Texas Water Development Board

WATER Conditions

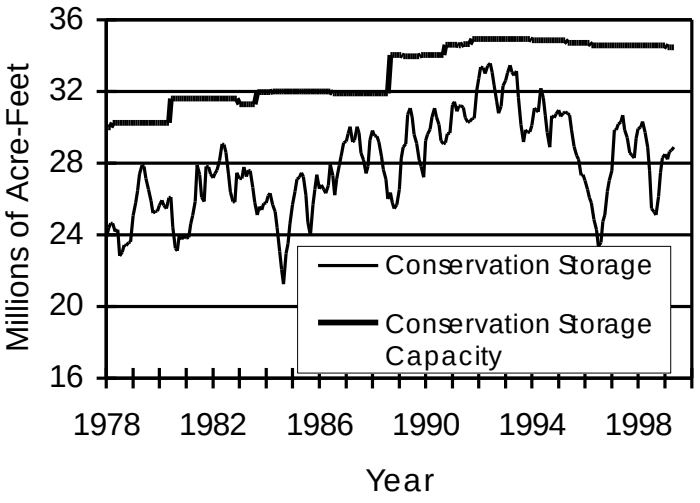
RESERVOIR STORAGE

May 1999

Near the end of May, the 77 reservoirs monitored for this report held 28,892 ,000 acre-feet in conservation storage. This is 84 percent of the conservation storage capacity of the State's major reservoirs. Compared to the end of April, storage increased 177,860 acre-feet (+0.5% of conservation storage capacity). Compared to this month last year, storage increased 16,650 acre-feet (+0.0%).

Of the monitored reservoirs, 32 held 100 percent or more of conservation storage near the end of May. Compared to the end of April, conservation storage increased in the High Plains (+14%), Low Rolling Plains (+6%), and North Central Region (+2%), and decreased in the East (-1%), Trans Pecos (-2%), Edwards Plateau (-0.4%), South Central (-1%), and Southern Region (-5%). Conservation storage remained at 100% in the Upper Coast Region. Compared to the end of May, 1998, conservation storage decreased in the Low Rolling Plains (-11%), North Central Region (-5%), and Trans Pecos Region (-4%), although the state total remained nearly identical (+0.0%).

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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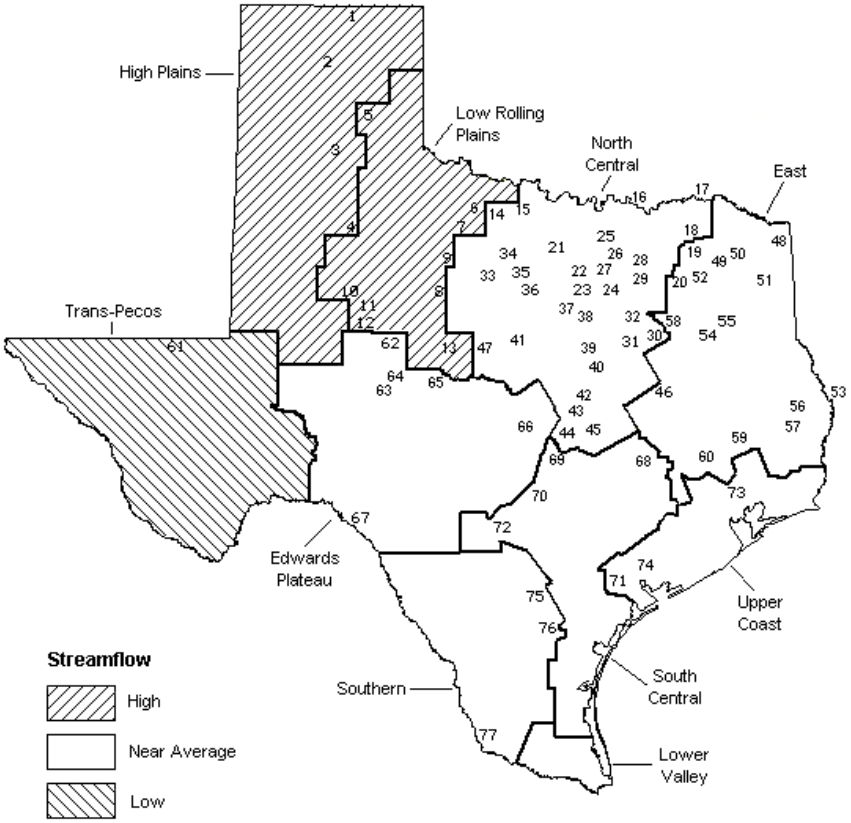
STREAMFLOW

Of 27 index stations throughout the State reporting in May, computed thiry-day mean flows were very high (0% - 5% exceedance probability) at 2 stations (both in the High Plains Region), high (5% - 30% exceedance) at 4 stations, near normal (30% - 70% exceedance) at 19 stations, and low (70% - 95% exceedance) at 2 stations in May. In comparison to April, flows increased at 5 index stations, decreased at 14 stations, and remained the same at 2 stations.

Decreasing but near normal flows were found at all regions in the state except for the High Plains and Low Rolling Plains, where flows increased and were high; the Low Rolling Plains, which remained nearly the same; and the Trans Pecos Region, where flows decreased and remain low. The 30-day average flow at Prairie Dog Town Fork Red River near Wayside, Texas had the lowest exceedance frequency (highest relative flow) of all index stations at 0.0% exceedance. The lowest relative flows in May, as in April, were recorded at Pecos River near Girvin, Texas, where flows were at 85.0% exceedance frequency.

STREAMFLOW CONDITIONS FOR MAY 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 May 1999 (acre-feet)	(%)	Change since Late Apr 1999 (acre-feet)	(%)	Change since Late May 1998 (acre-feet)	(%)
HIGH PLAINS								
Palo Duro Reservoir	1	60,900	34,145	56	13,648	22	28,595	47
Lake Meredith (Texas)	2	500,000	399,600	80	58,600	12	25,810	5
Lake Meredith (Texas and Oklahoma)	(2)	779,560	399,600	51	58,600	8	25,810	3
MacKenzie Reservoir	3	46,250	10,443	23	3,325	7	1,583	3
White River Lake	4	31,850	26,070	82	15,472	49	14,830	47
TOTAL		639,000	470,258	74	91,045	14	70,818	11
LOW ROLLING PLAINS								
Greenbelt Reservoir	5	58,200	27,250	47	940	2	-1,400	-2
Lake Kemp	6	319,600	220,600	69	43,400	14	-34,480	-11
Miller's Creek Reservoir	7	27,890	15,150	54	300	1	3,890	14
Fort Phantom Hill Reservoir	8	70,030	25,320	36	-799	-1	-24,430	-35
Lake Stamford	9	52,700	18,926	36	1,256	2	-13,034	-25
Lake J. B. Thomas	10	202,300	9,030	4	1,750	1	-3,750	-2
Lake Colorado City	11	30,800	15,190	49	270	1	-2,070	-7
Champion Creek Reservoir	12	41,600	7,370	18	-1,460	-4	-11,670	-28
Hords Creek Lake	13	8,600	4,646	54	-161	-2	-2,404	-28
TOTAL		811,720	343,482	42	45,496	6	-89,348	-11
NORTH CENTRAL								
Lake Kickapoo	14	106,000	70,004	66	3,408	3	3,504	3
Lake Arrowhead	15	262,100	180,300	69	900	0	-45,930	-18
Lake Texoma	16	2,722,300	2,722,300	100	152,058	6	58,100	2
Pat Mayse Lake	17	124,500	124,500	100	3,663	3	5,900	5
Cooper Lake	18	273,000	253,203	93	15,063	6	-16,837	-6
Lake Sulphur Springs	19	17,710	17,710	100	3,340	19	610	3
Lake Tawakoni	20	936,200	936,200	100	0	0	15,400	2
Bridgeport Reservoir	21	374,830	311,880	83	10,495	3	-60,120	-16
Eagle Mountain Reservoir	22	178,380	161,068	90	11,975	7	-15,892	-9
Benbrook Lake	23	88,200	88,200	100	0	0	1,370	2
Joe Pool Lake	24	175,800	175,800	100	0	0	5,780	3
Ray Roberts Lake	25	798,760	724,180	91	18,336	2	-63,490	-8
Lewisville Lake	26	555,000	480,040	86	31,903	6	-74,960	-14
Grapevine Lake	27	187,700	167,719	89	6,898	4	-11,981	-6
Lavon Lake	28	443,800	443,800	100	3,151	1	24,490	6
Lake Ray Hubbard	29	413,420	413,420	100	0	0	-65,380	-16
Richland-Chambers Creek Lake	30	1,103,820	1,103,820	100	0	0	31,700	3
Navarro Mills Lake	31	55,810	55,810	100	0	0	2,300	4
Bardwell Lake	32	53,580	53,580	100	0	0	3,110	6
Hubbard Creek Reservoir	33	317,800	248,800	78	-3,800	-1	-52,600	-17
Lake Graham	34	45,000	45,000	100	150	0	0	0
Possum Kingdom Lake	35	551,820	324,685	59	31,225	6	-185,165	-34
Lake Palo Pinto	36	42,200	32,789	78	-148	0	-6,031	-14
Lake Granbury	37	135,680	132,693	98	2,953	2	-2,987	-2
Lake Pat Cleburne	38	25,300	25,243	100	-57	0	793	3
Whitney Lake	39	622,800	463,598	74	2,825	0	-149,802	-24
Waco Lake	40	144,500	144,500	100	0	0	6,220	4
Proctor Lake	41	55,590	35,849	64	173	0	-19,741	-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	210	1
Granger Lake	45	54,280	54,280	100	0	0	0	0
Lake Limestone	46	215,750	213,800	99	-1,950	-1	8,780	4
Lake Brownwood	47	143,400	110,000	77	600	0	-33,400	-23
TOTAL		11,922,600	11,012,341	92	293,161	2	-636,049	-5

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late May 1999 (acre-feet)	(%)	Change since Late Apr 1999 (acre-feet)	(%)	Change since Late May 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	840	1
Lake Bob Sandlin	50	202,300	202,300	100	0	0	12,790	6
Lake O' the Pines	51	252,000	252,000	100	0	0	1,320	1
Lake Fork Reservoir	52	635,200	635,200	100	0	0	19,370	3
Toledo Bend Reservoir	53	4,472,900	4,161,000	93	-105,000	-2	61,000	1
Lake Palestine	54	411,300	411,300	100	0	0	12,800	3
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	155,460	5
B. A. Steinhagen Lake	57	94,200	89,129	95	4,766	5	8,339	9
Cedar Creek Reservoir	58	637,050	637,050	100	0	0	0	0
Lake Livingston	59	1,750,000	1,750,000	100	3,000	0	20,000	1
Lake Conroe	60	429,900	413,700	96	1,200	0	6,830	2
TOTAL		12,044,350	11,711,179	97	-96,034	-1	298,749	2
TRANS-PECOS								
Red Bluff Reservoir	61	307,000	63,380	21	-5,380	-2	-11,090	-4
TOTAL		307,000	63,380	21	-5,380	-2	-11,090	-4
EDWARDS PLATEAU								
E. V. Spence Reservoir	62	484,800	65,000	13	-2,030	0	-31,440	-6
Twin Buttes Reservoir	63	177,800	15,996	9	-15	0	-22,034	-12
O.C. Fisher Lake	64	119,200	11,074	9	-403	0	-7,366	-6
O. H. Ivie Reservoir	65	554,340	399,500	72	-6,000	-1	-99,660	-18
Lake Buchanan	66	896,980	871,338	97	12,735	1	23,918	3
Amistad Reservoir (Texas)	67	1,771,030	991,000	56	-21,000	-1	253,250	14
Amistad Reservoir (Texas and Mexico)	(67)	3,151,300	1,203,000	38	-55,000	-2	205,020	7
TOTAL		4,004,150	2,353,908	59	-16,713	0	116,668	3
SOUTH CENTRAL								
Somerville Lake	68	155,060	155,060	100	0	0	5,060	3
Lake Travis	69	1,144,100	1,114,465	97	-16,338	-1	92,885	8
Canyon Lake	70	385,600	385,600	100	0	0	6,290	2
Coleto Creek Reservoir	71	35,060	31,470	90	-130	0	-270	-1
Medina Lake	72	254,000	239,900	94	-3,535	-1	-1,500	-1
TOTAL		1,973,820	1,926,495	98	-20,003	-1	102,465	5
UPPER COAST								
Lake Houston	73	128,860	128,860	100	0	0	0	0
Lake Texana	74	157,900	157,900	100	0	0	9,950	6
TOTAL		286,760	286,760	100	0	0	9,950	3

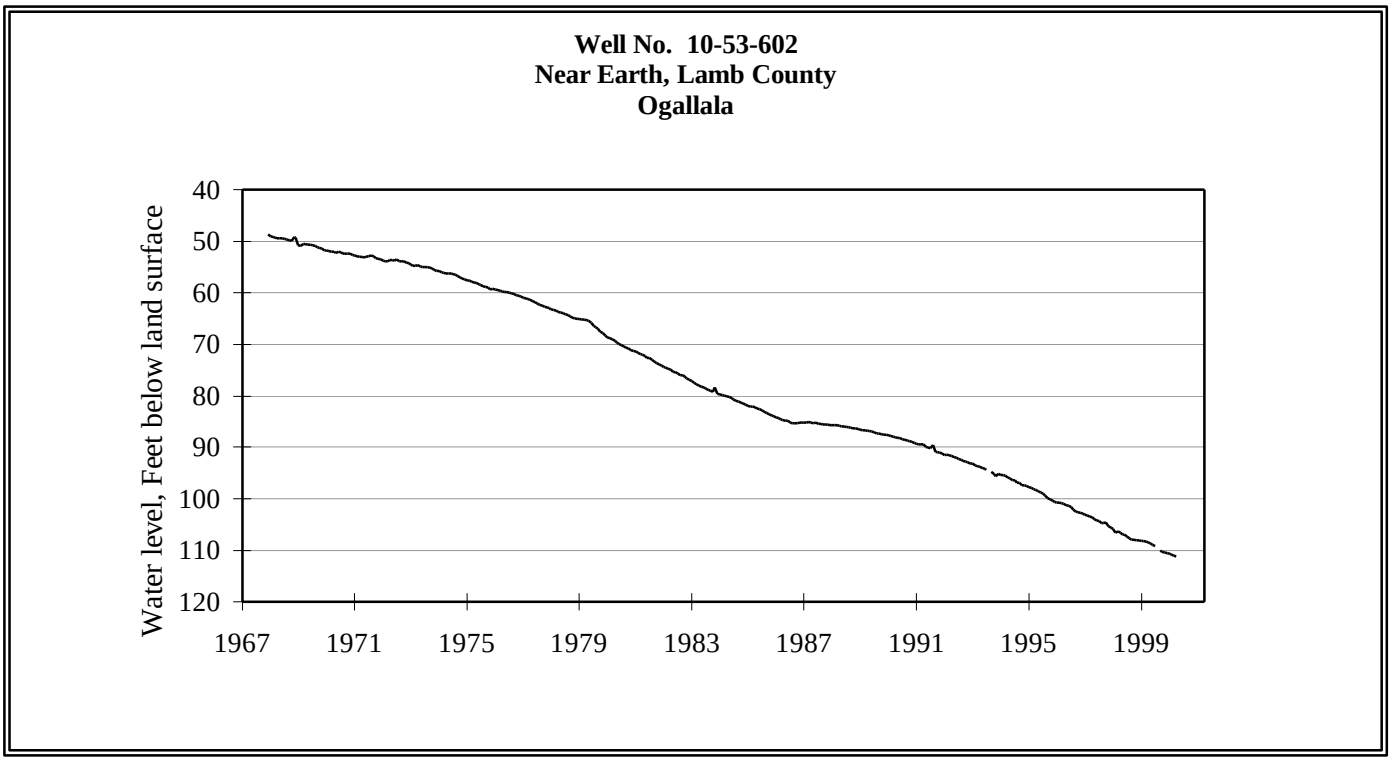
CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late May 1999 (acre-feet)	(%)	Change since Late Apr 1999 (acre-feet)	(%)	Change since Late May 1998 (acre-feet)	(%)
			SOUTHERN					
Choke Canyon Reservoir	75	695,260	350,518	50	-6,440	-1	89,948	13
Lake Corpus Christi	76	241,240	179,867	75	-3,274	-1	31,867	13
Falcon Reservoir (Texas)	77	1,555,120	194,000	12	-104,000	-7	32,670	2
Falcon Reservoir (Texas and Mexico)	(77)	2,653,290	330,000	12	-220,000	-8	55,170	2
TOTAL		2,491,620	724,385	29	-113,714	-5	154,485	6
STATE TOTAL		34,481,020	28,892,188	84	177,858	1	16,648	0

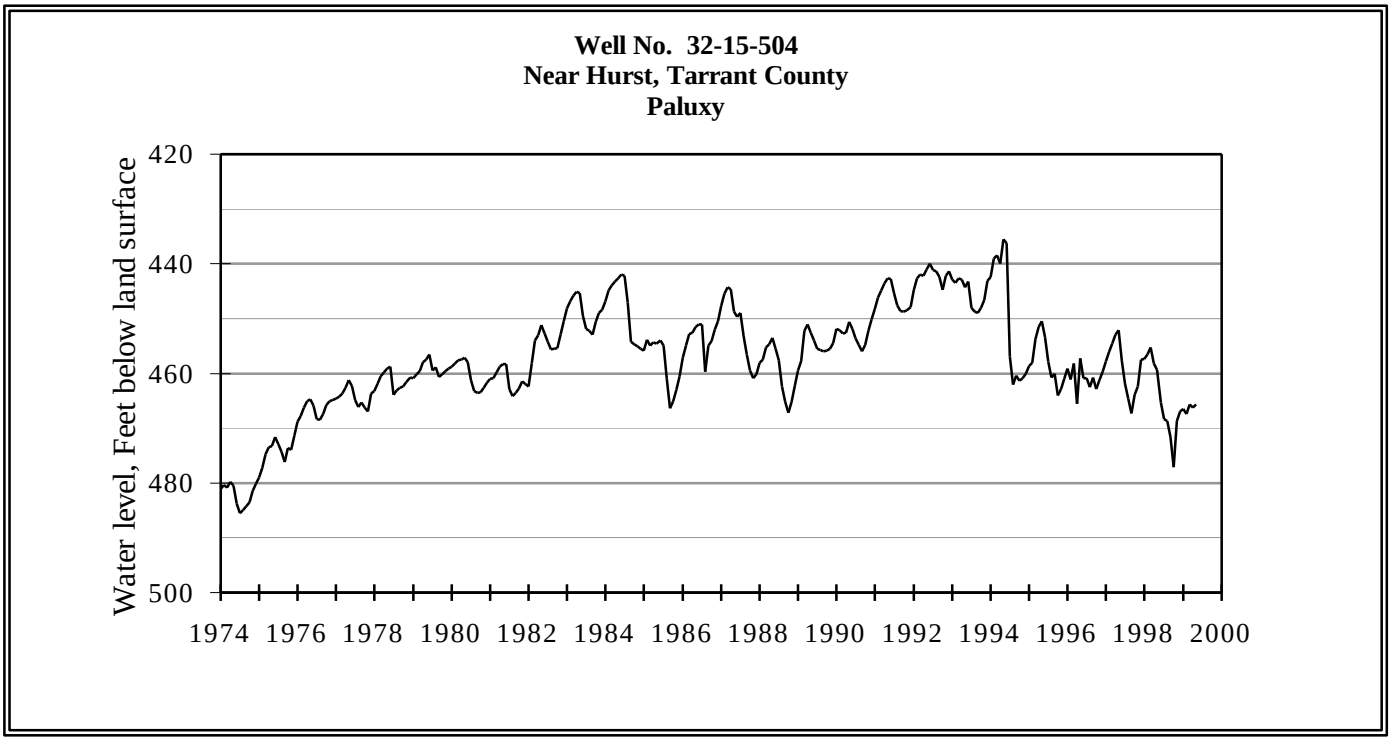
NOTES: Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. 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.

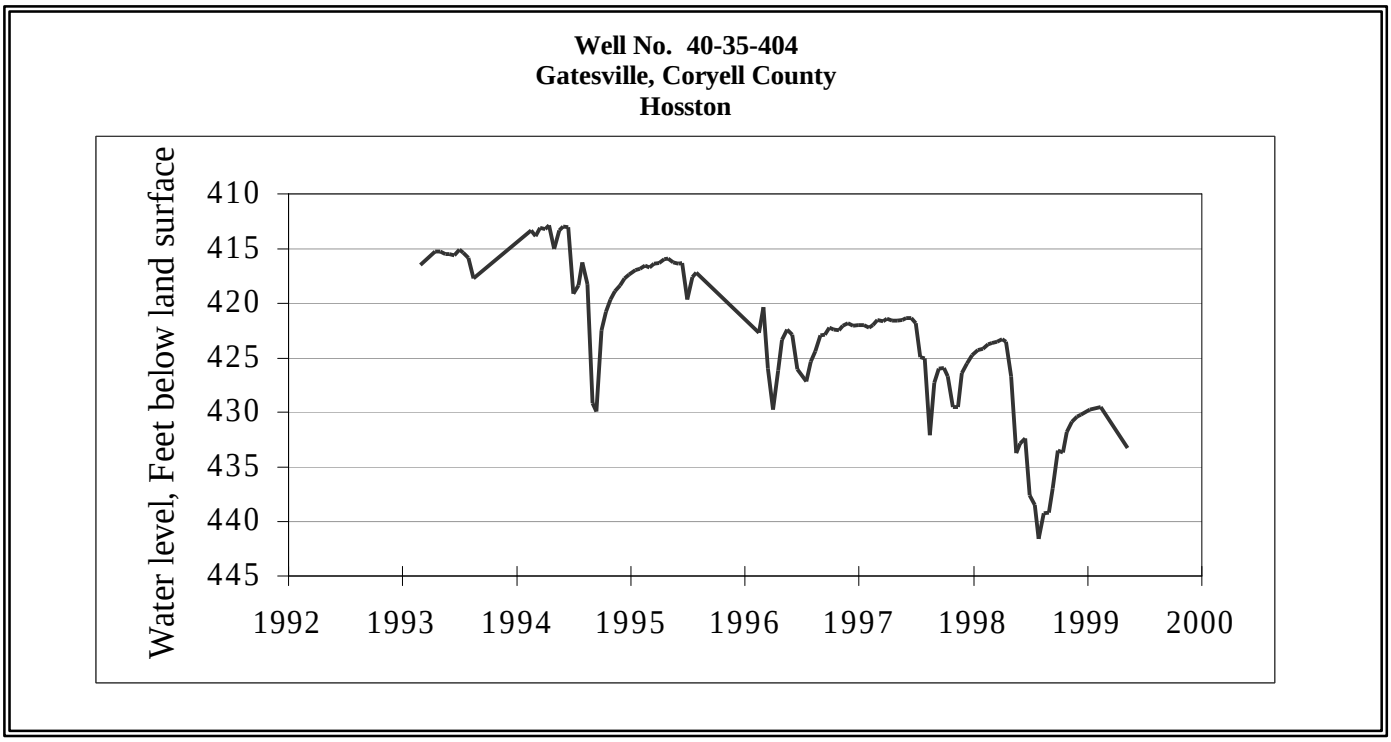
GROUND WATER LEVELS IN OBSERVATION WELLS



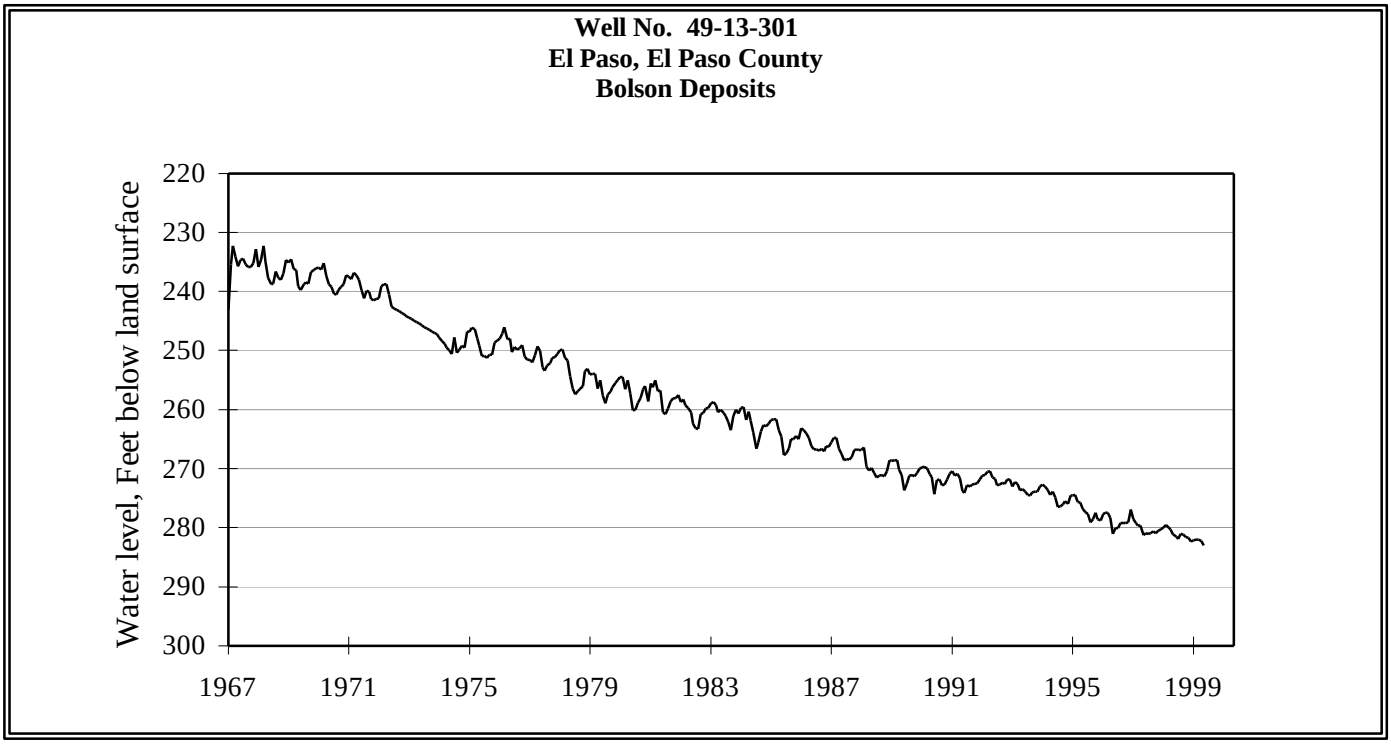
The May water-level measurement in this Ogallala aquifer well, elevation 3667 feet above sea level, was 111.16 feet below land surface. This was 0.11 of a foot below last month's measurement, 2.65 feet below last year's measurement, and 83.01 feet below the initial measurement recorded in 1950.



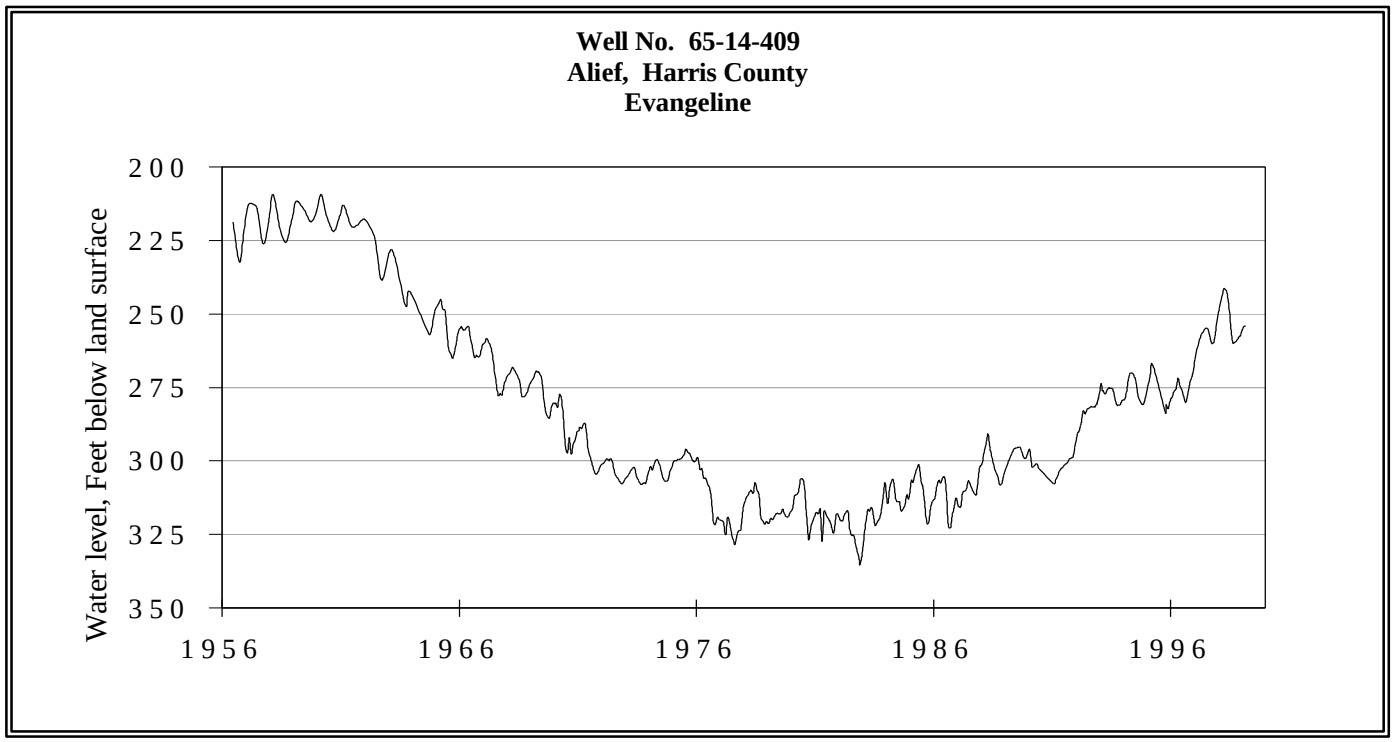
The May water-level measurement in this Paluxy aquifer well, elevation 535 feet above sea level, was 465.65 feet below land surface. This measurement was 0.65 of a foot below month's measurement, 6.29 feet below last year's measurement, and 72.26 feet below the initial measurement recorded in 1953.



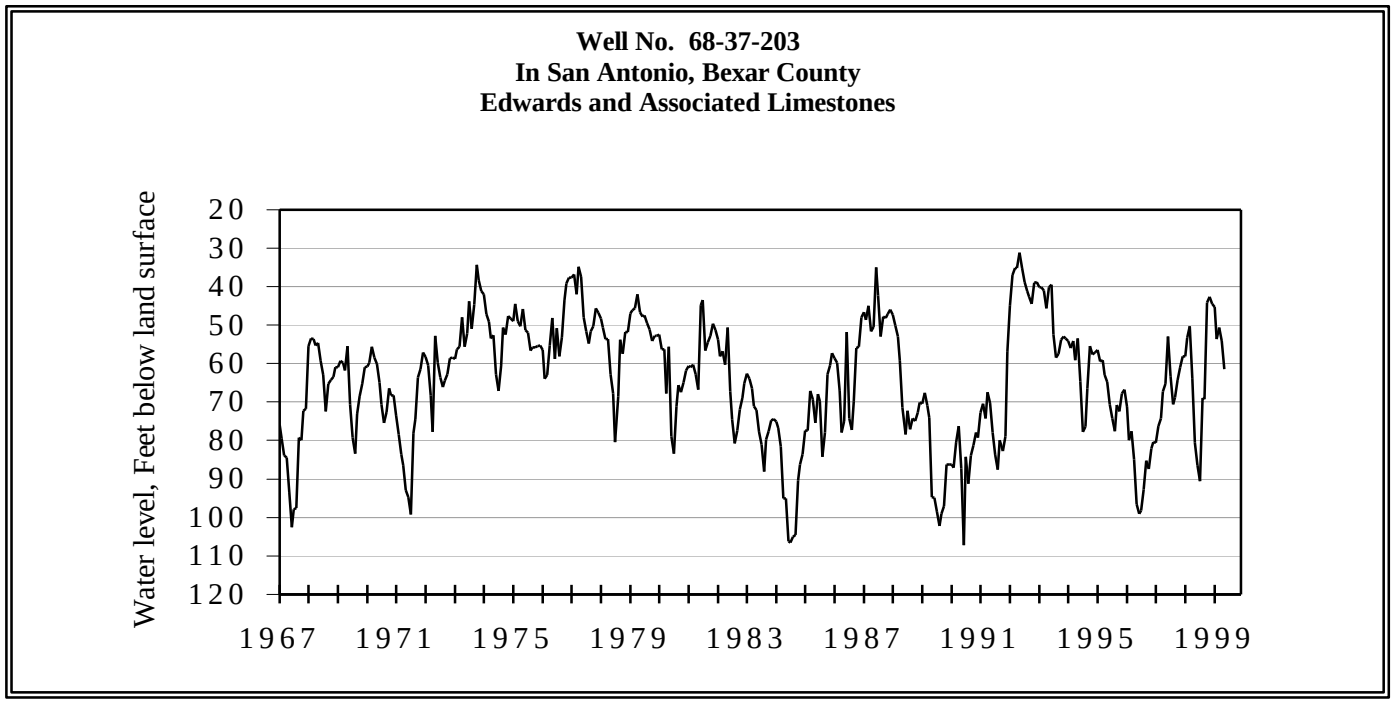
The April water-level measurement in this Hosston Formation aquifer well, elevation 823 feet above sea level, was 433.23 feet below land surface. This measurement was 3.74 feet below the February measurement, 9.70 feet below last year's measurement, and 141.23 feet below the initial measurement recorded in 1955.



The May water-level measurement in this Bolson Deposits aquifer well, elevation 3882 feet above sea level, was 283.00 feet below land surface. This was 0.78 of a foot below last month's measurement, 1.82 feet below last year's measurement, and 51.10 feet below the initial measurement recorded in 1964.

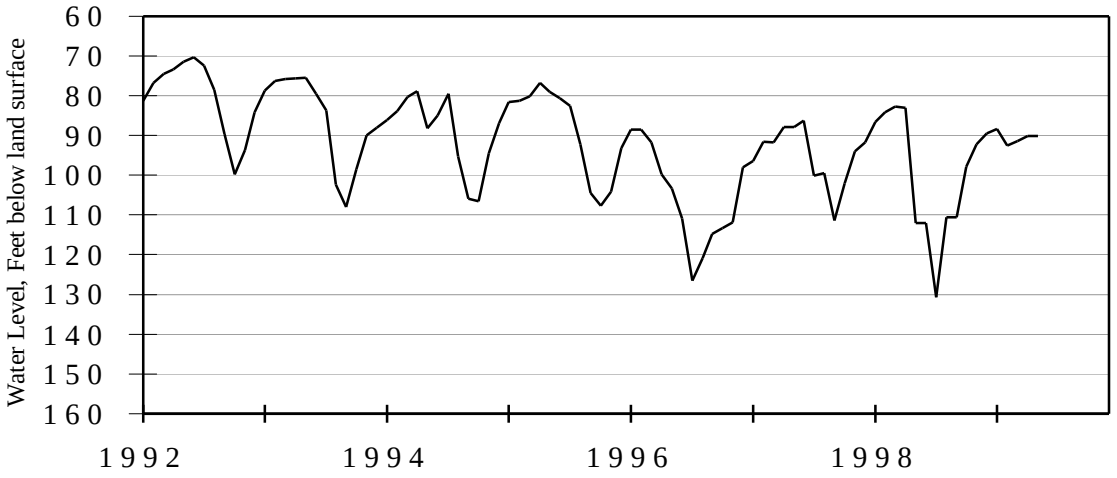


The May water-level measurement in this Evangeline aquifer well, elevation 66 feet above sea level, was 246.20 feet below land surface. This was 1.11 feet above last month's measurement, 0.16 of a foot below last year's measurement, and 115.97 feet below the initial measurement recorded in 1947.



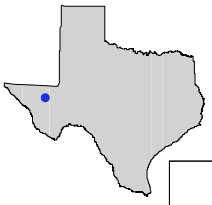
The May water-level measurement in this Edwards aquifer well, elevation 731 feet above sea level, was 61.5 feet below land surface. This was 7.30 feet below last month's measurement, 19.1 feet above last year's measurement, and 1.88 feet above the initial measurement recorded in 1962.

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



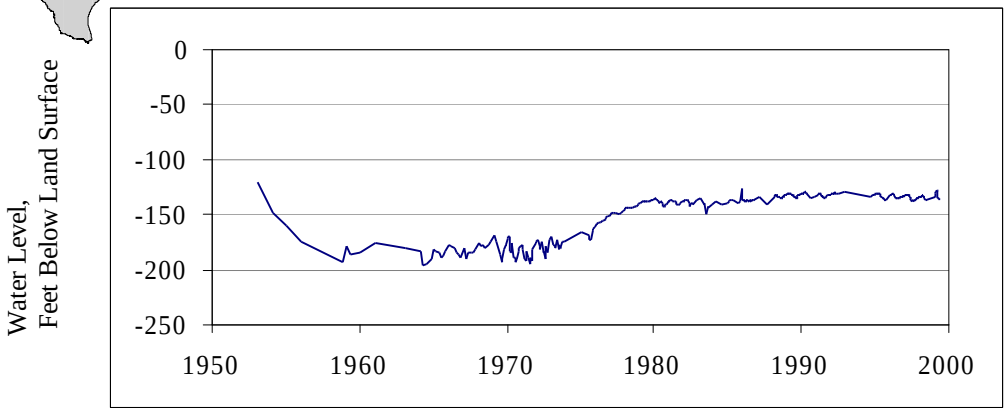
The May water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 90.16 feet below land surface. This was 0.04 of a foot below the April measurement of 90.12, 21.85 feet above last year's measurement, and 8.91 feet below the initial measurement recorded in 1965.

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. 46-44-501
South of Pecos, Reeves County



This 627-foot deep unused well, elevation 2642 feet above sea level, was completed in the Cenozoic Pecos Alluvium aquifer. Water levels, while having risen and stabilized in the past 20+ years, still have not rebounded to levels near the original recorded depth of -91 feet in 1952.