

December 12, 2002

MONTHLY REPORT

DROUGHT MONITORING COMMITTEE

BY

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Leader of Committee

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**Drought Status for December, 2002**

*National Weather Service, Albuquerque, NM*

**Discussion:** Consistent with El Niño, most of New Mexico experienced above normal precipitation for the autumn (September-November) period. All climate division averages were above normal, ranging from near 200 percent of normal for division 1 to roughly 120 percent of normal for division 7. Divisions 2,3,4, and 5 averaged 150-170 percent of normal, while divisions 6 and 8 averaged 130-150 percent of normal. In absolute amounts, divisions 1,2,3,and 4 averaged between 2 and 5 inches above normal for the autumn. The remaining divisions (5,6, 7, and 8) averaged less than 2 inches above normal. For the calendar year, statewide precipitation average is now 84 percent of normal.

The recent precipitation has had a large impact on alleviating the shorter-term aspects of drought as depicted by various drought indices. In fact, the November PDSI averages were on the positive (wet) side for all but divisions 2, 6, and 8.

**Palmer Index (monthly average) for 2002**

<b>Div.</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>
<b>1</b>	-0.3	-1.3	-2.1	-3.0	-4.1	-5.1	-5.0	-4.7	-1.6	+0.3	+2.3
<b>2</b>	-2.0	-2.2	-2.9	-4.0	-5.1	-6.1	-6.3	-6.7	-5.0	-3.0	-0.6
<b>3</b>	-0.5	+0.5	+0.1	-0.3	-1.8	-2.6	-2.8	-3.1	-0.7	+1.1	+2.2
<b>4</b>	-0.6	-0.8	-1.6	-2.7	-3.8	-4.5	-4.0	-3.2	-0.7	+0.4	+1.3
<b>5</b>	-0.9	-0.5	-1.0	-2.1	-2.8	-3.3	-2.3	-0.3	+1.7	+2.6	+2.7
<b>6</b>	-2.2	-1.6	-2.2	-3.0	-4.0	-4.6	-4.0	-3.9	-3.0	-2.4	-1.2
<b>7</b>	-1.2	-0.3	0.0	+0.6	-1.1	-2.4	-1.7	-2.2	-0.6	+0.6	+1.6
<b>8</b>	-1.4	-0.4	-1.3	-2.5	-3.0	-3.2	-2.3	-0.8	-0.4	-0.2	-0.2

However, these shorter-term indices do not accurately portray the longer-term, hydrological aspects of drought. A long-term SPI should be employed to accurately depict the hydrological state of drought. Presently, the longer term SPI shows the following precipitation deficits:

<b>Climate Division</b>	<b>24 month</b>	<b>36 month</b>	<b>48 month</b>	<b>60 month</b>
1	0 to 3 inches	0 to 5 inches	0 to 5 inches	None
2	<b>6 to 10 inches</b>	<b>5 to 10 inches</b>	<b>5 to 10 inches</b>	0 to 5 inches
3	<i>3 to 6 inches</i>	0 to 5 inches	0 to 5 inches	None
4	0 to 3 inches	0 to 5 inches	None	None
5	0 to 3 inches	0 to 5 inches	None	None
6	<i>3 to 6 inches</i>	0 to 5 inches	0 to 5 inches	0 to 5 inches
7	<i>3 to 6 inches</i>	0 to 5 inches	0 to 5 inches	0 to 5 inches
8	<i>3 to 6 inches</i>	0 to 5 inches	0 to 5 inches	0 to 5 inches

<b>Calendar Year 2002 and Water Year 2003 (thru Nov) Precipitation for New Mexico</b>						
National Weather Service Albuquerque, NM						
	<b>2002 (Jan - Nov)</b>			<b>Water Year 2003 (Oct - Nov 02)</b>		
<b>Location</b>	<b>Obs</b>	<b>Normal</b>	<b>%Normal</b>	<b>Obs</b>	<b>Normal</b>	<b>% Normal</b>
<b>Northwest Plateau</b>						
AZTEC RUINS N/M	7.00	9.09	77%	2.71	1.80	151%
FENCE LAKE	12.74	13.28	96%	2.28	2.28	100%
FRUITLAND 2E	5.62	6.74	83%	1.73	1.38	125%
GALLUP FAA APRT	9.72	10.85	90%	1.47	2.04	72%
LINDRITH 2SE	13.10	13.49	97%	2.55	2.34	109%
NAVAJO DAM	8.36	12.24	68%	3.00	2.43	123%
<b>Northern Mountains</b>						
ALCALDE	9.49	9.64	98%	2.35	1.71	137%
CANJILON R/S	13.35	14.53	92%	2.91	2.27	128%
CERRO	9.67	12.22	79%	2.10	1.83	115%
CHAMA	14.79	19.20	77%	5.16	3.04	170%
CIMARRON 4SW	(8.86)	(15.16)	58%	(0.94)	(1.15)	82%
GHOST RANCH	7.92	11.02	72%	2.13	1.63	131%
JEMEZ SPRINGS	11.76	16.36	72%	2.59	2.53	102%
JOHNSON RANCH	8.84	10.70	83%	2.00	1.77	113%
LAS VEGAS FAA APRT	9.70	16.15	60%	1.45	1.79	81%
LOS ALAMOS	10.88	17.46	62%	3.00	2.37	127%
RATON KRTN	11.46	16.83	68%	1.92	1.52	126%
RED RIVER	17.37	19.39	90%	2.72	2.69	101%
SANTA FE 2	9.58	13.73	70%	2.13	2.29	93%
WOLF CANYON	15.19	21.39	71%	4.54	3.43	132%
<b>Northeastern Plains</b>						
CLAYTON APRT	9.91	15.13	65%	1.52	1.59	96%
CLOVIS	15.30	17.28	89%	3.32	2.29	145%
CONCHAS DAM	15.05	13.62	110%	2.40	1.56	154%
MOSQUERO 1NE	12.61	16.08	78%	1.92	1.70	113%
PORTALES	15.31	16.13	95%	3.28	1.93	170%
TUCUMCARI 4NE	14.66	15.39	95%	2.69	1.92	140%
<b>Southwestern Mountains</b>						
FORT BAYARD	14.47	14.65	99%	2.02	2.01	100%
GILA HOT SPRINGS	11.41	14.90	77%	0.79	2.53	31%
GRANTS APRT	8.83	9.95	89%	1.86	1.71	109%
QUEMADO ESTATES	15.36	13.04	118%	2.47	1.63	152%
RESERVE R/S	(12.73)	(13.39)	95%	(1.25)	(1.74)	72%
<b>Central Valley</b>						
ABQ WSFO APRT	6.03	8.05	75%	1.03	1.29	80%
BOSQUE DEL APACHE	7.69	8.14	94%	0.92	1.36	68%
LOS LUNAS 3SSW	7.32	8.50	86%	1.36	1.55	88%
SOCORRO	9.82	9.01	109%	1.28	1.42	90%
<b>Central Highlands</b>						
CAPITAN	14.37	15.42	93%	2.41	1.51	160%
CLOUDCROFT	23.88	23.40	102%	4.24	2.69	158%

ESTANCIA	7.78	11.87	66%		1.52	1.68	90%
MOUNTAINAIR R/S	10.33	13.33	77%		1.33	1.81	73%
RUIDOSO 2NNE	15.29	20.22	76%		2.01	2.39	84%
<b><i>Southeastern Plains</i></b>							
ARTESIA 6S	12.35	11.29	109%		2.54	1.61	158%
CARLSBAD	11.30	11.94	95%		2.55	1.83	139%
FORT SUMNER	(14.71)	(13.26)	111%		(1.50)	(1.35)	111%
ROSWELL CLIMATE	12.98	12.38	105%		2.21	1.74	127%
SANTA ROSA	12.00	13.59	88%		2.60	1.70	153%
TATUM	14.79	15.44	96%		2.14	2.04	105%
<b><i>Southern Desert</i></b>							
ANIMAS	6.89	10.01	69%		2.32	1.55	150%
DEMING	6.64	8.51	78%		2.20	1.23	179%
FAYWOOD	10.17	10.95	93%		1.04	1.81	57%
STATE U LAS CRUCES	6.06	8.59	71%		1.09	1.34	81%
TRUTH OR CONSEQ	4.77	10.83	44%		1.26	2.07	61%
TULAROSA	8.77	9.13	96%		1.92	1.39	138%
<b>Divisional Averages</b>							
	<b>2002 (Jan - Nov)</b>				<b>Water Year 2003 (Oct - Nov 02)</b>		
<b>Climate Division</b>		<b>% NrmI</b>				<b>% NrmI</b>	
Northwest Plateau		86%				112%	
Northern Mountains		77%				123%	
Northeastern Plains		88%				138%	
Southwestern Mountains		95%				96%	
Central Valley		92%				82%	
Central Highlands		85%				114%	
Southeastern Plains		95%				139%	
Southern Desert		75%				105%	
All Divisions		84%				117%	

**Palmer Projections for the end of March 2003 (Climate Prediction Center)**

Division	-3 or less	-2 to -2.9	-1 to -1.9	Near 0	+1 to 1.9	+2 to 2.9	+3 or abv
1	0	1	1	27	21	<b>30</b>	20
2	6	1	20	<b>42</b>	15	13	3
3	0	0	4	<b>32</b>	28	27	8
4	0	4	0	<b>42</b>	25	17	11
5	0	1	11	<b>32</b>	14	31	10
6	4	17	7	<b>44</b>	17	10	1
7	0	0	7	<b>44</b>	30	15	4
8	3	13	10	<b>31</b>	24	17	3

Most likely category is shown in bold probability.

**Long-range Forecast and Discussion:** As the PDSI projections suggest, conditions are expected to return to near normal, or even wetter than normal by the end of March. This is consistent with the seasonal forecast of wetter than normal conditions through the spring of 2003, and is driven primarily by the present El Niño. However, the hydrological drought associated with longer-term precipitation deficits is likely to linger.

**Climate Division Status:**

Status conditions will remain the same for all divisions until additional snow-pack and runoff information becomes available.

Division 1 - Emergency  
 Division 2 - Emergency  
 Division 3 - Warning  
 Division 4 - Emergency

Division 5 - Warning  
 Division 6 - Emergency  
 Division 7 - S ½ Alert  
                   N ½ Warning  
 Division 8 - Emergency

The USDA Farm Service Agency submitted the following report:

The Farm Service Agency (FSA) has implemented the Emergency Conservation Program in 24

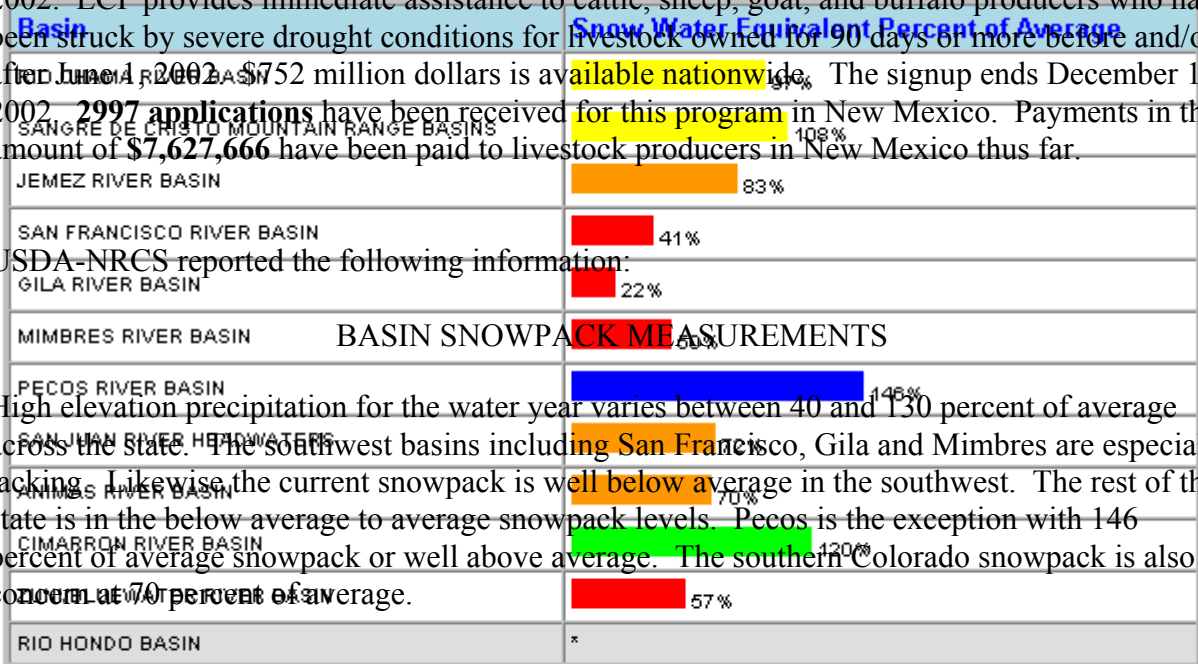
counties in New Mexico. The ECP program provides cost-share assistance to producers in approved counties who need to seek alternative water sources for livestock, orchards, and vineyards. ECP eligible counties include Bernalillo, Catron, Chaves, Cibola, Colfax, Curry, De Baca, Eddy, Guadalupe, Lincoln, McKinley, Mora, Otero, Rio Arriba, Roosevelt, San Juan, Santa Fe, San Miguel, Sandoval, Sierra, Socorro, Taos, Union, and Valencia counties. 708 requests for cost-shares have been received in New Mexico. New Mexico has \$3,952,500 to fund these applications. Payments in the amount of **\$292,968** have been issued as of November 30.

The Secretary of Agriculture’s disaster designation makes low interest loans available to all eligible producers statewide. FSA Emergency loans are offered to farmers and ranchers who have suffered a qualifying “physical loss” (such as a water shortage) or who have suffered at least a 30% loss in crop production.

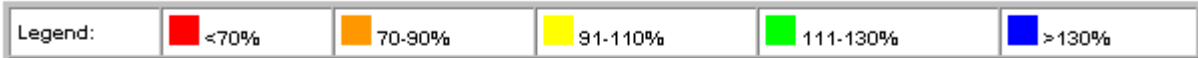
Farm Service Agency authorized emergency haying and grazing on Conservation Reserve Program (CRP) acreage for 15 New Mexico counties. Counties approved for emergency haying and grazing of CRP acreage included: Bernalillo, Cibola, Colfax, Curry, De Baca, Harding, Lea, Mora, Quay, Roosevelt, San Juan, Santa Fe, Tarrant and Union counties. 319 producers took advantage of this program. Emergency authorization for haying and grazing has been discontinued as of November 30, 2002.

On October 1, 2002, all County FSA offices in New Mexico began accepting applications for the new Livestock Compensation Program (LCP). LCP is available in 32 counties in New Mexico (the exception is Los Alamos) that were designated primary disaster areas for drought in 2001 or 2002. LCP provides immediate assistance to cattle, sheep, goat, and buffalo producers who have been struck by severe drought conditions for livestock owned for 90 days or more before and/or after June 1, 2002. \$752 million dollars is available nationwide. The signup ends December 13, 2002. **2997 applications** have been received for this program in New Mexico. Payments in the amount of **\$7,627,666** have been paid to livestock producers in New Mexico thus far.

USDA-NRCS reported the following information:



High elevation precipitation for the water year varies between 40 and 130 percent of average across the state. The southwest basins including San Francisco, Gila and Mimbres are especially lacking. Likewise, the current snowpack is well below average in the southwest. The rest of the state is in the below average to average snowpack levels. Pecos is the exception with 146 percent of average snowpack or well above average. The southern Colorado snowpack is also of concern at 70 percent of average.



\* = Data are not available or data may not provide a valid measure of conditions for over half of the sites within the basin.

BASIN SNOTEL SNOW WATER EQUIVALENT (SWE)  
AND PRECIPITATION

Water Year 2003

<u>River Basin</u>	<u>SWE</u>	<u>PRECIPITATION</u>
	<u>Dec 12</u>	<u>Water Year</u>
	<u>% of Avg</u>	<u>% of Avg.</u>
Canadian	120	80
Pecos	146	127
Rio Grande	108	94
Mimbres	50	38
San Francisco/Gila	41/22	62
Zuni/Bluewater	57	100
San Juan	72	84

B A S I N      W I D E  
R E S E R V O I R      S U M M A R Y

FOR THE END OF November 2002

<u>BASIN AREA</u> <u>RESERVOIR</u>	<u>CURRENT AS</u> <u>% CAPACITY</u>	<u>LAST YR AS</u> <u>% CAPACITY</u>	<u>AVERAGE AS</u> <u>% CAPACITY</u>	<u>CURRENT AS</u> <u>% AVERAGE</u>	<u>CURRENT AS</u> <u>% LAST YR</u>
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NEW MEXICO WESTWIDE RESERVOIRS

ABIQUIU	8	22	20	39	36		
LAKE AVALON	42	13	33	125	313		
CABALLO	11	3	21	52	340		
COCHITI	10	10	12	80	102		
CONCHAS	11	17	72	15	64		
COSTILLA			NO REPORT				
EL VADO	5	48	51	10	11		
ELEPHANT BUTTE	15	42	59	26	36		
HERON	40	78	75	54	51		
BRANTLEY	9	5	13	71	179		
NAVAJO	50	80	79	63	62		
SANTA ROSA	3	3	14	19	80		
SUMNER	6	7	32	20	94		
TOTAL OF 12 RESERVOIRS	23	43	52	43	53		
Raw KAF Totals Current=	1518	Last Year=	2883	Average=	3489	Capacity=	6692

The USDA-Geological Survey submitted the following streamflow conditions:

Streamflow conditions for November 2002 improved slightly on unregulated streams throughout New Mexico. The 2003 water year to date percent of average streamflow volumes are worse than the November 2002 volumes. The streamflow was significantly below average Statewide; of course streamflows were augmented from releases from upstream reservoirs.

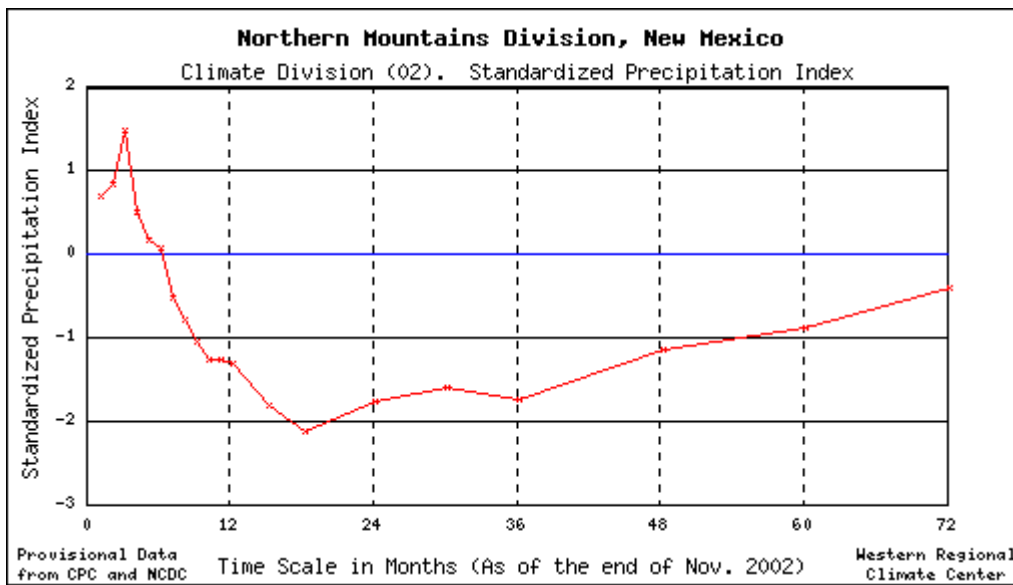
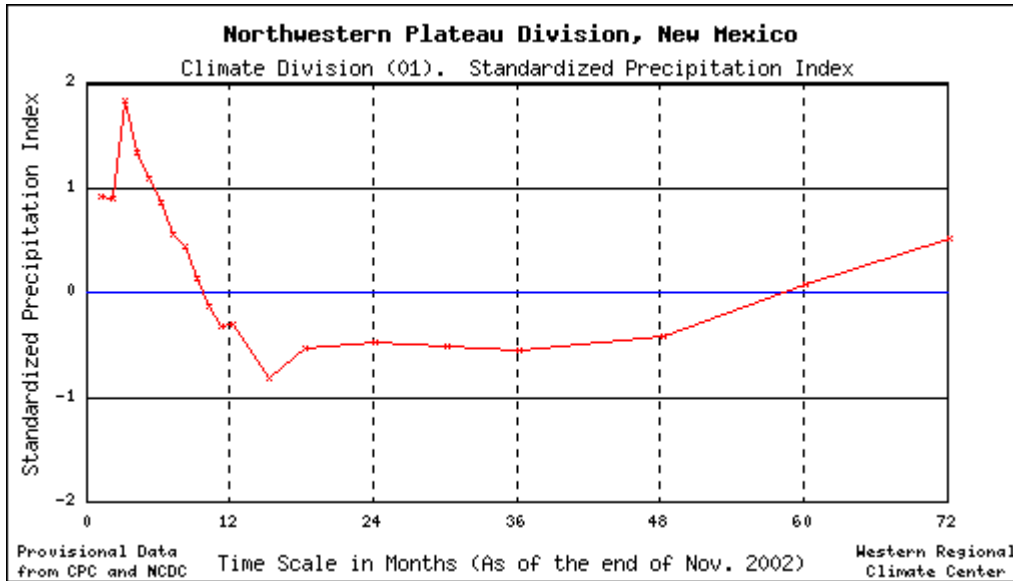
Streamflow plots shown below for selected locations in New Mexico show that the daily mean discharge for water year 2003 is well below average except for the Animas and Pecos Rivers.

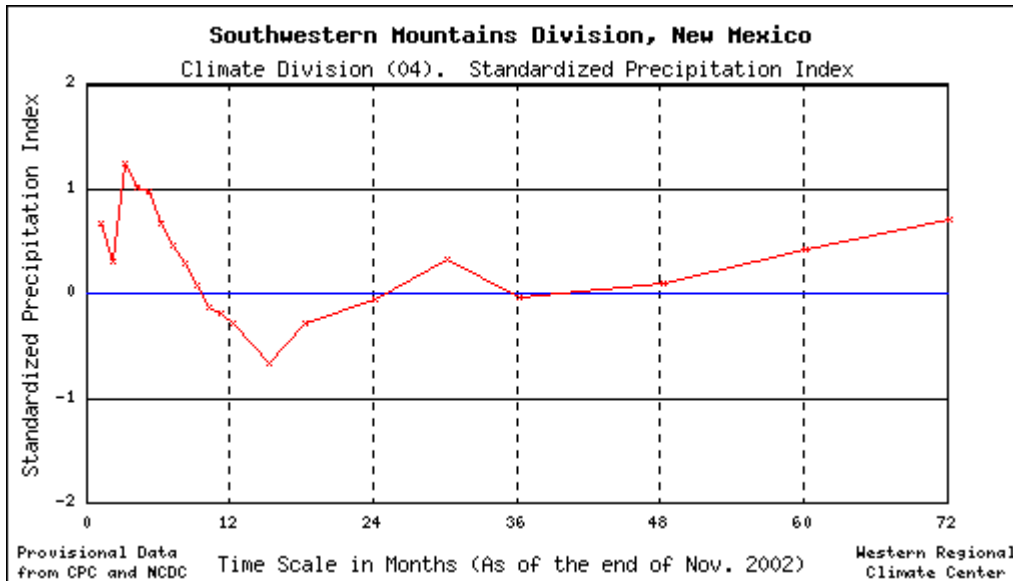
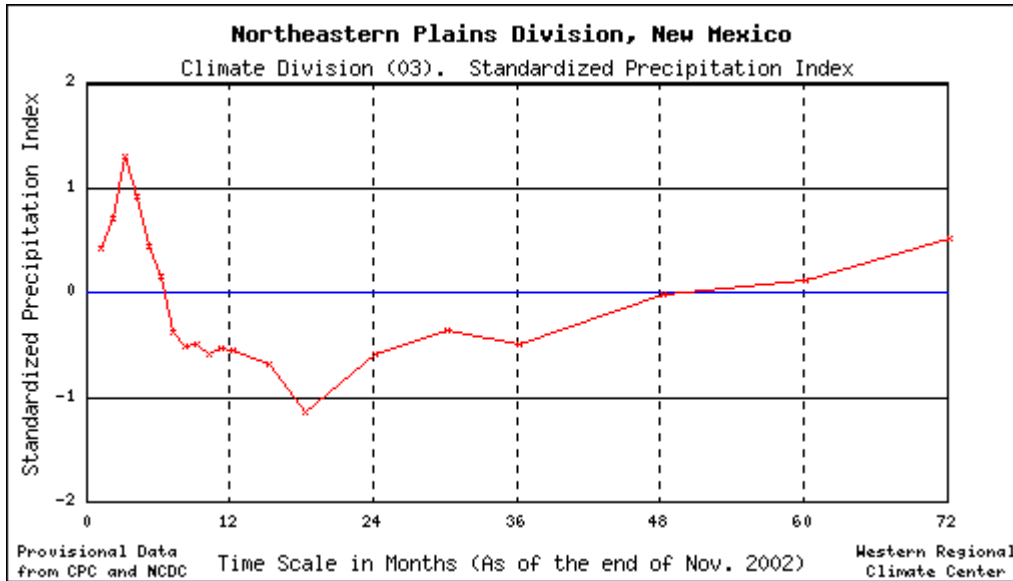
<u>Streamflow-gaging station</u>	<u>Streamflow in percent of average-----</u>	
	<u>November-2002</u>	<u>Water year to date</u>
Arkansas River Basin		
07203000 Vermijo River near Dawson	46	37
07216500 Mora River near Golondrinas	34	19
07221500 Canadian River near Sanchez	9	8
Rio Grande Basin		
08263500 Rio Grande near Cerro	29	28
08269000 Rio Pueblo de Taos near Taos	65	56
08279000 Embudo Creek at Dixon	67	43
08284100 Rio Chama near La Puente	64	47
08313000 Rio Grande at Otowi Bridge	38	42
Pecos River Basin		
08378500 Pecos River near Pecos	88	65
08387000 Rio Ruidoso at Hollywood	7 e	38
08396500 Pecos River near Artesia	53	36
San Juan River Basin		
09364500 Animas River at Farmington	91	76
Gila River Basin		
09430500 Gila River near Gila	62	54
09444000 San Francisco River near Glenwood	78	55

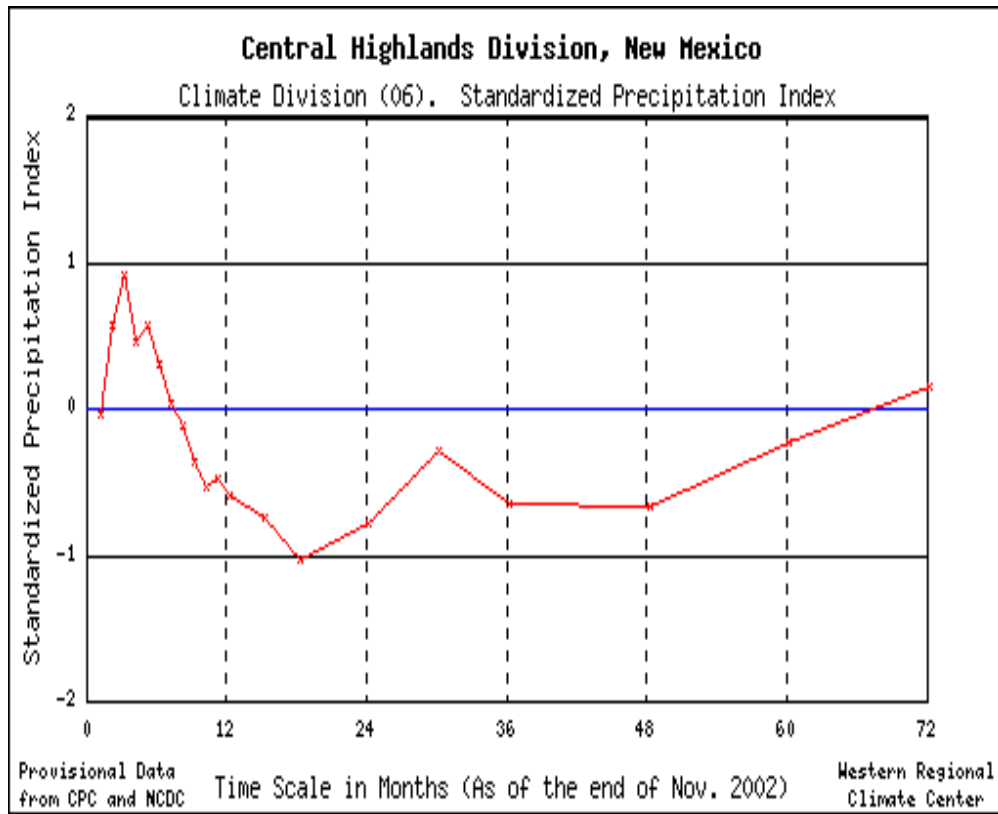
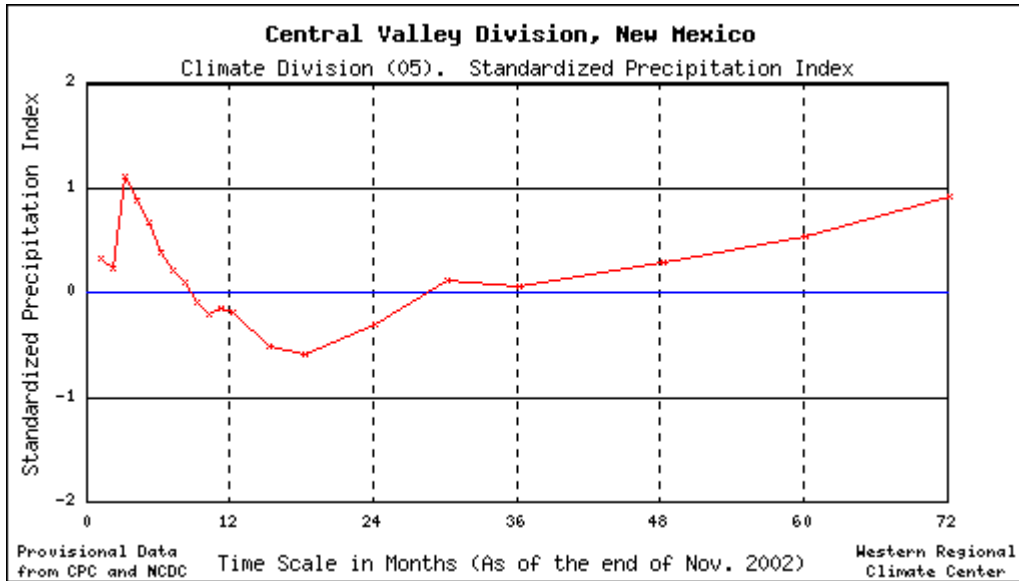
e- estimated

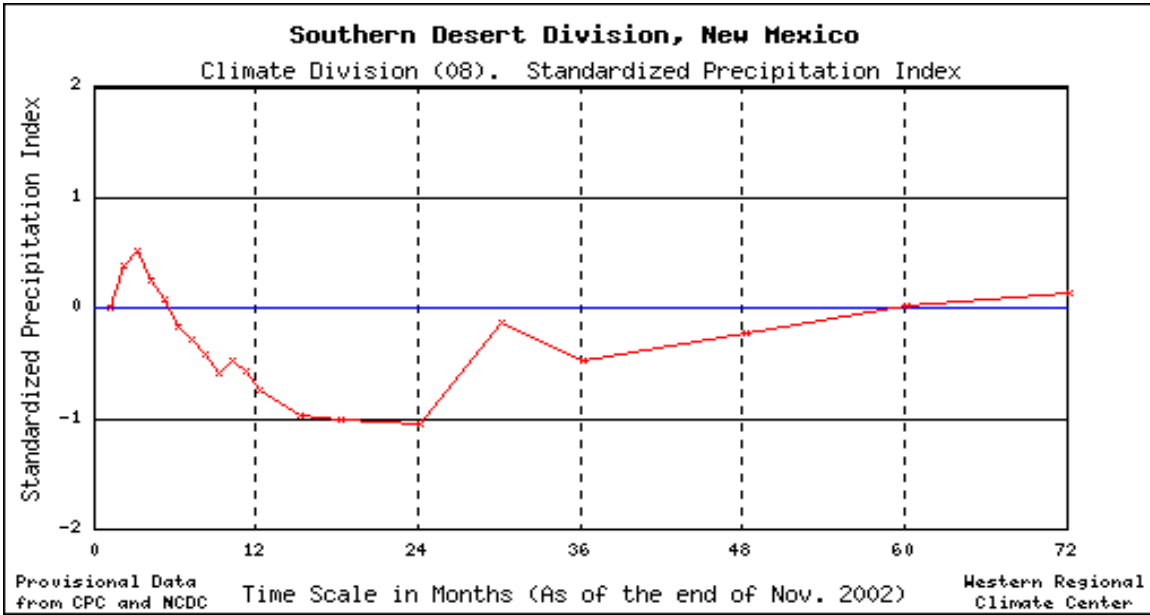
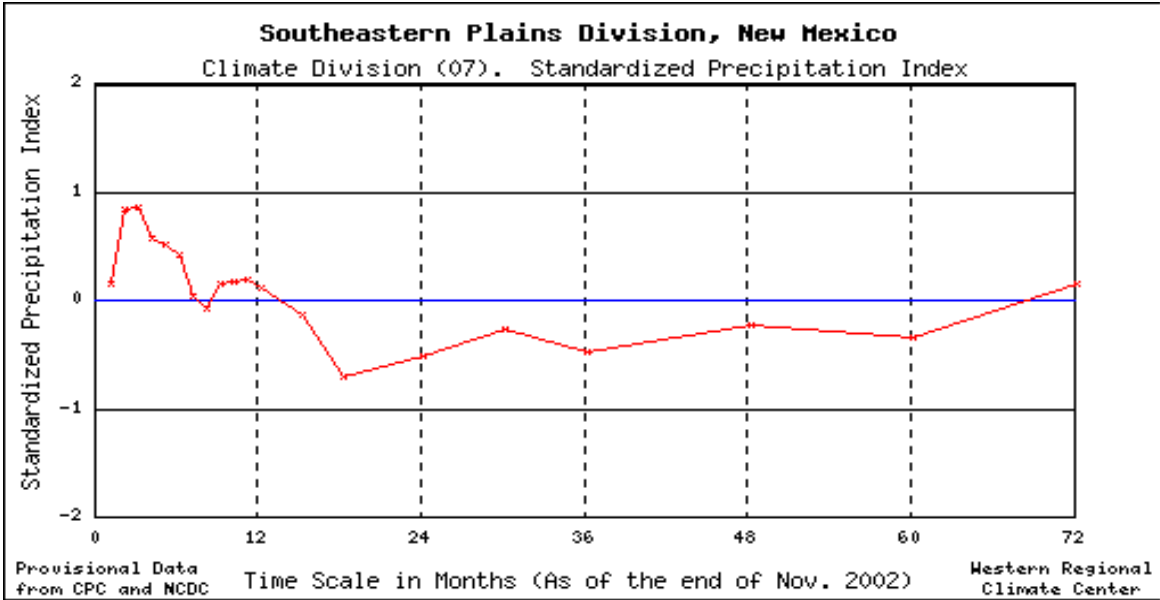
All data provisional

The USDA-Forest Service provided the following information:









### SPI Values

3.00 and above	know how to swim?
2.00 to 2.99	extremely wet
1.25 to 1.99	very wet
0.75 to 1.24	moderately wet
-0.74 to 0.74	near normal
-0.75 to -1.25	moderately dry
-1.25 to -1.99	very dry
-2.00 to -2.99	extremely dry
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-3.00 and less	where's the nearest oasis?