Texas Water Development Board

WATER Conditions

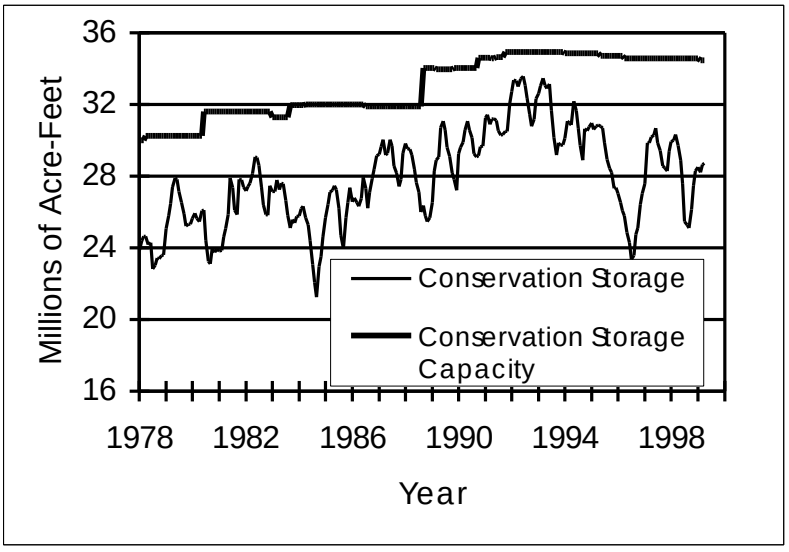
RESERVOIR STORAGE

April 1999

Near the end of April, the 77 reservoirs monitored for this report held 28,714 ,000 acre-feet in conservation storage. This is 83 percent of the conservation storage capacity of the State's major reservoirs. Compared to the end of March, storage increased 79,500 acre-feet (+0.2% of conservation storage capacity). Compared to this month last year, storage decreased 1,014,000 acre-feet (-3%).

Of the monitored reservoirs, 29 held 100 percent or more of conservation storage near the end of April. Conservation storage increased or remained full in all regions of the state except for the North Central Region (-23,349 acre-feet, -0.2%), the Trans-Pecos Region (-3,360 acre-feet, -1.1%) and the South Central Region (-17,086 acre-feet, -0.9%). The largest absolute increase occurred in the East Region where storage increased by over 58,000 acre-feet. The High Plains, Low Rolling Plains, North Central, Trans-Pecos, and South Central regions were below conservation storage levels for April 1998.

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS



Current data are based on elevation near end of month at 77 reservoirs that represent 98 percent of total conservation storage capacity in Texas reservoirs having a capacity of 5,000 acre-feet or more.

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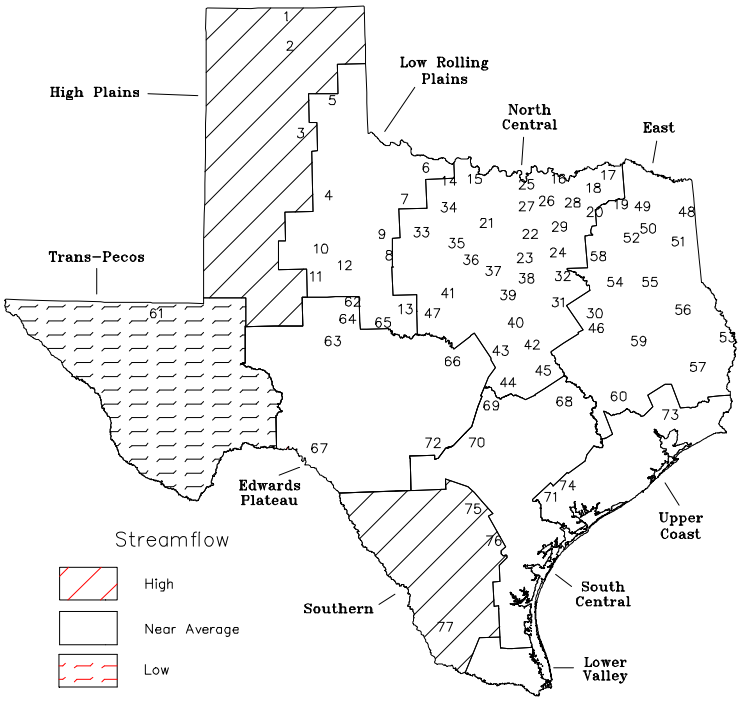
STREAMFLOW

Thirty-day mean flows computed for index stations throughout the State were very high (0% - 5% exceedance probability) at one station, high (5% - 30% exceedance) at 8 stations, near normal (30% - 70% exceedance) at 11 stations, and low (70% - 95% exceedance) at 2 stations in April. In comparison to March, flows increased at 9 index stations and decreased at 12 stations.

Flows were high at all three index stations in the Southern climatic region again in April, and increased from last month at two of those three stations. Flows declined to near normal conditions at all of eight reporting index stations in the South Central, Upper Coast, and East Texas regions. Flow increased at all of four reporting stations in the High Plains and Low Rolling Plains regions. The 30-day average flow at Wolf Creek at Lipscomb, Texas had the lowest exceedance frequency (highest relative flow) of all index stations at 2.1% exceedance. The lowest relative flows were recorded at Pecos River near Girvin, Texas at 80.0% exceedance frequency.

STREAMFLOW CONDITIONS FOR APRIL COMPARED WITH PAST RECORD



Reservoirs Shown on Map

1. Palo Duro Reservoir
2. Lake Meredith
3. MacKenzie Reservoir
4. White River Lake
5. Greenbelt Reservoir
6. Lake Kemp
7. Miller's Creek Reservoir
8. Fort Phantom Hill Reservoir
9. Lake Stamford
10. Lake J. B. Thomas
11. Lake Colorado City
12. Champion Creek Reservoir
13. Hords Creek Lake
14. Lake Kickapoo
15. Lake Arrowhead
16. Lake Texoma
17. Pat Mayse Lake
18. Cooper Lake
19. Lake Sulphur Springs
20. Lake Tawakoni
21. Bridgeport Reservoir
22. Eagle Mountain Reservoir
23. Benbrook Lake
24. Joe Pool Lake
25. Ray Roberts Lake
26. Lewisville Lake
27. Grapevine Lake
28. Lavon Lake
29. Lake Ray Hubbard
30. Richland-Chambers Creek Lake
31. Navarro Mills Lake
32. Bardwell Lake
33. Hubbard Creek Reservoir
34. Lake Graham
35. Possum Kingdom Lake
36. Lake Palo Pinto
37. Lake Granbury
38. Lake Pat Cleburne
39. Whitney Lake
40. Waco Lake
41. Proctor Lake
42. Belton Lake
43. Stillhouse Hollow Lake
44. Lake Georgetown
45. Granger Lake
46. Lake Limestone
47. Lake Brownwood
48. Wright Patman Lake
49. Lake Cypress Springs
50. Lake Bob Sandlin
51. Lake O' the Pines
52. Lake Fork Reservoir
53. Toledo Bend Reservoir
54. Lake Palestine
55. Lake Tyler
56. Sam Rayburn Reservoir
57. B. A. Steinhagen Lake
58. Cedar Creek Reservoir
59. Lake Livingston
60. Lake Conroe
61. Red Bluff Reservoir
62. E. V. Spence Reservoir
63. Twin Buttes Reservoir
64. O. C. Fisher Lake
65. O. H. Ivie Reservoir
66. Lake Buchanan
67. Intl. Amistad Reservoir
68. Somerville Lake
69. Lake Travis
70. Canyon Lake
71. Coleto Creek Reservoir
72. Medina Lake
73. Lake Houston
74. Lake Texana
75. Choke Canyon Reservoir
76. Lake Corpus Christi
77. Intl. Falcon Reservoir

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late Apr 1999 (acre-feet)	(%)	Change since Late Mar 1999 (acre-feet)	(%)	Change since Late Apr 1998 (acre-feet)	(%)
HIGH PLAINS								
Palo Duro Reservoir	1	60,900	20,497	34	12,470	20	14,427	24
Lake Meredith (Texas)	2	500,000	341,000	68	13,100	3	-42,770	-9
Lake Meredith (Texas and Oklahoma)	(2)	779,560	341,000	44	13,100	2	-42,770	-5
MacKenzie Reservoir	3	46,250	7,118	15	113	0	-1,982	-4
White River Lake	4	31,850	10,598	33	2,498	8	-1,302	-4
TOTAL		639,000	379,213	59	28,181	4	-31,627	-5
LOW ROLLING PLAINS								
Greenbelt Reservoir	5	58,200	26,310	45	430	1	-2,710	-5
Lake Kemp	6	319,600	177,200	55	8,300	3	-91,280	-29
Miller's Creek Reservoir	7	27,890	14,850	53	-570	-2	2,910	10
Fort Phantom Hill Reservoir	8	70,030	26,119	37	0	0	-29,041	-41
Lake Stamford	9	52,700	17,670	34	-840	-2	-13,040	-25
Lake J. B. Thomas	10	202,300	7,280	4	410	0	-6,780	-3
Lake Colorado City	11	30,800	14,920	48	580	2	-3,050	-10
Champion Creek Reservoir	12	41,600	8,830	21	-1,210	-3	-10,910	-26
Hords Creek Lake	13	8,600	4,807	56	33	0	-1,443	-17
TOTAL		811,720	297,986	37	7,133	1	-155,344	-19
NORTH CENTRAL								
Lake Kickapoo	14	106,000	66,596	63	-192	0	-1,824	-2
Lake Arrowhead	15	262,100	179,400	68	-2,400	-1	-52,400	-20
Lake Texoma	16	2,722,300	2,570,242	94	-11,027	0	-65,558	-2
Pat Mayse Lake	17	124,500	120,837	97	-485	0	-1,463	-1
Cooper Lake	18	273,000	238,140	87	-19,361	-7	-34,860	-13
Lake Sulphur Springs	19	17,710	14,370	81	-822	-5	-3,340	-19
Lake Tawakoni	20	936,200	936,200	100	0	0	300	0
Bridgeport Reservoir	21	374,830	301,385	80	-2,518	-1	-71,315	-19
Eagle Mountain Reservoir	22	178,380	149,093	84	-2,607	-1	-29,287	-16
Benbrook Lake	23	88,200	88,200	100	866	1	2,030	2
Joe Pool Lake	24	175,800	175,800	100	0	0	1,420	1
Ray Roberts Lake	25	798,760	705,844	88	801	0	-92,916	-12
Lewisville Lake	26	555,000	448,137	81	5,037	1	-106,863	-19
Grapevine Lake	27	187,700	160,821	86	3,584	2	-22,009	-12
Lavon Lake	28	443,800	440,649	99	-3,151	-1	2,139	0
Lake Ray Hubbard	29	413,420	413,420	100	0	0	-72,880	-18
Richland-Chambers Creek Lake	30	1,103,820	1,103,820	100	0	0	8,600	1
Navarro Mills Lake	31	55,810	55,810	100	0	0	0	0
Bardwell Lake	32	53,580	53,580	100	0	0	2,040	4
Hubbard Creek Reservoir	33	317,800	252,600	79	-4,200	-1	-55,700	-18
Lake Graham	34	45,000	44,850	100	120	0	-150	0
Possum Kingdom Lake	35	551,820	293,460	53	10,588	2	-242,540	-44
Lake Palo Pinto	36	42,200	32,937	78	552	1	-7,503	-18
Lake Granbury	37	135,680	129,740	96	-1,188	-1	-5,940	-4
Lake Pat Cleburne	38	25,300	25,300	100	0	0	0	0
Whitney Lake	39	622,800	460,773	74	4,370	1	-159,877	-26
Waco Lake	40	144,500	144,500	100	0	0	1,790	1
Proctor Lake	41	55,590	35,676	64	-416	-1	-19,914	-36
Belton Lake	42	434,500	434,500	100	0	0	0	0
Stillhouse Hollow Lake	43	226,060	226,060	100	0	0	0	0
Lake Georgetown	44	37,010	37,010	100	0	0	0	0
Granger Lake	45	54,280	54,280	100	0	0	0	0
Lake Limestone	46	215,750	215,750	100	0	0	0	0
Lake Brownwood	47	143,400	109,400	76	-900	-1	-31,900	-22
TOTAL		11,922,600	10,719,180	90	-23,349	0	-1,059,920	-9

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late Apr 1999 (acre-feet)	(%)	Change since Late Mar 1999 (acre-feet)	(%)	Change since Late Apr 1998 (acre-feet)	(%)
EAST								
Wright Patman Lake	48	142,700	142,700	100	0	0	0	0
Lake Cypress Springs	49	66,800	66,800	100	0	0	0	0
Lake Bob Sandlin	50	202,300	202,300	100	0	0	0	0
Lake O' the Pines	51	252,000	252,000	100	0	0	0	0
Lake Fork Reservoir	52	635,200	635,200	100	0	0	13,910	2
Toledo Bend Reservoir	53	4,472,900	4,266,000	95	65,000	1	26,000	1
Lake Palestine	54	411,300	411,300	100	0	0	2,500	1
Lake Tyler	55	73,700	73,700	100	0	0	0	0
Sam Rayburn Reservoir	56	2,876,300	2,876,300	100	0	0	0	0
B. A. Steinhagen Lake	57	94,200	84,363	90	126	0	483	1
Cedar Creek Reservoir	58	637,050	637,050	100	0	0	0	0
Lake Livingston	59	1,750,000	1,747,000	100	-3,000	0	-3,000	0
Lake Conroe	60	429,900	412,500	96	-3,900	-1	-1,470	0
TOTAL		12,044,350	11,807,213	98	58,226	0	38,423	0
TRANS-PECOS								
Red Bluff Reservoir	61	307,000	68,760	22	-3,360	-1	-13,570	-4
TOTAL		307,000	68,760	22	-3,360	-1	-13,570	-4
EDWARDS PLATEAU								
E. V. Spence Reservoir	62	484,800	67,030	14	-2,800	-1	-32,200	-7
Twin Buttes Reservoir	63	177,800	16,011	9	1,006	1	-26,449	-15
O.C. Fisher Lake	64	119,200	11,477	10	-320	0	-3,543	-3
O. H. Ivie Reservoir	65	554,340	405,500	73	-6,400	-1	-83,960	-15
Lake Buchanan	66	896,980	858,603	96	11,780	1	10,723	1
Amistad Reservoir (Texas)	67	1,771,030	1,012,000	57	3,000	0	185,080	10
Amistad Reservoir (Texas and Mexico)	(67)	3,151,300	1,258,000	40	-128,000	-4	-63,460	-2
TOTAL		4,004,150	2,370,621	59	6,266	0	49,651	1
SOUTH CENTRAL								
Somerville Lake	68	155,060	155,060	100	0	0	1,360	1
Lake Travis	69	1,144,100	1,130,803	99	-13,297	-1	-13,297	-1
Canyon Lake	70	385,600	385,600	100	0	0	4,900	1
Coleto Creek Reservoir	71	35,060	31,600	90	-220	-1	-1,900	-5
Medina Lake	72	254,000	243,435	96	-3,569	-1	-10,565	-4
TOTAL		1,973,820	1,946,498	99	-17,086	-1	-19,502	-1
UPPER COAST								
Lake Houston	73	128,860	128,860	100	0	0	0	0
Lake Texana	74	157,900	157,900	100	0	0	8,600	5
TOTAL		286,760	286,760	100	0	0	8,600	3

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CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

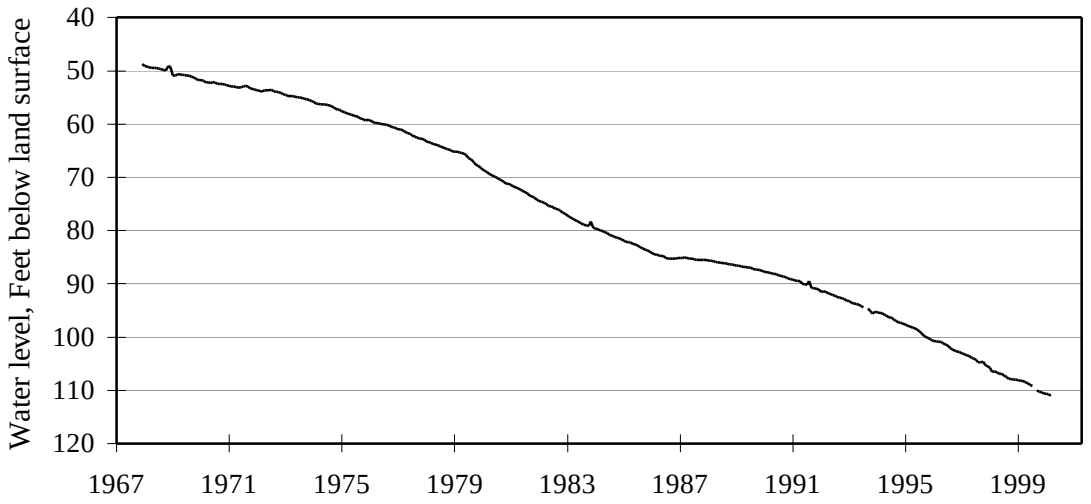
Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late Apr 1999 (acre-feet)	(%)	Change since Late Mar 1999 (acre-feet)	(%)	Change since Late Apr 1998 (acre-feet)	(%)
			SOUTHERN					
Choke Canyon Reservoir	75	695,260	356,958	51	-1,401	0	88,928	13
Lake Corpus Christi	76	241,240	183,141	76	-3,122	-1	17,341	7
Falcon Reservoir (Texas)	77	1,555,120	298,000	19	28,000	2	62,890	4
Falcon Reservoir (Texas and Mexico)	(77)	2,653,290	550,000	21	21,000	1	267,870	10
TOTAL		2,491,620	838,099	34	23,477	1	169,159	7
STATE TOTAL		34,481,020	28,714,330	83	79,488	0	-1,014,130	-3

NOTES: Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included is any water in flood control storage (above the top of conservation pool or normal maximum operating level), or any water in so called dead storage (in the bottom of the reservoir, below the invert of lowest outlet works and consequently not removable by gravity flow alone.) Percentage of conservation storage is based on the conservation storage capacity of the reservoir and the conservation storage in the reservoir for date shown. Percent change is given by % Change = 100 * (current conservation storage - past conservation storage)/conservation storage capacity.

Current data are based on elevations near end of month at 77 reservoirs that together represent 98 percent of the total conservation storage capacity of major Texas reservoirs (those with capacity of 5,000 acre-feet or more each). Figures in parentheses for Lake Meredith represent the total conservation storage excluding 58,014 acre-feet of dead storage and are not included in State total. Preliminary figures are shown for the United States' share of conservation storage in International Amistad and International Falcon Reservoirs; the estimates may be subject to revision on completion of international water accounting. Texas (United States' share) and Mexico and are not included in State total.

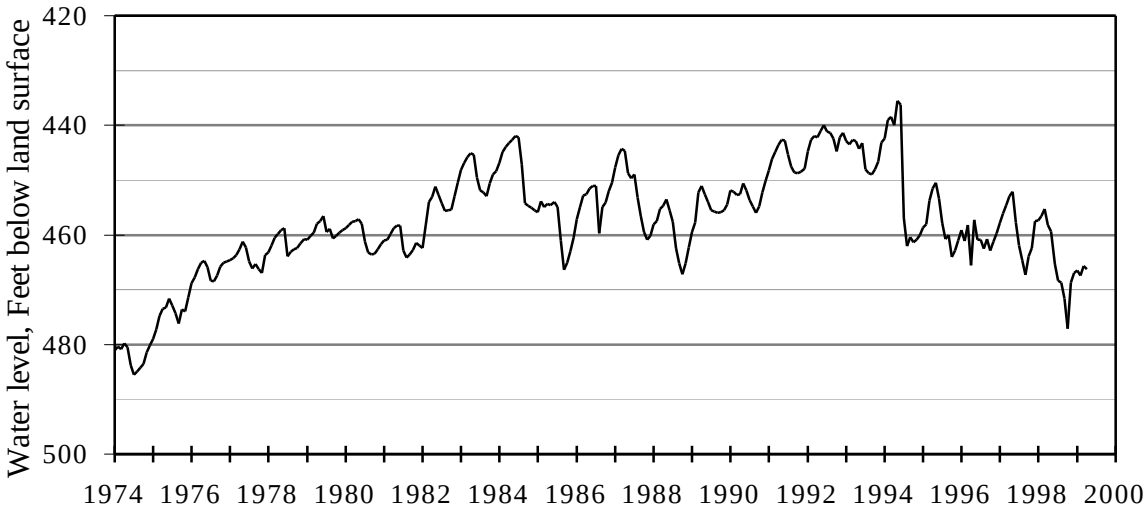
GROUND WATER LEVELS IN OBSERVATION WELLS

Well No. 10-53-602
Near Earth, Lamb County
Ogallala

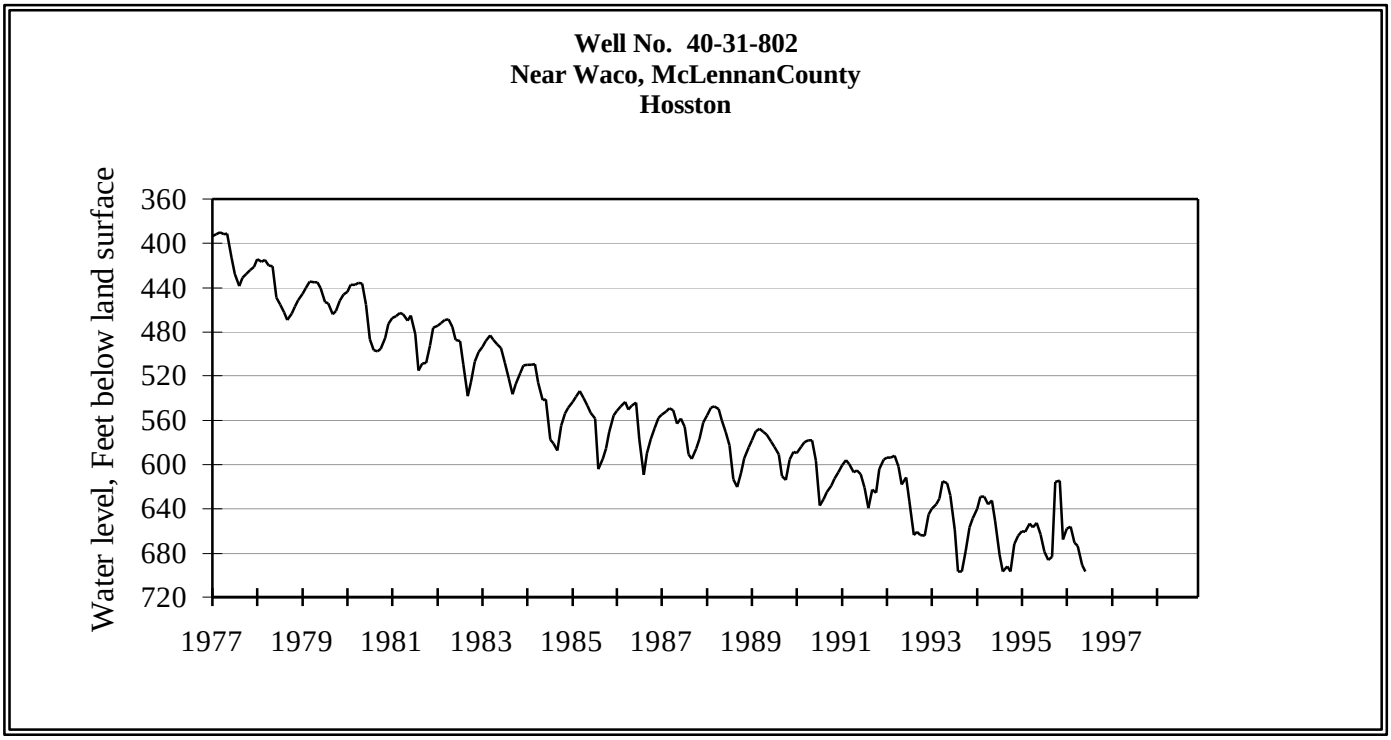


The April water-level measurement in this Ogallala aquifer well, elevation 3667 feet above sea level, was 111.05 feet below land surface. This was 0.25 of a foot below last month's measurement, 2.74 feet below last year's measurement, and 82.90 feet below the initial measurement recorded in 1950.

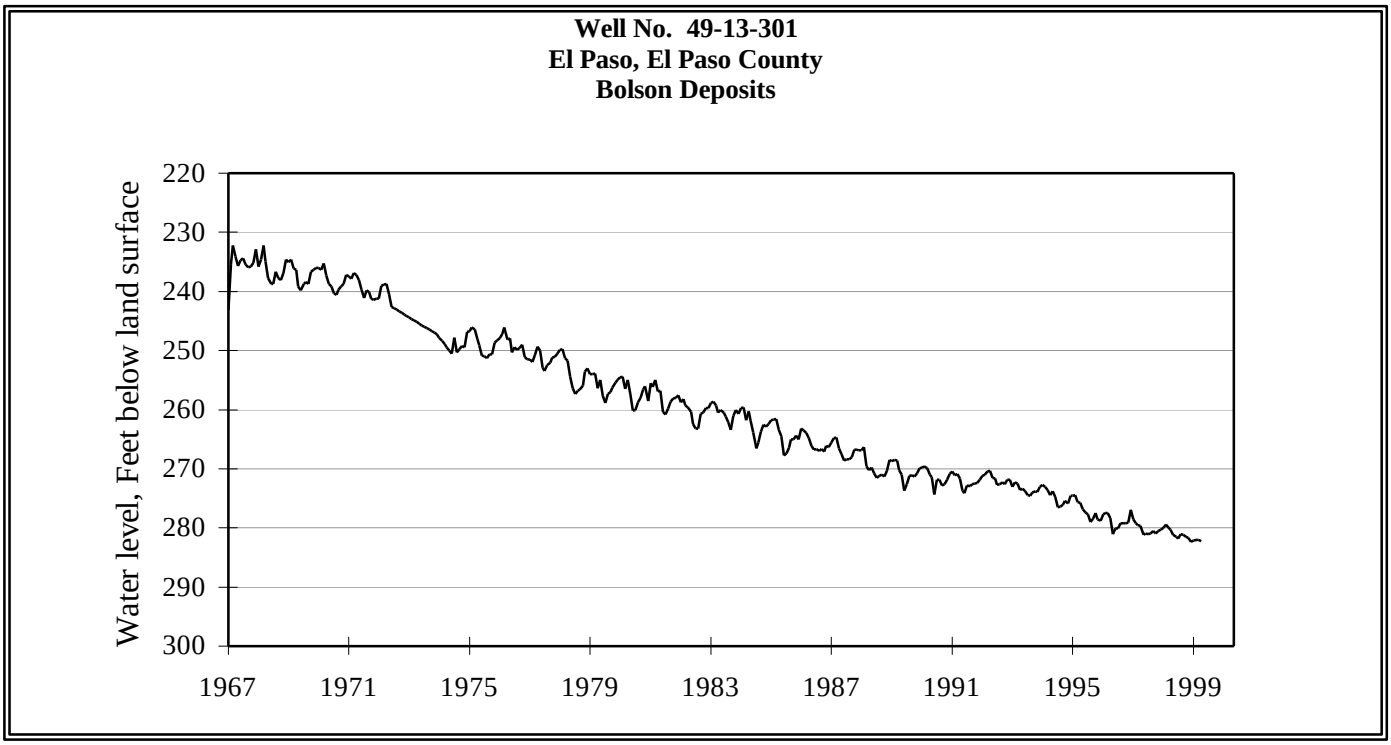
Well No. 32-15-504
Near Hurst, Tarrant County
Paluxy



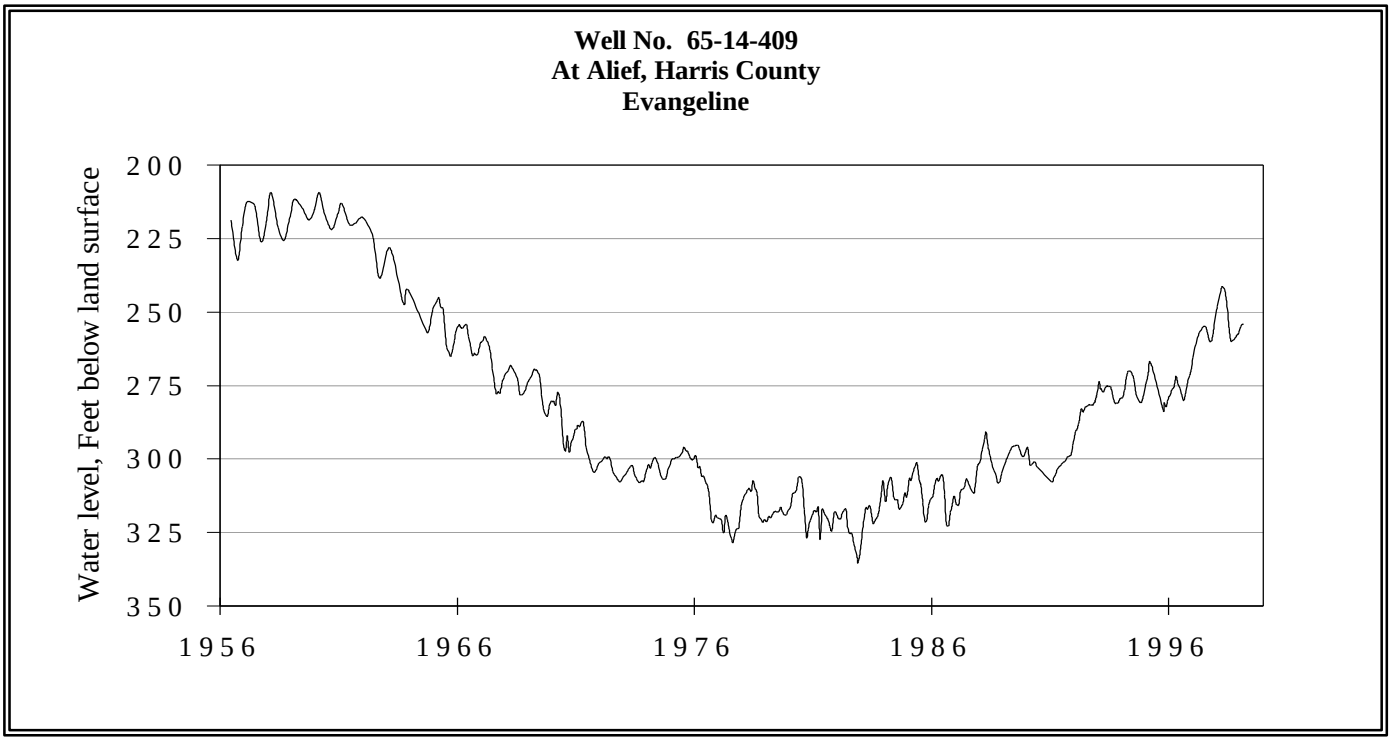
The April water-level measurement in this Paluxy aquifer well, elevation 535 feet above sea level, was 466.30 feet below land surface. This measurement was 0.66 of a foot below month's measurement, 8.11 feet below last year's measurement, and 72.91 feet below the initial measurement recorded in 1953.



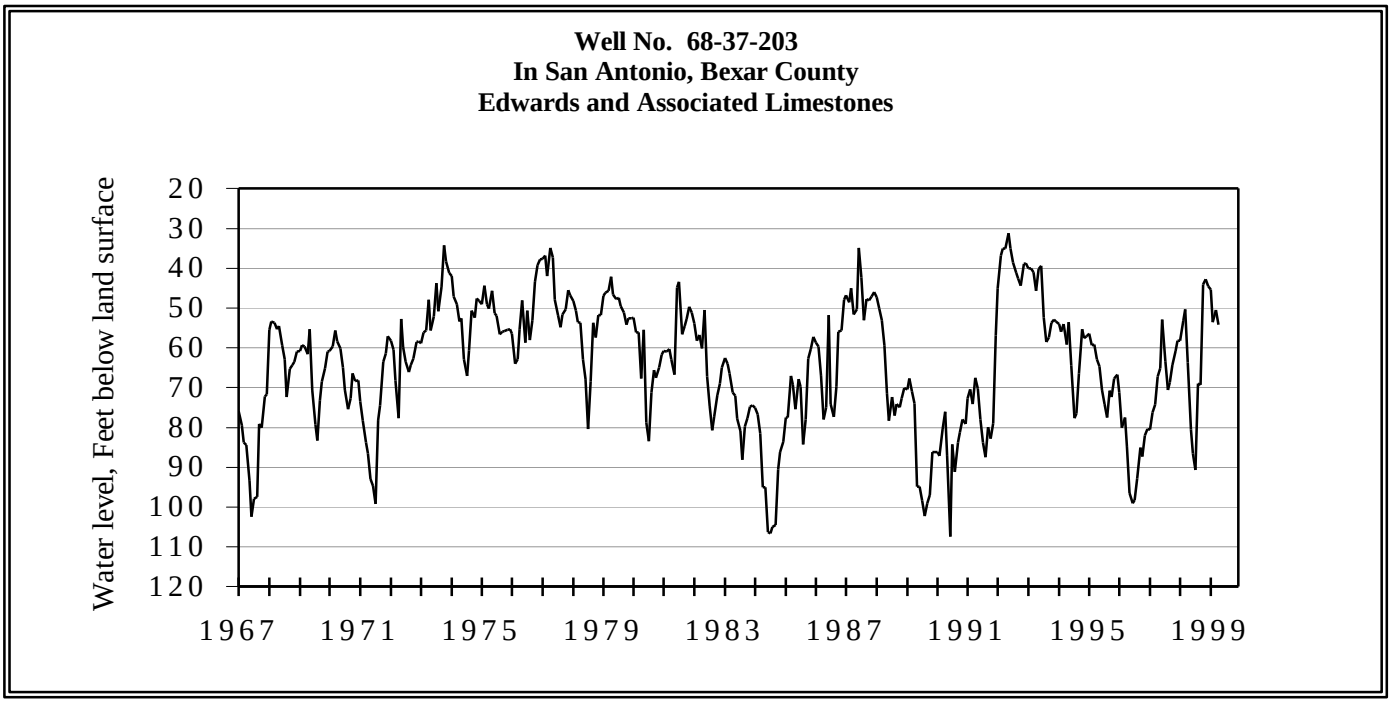
The April water-level measurement in this Hosston Formation aquifer well, elevation 593 feet above sea level, was not available this month due to continued casing problems. This hydrograph will be replaced next month with hydrograph of water levels in a Hosston Formation aquifer featured as this April's "Hydrograph of the Month."



The April water-level measurement in this Bolson Deposits aquifer well, elevation 3882 feet above sea level, was 282.22 feet below land surface. This was 0.13 of a foot below last month's measurement, 1.91 feet below last year's measurement, and 50.32 feet below the initial measurement recorded in 1964.

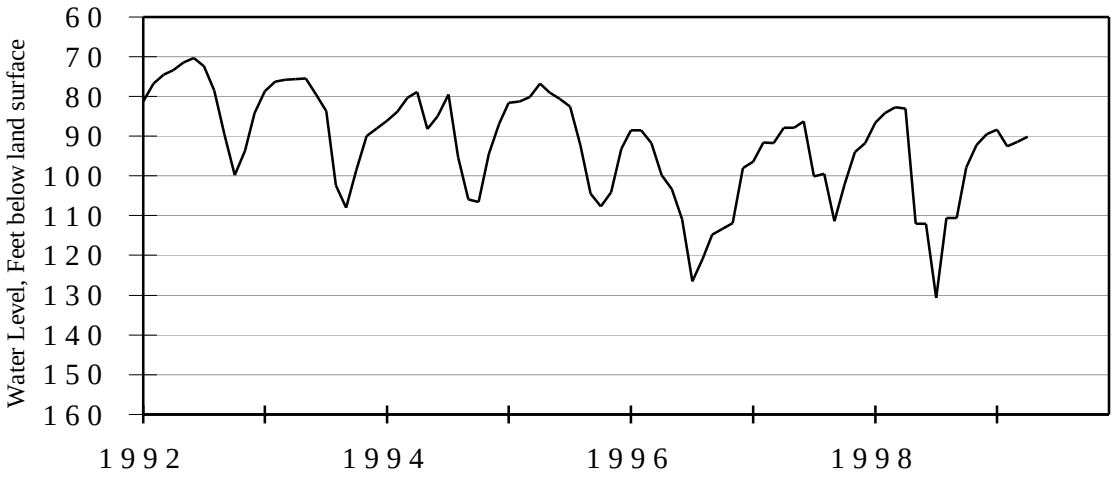


The April water-level measurement in this Evangeline aquifer well, elevation 66 feet above sea level, was 247.31 feet below land surface. This was 1.55 feet above last month's measurement, 5.31 feet below last year's measurement, and 114.87 feet below the initial measurement recorded in 1947.



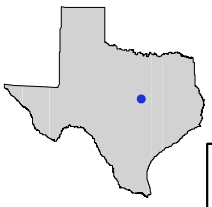
The April water-level measurement in this Edwards aquifer well, elevation 731 feet above sea level, was 54.2 feet below land surface. This was 3.60 feet below last month's measurement, 9.5 feet above last year's measurement, and 5.42 feet above the initial measurement recorded in 1962.

Well No. 68-60-912
Between Poteet and Pleasanton, Atascosa County
Carrizo



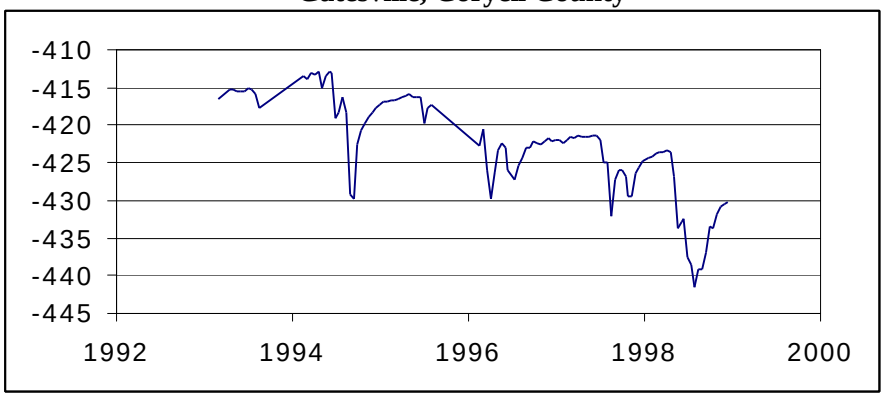
The April water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 90.12 feet below land surface. This was 2.47 feet above February's measurement, 6.98 feet below last year's measurement, and 54.76 feet below the initial measurement recorded in 1965.

HYDROGRAPH OF THE MONTH



Each month this space features a new hydrograph (marked with the • symbol on the map) depicting different aquifers and different conditions in Texas.

Well No. 40-35-404
Gatesville, Coryell County



This 823-foot deep unused well, elevation 823 feet above sea level, was completed in the Hosston Formation of the Trinity Aquifer. It has been equipped with an automatic recorder since 1993. Starting in May, its water levels will be reported monthly in this report. The hydrograph reflects annual drawdown due to greater pumpage during summer months.