

September 12, 2002

MONTHLY REPORT

DROUGHT MONITORING COMMITTEE

BY

DAVID A. LUCERO

Leader of Committee

COMMITTEE PARTICIPANTS

CHARLIE LILES, NATIONAL WEATHER SERVICE

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HOWARD MOSELY, BUREAU OF RECLAMATION

BEATRIZ RIVERA, NM-EMNRD

Drought Status for September, 2002

National Weather Service, Albuquerque, NM

Discussion: Summer rainfall was near normal over much of southern New Mexico, but below normal in the north. The least rainfall (relative to percent of normal) was over the worst drought areas of northern New Mexico. The July-August rainfall averaged 110-130 percent of normal in division 5 to only 50-70 percent of normal in division 2. The statewide precipitation average for July and August (preliminary figures) shows this was the 35th driest July-August period of the past 108 years. Through August, calendar-year and water-year precipitation places 2002 the 5th driest since 1895. After some temporary improvements from summer rainfall, drought indices were showing deteriorating conditions again by early September. However, during the 2nd week of September, a stationary low pressure system over southern California and Arizona was able to tap into deep tropical moisture and send it northward into New Mexico. Some areas of northern New Mexico had more rainfall from this system than all of June through August. Once all the data is in, the drought monitor will need to determine how effective this rainfall was to reduce the drought intensity.

As of September 9, the Palmer Drought Index shows divisions 1, 2, 4, and 6 in extreme drought. The six-month SPI shows division 2 in extreme drought, with divisions 1 and 4 in severe drought. Most indices as well as a blend of indices show nearly all of New Mexico in some stage of drought, with the worst drought over the north and northwest. A blend of indices also indicated the least drought over portions of the south.

Palmer Index for 2002:

<u>Div.</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep 7</u>	<u>Status</u>
1	-0.3	-1.3	-2.1	-3.0	-4.1	-5.1	-5.0	-4.7	-4.3	Emergency
2	-2.0	-2.2	-2.9	-4.0	-5.1	-6.1	-6.3	-6.7	-7.2	Emergency
3	-0.5	+0.1	-0.3	-1.8	-2.6	-2.8	-2.8	-3.1	-3.3	Warning
4	-0.6	-0.8	-1.6	-2.7	-3.8	-4.5	-4.0	-3.2	-4.1	Emergency
5	-0.9	-0.5	-1.0	-2.1	-2.8	-3.3	-2.3	-0.3	-1.4	Warning
6	-2.2	-1.6	-2.2	-3.0	-4.0	-4.6	-4.0	-3.9	-4.8	Emergency
7	-1.2	-0.3	0.0	+0.6	-1.1	-2.4	-1.7	-2.2	-2.6	S1/2 Alert N1/2 Warn.
8	-1.4	-0.4	-1.3	-2.5	-3.0	-3.2	-2.3	-0.8	-1.7	Emergency

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Calendar Year 2002 and Water Year 2002 (thru Aug) Precipitation for New Mexico							
National Weather Service Albuquerque, NM							
	2002 (Jan - Aug)			Water Year 2002 (Oct - Aug 02)			
<u>Location</u>	<u>Obs</u>	<u>Normal</u>	<u>%Normal</u>		<u>Obs</u>	<u>Normal</u>	<u>% Normal</u>
Northwest Plateau							
AZTEC RUINS N/M	1.32	6.25	21%		2.48	8.86	28%
FENCE LAKE	6.24	9.43	66%		8.32	12.68	66%
FRUITLAND 2E	0.90	4.58	20%		1.80	6.54	28%
GALLUP FAA APRT	6.11	7.68	80%		6.85	10.46	65%
LINDRITH 2SE	(6.18)	(7.57)	(82%)		(8.91)	(10.78)	83%
NAVAJO DAM	3.42	8.63	40%		5.86	12.23	48%
Northern Mountains							
ALCALDE	3.41	6.70	51%		4.07	8.80	46%
CANJILON R/S	4.98	10.86	46%		7.11	14.03	51%
CERRO	3.88	8.93	43%		5.47	11.41	48%
CHAMA	6.07	14.17	43%		9.26	19.01	49%
CIMARRON 4SW	5.59	12.36	45%		7.18	14.52	49%
GHOST RANCH	3.07	8.27	37%		4.87	10.44	47%
JEMEZ SPRINGS	6.56	12.05	54%		7.30	15.51	47%
JOHNSON RANCH	4.63	7.74	60%		6.55	10.14	65%
LAS VEGAS FAA APRT	5.20	12.55	41%		7.03	14.87	47%
LOS ALAMOS	5.76	13.15	44%		6.54	16.39	40%
RATON KRTN	(5.27)	(10.09)	(52%)		(6.35)	(12.01)	53%
RED RIVER	9.51	15.03	63%		12.96	18.86	69%
SANTA FE 2	5.19	9.74	53%		5.94	12.68	47%
WOLF CANYON	7.96	16.10	49%		11.00	21.07	52%
Northeastern Plains							
CLAYTON APRT	3.81	11.83	32%		4.62	13.79	34%
CLOVIS	10.30	12.84	80%		13.21	15.74	84%
CONCHAS DAM	6.68	10.50	64%		8.44	12.54	67%
MOSQUERO 1NE	6.22	12.45	50%		9.42	14.60	65%
PORTALES	10.08	12.17	83%		11.67	14.71	79%
TUCUMCARI 4NE	7.97	11.95	67%		10.03	14.43	70%
Southwestern Mountains							
FORT BAYARD	9.93	10.59	94%		10.66	13.68	78%
GILA HOT SPRINGS	7.53	10.32	73%		8.49	14.29	59%
GRANTS APRT	3.11	6.89	45%		3.88	9.25	42%
QUEMADO ESTATES	8.93	9.68	92%		10.32	12.33	84%
RESERVE R/S	(3.89)	(6.90)	(56%)		(5.04)	(11.02)	46%
Central Valley							

ABQ WSFO APRT	3.47	5.81	60%		4.53	7.56	60%
BOSQUE DEL APACHE	4.96	5.34	93%		5.87	7.24	81%
LOS LUNAS 3SSW	2.91	5.73	51%		4.38	7.80	56%
SOCORRO	5.47	6.15	89%		6.71	8.16	82%
Central Highlands							
CAPITAN	8.62	11.55	75%		10.87	13.78	79%
CLOUDCROFT	15.93	18.03	88%		18.86	22.28	85%
ESTANCIA	4.28	8.67	49%		6.33	11.09	57%
MOUNTAINAIR R/S	4.97	9.88	50%		7.36	12.63	58%
RUIDOSO 2NNE	10.66	15.31	70%		13.71	19.33	71%
Southeastern Plains							
ARTESIA 6S	(5.93)	(6.08)	(98%)		(7.43)	(8.18)	91%
CARLSBAD	7.78	10.11	77%		9.32	10.46	89%
FORT SUMNER	8.73	10.13	86%		10.26	12.68	81%
ROSWELL CLIMATE	8.89	8.77	101%		11.63	11.06	105%
SANTA ROSA	5.03	10.29	49%		5.85	12.57	47%
TATUM	11.61	11.05	105%		14.35	13.59	106%
Southern Desert							
ANIMAS	3.72	6.98	53%		4.13	9.44	44%
DEMING	4.01	5.98	67%		4.65	7.90	59%
FAYWOOD	7.74	7.60	102%		8.28	10.35	80%
STATE U LAS CRUCES	4.75	5.94	80%		4.99	8.03	62%
TRUTH OR CONSEQ	2.14	6.94	31%		2.60	10.26	25%
TULAROSA	5.62	6.32	89%		6.35	8.39	76%
Divisional Averages							
	2002 (Jan - Aug)				Water Year 2002 (Oct - Aug 02)		
Climate Division		% NrmI				% NrmI	
Northwest Plateau		41%				41%	
Northern Mountains		48%				51%	
Northeastern Plains		63%				67%	
Southwestern Mountains		84%				73%	
Central Valley		73%				70%	
Central Highlands		70%				72%	
Southeastern Plains		82%				84%	
Southern Desert		70%				57%	
All Divisions		62%				62%	

Palmer Projections for the end of December 2002 (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	41	11	14	21	6	3	4
2	69	11	8	10	0	1	0
3	11	34	17	14	14	7	3
4	23	21	11	17	14	7	7
5	1	23	6	35	15	8	11
6	38	14	14	13	10	4	7
7	7	30	20	20	10	7	7
8	7	14	15	27	13	11	13

Most likely category is shown in bold probability.

Long-range Forecast and Discussion: El Niño has developed in the Pacific. This should produce a chance for above-normal precipitation over the period from October 2002 through May 2002, mainly over southern New Mexico. However, other signals (Pacific Decadal Oscillation) in the Pacific decrease the confidence in this forecast for above-normal precipitation. Also, historically, southern New Mexico is more likely to receive benefits from El Niño. There tends to be a “cut off” of sorts somewhere near the Colorado border. During the last El Niño in 1997-98, the “cut off” was generally east and west through Santa Fe, and the snow pack wasn’t as much as hoped for farther north. Chances for above-normal precipitation this coming winter are least likely over northern New Mexico and Southern Colorado in areas that are critical for the Rio Grande spring run-off.

In the latest National Climatic Data Center drought forecast, climate divisions 1, 2, 3, and 4 are given less than a 5 percent chance of receiving enough precipitation to end the drought by the beginning of 2003. Division 6 is only given a 4.5 to 6 percent chance of having the drought end by that time.

The USDA Forest Service submitted the following fire report.

	NEW MEXICO Human Caused	Acres	Lightnin g Caused	Acres	Total	Acres
Bureau of Indian Affairs	200	13,486	73	25	272	13,507
Bureau of Land Management	29	57	148	14,963	177	15,020
Fish & Wildlife Service	5	22	2	61	7	83
National Park Service	0	0	6	15,850	6	15,850
New Mexico State Forestry	454	19,855	175	124,559	629	144,414
USDA Forest Service	95	42,888	512	77,116	607	120,004
	783	76,308	916	232,574	1,698	308,878

The Forest Service is in the process of establishing drought teams for each of the forests, to better monitor forest conditions.

The Interstate Stream Commission reported the following Reservoir Conditions:

Table 1 – End of Month Storage Levels For Key Reservoirs in New Mexico. Shaded cells indicate provisional data

RIO GRANDE BASIN

END OF MONTH	COSTI LLA	HERON EL VADO	ABIQUIU	NAMBE FALLS	MCCLURE	NICHOLS	COCHITI	JEMEZ CANYON	ELEPHANT BUTTE	CABALLO	
Jan-00	13,900	376,400	139,750	178,220	1,980	2,500	307	51,620	19,160	1,738,300	50,500
Feb-00	14,400	372,930	139,510	179,090	1,856	2,210	471	51,490	19,730	1,678,500	126,480
Mar-00	15,100	347,680	145,900	179,130	1,933	2,280	283	51,490	21,670	1,623,400	117,850
Apr-00	15,500	338,030	175,190	180,680	2,025	1,860	438	50,760	22,360	1,565,700	120,650
May-00	14,000	347,360	167,580	160,580	1,568	1,310	435	49,800	20,330	1,516,000	74,460
Jun-00	10,500	334,620	127,380	138,230	1,110	975	284	50,270	19,150	1,429,700	71,020
Jul-00	7,600	329,590	78,070	115,790	982	603	299	49,670	17,970	1,351,700	44,630
Aug-00	4,820	315,380	49,120	89,700	1,113	623	317	48,550	17,040	1,264,200	38,820
Sep-00	2,460	286,330	31,920	75,280	934	504	289	48,350	10,700	1,198,900	33,890
Oct-00	3,140	280,660	20,380	81,640	985	583	476	48,960	5,550	1,207,700	36,200
Nov-00	3,620	273,100	22,260	87,880	1,150	894	476	51,560	5,160	1,246,600	40,280
Dec-00	4,030	267,389	23,940	91,320	1,306	1,050	405	51,700	4,510	1,285,000	42,850
Jan-01	4,380	266,638	20,987	95,470	1,432	1,150	282	50,960	4,640	1,306,100	42,490
Feb-01	4,750	262,905	22,444	100,010	1,555	1,280	195	50,170	3,990	1,251,000	108,370
Mar-01	5,470	263,231	34,154	105,180	1,848	1,920	274	51,090	3,890	1,199,400	92,790
Apr-01	7,050	261,512	99,163	108,620	2,027	2,660	211	51,090	9,410	1,142,000	96,760
May-01	11,300	308,750	179,913	144,970	2,032	3,260	687	49,780	11,510	1,111,800	98,080
Jun-01	10,000	335,786	177,700	151,920	1,885	2,920	603	50,010	7,940	1,047,600	72,740
Jul-01	6,920	339,473	165,024	132,550	1,479	2,520	319	49,300	6,060	946,000	62,240
Aug-01	5,400	342,322	141,687	121,960	1,246	1,860	479	48,080	5,210	877,400	43,500
Sep-01	2,900	339,100	104,400	115,110	1,090	1,250	440	48,230	3,660	853,700	12,320
Oct-01	3,420	337,000	77,100	109,850	881	733	581	47,860	0	849,300	7,610
Nov-01	3,890	313,400	88,500	120,460	981	722	526	47,920	0	874,300	10,380
Dec-01	4,280	291,600	98,600	131,160	1,112	777	455	50,160	0	897,600	25,490
Jan-02	4,660	279,400	98,900	141,400	1,240	819	481	51,200	0	915,100	47,100
Feb-02	4,983	279,839	100,895	151,258	1,340	871	416	53,725	0	897,200	78,500
Mar-02	5,400	256,500	102,700	154,825	1,458	599	587	52,950	0	834,600	77,800
Apr-02	6,000	254,850	110,800	133,873	1,620	680	466	52,564	0	756,921	73,300
May-02	3,900	244,400	62,018	111,090	936	560	473	51,461	0	638,029	64,857
Jun-02	2,550	213,290	36,002	98,312	540	384	489	50,366	0	541,799	39,725
Jul-02	1,100	183,800	23,100	90,000	981	433	460	49,800	0	444,100	40,800
Aug-02	600	169,200	10,900	57,000	600	400	400	49,000	0	350,700	28,200

Table 1A – End of Month Storage Levels For Key Reservoirs in New Mexico.

Shaded cells indicate provisional data

END OF MONTH	PECOS BASIN				CANADIAN			SAN JUAN
	SANTA ROSA	SUMNER	BRANTLEY	AVALON	CONCHAS	UTE	EAGLE NEST	NAVAJO
Jan-00	97,590	35,090	19,790	219	290,520	236,500	64,800	1,481,200
Feb-00	97,950	16,430	31,280	1,140	291,600	219,900	65,200	1,464,700
Mar-00	98,840	15,870	27,920	1,030	295,600	202,100	65,800	1,465,400
Apr-00	83,330	27,930	16,600	1,270	286,400	197,200	67,400	1,525,700
May-00	48,530	24,950	23,120	1,090	266,460	194,400	65,200	1,580,900
Jun-00	50,900	26,350	16,020	1,210	252,810	194,600	62,600	1,498,700
Jul-00	31,910	12,760	11,360	1,270	239,350	188,100	60,400	1,448,000
Aug-00	2,970	8,740	23,570	1,400	213,640	184,200	57,500	1,396,100
Sep-00	3,740	6,740	15,470	1,210	189,380	179,200	55,100	1,356,600
Oct-00	8,830	18,830	11,700	1,330	187,700	195,000	53,900	1,323,200
Nov-00	11,630	23,760	14,280	2,060	187,880	193,000	53,600	1,307,300
Dec-00	12,670	28,610	16,580	2,590	188,560	193,000	53,700	1,288,800
Jan-01	13,740	31,380	19,520	3,030	190,810	193,000	54,100	1,270,200
Feb-01	15,600	33,580	21,720	3,270	197,730	194,000	54,400	1,259,800
Mar-01	22,680	36,730	23,800	1,400	206,260	197,000	56,000	1,297,600
Apr-01	32,490	26,770	13,840	1,150	202,550	194,000	57,800	1,411,700
May-01	32,490	38,050	25,120	1,210	187,760	193,000	58,700	1,535,200
Jun-01	33,930	27,600	14,670	1,150	172,420	190,000	56,200	1,477,400
Jul-01	3,930	29,170	16,240	1,210	149,080	186,000	53,100	1,456,800
Aug-01	12,560	21,320	8,390	1,210	133,360	190,000	51,100	1,449,400
Sep-01	13,840	13,480	13,480	1,400	115,550	188,000	48,900	1,409,200
Oct-01	14,450	9,500	9,500	1,460	105,620	184,000	47,800	1,376,300
Nov-01	15,720	7,800	7,800	790	104,710	183,000	47,600	1,354,800
Dec-01	15,980	8,470	8,470	1,520	103,760	181,000	47,400	1,329,800
Jan-02	16,700	12,200	11,500	2300	103,960	180,578	45,500	1,313,200
Feb-02	17,125	13,348	21,717	2,794	103,526	179,481	47,900	1,293,333
Mar-02	4,020	2,000	29,100	3,200	102,236	177,561	48,200	1,269,796
Apr-02	4,397	1,070	25,050	1,300	101,112	172,928	45,900	1,240,312
May-02	4,270	87	17,256	1,300	82,668	171,612	41,092	1,173,637
Jun-02	3,266	1158	12,329	1,209	82,568	176,000	41,000	1,099,400
Jul-02	1,000	1,300	11,000	800	82,434	176,598	37,900	1,077,200
Aug-02	5,000	400	8,700	1,500	79,850	177,500	36,600	917,300

Note: Yellow highlights indicate provisional data.

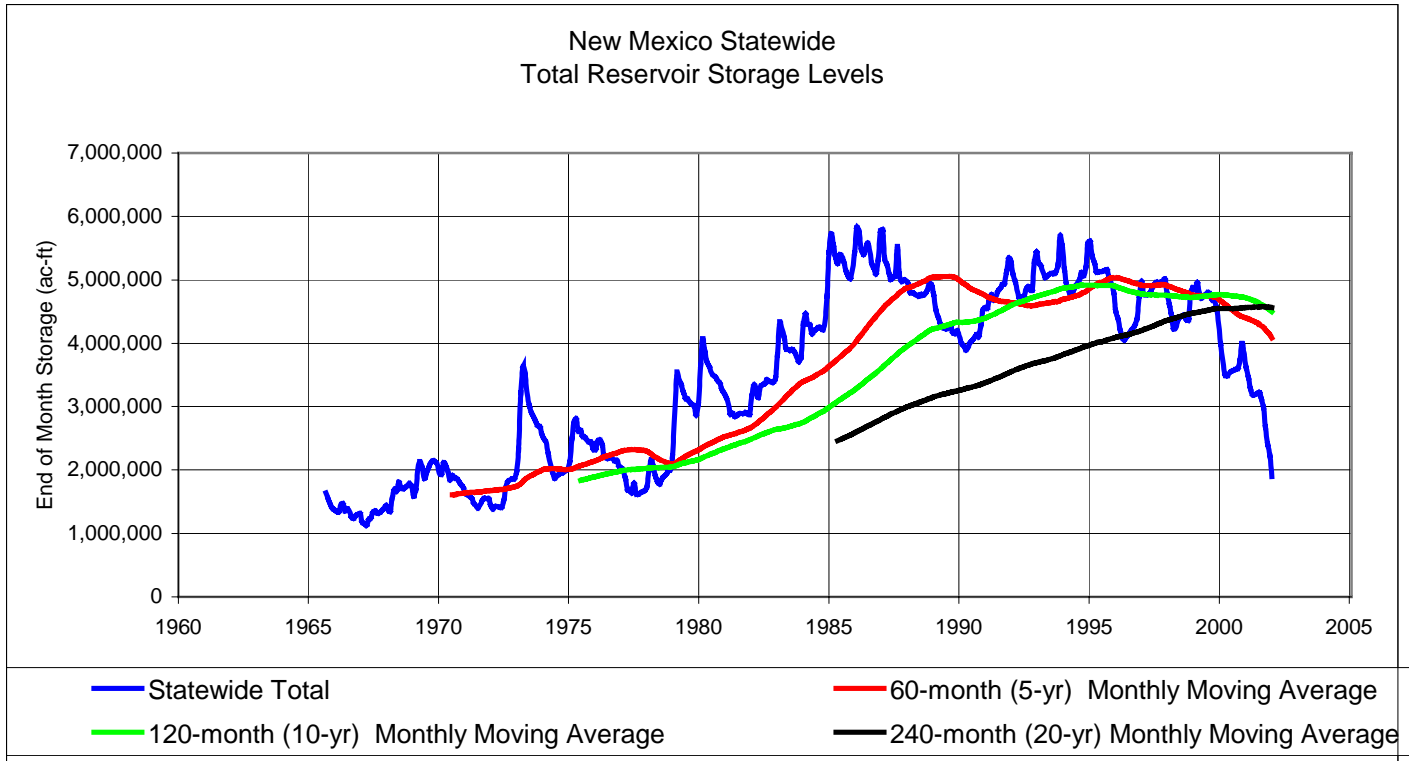


Figure 1 – Historical Statewide Reservoir Levels from October 1965 through August 2002

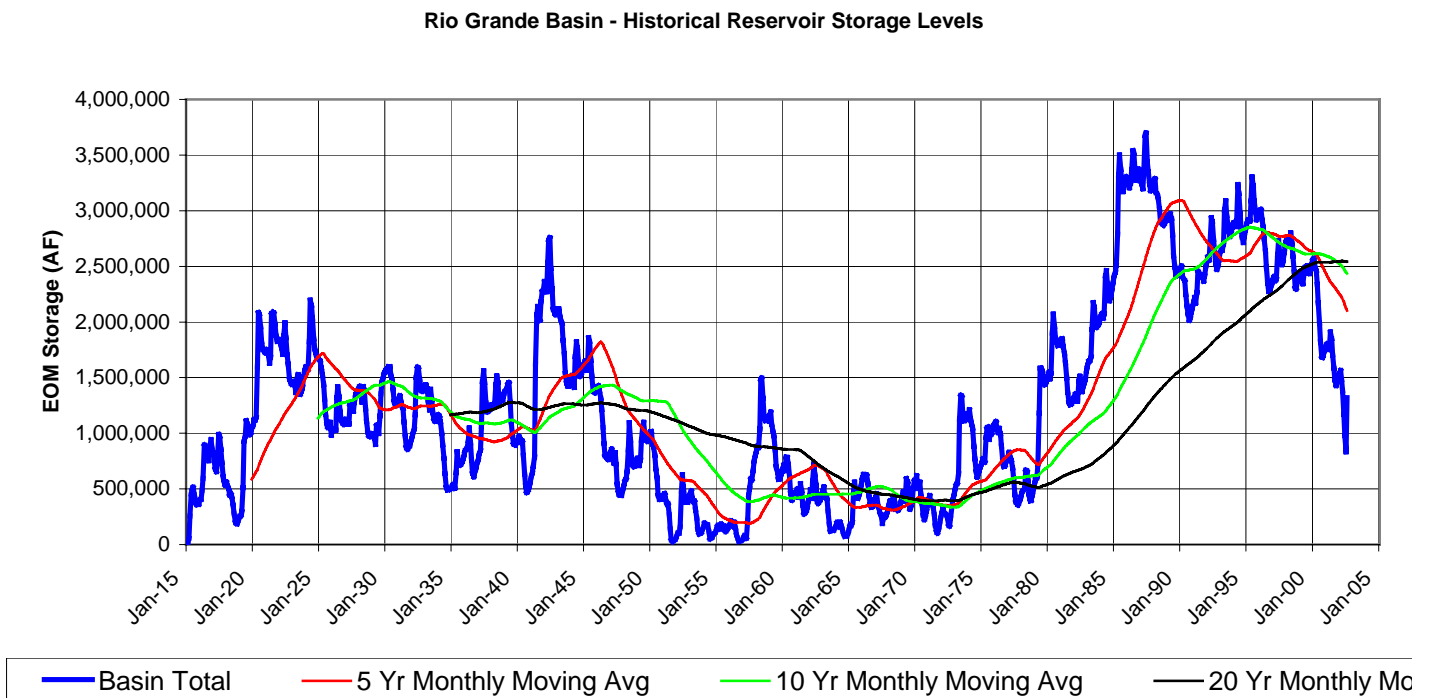


Figure 2 – Historical End of Month Reservoir Storage Levels for the Rio Grande Basin from October 1965 through August 2002

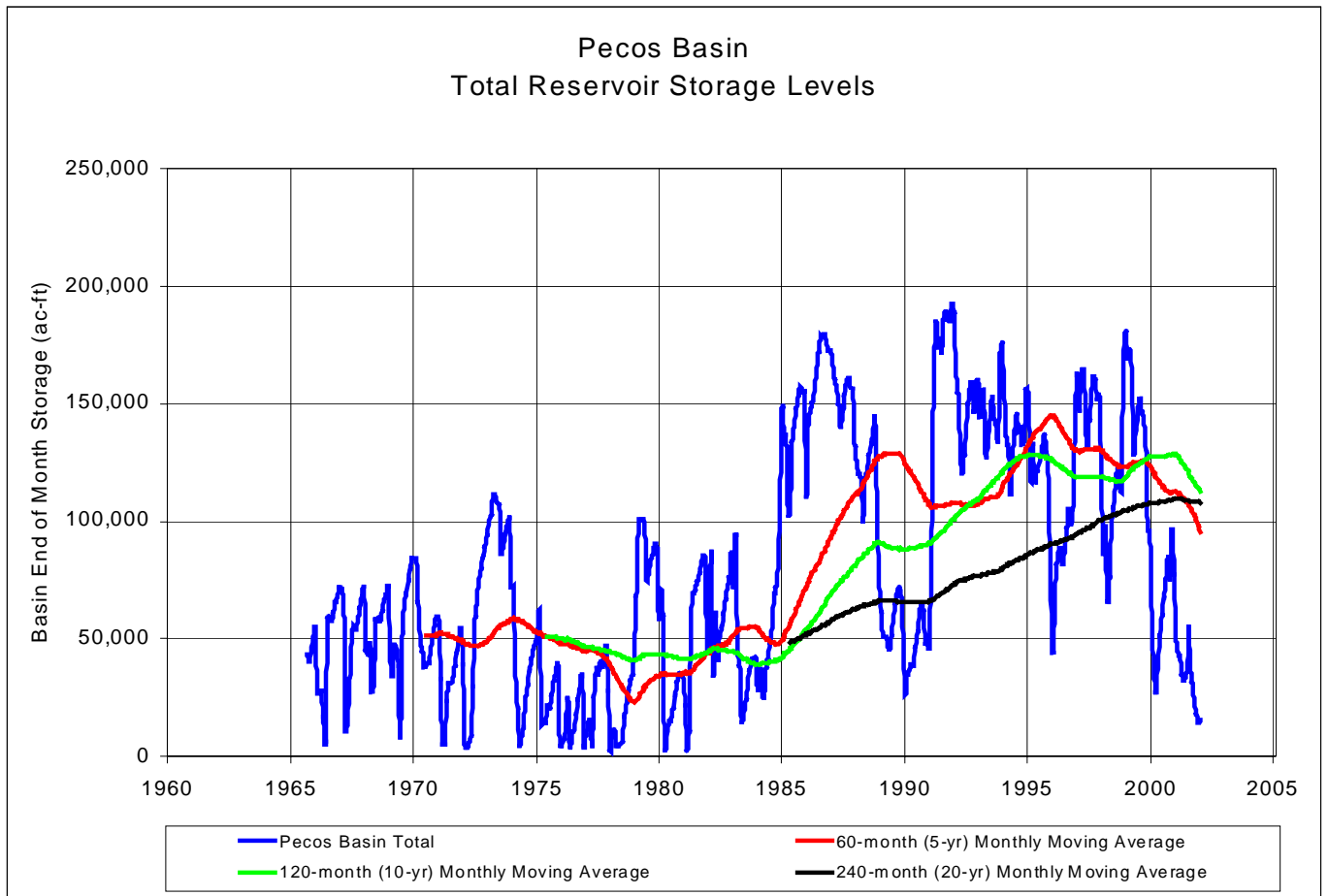
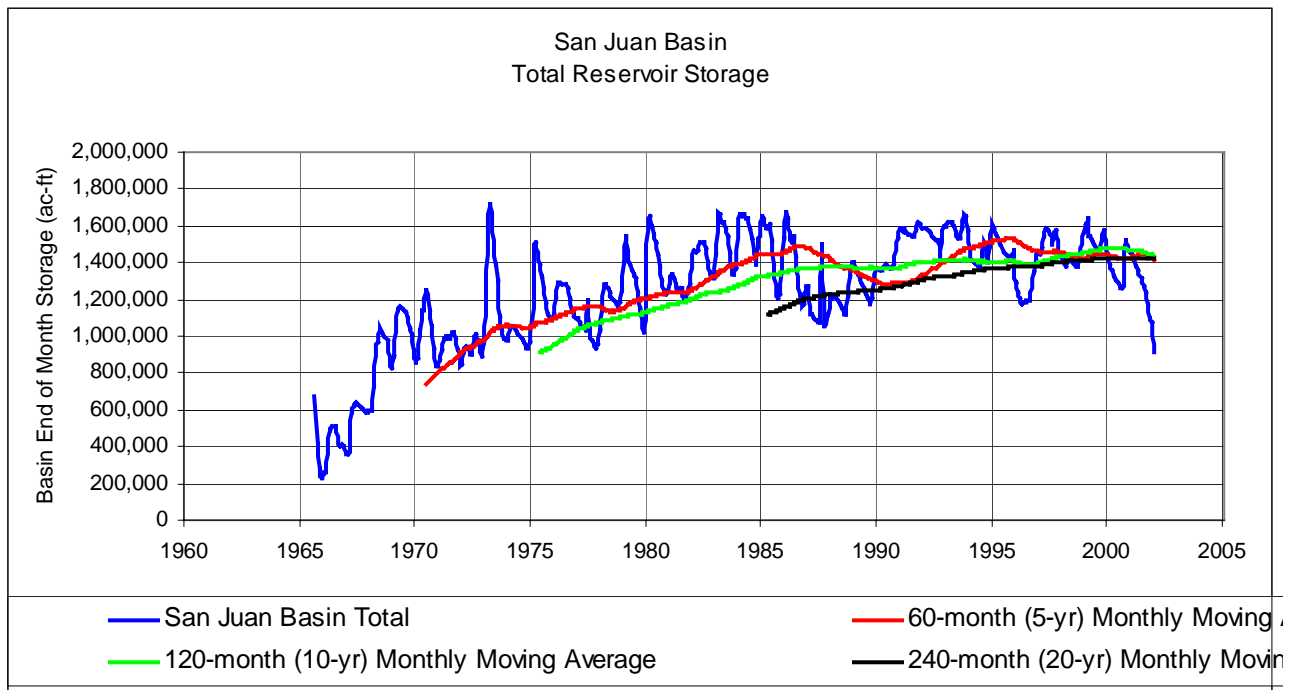


Figure 3 – Historical End of Month Reservoir Storage Levels for the Pecos River Basin from October 1965 through August 2002

Figure 4 - Historical End of Month Reservoir Storage Levels for the San Juan River Basin from October 1965 through August 2002



Elephant Butte Reservoir - Historical End of Month Storage Levels

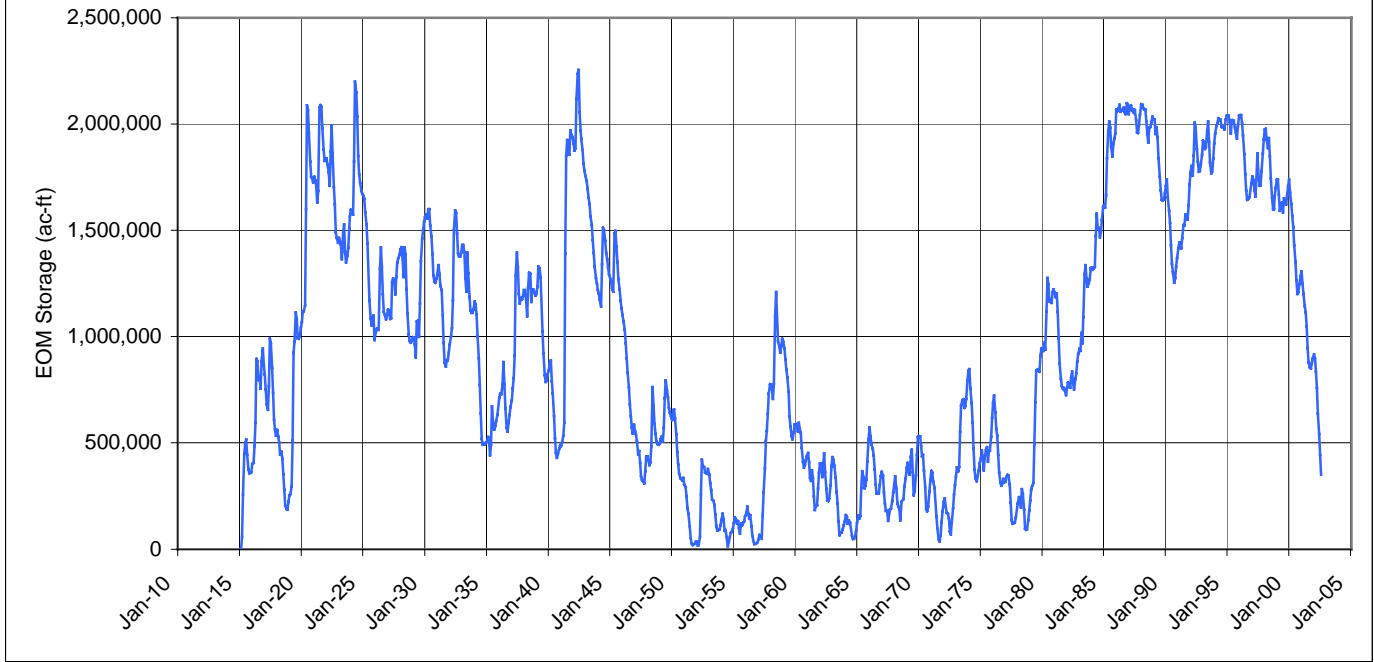


Figure 5 - Historical End of Month Reservoir Storage Levels for the Canadian River Basin from October 1965 through August 2002