

New Mexico Drought Status: June 2007

National Weather Service: Albuquerque, NM

...Areal extent (and intensity) of drought diminished during April and May...

Discussion: Precipitation during April ranged from well below normal in the east central plains to well above normal from southwest New Mexico up through the middle Rio Grande Valley. May precipitation was even more abundant than April. Preliminary estimates place May 2007 as the eighth wettest May on record statewide. However areas from Cimarron to Raton, from Conchas Dam and Tucumcari to Amistad, and from Augustine to Quemado all reported less than normal precipitation for May.

Near record precipitation for April was noted at the following sites:

Bosque del Apache	1.95 inches	Second highest April precipitation total since 1946
Caballo Dam	1.32 inches	Second highest April precipitation total since 1938
State U Las Cruces	1.41 inches	Third highest April precipitation total since 1892

Near (or new) record precipitation for May was noted at the following sites:

Otis (San Juan County)	2.45 inches	New record for May (since 1957). Old record was 2.09/1992
State U Las Cruces	1.94 inches	Second highest May precipitation total since 1892
Ruidoso 2NNE	4.72 inches	Second highest May precipitation total since 1941
Bingham 2NE	2.43 inches	Second highest May precipitation total since 1939
Columbus	1.69 inches	Second highest May precipitation total since 1925
Faywood	1.78 inches	Second highest May precipitation total since 1946
Jal (SE Lea County)	6.54 inches	Second highest May precipitation total since 1992
Aztec Ruins N/M	2.24 inches	Third highest May precipitation total since 1914
Carlsbad	3.45 inches	Third highest May precipitation total since 1930
Cliff 11SE	1.69 inches	Third highest May precipitation total since 1944
Pedernal (Torrance County)	3.66 inches	Third highest May precipitation total since 1929
Zuni	1.39 inches	Third highest May precipitation total since 1949
Cloudcroft	3.82 inches	Fourth highest May precipitation total since 1914
Estancia 4N	3.04 inches	Fourth highest May precipitation total since 1914
Hillsboro	1.70 inches	Fourth highest May precipitation total since 1893

The March through May 2007 period ranks as the 15th wettest on record for the state, while the December 2006 to May 2007 six month period ranks as the 12th wettest on record for New Mexico.

Dona Ana and Sierra Counties experienced unusually wet conditions during April and May. New Mexico State University in Las Cruces received 3.35 inches of rain during April and May 2007. The 3.35 inches set a new record for the wettest April and May, breaking the old record of 2.47 inches received in 1992.

Elephant Butte Dam received 2.23 inches of rain during April and May 2007, their 6th wettest April and May since 1915. Hillsboro received 2.59 inches of rain during April and May 2007, their 5th wettest April and May since 1893. Winston in northwest Sierra County received 3.34 inches of precipitation from March 1st through May 31st, their 6th wettest March to May period since 1905.

The abundant spring rain in Sierra County has diminished the long term moderate drought condition to a mild (long term) drought condition in central and western Sierra County. A near normal or wetter than normal summer thunderstorm season for Sierra County would likely end the lingering long term mild drought condition there.

Drought in central and western Arizona had spread east during March, with areas of western Cibola County and western McKinley County entering into moderate short term drought. Precipitation during April along and adjacent to the Arizona border in west central New Mexico ranged from below normal to near normal, while precipitation during May ranged from 140 percent to 290 percent of normal. Above normal rainfall during May has prevented the eastward spread of short term moderate drought in McKinley and Cibola

Counties. With the onset of seasonal dry and warm weather during the last week of May, the far western areas of Cibola and McKinley Counties will remain in moderate drought status for now.

Other areas depicted as Advisory or Alert levels of drought on the current New Mexico Drought Status Map (June 2007) reflect mainly long term lingering drought as opposed to short term drought.

Statewide, both water-year-to-date and 2007 calendar precipitation through May are 35 to 40 percent above average. The Northwest Plateau climate division water-year-to-date precipitation is about 13 percent above average while the Northern Mountains climate division 2007 precipitation is about 14 percent above average. (See Table 3 below)

Long term drought due to multi-year precipitation deficits lingers over portions of the northern mountains, even though water year 2007 (October 2006 through May 2007) precipitation at high elevation measuring sites (SNOTELs) throughout the Rio Grande Basin of northern New Mexico was 96 percent of normal.

One way to assess short and long term drought is to look at precipitation percentiles. Percentiles greater than 50 indicate that the area has been wetter than average. Percentiles less than 11 are usually associated with an “Emergency” drought designation in New Mexico. Percentiles from 11 to 20 are consistent with a “Warning” drought designation. The 21 to 30 percentiles are associated with an “Alert” designation, while the 31 to 40 percentile range is defined as an “Advisory” drought.

As of May 1, the lowest short-term (3 to 6 month) percentiles were from November 2006 through April 2007. Table 1 shows the Western Region Climate Center (WRCC) precipitation percentiles for each of the eight climate divisions in New Mexico (Figure 1) for the November 2006 through April 2007 period and for the May 2001 through April 2007 (72 month) period.

Climate Division	November 2006 – April 2007 Precipitation Percentile and Departure from Normal	72 month Precipitation Percentile and Departure from normal
Northwest Plateau (1)	36 th percentile (-0.74 inches)	46 th percentile (-1.07 inches)
Northern Mountains (2)	50 th percentile (-0.21 inches)	14 th percentile (-9.14 inches)
Northeast Highlands (3)	76 th percentile (+1.10 inches)	55 th percentile (+0.77 inches)
Southwest Mountains (4)	52 nd percentile (-0.16 inches)	62 nd percentile (+2.40 inches)
Central Valleys (5)	75 th percentile (+0.74 inches)	76 th percentile (+5.35 inches)
Central Highlands (6)	61 st percentile (+0.31 inches)	41 st percentile (-2.76 inches)
Southeast Plains (7)	88 th percentile (+1.98 inches)	67 th percentile (+4.26 inches)
Southern Desert (8)	49 th percentile (-0.32 inches)	61 st percentile (+2.14 inches)

Table 1

As of June 1, the lowest short term percentiles were from March through May 2007. Table 2 shows the WRCC precipitation percentiles for each of the eight climate divisions in New Mexico (Figure 1) for the March through May 2007 period and for the June 2001 through May 2007 (72 month) period.

Climate Division	March to May 2007 Precipitation Percentile and Departure from Normal	72 month Precipitation Percentile and Departure from normal
Northwest Plateau (1)	75 th percentile (+0.58 inches)	52 nd percentile (+0.02 inches)
Northern Mountains (2)	48 th percentile (-0.10 inches)	16 th percentile (-8.33 inches)
Northeast Highlands (3)	77 th percentile (+1.13 inches)	57 th percentile (+1.28 inches)
Southwest Mountains (4)	67 th percentile (+0.24 inches)	62 nd percentile (+2.47 inches)
Central Valleys (5)	87 th percentile (+1.00 inches)	79 th percentile (+6.45 inches)
Central Highlands (6)	84 th percentile (+1.39 inches)	48 th percentile (-0.79 inches)
Southeast Plains (7)	97 th percentile (+3.80 inches)	75 th percentile (+6.64 inches)
Southern Desert (8)	92 nd percentile (+1.09 inches)	65 th percentile (+3.09 inches)

Table 2



(Figure 1) Climate Divisions in New Mexico

From Table 2, climate division 2 continues to show the most significant long term drought (72 month) with an average precipitation percentile of 16 and an average precipitation deficit of about 8.3 inches. Current three month percentiles in divisions 1, 4, 6, and 8 are significantly improved from last months six month percentiles.

Long-range outlook: The latest ENSO (El Nino Southern Oscillation) discussion favors an ENSO neutral or developing La Nina trend over the next few months. Historically, the next few months are a favorable period for the development of La Nina. La Nina conditions would favor drier than normal conditions for New Mexico for this autumn. The prospects for the summer thunderstorm (“Monsoon”) season are not weighted toward either wet or dry at this time, even though the spring season was unusually wet.

Calendar Year and Water Year 2007 (Oct thru May) Precipitation for New Mexico
National Weather Service Albuquerque, NM

<u>Location</u>	2007 (Jan – May)			Water Year 2007 (Oct 06 through May 07)			
	<u>Obs</u>	<u>Normal</u>	<u>%Normal</u>	<u>Obs</u>	<u>Normal</u>	<u>% Nrml</u>	<u>SID</u>
<i>Northwest Plateau</i>							
AZTEC RUINS N/M	4.75	3.61	132%	7.60	6.22	122%	AZT
FENCE LAKE	4.08	4.20	97%	6.56	7.45	88%	FCK
FARMINGTON AG CTR	4.78	3.07	156%	7.47	5.29	141%	FAR
GALLUP FAA APRT	2.62	3.73	70%	5.59	6.51	86%	GUP
LINDRITH 2SE	7.35	4.91	150%	11.56	8.12	142%	LDR
NAVAJO DAM	5.19	5.09	102%	9.03	8.69	104%	BLN
<i>Northern Mountains</i>							
ALCALDE	3.72	2.57	145%	6.27	4.67	134%	ALC
CANJILON R/S	7.33	5.22	140%	10.86	8.39	129%	CJL
CERRO	3.06	3.97	77%	6.69	6.45	104%	CRR
CHAMA	9.91	8.20	121%	16.34	13.04	125%	CHM
CIMARRON 4SW	5.05	5.05	100%	9.87	7.21	137%	CPS
GHOST RANCH	5.66	3.61	157%	8.34	5.78	144%	AIQ

JEMEZ SPRINGS	4.68	5.16	91%		7.93	8.62	92%	JEM
JOHNSON RANCH	4.27	3.27	131%		6.91	5.67	122%	CUB
LAS VEGAS FAA APRT	3.75	3.90	96%		6.26	6.22	101%	LVS
LOS ALAMOS	5.15	4.91	105%		8.97	8.15	110%	LOA
RATON FILTER PLT	4.51	5.45	83%		9.52	7.84	121%	RRT
RED RIVER	9.78	7.51	130%		15.07	11.34	133%	RED
SANTA FE 2	4.03	3.99	101%		7.93	6.73	118%	STF
WOLF CANYON	9.91	7.87	126%		17.26	12.84	134%	CUA
<i>Northeastern Plains</i>								
CLAYTON APRT	6.27	5.00	125%		9.54	6.96	137%	CAO
CLOVIS	8.76	4.62	190%		12.12	7.52	161%	CLV
CONCHAS DAM	2.57	3.73	69%		4.73	5.77	82%	CNC
MOSQUERO 1NE	5.54	4.51	123%		7.60	6.66	114%	MSQ
PORTALES	8.77	4.28	205%		12.59	6.82	185%	POR
TUCUMCARI 4NE	5.59	4.66	120%		8.32	7.14	117%	TUC
<i>Southwestern Mountains</i>								
FORT BAYARD	5.36	3.28	163%		8.87	6.37	139%	FTB
WINSTON (CHLORIDE)	4.79	1.89	253%		8.39	4.09	205%	WNS
GRANTS APRT	2.77	2.51	110%		6.45	4.87	132%	GNT
QUEMADO	2.36	2.68	88%		4.33	4.54	95%	QMD
RESERVE R/S	4.01	3.98	101%		6.77	8.10	84%	RES
<i>Central Valley</i>								
ABQ WSFO APRT	4.58	2.47	185%		7.80	4.30	181%	ABQ
BOSQUE DEL APACHE	5.15	1.77	291%		8.54	3.67	233%	SAA
LOS LUNAS 3SSW	3.08	2.13	145%		5.70	4.20	136%	LLU
SOCORRO	3.86	2.34	165%		7.77	4.35	179%	SCR
<i>Central Highlands</i>								
CAPITAN	5.68	4.06	140%		9.35	6.29	149%	CAP
CLOUDCROFT	11.25	6.14	183%		17.49	10.39	168%	CLD
ESTANCIA 4N	5.15	3.22	160%		8.85	5.64	157%	EST
MOUNTAINAIR R/S	3.63	3.88	94%		7.38	6.63	111%	MTN
RUIDOSO 2NNE	11.18	5.17	216%		16.61	9.19	181%	RUP
<i>Southeastern Plains</i>								
ARTESIA 6S	6.41	3.02	212%		8.00	5.12	156%	ART
CARLSBAD	8.80	3.00	293%		10.10	5.35	189%	CWP
FORT SUMNER	5.82	3.72	156%		7.80	6.27	124%	FSM
ROSWELL CLIMAT	6.68	3.23	207%		9.17	5.52	166%	ROW
SANTA ROSA	4.60	3.72	124%		7.80	6.00	130%	SNR
TATUM	9.91	4.09	242%		13.10	6.63	198%	TAT
<i>Southern Desert</i>								
ANIMAS	2.68	2.11	127%		5.10	4.57	112%	ANM
DEMING	2.77	1.80	154%		4.74	3.72	127%	DEM
FAYWOOD	5.01	2.17	231%		7.98	4.92	162%	FAY
STATE U LAS CRUCES	4.88	1.60	305%		7.57	3.69	205%	STC
TRUTH OR CONSEQ	3.02	1.86	162%		5.65	5.18	109%	TRC
TULAROSA	4.23	2.30	184%		8.66	4.37	198%	TLR

Divisional Averages

<u>Climate Division</u>	2007 (Jan - May)			Water Year 2007 (Oct 06 through May 07)		
		<u>% Nrml</u>			<u>% Nrml</u>	
Northwest Plateau		117%			113%	
Northern Mountains		114%			122%	
Northeastern Plains		140%			134%	
Southwestern Mountains		135%			124%	
Central Valley		191%			180%	
Central Highlands		164%			156%	
Southeastern Plains		203%			160%	
Southern Desert		191%			150%	
All Divisions		142%			136%	

(Table 3)