Texas Water Development Board

WATER Conditions

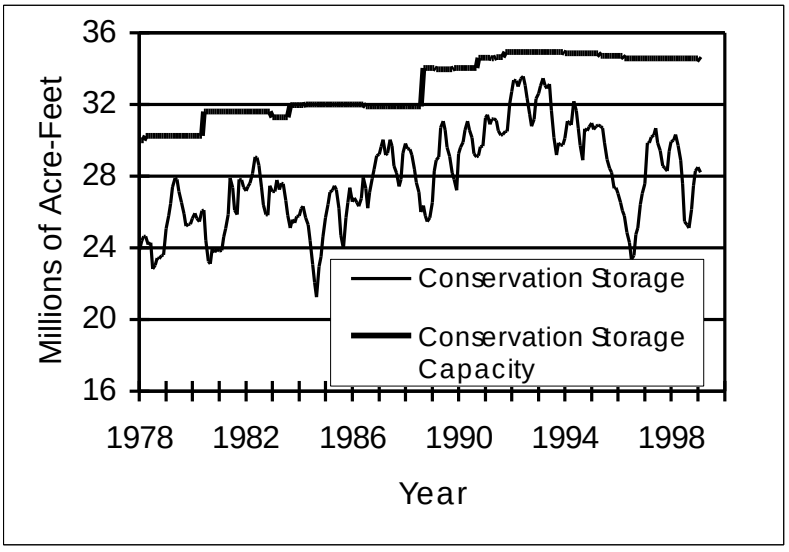
RESERVOIR STORAGE

February 1999

Near the end of February, the 77 reservoirs monitored for this report held 28,222,000 acre-feet in conservation storage. This is 82 percent of the conservation storage capacity of the State's major reservoirs. Compared to the end of January, storage decreased 302,000 acre-feet (-0.9% of conservation storage capacity). Compared to this month last year, storage decreased 1,772,000 acre-feet (-5%).

Of the monitored reservoirs, 27 held 100 percent or more of conservation storage near the end of February. Conservation storage decreased or remained nearly the same in all regions of the state except for the Low Rolling Plains, where storage increased by 6806 acre-feet (+1%). Conservation storage dropped by 2% in the East and Southern regions. Among all regions, conservation storage in the Trans-Pecos remained lowest at 23% followed by the Southern region at 33% and the Low Rolling Plains at 35%. Conservation storage in the South Central (99%), Upper Coast (100%) , and East (97%) regions remained near full.

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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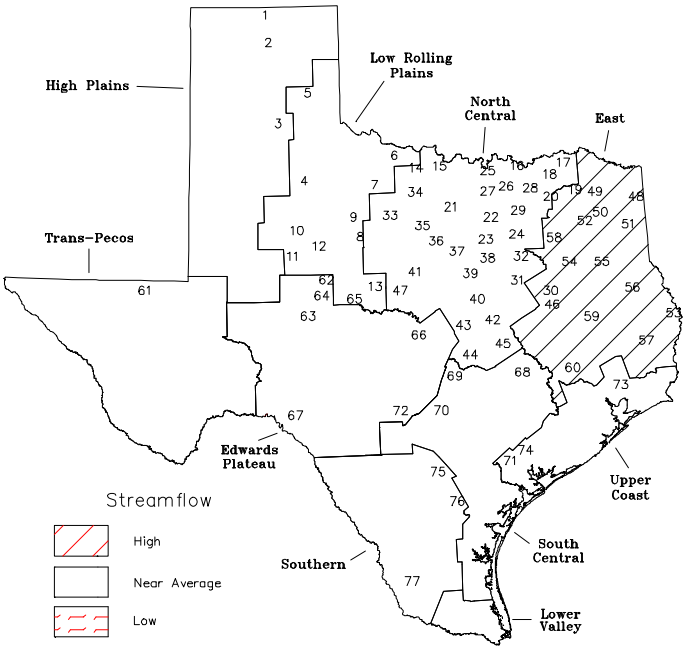
STREAMFLOW

Flows at index stations returned to near normal in most areas of the state except in the East Texas climatic region where flows remained high. Throughout the state, February flows declined at 14 index stations, increased at 13 stations, and remained the same at 2 stations in comparison to January flows. The following is a summary of the measured flows reported at the 29 index stations across the state.

Flows remained high, i.e. remained at levels exceeded from 5% to 30% of the time when compared to long-term historical station data, at four out of five stations, and increased in comparison to January flows at three out of five index stations in the East Texas climatic region. The 30-day average flow at Little Cypress Creek near Jefferson, Texas had the lowest exceedance frequency of all index stations at 9.7% exceedance. Flows decreased in comparison to January flows and approached normal conditions in the South Central and Southern climatic regions. No flows were recorded at Hubbard Creek below Albany, Texas in the North Central region, but elsewhere in the region decreased to normal conditions. Low flows were recorded at only four index stations, one each in the Low Rolling Plains, North Central, Edwards Plateau, and Upper Coast regions.

STREAMFLOW CONDITIONS FOR FEBRUARY 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 Feb 1999 (acre-feet)	(%)	Change since Late Jan 1999 (acre-feet)	(%)	Change since Late Feb 1998 (acre-feet)	(%)
HIGH PLAINS								
Palo Duro Reservoir	1	60,900	8,611	14	-732	-1	1,651	3
Lake Meredith (Texas)	2	500,000	329,500	66	-1,600	0	-53,820	-11
Lake Meredith (Texas and Oklahoma)	(2)	779,560	329,500	42	-1,600	0	-53,820	-7
MacKenzie Reservoir	3	46,250	7,062	15	-28	0	-1,368	-3
White River Lake	4	31,850	8,258	26	-207	-1	-4,222	-13
TOTAL		639,000	353,431	55	-2,567	0	-57,759	-9
LOW ROLLING PLAINS								
Greenbelt Reservoir	5	58,200	29,860	51	7,110	12	1,650	3
Lake Kemp	6	319,600	156,500	49	1,900	1	-111,980	-35
Miller's Creek Reservoir	7	27,890	13,603	49	-101	0	2,053	7
Fort Phantom Hill Reservoir	8	70,030	25,917	37	-610	-1	-31,943	-46
Lake Stamford	9	52,700	18,340	35	-290	-1	-11,460	-22
Lake J. B. Thomas	10	202,300	6,420	3	-530	0	-9,500	-5
Lake Colorado City	11	30,800	14,340	47	-390	-1	-4,860	-16
Champion Creek Reservoir	12	41,600	10,270	25	-140	0	-9,920	-24
Hords Creek Lake	13	8,600	4,854	56	-143	-2	-1,626	-19
TOTAL		811,720	280,104	35	6,806	1	-177,586	-22
NORTH CENTRAL								
Lake Kickapoo	14	106,000	53,015	50	-995	-1	-6,835	-6
Lake Arrowhead	15	262,100	172,900	66	-3,500	-1	-39,020	-15
Lake Texoma	16	2,722,300	2,348,827	86	87,366	3	-162,373	-6
Pat Mayse Lake	17	124,500	121,140	97	-3,360	-3	-3,360	-3
Cooper Lake	18	273,000	262,021	96	-10,979	-4	-10,979	-4
Lake Sulphur Springs	19	17,710	14,644	83	-2,434	-14	-3,066	-17
Lake Tawakoni	20	936,200	936,200	100	0	0	0	0
Bridgeport Reservoir	21	374,830	281,976	75	-2,405	-1	-67,424	-18
Eagle Mountain Reservoir	22	178,380	144,669	81	-1,619	-1	-33,711	-19
Benbrook Lake	23	88,200	84,071	95	1,497	2	-4,129	-5
Joe Pool Lake	24	175,800	175,800	100	0	0	0	0
Ray Roberts Lake	25	798,760	712,279	89	-9,727	-1	-86,481	-11
Lewisville Lake	26	555,000	449,746	81	-8,321	-1	-105,254	-19
Grapevine Lake	27	187,700	155,032	83	-1,067	-1	-32,668	-17
Lavon Lake	28	443,800	442,564	100	-1,236	0	-1,236	0
Lake Ray Hubbard*	29	413,420	413,420	100	0	0	-76,580	-19
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	247,300	78	-4,800	-2	-49,100	-15
Lake Graham	34	45,000	38,100	85	-1,150	-3	-6,900	-15
Possum Kingdom Lake	35	551,820	245,440	44	1,084	0	-233,070	-42
Lake Palo Pinto	36	42,200	25,033	59	-634	-2	-10,227	-24
Lake Granbury	37	135,680	126,475	93	-2,480	-2	-9,205	-7
Lake Pat Cleburne	38	25,300	25,300	100	0	0	0	0
Whitney Lake	39	622,800	446,767	72	-12,252	-2	-176,033	-28
Waco Lake	40	144,500	144,500	100	0	0	-50	0
Proctor Lake	41	55,590	32,770	59	-863	-2	-22,820	-41
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	213,800	99	-1,950	-1	-1,950	-1
Lake Brownwood	47	143,400	110,204	77	-1,801	-1	-16,396	-11
TOTAL		11,922,600	10,389,053	87	18,374	0	-1,158,867	-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 Feb 1999 (acre-feet)	(%)	Change since Late Jan 1999 (acre-feet)	(%)	Change since Late Feb 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	248	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	3,000	0
Toledo Bend Reservoir	53	4,472,900	4,203,000	94	-269,900	-6	-269,900	-6
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	51,301	54	-4,109	-4	-35,499	-38
Cedar Creek Reservoir	58	637,050	637,050	100	0	0	0	0
Lake Livingston	59	1,750,000	1,750,000	100	0	0	0	0
Lake Conroe	60	429,900	414,700	96	-7,600	-2	-14,270	-3
TOTAL		12,044,350	11,716,351	97	-281,361	-2	-316,669	-3
TRANS-PECOS								
Red Bluff Reservoir	61	307,000	71,300	23	1,080	0	-21,190	-7
TOTAL		307,000	71,300	23	1,080	0	-21,190	-7
EDWARDS PLATEAU								
E. V. Spence Reservoir	62	484,800	72,210	15	-1,010	0	-45,190	-9
Twin Buttes Reservoir	63	177,800	14,325	8	80	0	-31,075	-17
O.C. Fisher Lake	64	119,200	12,112	10	-564	0	-3,768	-3
O. H. Ivie Reservoir	65	554,340	416,500	75	-6,200	-1	-95,460	-17
Lake Buchanan	66	896,980	811,372	90	3,542	0	-54,248	-6
Amistad Reservoir (Texas)	67	1,771,030	1,011,000	57	10,000	1	143,540	8
Amistad Reservoir (Texas and Mexico)	(67)	3,151,300	1,436,000	46	18,000	1	-38,680	-1
TOTAL		4,004,150	2,337,519	58	5,848	0	-86,201	-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	0	0
Canyon Lake	70	385,600	380,445	99	0	0	-3,055	-1
Coleto Creek Reservoir	71	35,060	31,660	90	-3,400	-10	-3,400	-10
Medina Lake	72	254,000	250,600	99	-3,400	-1	23,830	9
TOTAL		1,973,820	1,961,865	99	-6,800	0	17,375	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	0	0
TOTAL		286,760	286,760	100	0	0	0	0

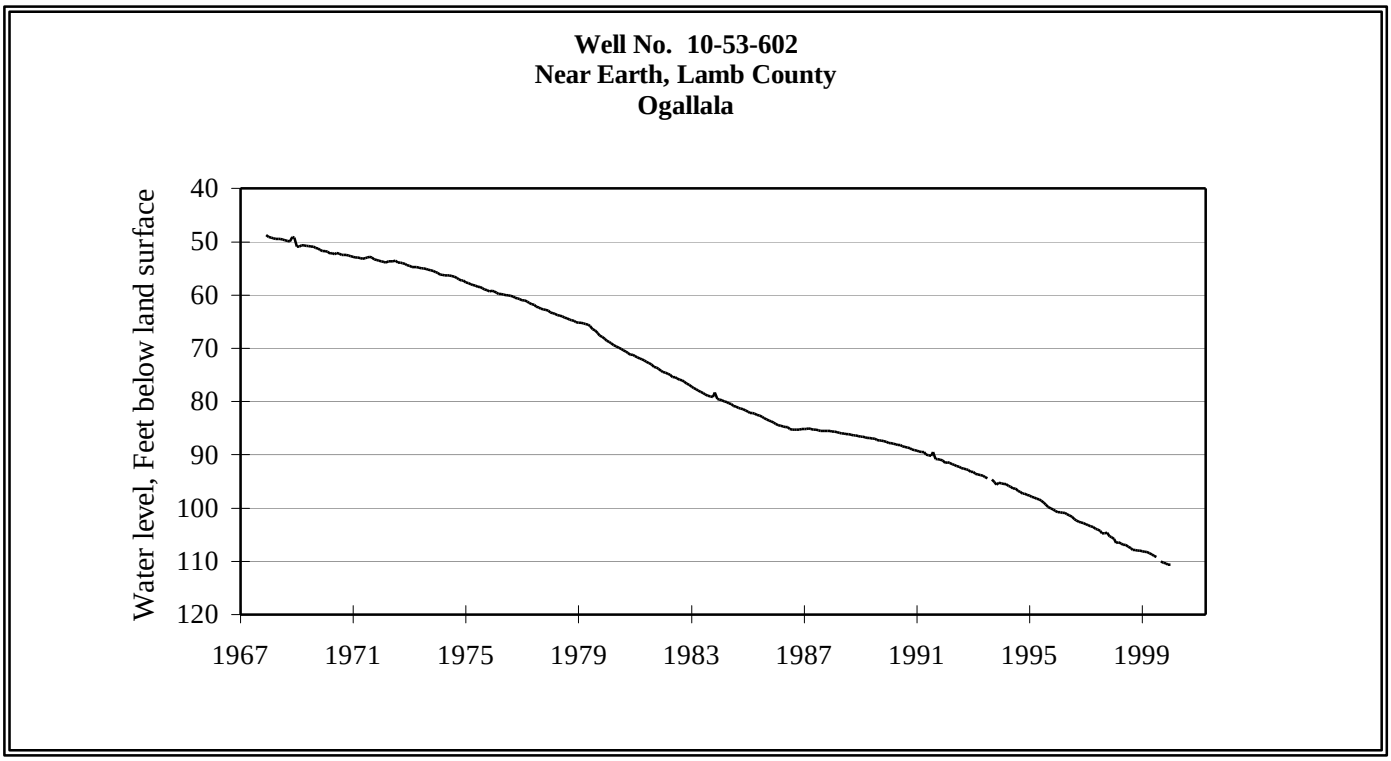
CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late Feb 1999 (acre-feet)	(%)	Change since Late Jan 1999 (acre-feet)	(%)	Change since Late Feb 1998 (acre-feet)	(%)
			SOUTHERN					
Choke Canyon Reservoir	75	695,260	356,958	51	-3,507	-1	81,398	12
Lake Corpus Christi	76	241,240	181,932	75	-2,767	-1	-3,638	-2
Falcon Reservoir (Texas)	77	1,555,120	287,000	18	-37,000	-2	-48,630	-3
Falcon Reservoir (Texas and Mexico)	(77)	2,653,290	557,000	21	-52,000	-2	-5,630	0
TOTAL		2,491,620	825,890	33	-43,274	-2	29,130	1
STATE TOTAL		34,481,020	28,222,273	82	-301,894	-1	-1,771,767	-5

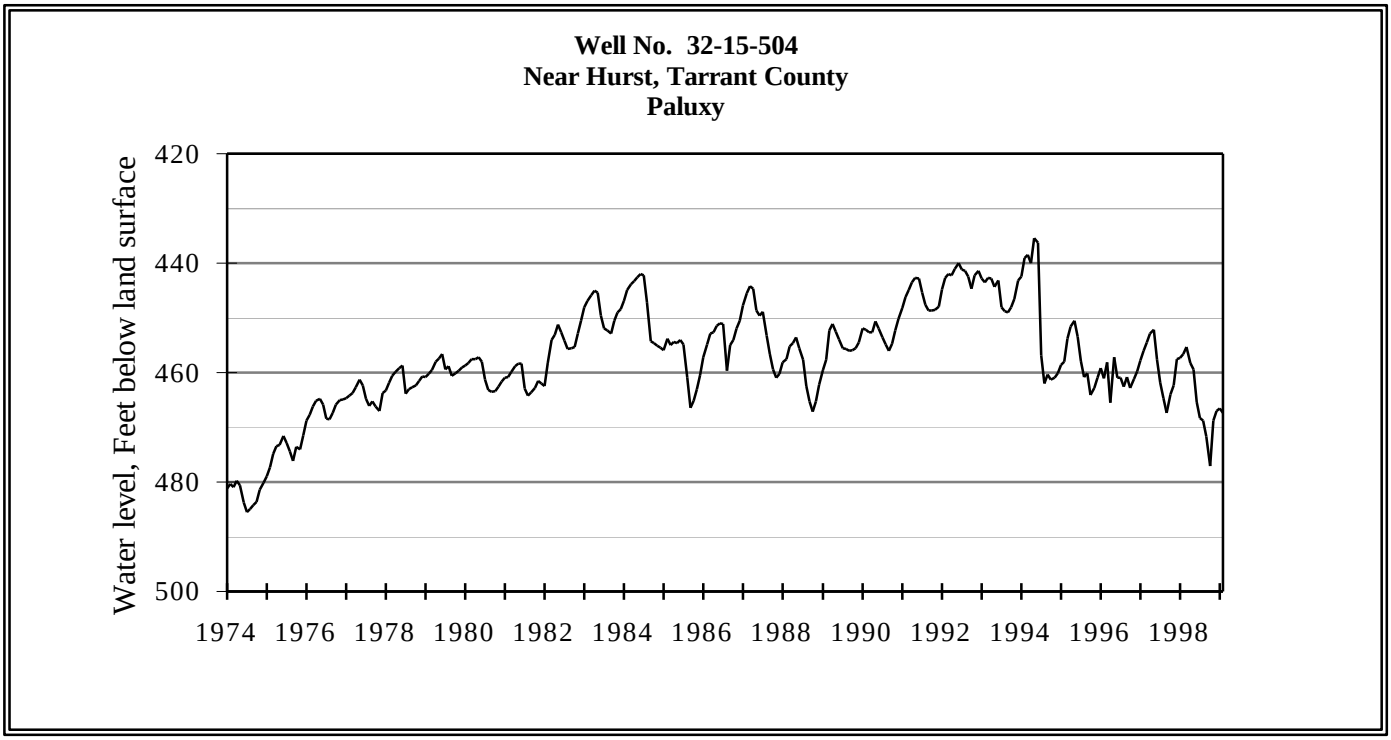
NOTES: Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space.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

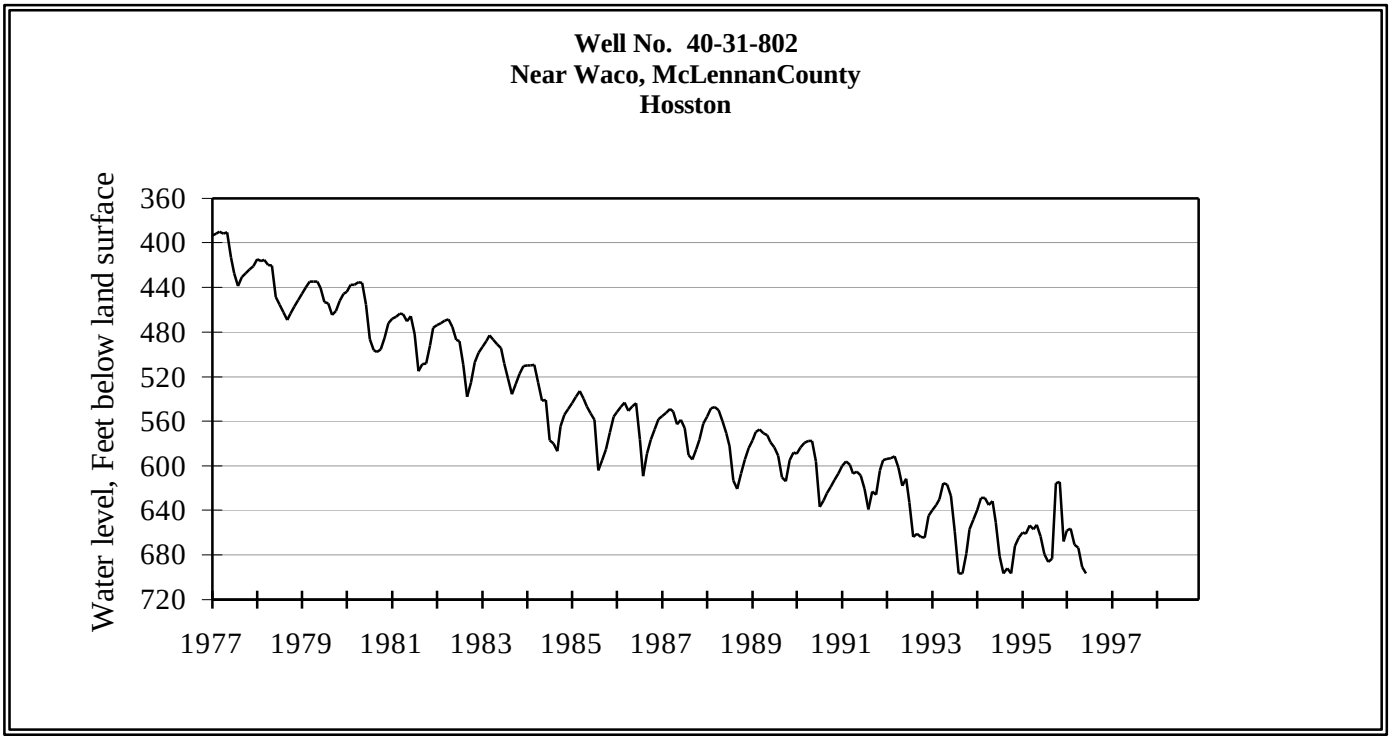
GROUND WATER LEVELS IN OBSERVATION WELLS



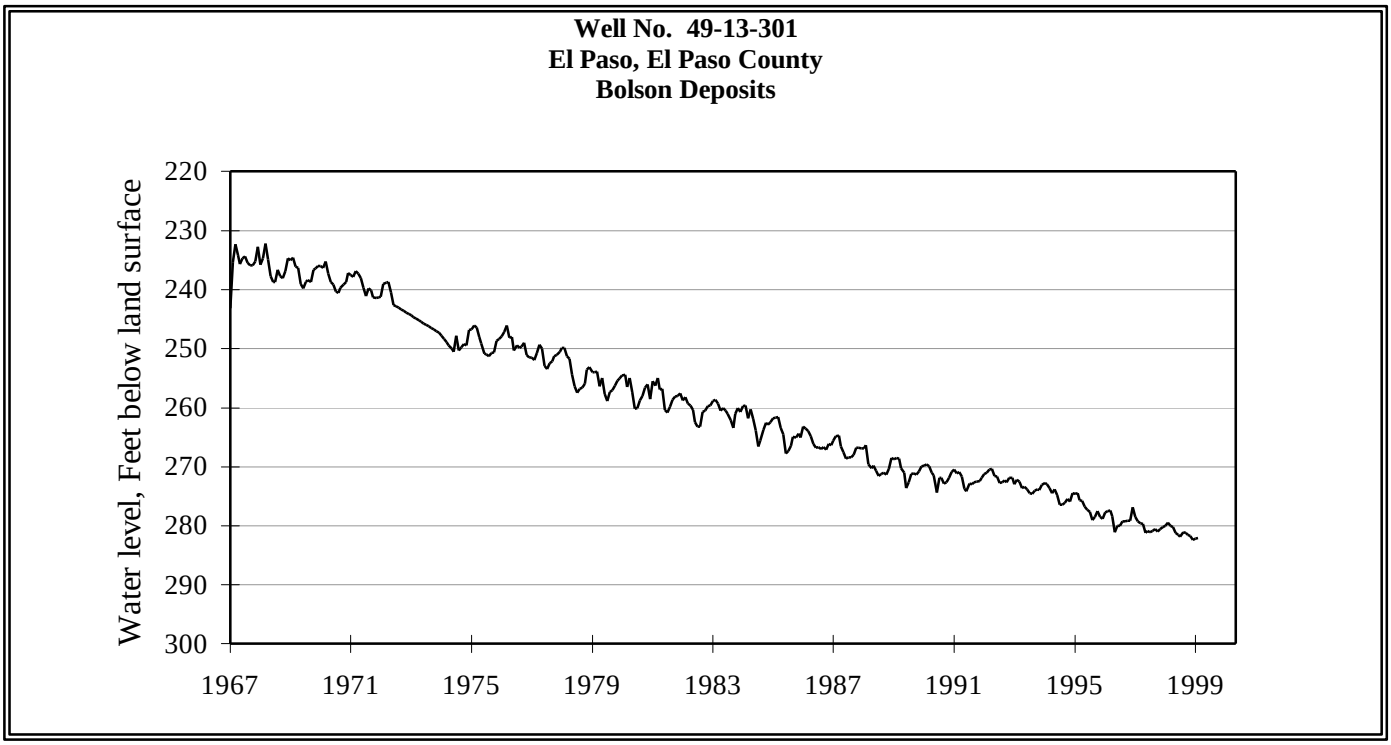
The February water-level measurement in this Ogallala aquifer well, elevation 3667 feet above sea level, was 110.71 feet below land surface. This was 0.09 of a foot below last month's measurement, 2.60 feet below last year's measurement, and 82.56 feet below the initial measurement recorded in 1950.



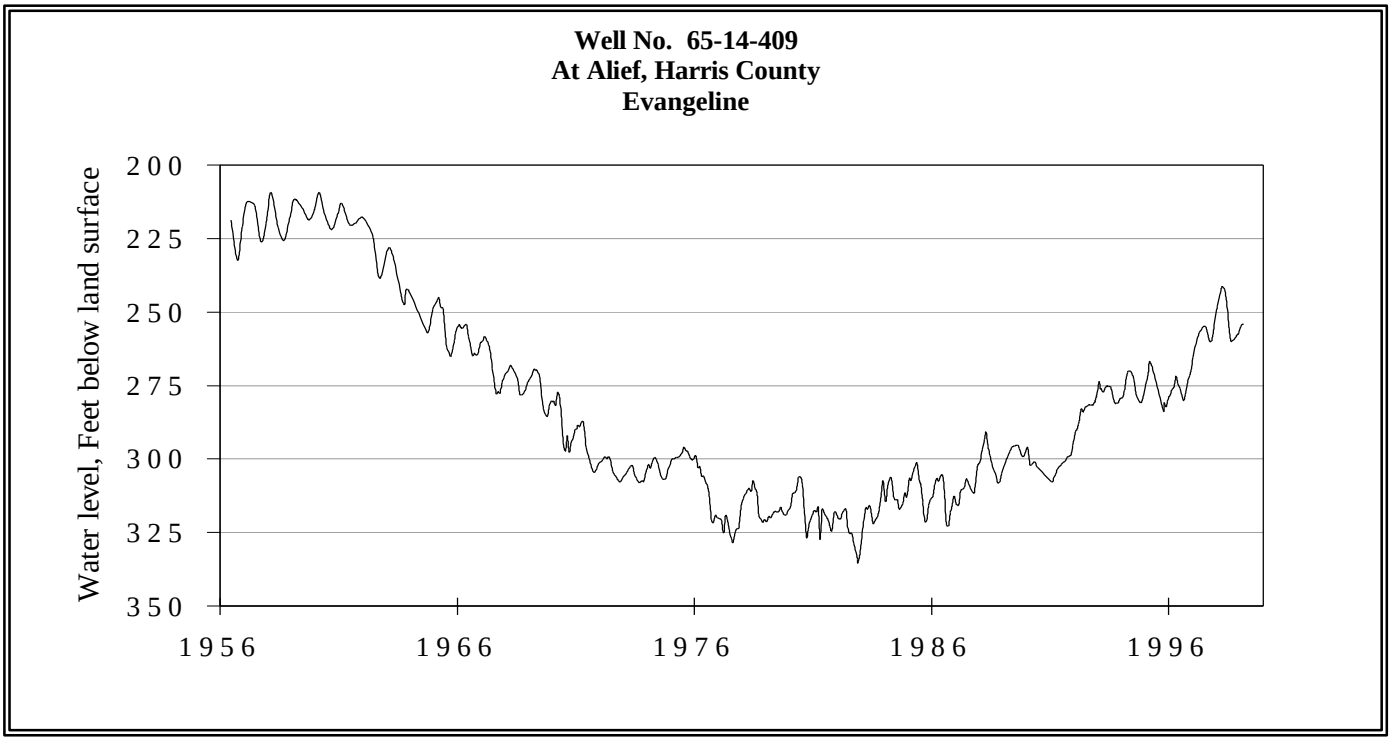
The February water-level measurement in this Paluxy aquifer well, elevation 535 feet above sea level, was 467.39 feet below land surface. This measurement was 0.88 of a foot below last month's measurement, 10.85 feet below last year's measurement, and 74.0 feet below the initial measurement recorded in 1953.



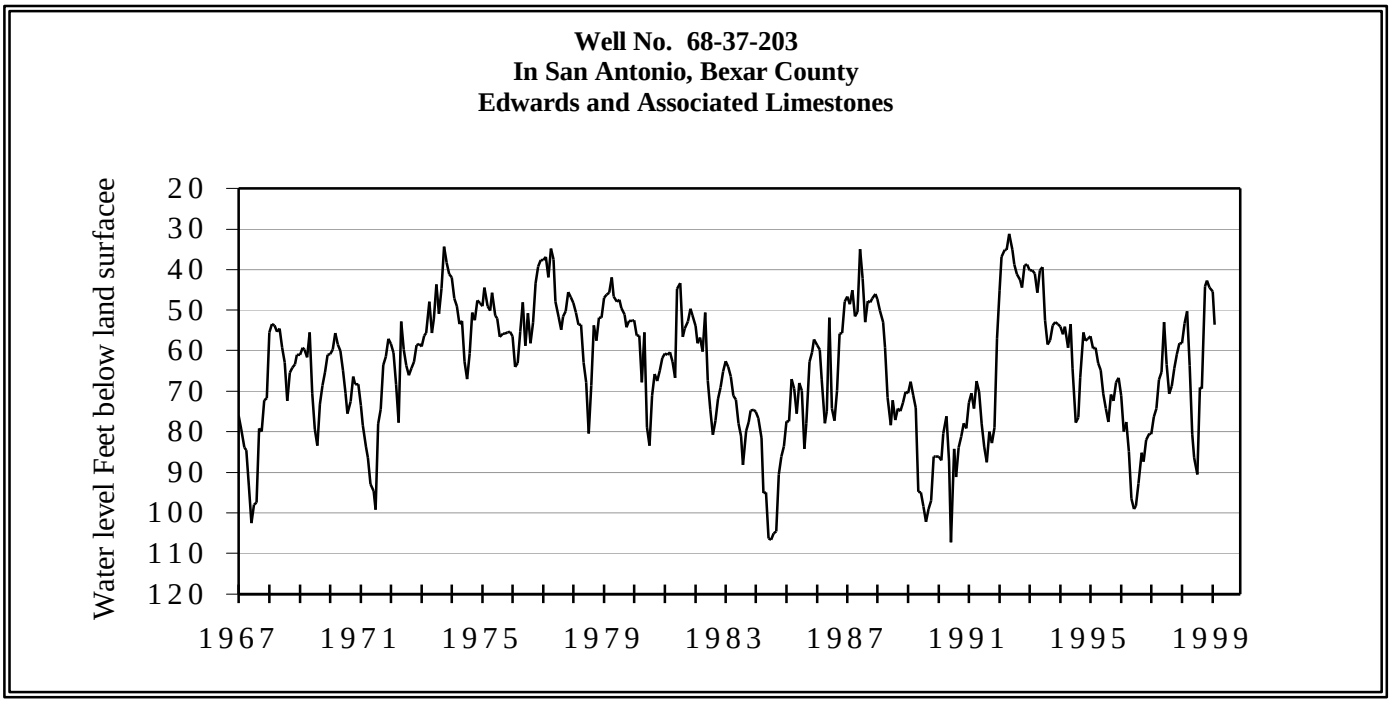
The February water-level measurement in this Hosston Formation aquifer well, elevation 593 feet above sea level, was not available this month due to continued casing problems.



The February water-level measurement in this Bolson Deposits aquifer well, elevation 3882 feet above sea level, was 282.04 feet below land surface. This was 0.14 of a foot above last month's measurement, 2.56 feet below last year's measurement, and 50.14 feet below the initial measurement recorded in 1964.

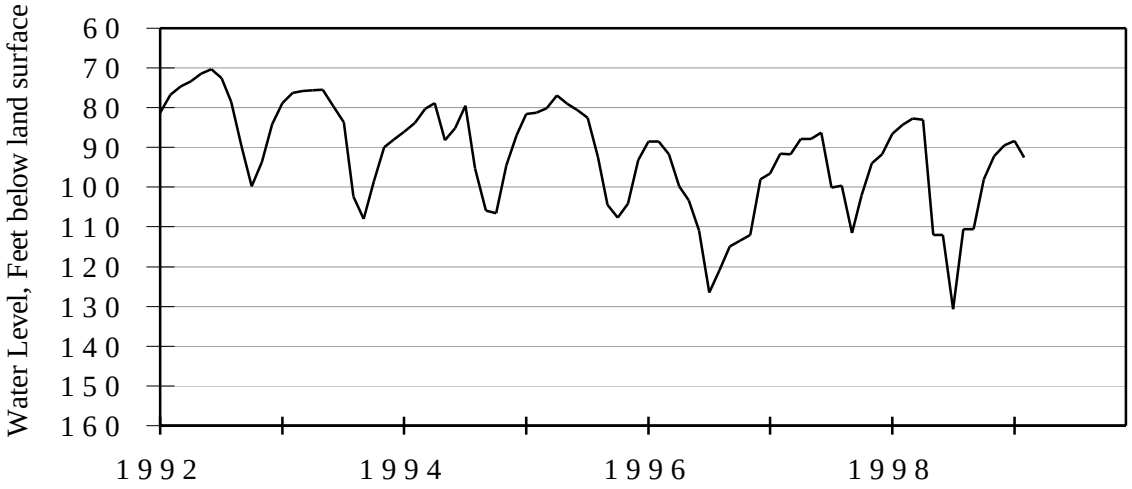


The February water-level measurement in this Evangeline aquifer well, elevation 66 feet above sea level, was 254.04 feet below land surface. This was 0.70 of a foot above last month's measurement, 5.94 feet below last year's measurement, and 118.50 feet below the initial measurement recorded in 1947.



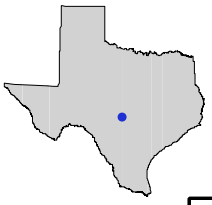
The February water-level measurement in this Edwards aquifer well, elevation 731 feet above sea level, was 53.6 feet below land surface. This was 8.3 feet below last month's measurement, 0.30 of a foot below last year's measurement, and 6.02 feet above the initial measurement recorded in 1962.

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



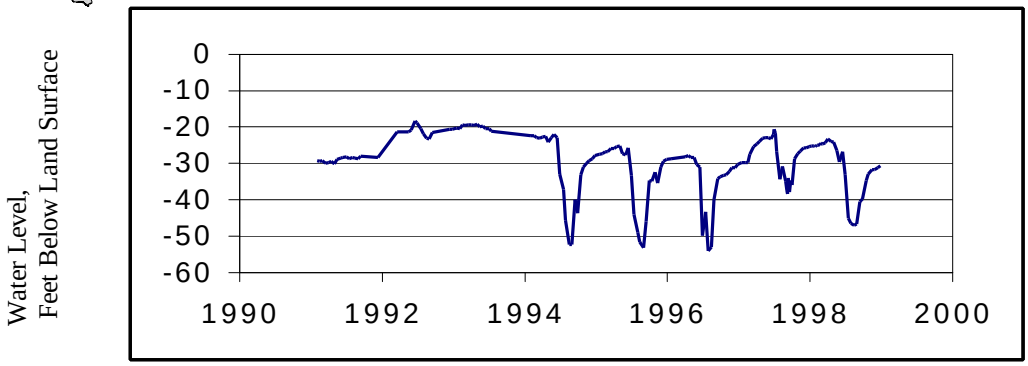
The February water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 92.59 feet below land surface. This was 4.16 feet below last month's measurement, 8.31 feet below last year's measurement, and 11.34 feet below the initial measurement recorded in 1992.

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. 56-08-509
Southwestern San Saba County



This 300-foot deep unused well, at an elevation of 1,699 feet above sea level, is completed in the Hickory Sandstone, a minor aquifer providing water to wells in the Hill Country. Yearly seasonal variations ranging up to 20 feet are apparent beginning in 1994 as a result of increased pumping by nearby wells in the area.