Texas Water Development Board

WATER Conditions

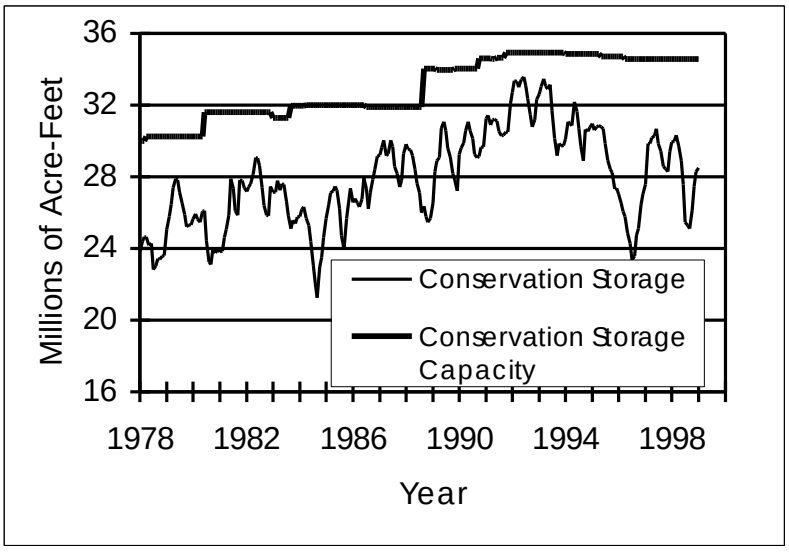
RESERVOIR STORAGE

January 1999

Near the end of January, the 77 reservoirs monitored for this report held 28,513,000 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 December, storage increased 199,000 acre-feet (+1% of conservation storage capacity). Compared to this month last year, storage decreased 1,399,000 acre-feet (-4%).

Of the monitored reservoirs, 32 held 100 percent or more of conservation storage near the end of January. Conservation storage increased or remained nearly the same in all regions of the state except for the High Plains, where storage dropped by 3620 acre-feet (-1%) and the Southern Region where storage dropped by 36,970 acre-ft (-1%) . Among all regions, conservation storage in the Trans-Pecos was lowest at 23%, followed by the Low Rolling Plains at 34% and the Southern region at 35%. Conservation storage in the South Central, Upper Coast, and East regions remained at nearly 100%.

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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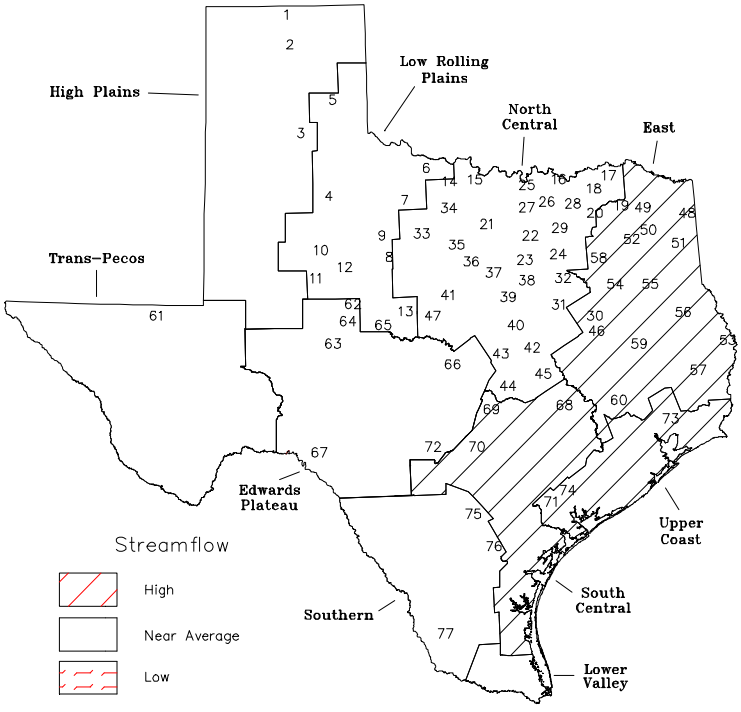
STREAMFLOW

High streamflow conditions persisted through east Texas in January and were near normal in west and central Texas. January flows declined at 22 of 29 index stations in comparison to December flows. The following is a summary of the measured flows reported at the 29 index stations across the State.

High flows, i.e. flows exceeded 5% to 30% of the time when compared to long-term historical station data, occurred at eight of eleven index stations in the East, Upper Coast, and South Central climatic regions. Of these regions, highest flows during January were recorded in East Texas at Village Creek near Kountze where the recorded flows were at 12.4% exceedance. Flows throughout these three region generally declined in comparison to December flows. Flows in the remaining climatic regions were mixed between high-flow, normal-flow (30% to 70% exceedance) and low-flow (70% to 95% exceedance) conditions. Nine of eighteen sites in the High Plains, Low Rolling Plains, North Central, Edwards Plateau, Trans-Pecos, and Southern regions recorded flows in the normal range, five recorded low flows, and four recorded high flows.

STREAMFLOW CONDITIONS FOR JANUARY 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 Jan 1999 (acre-feet)	(%)	Change since Late Dec 1998 (acre-feet)	(%)	Change since Late Jan 1998 (acre-feet)	(%)
HIGH PLAINS								
Palo Duro Reservoir	1	60,900	9,343	15	-1,036	-2	2,243	4
Lake Meredith (Texas)	2	500,000	331,100	66	-2,400	0	-53,340	-11
Lake Meredith (Texas and Oklahoma)	(2)	779,560	331,100	42	-2,400	0	-53,340	-7
MacKenzie Reservoir	3	46,250	7,090	15	113	0	-1,490	-3
White River Lake	4	31,850	8,465	27	-299	-1	-4,205	-13
TOTAL		639,000	355,998	56	-3,622	-1	-56,792	-9
LOW ROLLING PLAINS								
Greenbelt Reservoir	5	58,200	22,750	39	-2,380	-4	-5,000	-9
Lake Kemp	6	319,600	154,600	48	8,900	3	-98,350	-31
Miller's Creek Reservoir	7	27,890	13,704	49	-580	-2	2,154	8
Fort Phantom Hill Reservoir	8	70,030	26,527	38	610	1	-32,353	-46
Lake Stamford	9	52,700	18,630	35	-168	0	-11,170	-21
Lake J. B. Thomas	10	202,300	6,950	3	-22	0	-9,330	-5
Lake Colorado City	11	30,800	14,730	48	-400	-1	-4,780	-16
Champion Creek Reservoir	12	41,600	10,410	25	-90	0	-9,750	-23
Hords Creek Lake	13	8,600	4,997	58	-136	-2	-1,543	-18
TOTAL		811,720	273,298	34	5,734	1	-170,122	-21
NORTH CENTRAL								
Lake Kickapoo	14	106,000	54,010	51	1,775	2	-2,870	-3
Lake Arrowhead	15	262,100	176,400	67	3,300	1	-31,570	-12
Lake Texoma	16	2,722,300	2,261,461	83	14,413	1	-359,439	-13
Pat Mayse Lake	17	124,500	124,500	100	6,625	5	0	0
Cooper Lake	18	273,000	273,000	100	0	0	0	0
Lake Sulphur Springs	19	17,710	17,078	96	1,612	9	-632	-4
Lake Tawakoni	20	936,200	936,200	100	0	0	0	0
Bridgeport Reservoir	21	374,830	284,381	76	-1,866	0	-59,219	-16
Eagle Mountain Reservoir	22	178,380	146,288	82	-154	0	-32,092	-18
Benbrook Lake	23	88,200	82,574	94	2,483	3	-5,626	-6
Joe Pool Lake	24	175,800	175,800	100	0	0	0	0
Ray Roberts Lake	25	798,760	722,006	90	6,225	1	-76,754	-10
Lewisville Lake	26	555,000	458,067	83	-4,195	-1	-96,933	-17
Grapevine Lake	27	187,700	156,099	83	2,327	1	-25,491	-14
Lavon Lake	28	443,800	443,800	100	9,286	2	0	0
Lake Ray Hubbard*	29	413,420	413,420	100	-80	0	-75,780	-18
Richland-Chambers Creek Lake	30	1,103,820	1,103,820	100	0	0	0	0
Navarro Mills Lake	31	55,810	55,810	100	0	0	0	0
Bardwell Lake	32	53,580	53,580	100	0	0	0	0
Hubbard Creek Reservoir	33	317,800	252,100	79	-1,700	-1	-44,000	-14
Lake Graham	34	45,000	39,250	87	-20	0	-5,550	-12
Possum Kingdom Lake	35	551,820	244,356	44	-2,049	0	-228,324	-41
Lake Palo Pinto	36	42,200	25,667	61	-484	-1	-9,193	-22
Lake Granbury	37	135,680	128,955	95	-1,338	-1	-6,725	-5
Lake Pat Cleburne	38	25,300	25,300	100	0	0	0	0
Whitney Lake	39	622,800	459,019	74	-12,818	-2	-118,791	-19
Waco Lake	40	144,500	144,500	100	0	0	-50	0
Proctor Lake	41	55,590	33,633	61	-294	-1	-17,687	-32
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	1,730	1
Lake Brownwood	47	143,400	112,005	78	-1,208	-1	-13,195	-9
TOTAL		11,922,600	10,370,679	87	19,969	0	-1,208,191	-10

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late Jan 1999 (acre-feet)	(%)	Change since Late Dec 1998 (acre-feet)	(%)	Change since Late Jan 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	202,052	100	-248	0	-248	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	12,000	2
Toledo Bend Reservoir	53	4,472,900	4,472,900	100	272,900	6	0	0
Lake Palestine	54	411,300	411,300	100	0	0	0	0
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	55,410	59	-24,626	-26	-36,130	-38
Cedar Creek Reservoir	58	637,050	637,050	100	0	0	0	0
Lake Livingston	59	1,750,000	1,750,000	100	15,000	1	5,000	0
Lake Conroe	60	429,900	422,300	98	6,100	1	-570	0
TOTAL		12,044,350	11,986,171	100	257,585	2	-31,489	0
TRANS-PECOS								
Red Bluff Reservoir	61	307,000	70,220	23	1,620	1	-25,830	-8
TOTAL		307,000	70,220	23	1,620	1	-25,830	-8
EDWARDS PLATEAU								
E. V. Spence Reservoir	62	484,800	73,220	15	-770	0	-49,880	-10
Twin Buttes Reservoir	63	177,800	14,245	8	399	0	-30,795	-17
O.C. Fisher Lake	64	119,200	12,676	11	-305	0	-3,374	-3
O. H. Ivie Reservoir	65	554,340	422,700	76	-5,500	-1	-86,660	-16
Lake Buchanan	66	896,980	807,830	90	-624	0	-31,690	-4
Amistad Reservoir (Texas)	67	1,771,030	1,001,000	57	39,000	2	118,140	7
Amistad Reservoir (Texas and Mexico)	(67)	3,151,300	1,418,000	45	53,000	2	-65,600	-2
TOTAL		4,004,150	2,331,671	58	32,200	1	-84,259	-2
SOUTH CENTRAL								
Somerville Lake	68	155,060	155,060	100	0	0	0	0
Lake Travis	69	1,144,100	1,144,100	100	0	0	2,760	0
Canyon Lake	70	385,600	380,445	99	-5,155	-1	-1,165	0
Coleto Creek Reservoir	71	35,060	35,060	100	0	0	0	0
Medina Lake	72	254,000	254,000	100	0	0	33,650	13
TOTAL		1,973,820	1,968,665	100	-5,155	0	35,245	2
UPPER COAST								
Lake Houston	73	128,860	128,860	100	0	0	6,560	5
Lake Texana	74	157,900	157,900	100	0	0	540	0
TOTAL		286,760	286,760	100	0	0	7,100	2

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

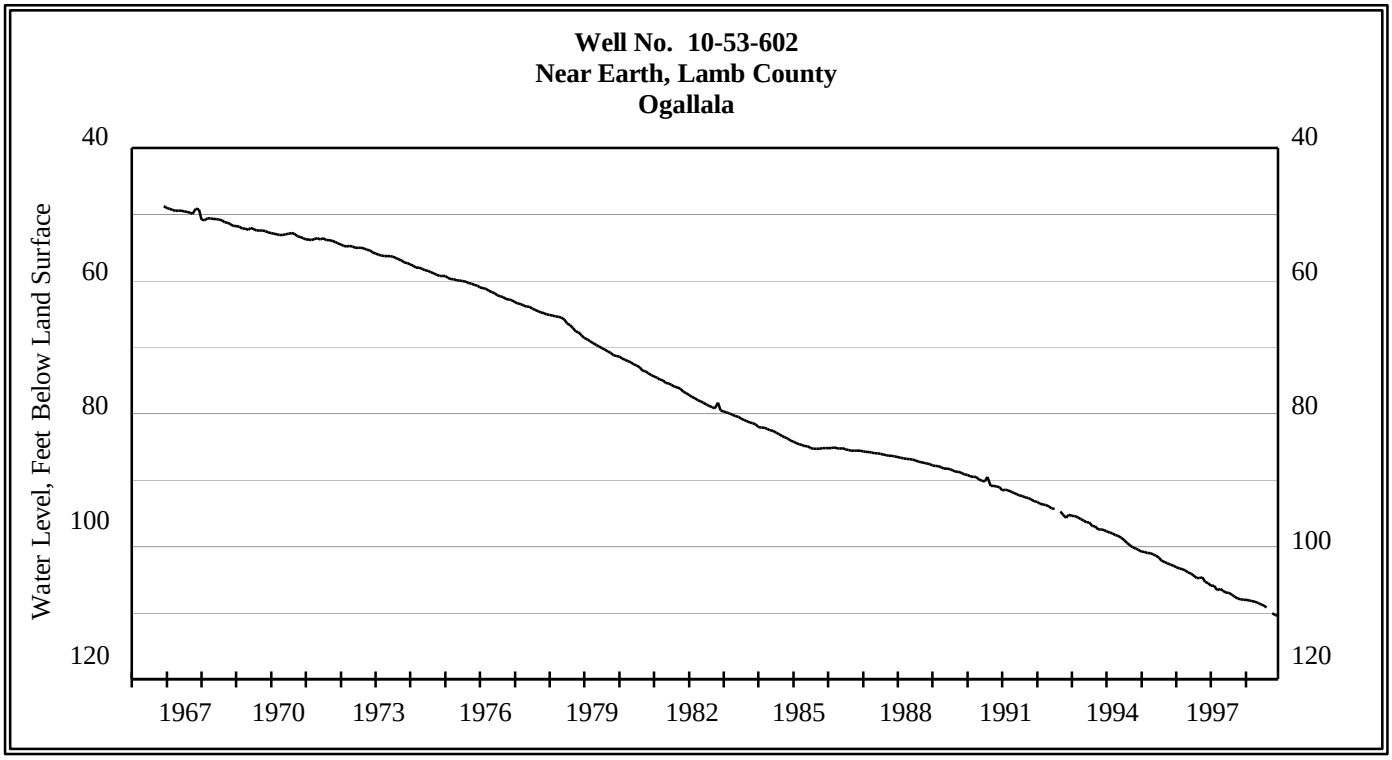
Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late Jan 1999 (acre-feet)	(%)	Change since Late Dec 1998 (acre-feet)	(%)	Change since Late Jan 1998 (acre-feet)	(%)
			SOUTHERN					
Choke Canyon Reservoir	75	695,260	360,465	52	-1,408	0	88,365	13
Lake Corpus Christi	76	241,240	184,699	77	-1,564	-1	19,869	8
Falcon Reservoir (Texas)	77	1,555,120	324,000	21	-34,000	-2	26,470	2
Falcon Reservoir (Texas and Mexico)	(77)	2,653,290	609,000	23	-36,000	-1	74,740	3
TOTAL		2,491,620	869,164	35	-36,972	-1	-102,026	-4
STATE TOTAL		34,481,020	28,524,167	83	282,900	1	-1,388,093	-4

*** Artificially large change in contents for Lake Ray Hubbard since 1/1998 due to use of new elevation-capacity table. Small reduction in state total conservation storage capacity occurred for the same reason.**

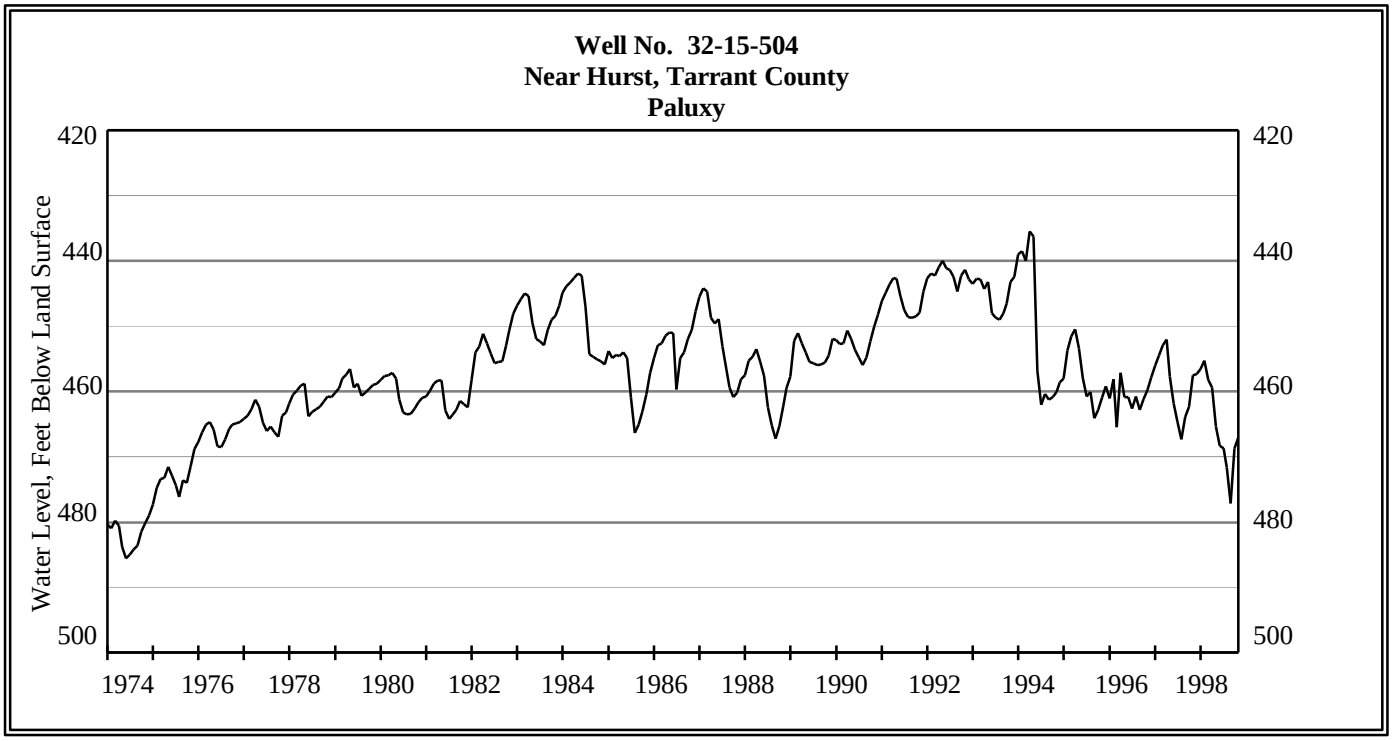
NOTES: Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space.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

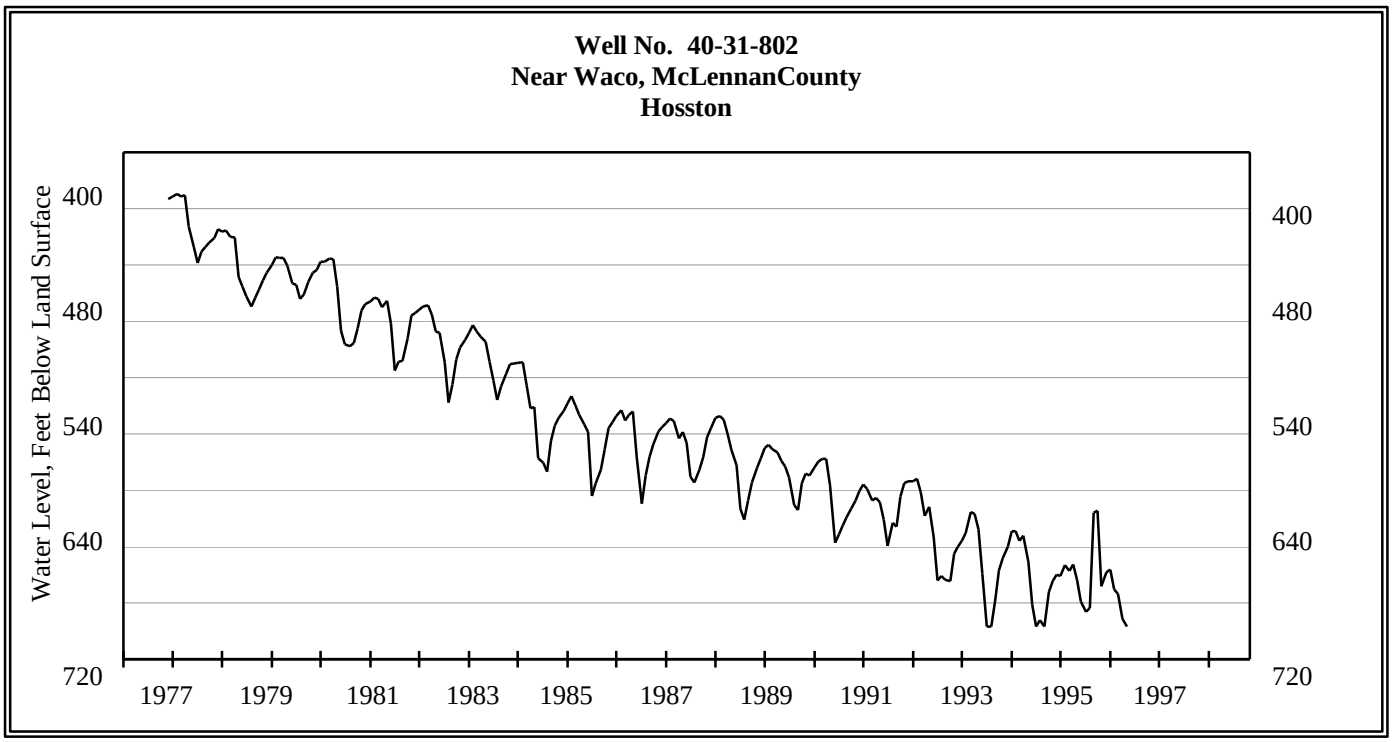
GROUND WATER LEVELS IN OBSERVATION WELLS



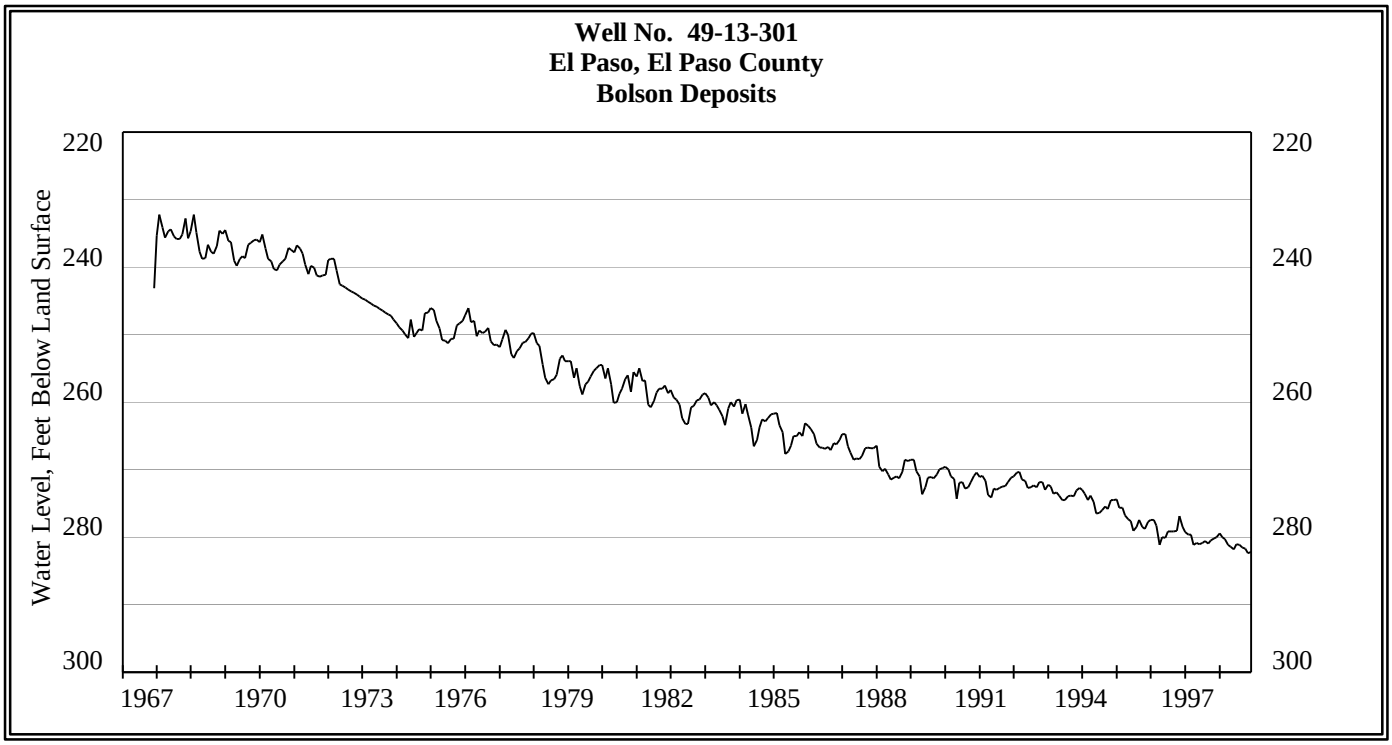
The January water-level measurement in this Ogallala aquifer well, elevation 3667 feet above sea level, was 110.62 feet below land surface. This was 0.15 of a foot below last month's measurement, 2.61 feet below last year's measurement, and 82.47 feet below the initial measurement recorded in 1950.



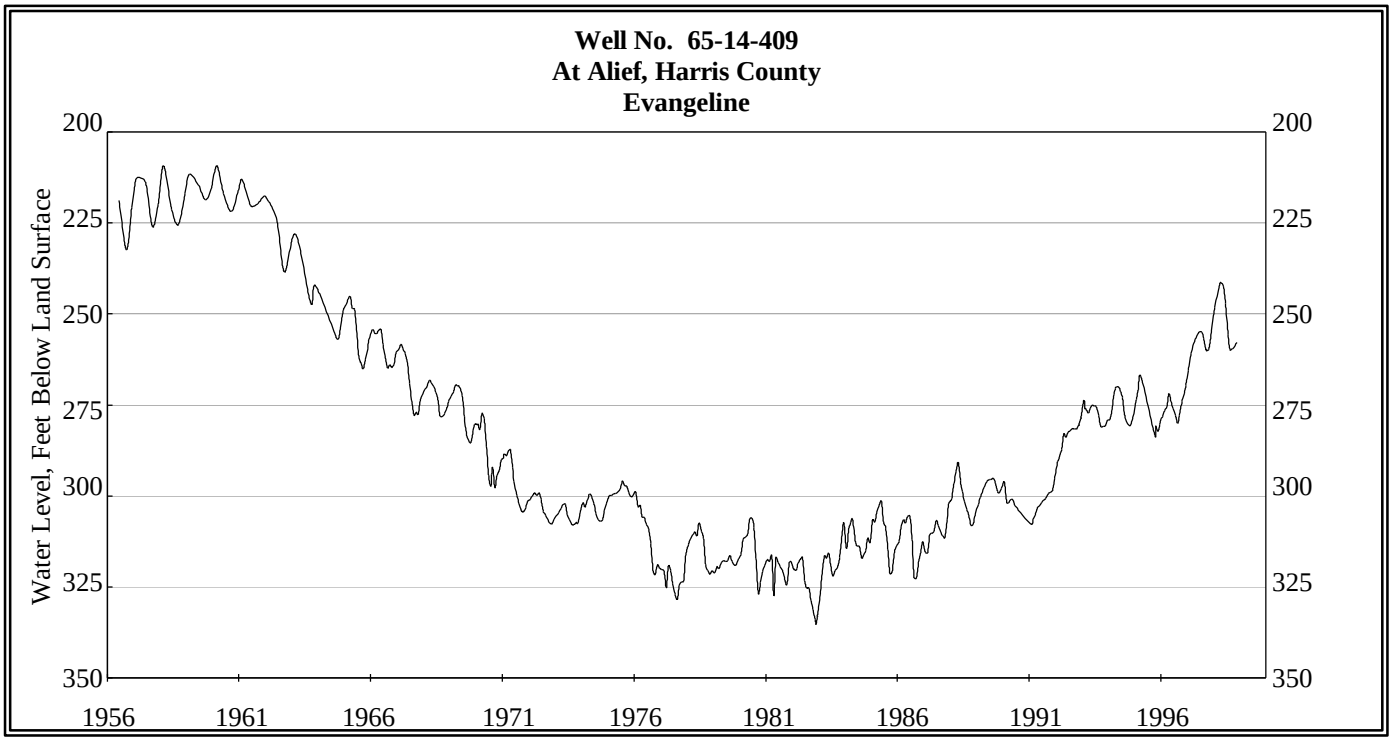
The January water-level measurement in this Paluxy aquifer well, elevation 535 feet above sea level, was 466.51 feet below land surface. This measurement was 0.49 of a foot above last month's measurement, 9.15 feet below last year's measurement, and 73.12 feet below the initial measurement recorded in 1953.



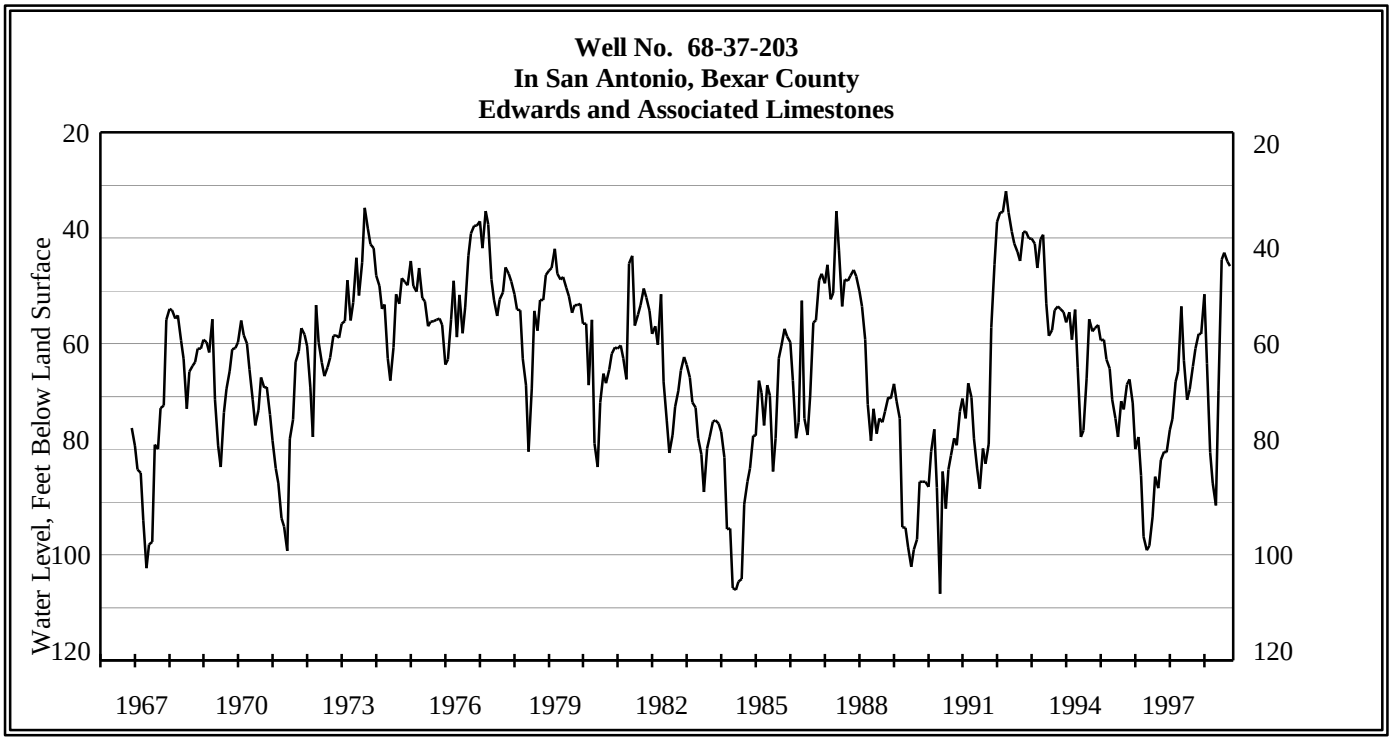
The January water-level measurement in this Hosston Formation aquifer well, elevation 593 feet above sea level, was not available this month due to continued casing problems.



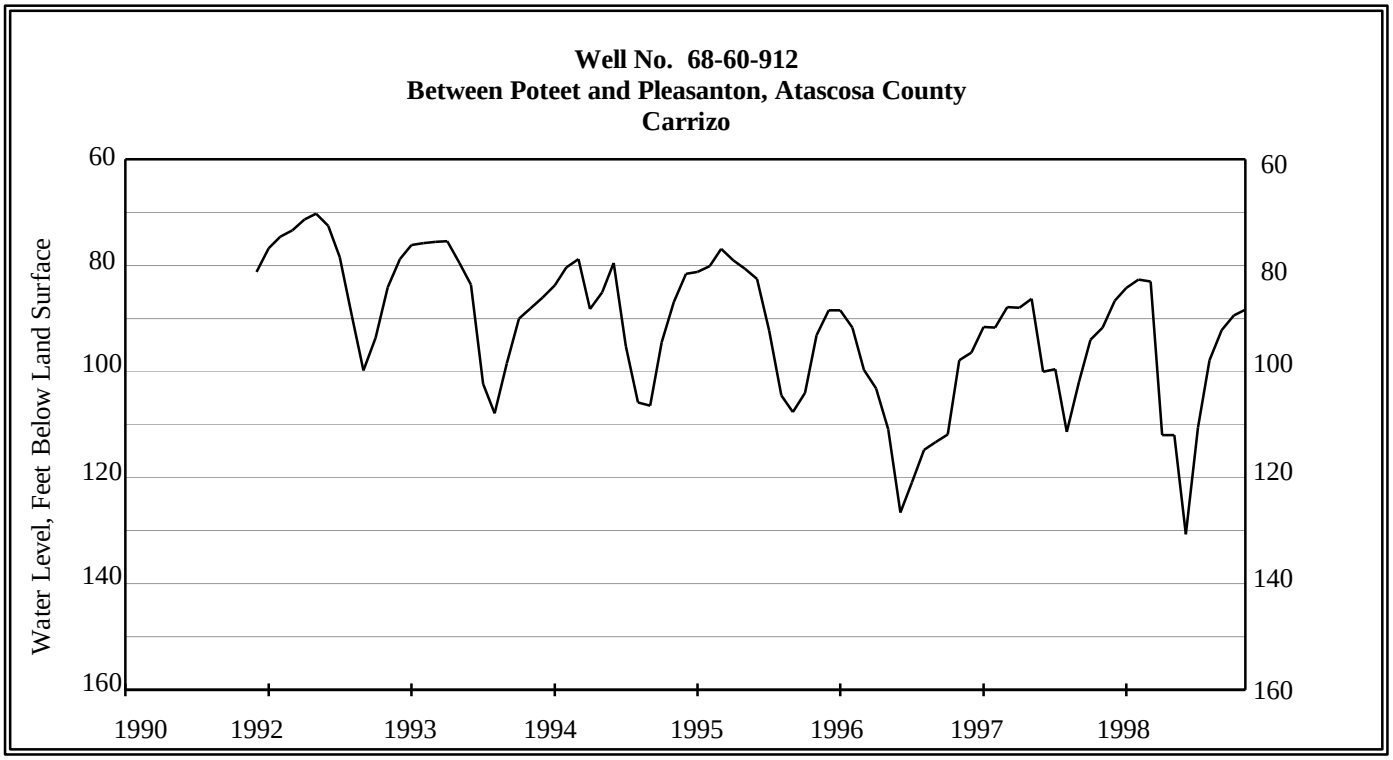
The January water-level measurement in this Bolson Deposits aquifer well, elevation 3882 feet above sea level, was 282.18 feet below land surface. This was 0.22 of a foot above last month's measurement, 2.18 feet below last year's measurement, and 50.28 feet below the initial measurement recorded in 1964.



The January water-level measurement in this Evangeline aquifer well, elevation 66 feet above sea level, was 254.74 feet below land surface. This was 2.38 feet above last month's measurement, 6.60 feet below last year's measurement, and 119.20 feet below the initial measurement recorded in 1947.

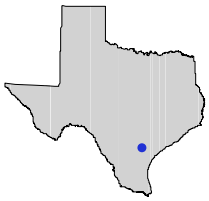


The January water-level measurement in this Edwards aquifer well, elevation 731 feet above sea level, was 45.3 feet below land surface. This was 0.8 of a foot below last month's measurement, 12.9 feet above last year's measurement, and 15.92 feet above the initial measurement recorded in 1962.



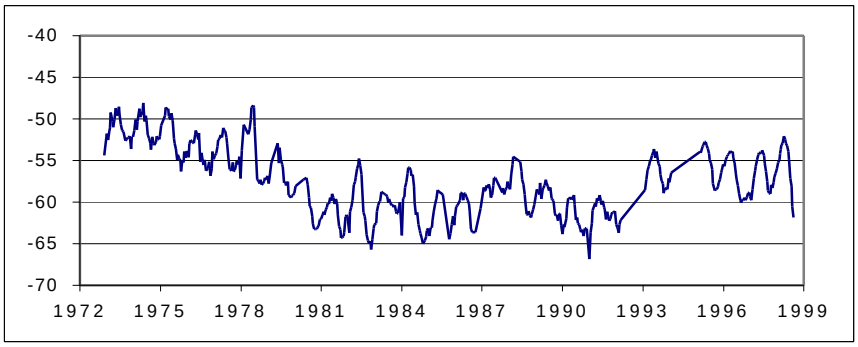
The January water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 88.43 feet below land surface. This was 1.10 feet above last month's measurement, 1.78 feet below last year's measurement, and 7.24 feet below the initial measurement recorded in 1992.

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. 80-17-502
South of Victoria, Victoria County



This 1026-foot deep unused well is completed in the Lower Goliad Formation of the Gulf Coast aquifer. Yearly seasonal variations range between five and ten feet, and little overall decline has occurred in the period of record.