites	% Median	Last Year % Median
ZUNI-BLUEWATER BASINS	1		

San Juan River Basin Water Supply Outlook Report as of April 1, 2020



March received 106 percent of the average monthly precipitation bringing the water year-to-date total to 80 percent of the average. Snowpack is just below the median at 97 percent, which is well below the 147 percent at this time last year! Forecasts for the San Juan Basin are all below average ranging from 61 to 80 percent of average. Navajo reservoir storage contains 1,292,500 acre-feet or 99 percent of the average water stored at the end of March!



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San Juan River Basin Streamflow Forecasts - April 1, 2020

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

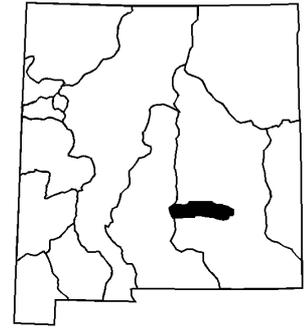
SAN JUAN RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Rio Blanco at Blanco Diversion ²	APR-JUL	23	30	35	65%	40	49	54
Navajo R at Oso Diversion ²	APR-JUL	27	34	40	62%	46	56	65
Navajo Reservoir Inflow ²	APR-JUL	295	385	450	61%	525	640	735
Animas R at Durango	APR-JUL	240	290	330	80%	370	435	415
La Plata R at Hesperus	APR-JUL	13.2	16	18	78%	20	24	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, 2020	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Navajo Reservoir	1292.5	955.5	1310.0	1696.0
Basin-wide Total	1292.5	955.5	1310.0	1696.0
# of reservoirs	1	1	1	1

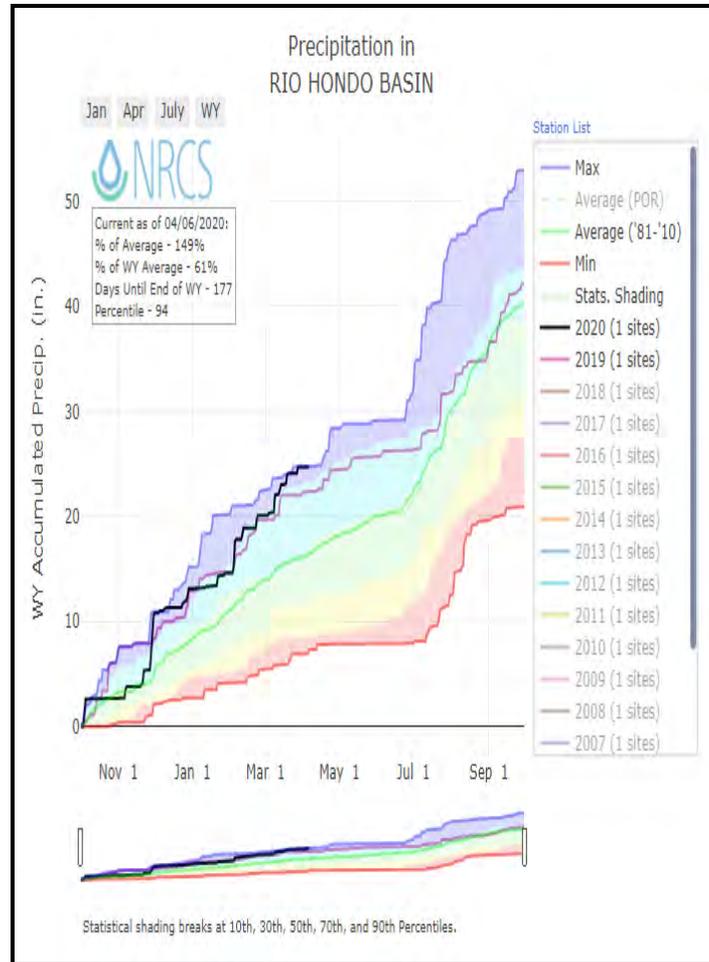
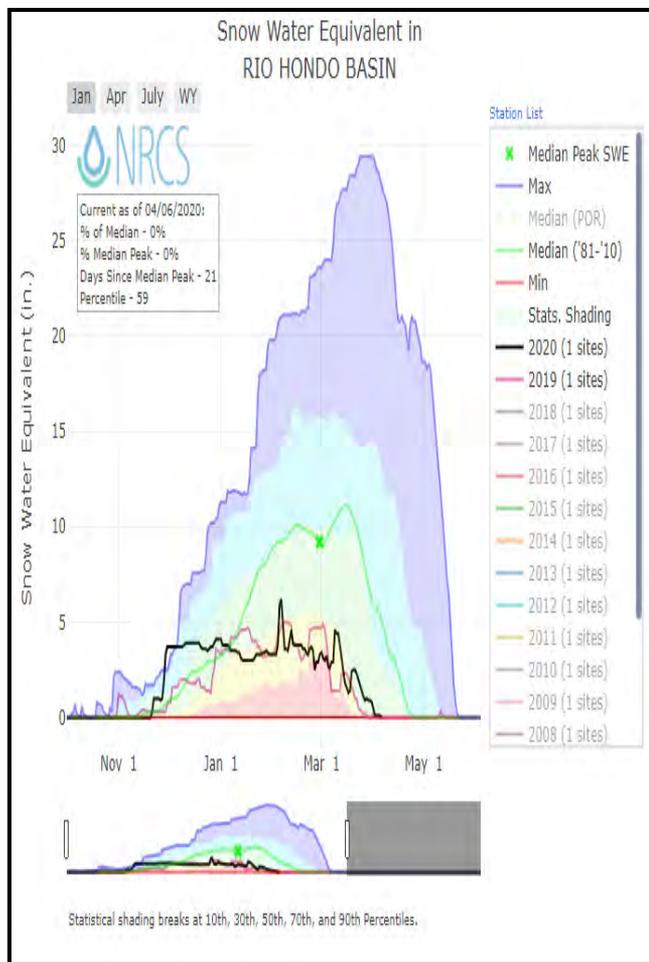
Watershed Snowpack Analysis April 1, 2020	# of Sites	% Median	Last Year % Median
SAN JUAN RIVER BASIN	11	97%	151%

Rio Hondo Basin Water Supply Outlook Report as of April 1, 2020



March was a very good month for the Rio Hondo having received 214 percent of the average monthly precipitation! This now puts the water year-to-date total at 154 percent of the average. Snowpack in the basin is currently at 7 percent of the median which is on par with values at this time last year. The forecast for the Rio Ruidoso at Hollywood well below the average at 40 percent for the April to July time frame. This measurement however should be used with caution as the Sierra Blanca SNOTEL site was impacted by the Little Bear Fire five 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 - April 1, 2020

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	3.5	4.3	5	75%	5.8	7.3	6.7
	APR-JUN	0.57	1.32	2	40%	2.8	4.3	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, 2020	# of Sites	% Median	Last Year % Median
RIO HONDO BASIN	1	7%	5%

NEW MEXICO STATEWIDE	Network	Elevation (ft)	Depth (in)	SWE (in)	Median (in)	% Median	Last Year SWE (in)	Last Year % Median
Alamitos	SC	9320			5.2			
Aztec #2	SC	9880			4.3		6.8	158%
Bateman	SNOTEL	9300	31	11.9	12.2	98%	16.0	131%
Boon	SC	8140			0.8		0.0	0%
Bowl Canyon	SC	8980			7.8		13.5	173%
Chamita	SNOTEL	8400	15	6.1	7.9	77%	13.4	170%
Dan Valley	SC	7640			0.1		0.0	0%
Elk Cabin	SNOTEL	8210	0	0.0	0.6	0%	0.3	50%
Frisco Divide	SNOTEL	8000	0	0.0	0.0		0.0	
Gallegos Peak	SNOTEL	9900	19	7.5	10.4	72%	12.6	121%
Hematite Park	SC	9500			3.6		9.8	272%
Hidden Valley	SC	8480					11.7	
Hopewell	SNOTEL	10000	49	14.9	19.5	76%	21.5	110%
Lookout Mountain	SNOTEL	8500	0	0.0	0.0		0.0	
Mogaffey	SC	8120			0.0		0.0	
Mcknight Cabin	SNOTEL	9240	0	0.0	0.0		0.0	
Missionary Spring	SC	7940			0.0		0.0	
Navajo Whiskey Ck	SNOTEL	9050	0	0.0			15.1	
North Costilla	SNOTEL	10600	19	7.1	4.8	148%	9.8	204%
Ojo Redondo	SC	8200			0.2		0.0	0%
Palo	SNOTEL	9350	0	0.0			7.0	
Palo	SC	9300			7.4		10.7	145%
Panchuela	SC	8400					0.2	
Quemazon	SNOTEL	9500	0	0.0	7.0	0%	4.5	64%
Red River Pass #2	SNOTEL	9850	22	7.5	7.4	101%	10.4	141%
Rice Park	SNOTEL	8480	0	0.0	0.0		0.9	
Río En Medio	SC	10300	15	5.0	9.1	55%	6.6	73%
Río Santa Barbara	SNOTEL	10684	40	12.5			18.5	
San Antonio Sink	SNOTEL	9100	10	4.9			10.7	
San Antonio Sink	SC	9200			7.5		11.2	149%
Santa Fe	SNOTEL	11445	50	16.2	15.9	102%	19.2	121%
Senorita Divide #2	SNOTEL	8600	11	4.5	8.5	53%	7.9	93%
Shuree	SNOTEL	10100	6	2.8			9.4	
Shuree	SC	10097			2.6		9.3	358%
Sierra Blanca	SNOTEL	10280	1	0.4	5.9	7%	0.3	5%
Signal Peak	SNOTEL	8360	0	0.0	0.0		0.0	
Silver Creek Divide	SNOTEL	9000	5	2.2	7.0	31%	0.9	13%
State Line	SC	8000			0.0		0.0	
Taos Canyon	SC	9100			4.4		5.2	118%
Taos Powderhorn	SNOTEL	11057	67	21.7			24.5	
Taos Powderhorn	SC	11250			25.8		27.4	106%
Tolby	SNOTEL	10180	24	9.0	7.6	118%	10.1	133%
Tres Ritos	SNOTEL	8600	0	0.0			0.0	
Tres Ritos	SC	8600			4.4		4.5	102%
Vacas Locas	SNOTEL	9306	20	8.9	8.1	110%	13.5	167%
Wesner Springs	SNOTEL	11120	43	14.7	16.0	92%	17.3	108%
Whiskey Creek	SC	9050			8.7		17.7	203%
Basin Index						78%		112%
# of sites						21		21

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New Mexico
Basin Outlook Report
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