

New Mexico Drought Monitoring Work Group

Monthly Report
February 18, 2004



Members

Dawn Matson, Chair
Charlie Liles
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Dan Murray
Bill Ewing
Jerry Wall
Ted Sammis
Chic Spann
Donald Gallegos
Howard Mosley

Office of the State Engineer
National Weather Service
New Mexico Department of Agriculture
US Geological Survey
USDA Natural Resources Conservation Service
New Mexico Department of Public Safety
US Bureau of Land Management
New Mexico State University
US Forest Service
US Army Corps of Engineers
US Bureau of Reclamation

Meeting Summary

February 18, 2004

Meeting was held at 1:30 pm at BLM office in Albuquerque, NM.

Administrative Issues

- Next Meeting: Weds, March 17, 1:30, at BLM office. Reminder e-mail will be sent several days before the meeting.
- Monitoring Work Group members are always welcome at Drought Task Force meetings. The next two Drought Task Force meetings will be held as follows:
 - Monday, March 15, 9-11 am, Municipal League, Santa Fe
 - Monday, April 19, 9-11 am, location to be determined
- Dawn Matson, Programs Manager for the Drought Task Force, chaired the meeting and explained that she is working to find a permanent chair since Dennis Romero has stepped down to take on other duties.
- The group reviewed the list of four priorities and provided updates for activities listed under each priority. The update will be presented at the next Drought Task Force meeting.
- For priority #4, it was agreed that National Weather Service, Bureau of Reclamation, and NM Department of Agriculture staff would look into opportunities to hire a graduate student, on a short-term basis, to set up an automated system to combine information collected from remote weather stations.

National Weather Service Report

- The short term Standardized Precipitation Index (SPI) is negative for all climate divisions in the state, with divisions 6, 7, and 8 in the second percentile, the driest 2% of all time periods since measurement began.
- The long term SPI is negative for all climate divisions too, with division 2 measuring in the 1 percentile.
- Average precipitation deficits for climate divisions range from 3.95 inches to 13.12 inches over the past three years.
- New Mexico is still in an El Niño neutral position, with equal chances of a dry, wet, or average snow season.
- The stormy period forecast to begin in February will not likely continue past early March.

Natural Resources Conservation Service Report

- SNOTEL precipitation across New Mexico is generally below to well below the 30-year average. SNOTEL measurements are 10% lower than predicted one month ago.
- Snow density is low across the state, so low moisture snows are sublimating rather than providing moisture to dry soils.
- Spring snowpack runoff is expected to be well below average in most cases. Rio Chama and the San Juan River Basins are expected to see below normal to normal snowmelt runoff.

Bureau of Land Management Report

- Rangelands are still extremely dry and grazing permit holders understand that there is no new grass for grazing.

New Mexico Department of Agriculture Report

- Irrigation season is approaching rapidly although most are still awaiting the April 1 runoff forecasts to determine allocations for this irrigation season.
- Some crops are being planted in Southern New Mexico and initial irrigation of fields with groundwater sources.
- The amount of land in farms in New Mexico decreased by approximately 100,000 acres with the average farm size increasing by 23 acres from 2002 to 2003 according to USDA Economic Research Service reports.
- January 1 inventory of beef cows in New Mexico down from 466,000 head in 2003 to 455,000 head in 2004, at the same time dairy cows have increase from 314,000 head in 2003 to 325,000 head in 2004.

Drought Status for February 2004

National Weather Service, Albuquerque, NM

Discussion: January precipitation was below normal for most of New Mexico. Only isolated spots managed to receive above-normal precipitation: The far southwest, a small strip from Pedernal to Los Lunas, and another strip from western Taos into Rio Arriba County. January precipitation ranged from 45 percent of normal in the northeast (division 3) to 106 percent of normal in division 8. The statewide average was 75 percent of normal. The statewide water year average for October 2003 through January 2004 was 80 percent of normal.

The Palmer Drought Severity Index (PDSI) monthly composite of weekly values is negative in all climate divisions except for division 1 (Northwest), indicating various degrees of drought. However, this particular index does not have much “memory,” and is likely not the best tool to describe the current drought situation.

<u>Palmer Index (monthly average) for 2003-2004</u>										
Div	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
1	+2.4	+0.7	-0.7	-1.4	-1.0	+0.8	+1.1	+1.0	+1.3	+1.8
2	+2.0	+0.2	-0.3	-2.5	-3.5	-2.1	-2.5	-2.9	-2.6	-1.7
3	+1.4	-0.5	+0.8	+0.1	-1.3	-0.4	-0.7	-1.6	-2.0	-2.3
4	+1.4	-0.6	-1.1	-1.6	-2.3	-2.5	-2.3	-1.4	-0.6	-0.8
5	+0.6	-1.4	-1.8	-2.3	-2.6	-2.5	-1.6	-1.4	-1.4	-1.7
6	-2.7	-3.8	-4.2	-4.4	-5.0	-5.1	-4.9	-4.8	-4.5	-4.5
7	-0.6	-1.6	-1.1	-1.5	-2.4	-2.8	-2.9	-3.3	-3.2	-3.1
8	+0.2	-1.3	-1.5	-1.7	-2.4	-2.9	-2.8	-2.2	-1.8	-2.2

The following table shows short-term (12 month or less) and long term (more than 12 and up to 60 month) lowest SPI for each climate division in the state, along with average precipitation deficits, and drought category according to the New Mexico Drought Plan. These data are used as a guideline when preparing the meteorological drought status map. Data includes the period through January 31, 2004.

Division	Short SPI (months)	Percentile	Precip. Deficit	Long SPI (months)	Percentile	Precip. Deficit	Short Cat.	Long Cat.
1(NW)	-0.6 (10)	28	-1.46"	-0.7(30)	25	-3.95"	Adv.	Alert
2(Ncnt)	-1.8(10)	4	-4.47"	-2.3(36)	1	-13.12"	E	E
3(NE)	-1.4(12)	8	5.00"	-1.4 (36)	8	-9.84"	W	E
4(Wcnt)	-1.3(10)	10	-3.20"	-0.8(30)	22	-4.05"	W	Alert
5(Cnt. Vly)	-1.8(10)	3	-3.71"	-1.1(30)	13	-5.38	E	W
6(Cnt High)	-2.1(10)	2	-6.25"	-1.7(30)	4	-11.91"	E	E
7(SE)	-2.1(7)	2	-6.50"	-1.4(36)	8	-10.32"	E	E
8(SW)	-2.2(10)	2	-4.99"	-1.6(36)	6	-8.31"	E	E

The following table shows calendar year and water-year precipitation at a number of locations compared to normal:

Calendar Year 2004 and Water Year 2004 (beginning Oct 1 2003) Precipitation for New Mexico

Location	2004 (Jan-Jan)			Oct 2003-Jan 2004		
	Obs	Normal	%Normal	Obs	Normal	% Normal
Northwest Plateau						
AZTEC RUINS N/M	0.65	0.79	82%	3.10	3.40	91%
FENCE LAKE	0.73	0.96	76%	3.18	4.21	76%
FARMINGTON AG CTR	0.34	0.50	68%	2.40	2.72	88%
GALLUP FAA APRT	0.36	0.90	40%	2.96	3.68	80%
LINDRITH 2SE	1.22	1.08	113%	3.66	4.29	85%
NAVAJO DAM	0.69	1.06	65%	3.33	4.66	71%
Northern Mountains						
ALCALDE	0.10	0.38	26%	2.33	2.48	94%
CANJILON R/S	1.32	1.16	114%	4.06	4.33	94%
CERRO	0.39	0.57	68%	2.48	3.05	81%
CHAMA	2.14	1.89	113%	7.32	6.73	109%
CIMARRON 4SW	0.95	0.38	250%	2.02	2.54	80%
GHOST RANCH	0.86	0.67	128%	2.65	2.84	93%
JEMEZ SPRINGS	0.59	0.96	61%	2.80	4.42	63%
JOHNSON RANCH	0.30	0.72	42%	1.97	3.12	63%
LAS VEGAS FAA APRT	0.06	0.34	18%	1.36	2.66	51%
LOS ALAMOS	0.41	0.84	49%	2.40	4.08	59%
RATON KRTN	0.02	0.38	5%	0.83	2.30	36%
RED RIVER	0.88	1.06	83%	4.45	4.89	91%
SANTA FE 2	0.23	0.67	34%	2.31	3.61	64%
WOLF CANYON	1.26	1.83	69%	4.24	6.80	62%
Northeastern Plains						
CLAYTON APRT	0.07	0.27	26%	1.48	2.23	66%
CLOVIS	0.26	0.44	59%	1.76	3.34	53%
CONCHAS DAM	0.26	0.36	72%	2.09	2.40	87%
MOSQUERO 1NE	0.17	0.39	44%	1.88	2.54	74%
PORTALES	0.18	0.40	45%	1.04	2.94	35%
TUCUMCARI 4NE	0.07	0.36	19%	2.17	2.84	76%
Southwestern Mountains						
FORT BAYARD	1.26	0.88	143%	3.46	3.97	87%
GILA HOT SPRINGS	0.93	0.99	94%	4.03	4.96	81%
GRANTS APRT	0.15	0.51	29%	2.49	2.87	87%
QUEMADO ESTATES	0.03	0.83	4%	2.63	3.48	76%
RESERVE R/S	0.39	1.07	36%	4.20	5.19	81%
Central Valley						
ABQ WSFO APRT	0.10	0.37	27%	2.28	2.12	108%
BOSQUE DEL APACHE	0.07	0.37	19%	2.71	2.27	119%
LOS LUNAS 3SSW	0.45	0.36	125%	2.61	2.43	107%
SOCORRO	0.18	0.40	45%	2.53	2.41	105%

Central Highlands						
CAPITAN	0.34	0.65	52%	2.31	2.88	80%
CLOUDCROFT	1.73	1.55	112%	5.28	5.80	91%
ESTANCIA	0.30	0.54	56%	2.75	2.96	93%
MOUNTAINAIR R/S	0.58	0.71	82%	3.41	3.46	99%
RUIDOSO 2NNE	0.73	1.19	61%	3.92	5.21	75%
Southeastern Plains						
ARTESIA 6S	0.21	0.39	54%	3.56	2.49	143%
CARLSBAD	0.25	0.38	66%	1.96	2.73	72%
FORT SUMNER	0.19	0.41	46%	2.80	2.96	95%
ROSWELL CLIMATE	0.00	0.43	0%	0.42	2.72	15%
SANTA ROSA	0.32	0.36	89%	3.32	2.64	126%
TATUM	0.29	0.38	76%	1.26	2.92	43%
Southern Desert						
ANIMAS	1.16	0.63	184%	2.88	3.09	93%
DEMING	0.37	0.44	84%	1.82	2.36	77%
FAYWOOD	1.25	0.72	174%	3.04	3.47	88%
STATE U LAS CRUCES	0.28	0.51	55%	1.21	2.60	47%
TRUTH OR CONSEQ	0.24	0.54	44%	1.74	3.86	45%
TULAROSA	0.22	0.49	45%	2.33	2.56	91%

	2004 (Jan - Jan)		
Climate Division		% Nrml	
Northwest Plateau		75%	81%
Northern Mountains		80%	77%
Northeastern Plains		45%	64%
Southwestern Mountains		64%	82%
Central Valley		53%	110%
Central Highlands		79%	87%
Southeastern Plains		54%	81%
Southern Desert		106%	73%
All Divisions		75%	80%

Long-range outlook: New Mexico has experienced more stormy periods in February than January. Conditions favor a continuation of some storms through the remainder of the month. The Climate Prediction Center indicates the stormy period could linger into March. For the longer term, in the absence of strong Pacific signals near the equator, current seasonal outlooks do not have a high degree of confidence. After March, there are roughly equal chances of receiving normal, below normal, or above normal precipitation.

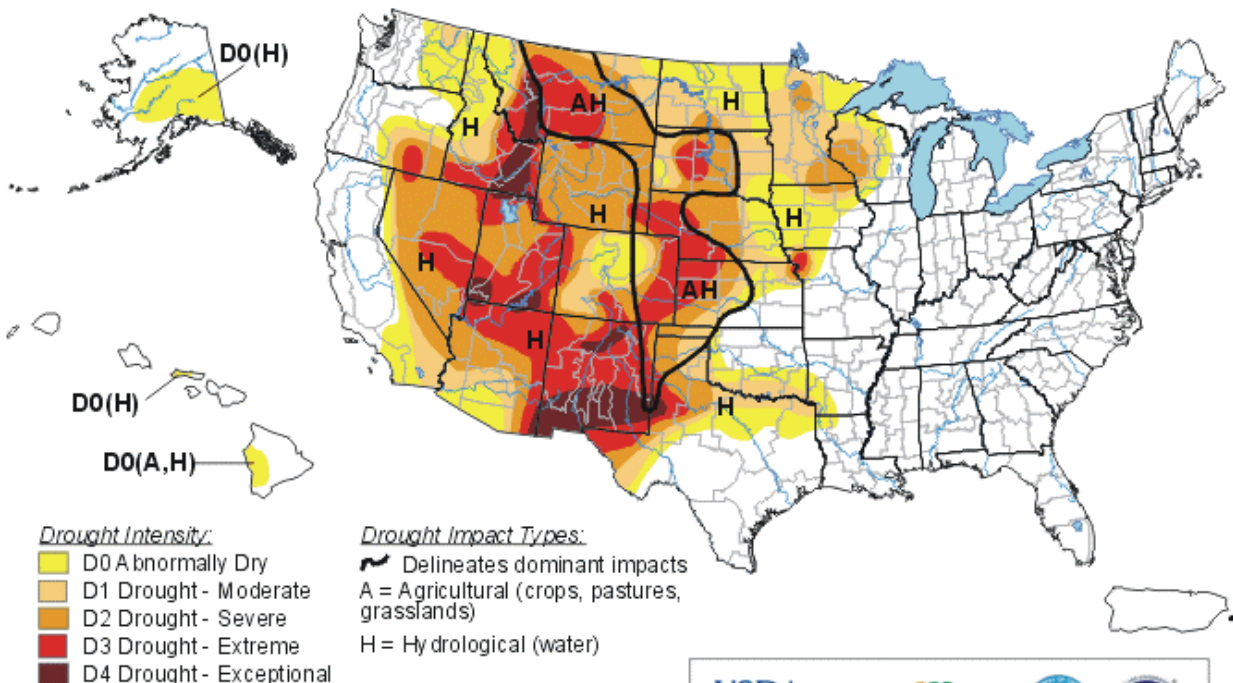
Chances remain good that the drought will persist. Since much of New Mexico has experienced below-normal precipitation for 3-5 years now, substantially long wet periods would be required to allow large improvements in the present situation.

USDA Forest Service
Southwestern Region, R3

Drought Update

February 18, 2004

U.S. Drought Monitor February 10, 2004
Valid 7 a.m. EST



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

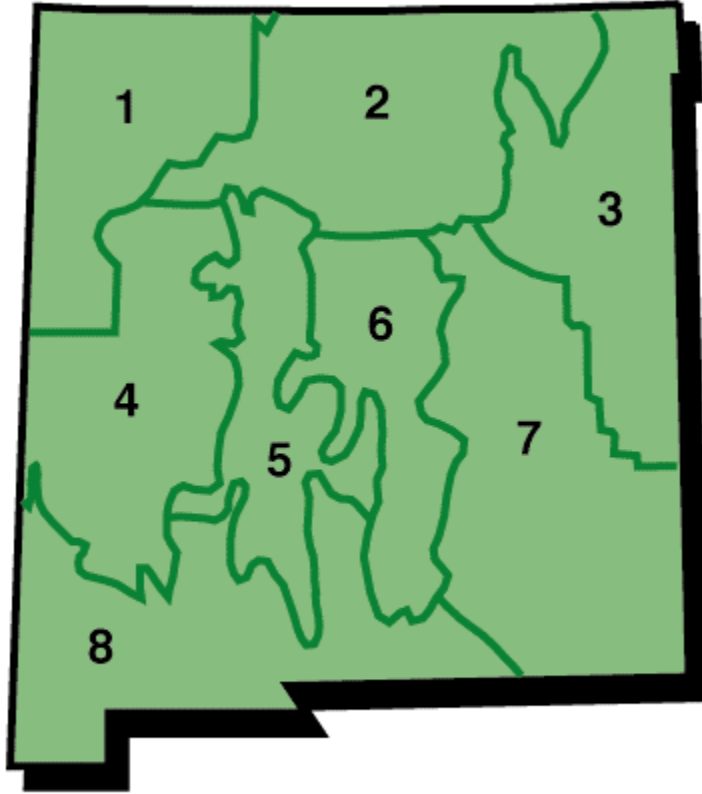
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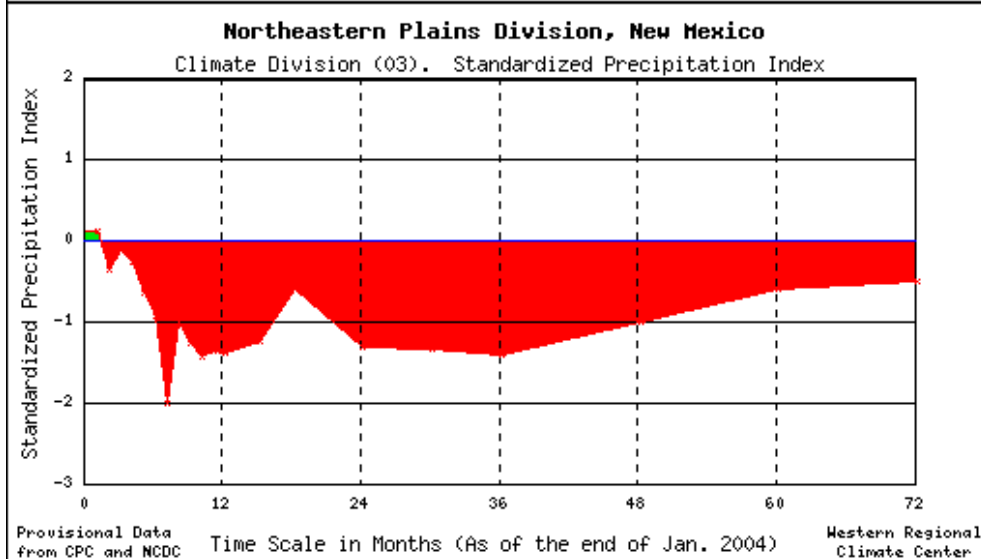
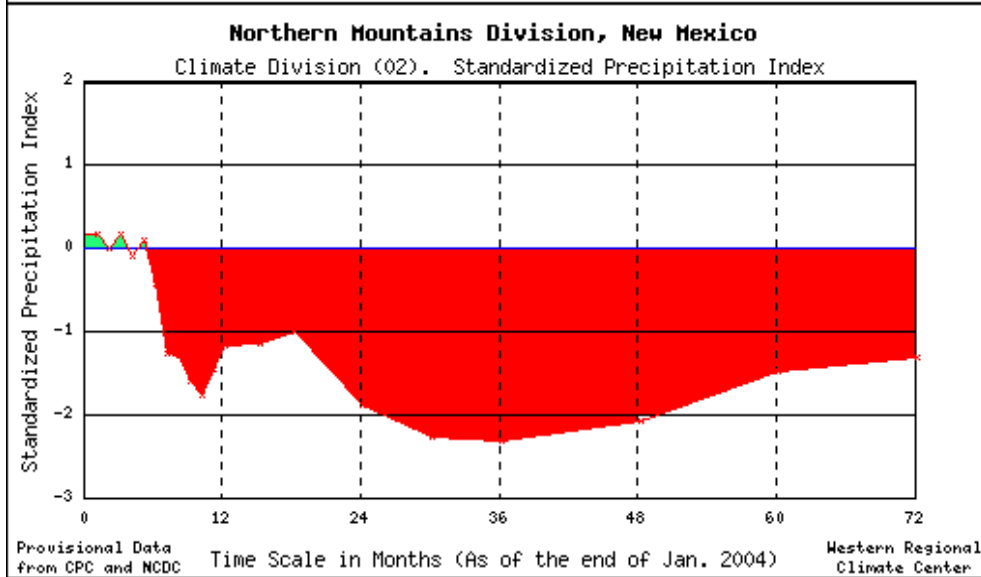
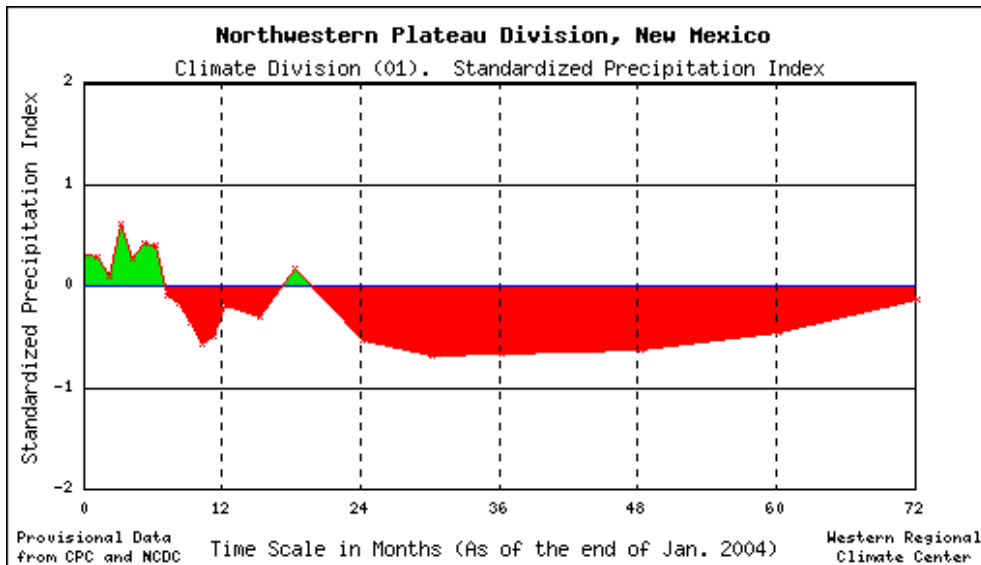
Released Thursday, February 12, 2004
Author: Michael Hayes, NDMC

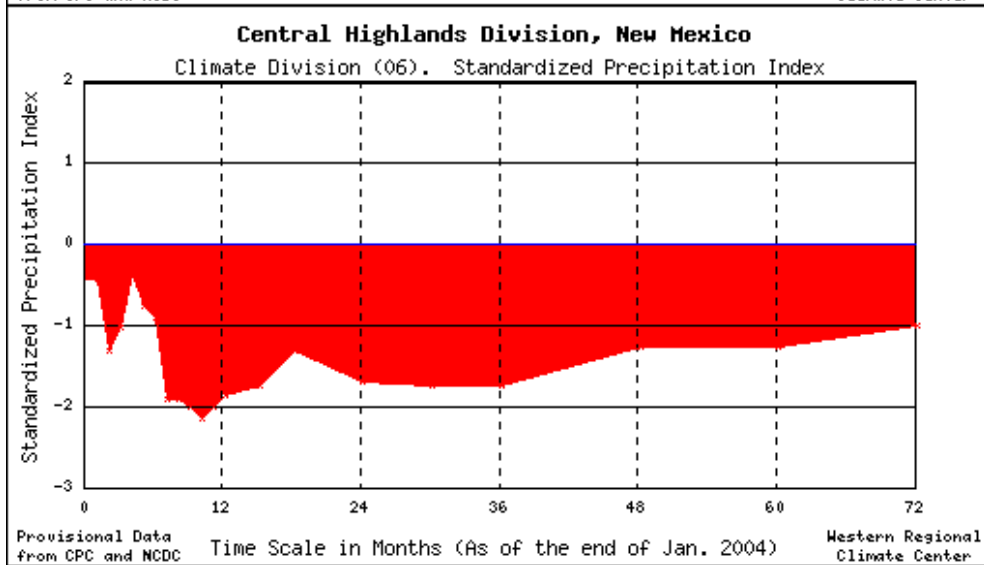
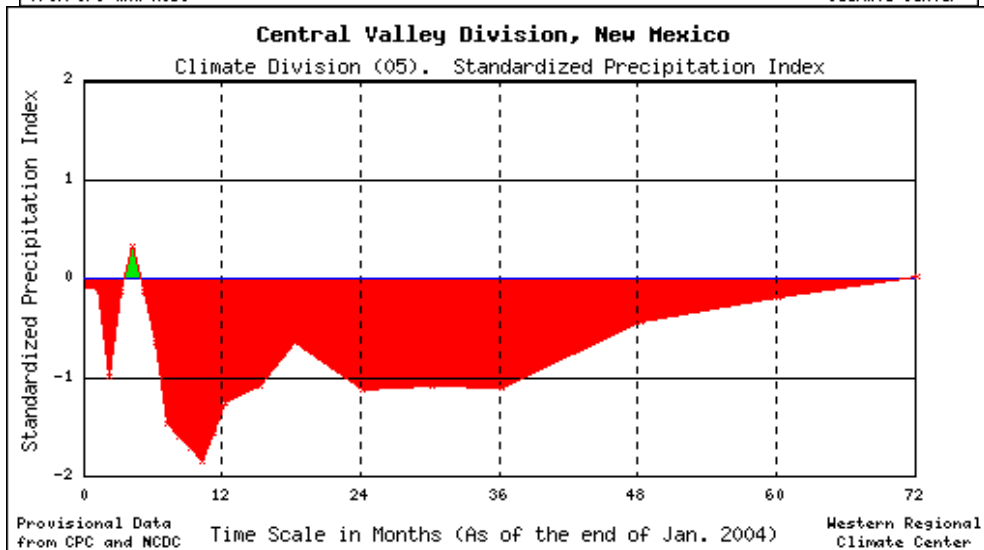
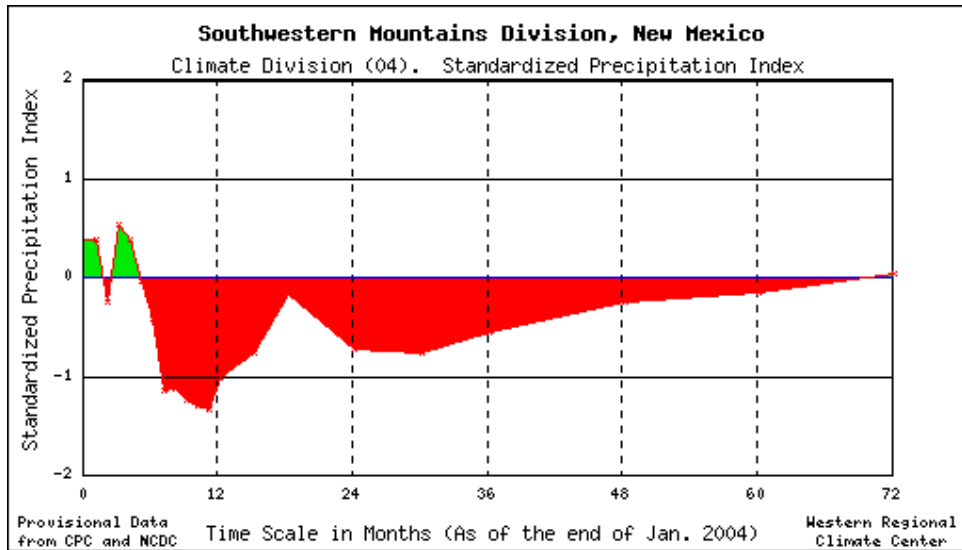
Meanwhile, snow water contents increased more than 10% during the week across a number of basins in Arizona and New Mexico, but significant short-term and long-term deficits remain in these states. No changes were made in the drought classifications in these two states.

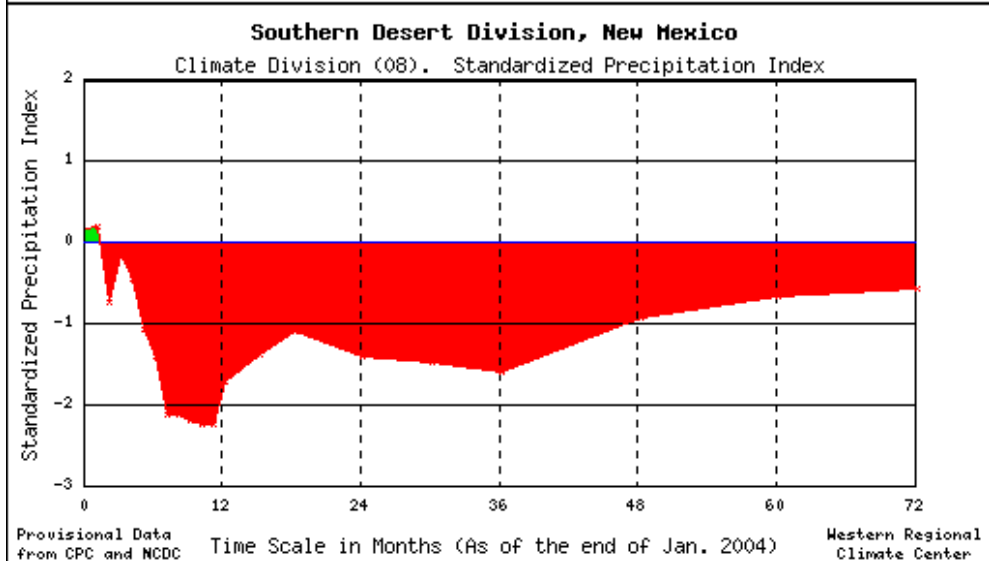
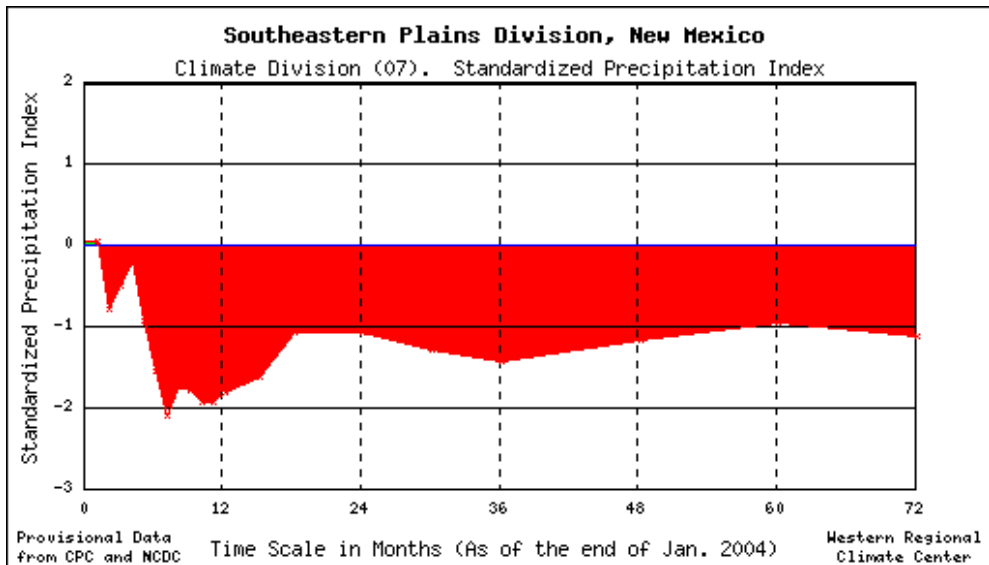
Author: Michael Hayes, National Drought Mitigation Center

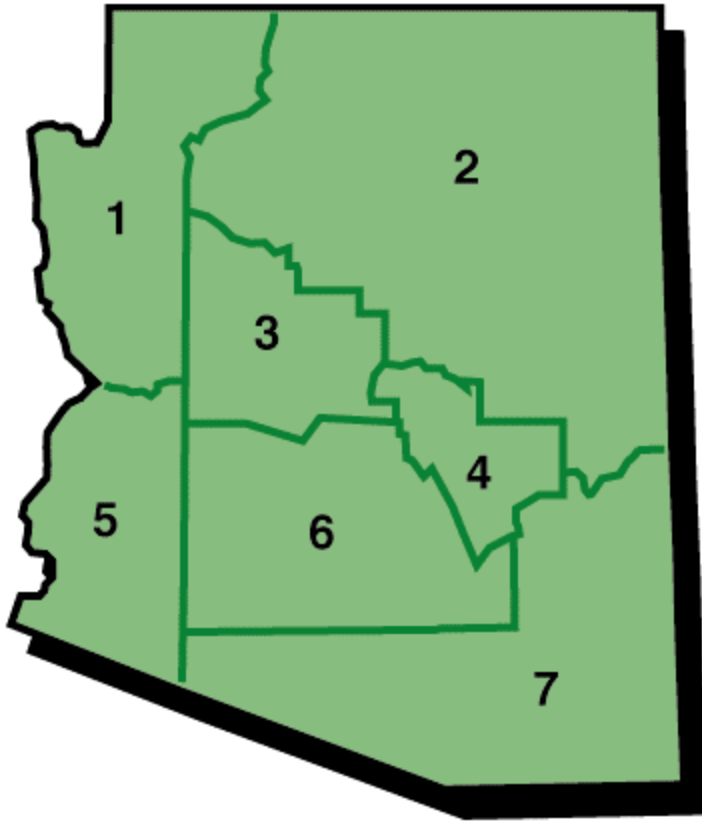


SPI Values	
3.00 and above	know how to swim?
2.00 to 2.99	extremely wet
1.25 to 1.99	very wet
0.75 to 1.24	moderately wet
-0.74 to 0.74	near normal
-0.75 to -1.25	moderately dry
-1.25 to -1.99	very dry
-2.00 to -2.99	extremely dry
-3.00 and less	where's the nearest oasis?

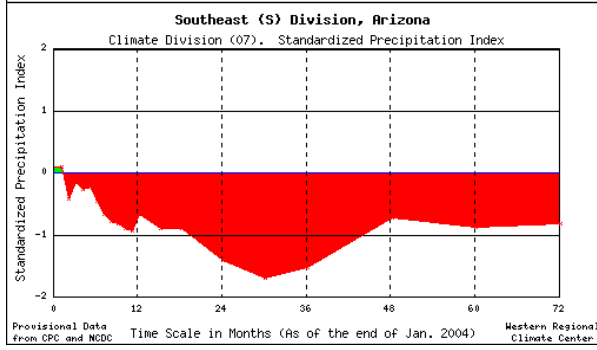
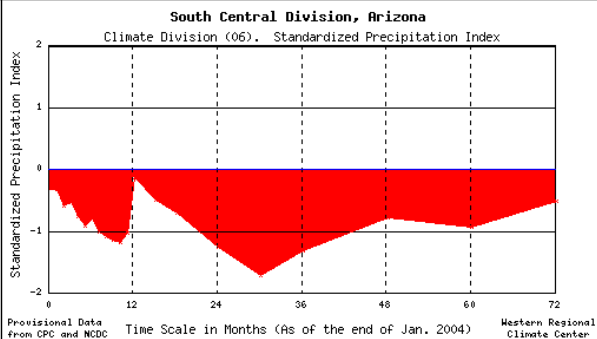
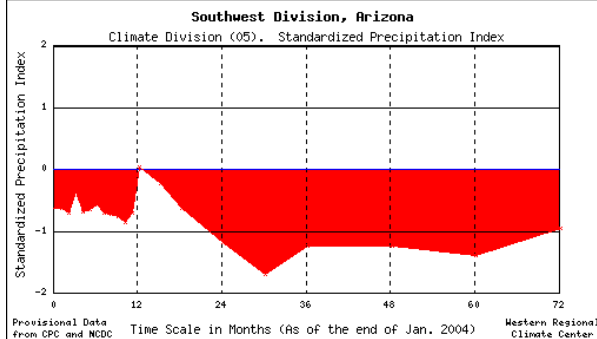
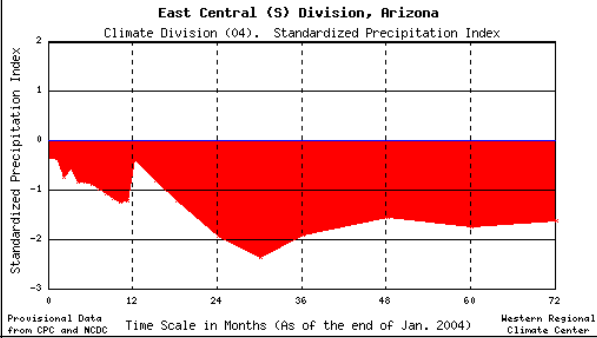
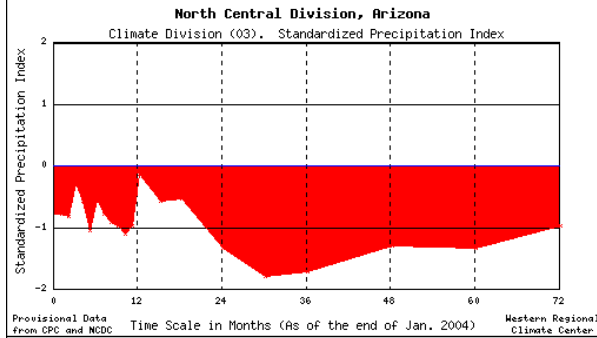
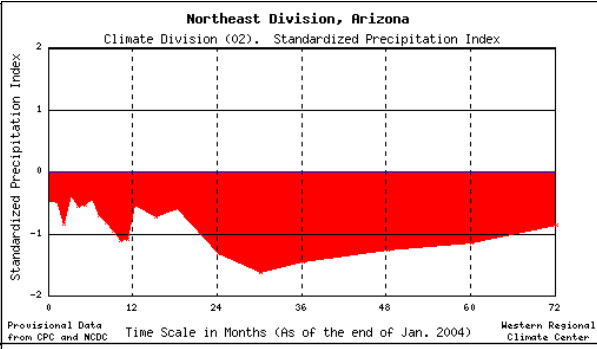
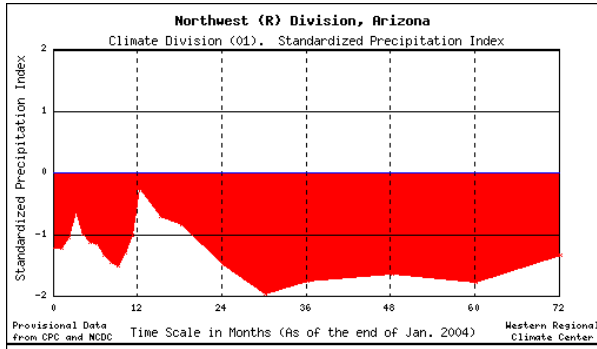








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-2.00 to -2.99	extremely dry
-3.00 and less	where's the nearest oasis?



**STREAMFLOW CONDITIONS FOR SELECTED LOCATIONS
IN NEW MEXICO
DROUGHT MONITORING WORK GROUP**

By The U.S. Geological Survey, Albuquerque, NM

Streamflow conditions for February 2004 remained below average to significantly below average State wide. The 2004 water year to date (YTD) percent of average streamflow volumes are below average to significantly below average State wide. The best streamflow is occurring on the Rio Chama, Rio Pueblo de Taos, and the Animas River and of course other streamflows were augmented from reservoir release.

Streamflow for February 2004 has generally improved compared to the February 2003 except for the Pecos, Gila, and portions of the Rio Grande basins.

Streamflow-gaging station	-----Streamflow in Percent of Average-----			
	Feb-04	YTD	Feb-03	YTD
<u>Arkansas River Basin</u>				
07203000 Vermijo River near Dawson	106a	84a	44	37
07216500 Mora River near Golondrinas	26	1	20	20
07221500 Canadian River near Sanchez	7	3	8	8
<u>Rio Grande Basin</u>				
08263500 Rio Grande near Cerro	61	53	62	48
08269000 Rio Pueblo de Taos near Taos	90	92	72	58
08279000 Embudo Creek at Dixon	89	76	76	62
08284100 Rio Chama near La Puente	95e	88e	95	85
08313000 Rio Grande at Otowi Bridge	57	55	53	48
08324000 Jemez River near Jemez	64	69	78	65
08477110 Mimbres River at Mimbres	15	14	11	19
<u>Pecos River Basin</u>				
08378500 Pecos River near Pecos	59e	62e	88	76
08387000 Rio Ruidoso at Hollywood	30e	31e	41	40
08396500 Pecos River near Artesia	96	62	98	60
<u>San Juan River Basin</u>				
09364500 Animas River at Farmington	94	83	68	73
<u>Gila River Basin</u>				
09386950 Zuni River above Black Rock Reservoir	2	13	15	26
09430500 Gila River near Gila	31	48	32	41
09444000 San Francisco River near Glenwood	17	28	24	33

e- estimated

a- backwater from ice

All data provisional