Texas Water Development Board

WATER Conditions

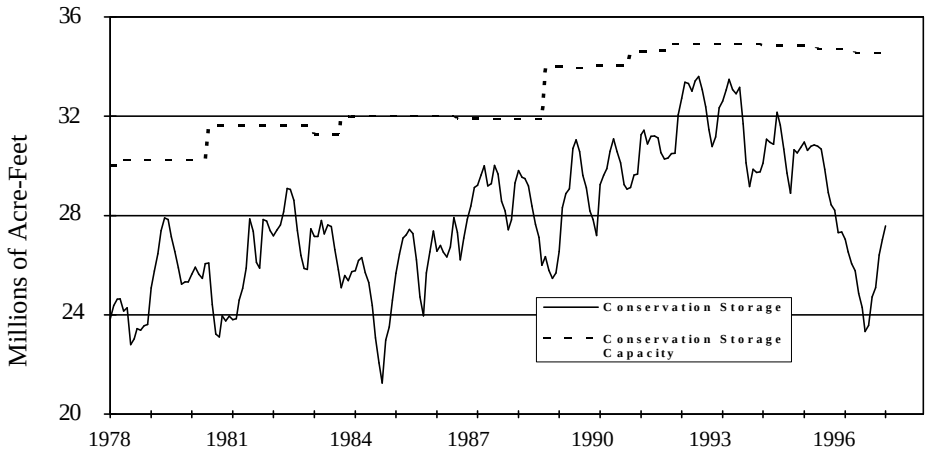
RESERVOIR STORAGE

February 1997

Near the end of January, the 77 reservoirs monitored for this report held 27,576,380 acre-feet in conservation storage. This was 80 percent of the conservation storage capacity of the State's major reservoirs. Compared to last month, storage has increased 553,720 acre-feet. Compared to this month last year, storage has increased 547,950 acre-feet.

Of the monitored reservoirs, 21 held 100 percent or more of their conservation storage capacities near the end of January. Lakes Sulphur Springs, Eagle Mountain, Graham, Granbury, Cypress Springs, Sandlin, Livingston, Houston, and Texana were full and spilling. An additional amount of water (acre-feet) was contained in the flood storage pool in each of the reservoirs as follows: Cooper, 1,860; Benbrook, 770; Lewisville, 8,190; Lavon, 1,950; Waco, 7,160; Proctor, 790; Belton, 950; Stillhouse, 4,080; Granger, 820; Patman, 69,820; Lake O' the Pines, 2,800; and Somerville, 2,990.

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.

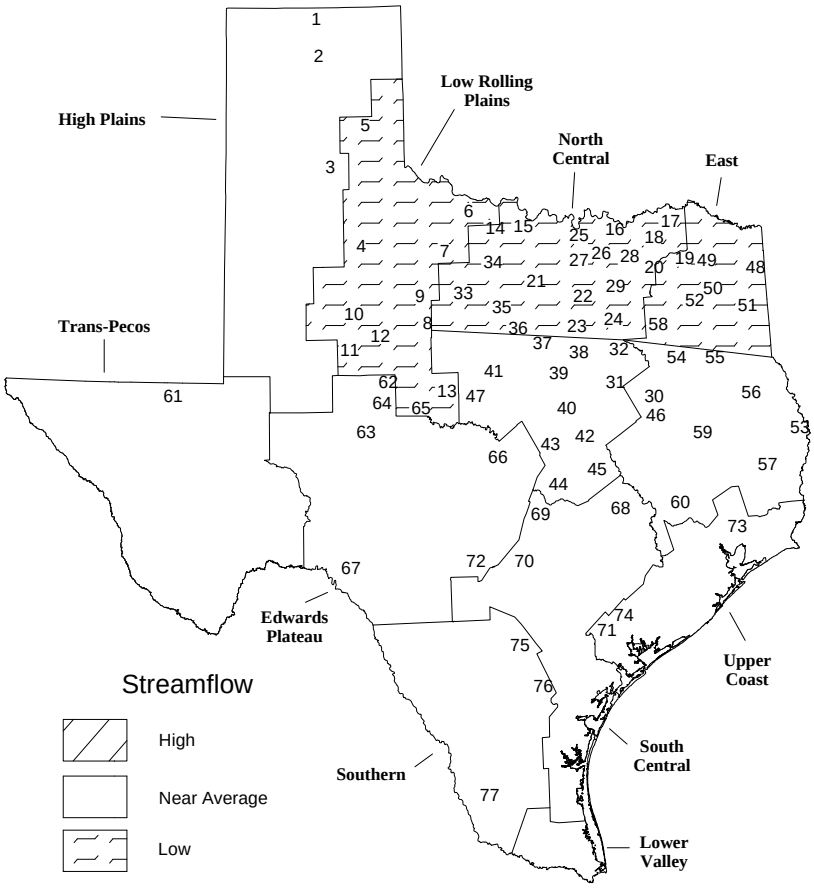
P.O. Box 13231 • 1700 N. Congress Avenue • Austin, Texas 78711-3231
Telephone (512) 463-7847 • Telefax (512) 475-2053 • 1-800-RELAYTX (for the hearing impaired)

STREAMFLOW

Streamflow conditions across Texas ranged from below-normal to near-normal during the month of January. Rainfall was minimal throughout the Low Rolling Plains and the northern halves of East and North-central Texas. The remainder of the state reported near-normal flow rates. The following is a summary of the measured flows at various index stations across the State.

The index station for the East Texas climatic division is located on the Neches River near Rockland. Streamflow for January was within the normal range, averaging 2,166 cubic feet per second (cfs). The monthly average flow rate, when compared to the 1961-90 reference period, was 92 percent of the reference period median and 794 cfs above the below-normal level for this location. For North-central Texas, the index station is located on the North Bosque River near Clifton. Streamflow past the gage was above normal for the sixth consecutive month, averaging 218 cfs, or 601 percent of the monthly reference period median. This was 116 cfs above the station's near-normal flow level. Elsewhere across the State, the index station for the Edwards Plateau is located on the North Concho River near Carlsbad. Streamflow past the gage averaged 4.30 cfs during the month, or 276 percent of the reference period median. This value was near-normal, 0.03 cfs below the station's above-normal January flow level. The index station for South-central and the Southern Texas is located on the Guadalupe River near Spring Branch. Flow during the month at the station was near-normal, averaging 195 cfs past the gage. This was 105 percent of the month's reference period median flow rate and was 211 cfs below the above-normal streamflow level.

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 in Acre-Feet and as Percent of Conservation Storage Capacity					
			Late Jan 1997		Late Dec 1996		Late Jan 1996	
HIGH PLAINS								
Palo Duro Reservoir	1	60,900	11,290	19	12,450	20	2,860	5
Lake Meredith (Texas)	2	500,000	361,990	72	367,220	73	320,960	64
Lake Meredith (Texas and Oklahoma)	(2)	(779,560)	(361,990)	(46)	(367,220)	(47)	(320,960)	(40)
MacKenzie Reservoir	3	46,250	7,590	16	7,700	17	7,740	17
White River Lake	4	31,850	7,420	23	7,490	24	18,860	43
TOTAL		639,000	388,290	61	394,860	62	350,420	55
LOW ROLLING PLAINS								
Greenbelt Reservoir	5	58,200	21,370	37	21,350	37	21,570	37
Lake Kemp	6	319,600	203,970	64	205,990	64	257,060	80
Miller's Creek Reservoir	7	27,890	11,550	41	12,130	43	12,930	46
Fort Phantom Hill Reservoir	8	70,030	55,820	80	58,200	83	54,510	73
Lake Stamford	9	52,700	21,290	40	21,530	41	31,330	59
Lake J. B. Thomas	10	202,300	9,100	4	9,100	4	14,450	7
Lake Colorado City	11	30,800	18,100	59	18,500	60	21,160	69
Champion Creek Reservoir	12	41,600	20,840	50	20,840	50	31,560	76
Hords Creek Lake	13	8,600	6,390	74	6,560	76	6,180	72
TOTAL		811,720	368,430	45	374,200	46	450,750	56
NORTH CENTRAL								
Lake Kickapoo	14	106,000	64,250	61	66,500	63	88,880	84
Lake Arrowhead	15	262,100	195,670	75	197,550	75	228,870	87
Lake Texoma	16	2,722,300	2,547,500	94	2,650,000	97	2,558,600	94
Pat Mayse Lake	17	124,500	123,000	99	124,500	100	108,300	87
Cooper Lake	18	273,000	273,000	100	273,000	100	261,280	96
Lake Sulphur Springs	19	17,710	17,710	100	17,710	100	13,250	75
Lake Tawakoni	20	936,200	791,800	85	785,600	84	805,100	86
Bridgeport Reservoir	21	374,830	326,000	87	328,700	88	333,500	89
Eagle Mountain Reservoir	22	178,380	178,380	100	178,260	99	160,060	90
Benbrook Lake	23	88,200	88,200	100	88,200	100	87,910	99
Joe Pool Lake	24	175,800	166,090	94	166,380	95	157,820	90
Ray Roberts Lake	25	798,760	797,580	99	798,760	100	752,330	94
Lewisville Lake	26	555,000	555,000	100	555,000	100	431,940	78
Grapevine Lake	27	187,700	180,130	96	181,590	97	147,030	78
Lavon Lake	28	443,800	443,800	100	443,800	100	336,130	76
Lake Ray Hubbard	29	490,000	486,500	99	489,200	99	422,500	86
Richland-Chambers Creek Lake	30	1,103,820	921,180	83	882,490	80	1,011,380	89
Navarro Mills Lake	31	55,810	55,110	99	44,980	81	47,400	85
Bardwell Lake	32	53,580	51,150	95	52,150	97	47,150	88
Hubbard Creek Reservoir	33	317,800	314,400	99	314,900	99	244,300	77
Lake Graham	34	45,000	45,000	100	45,000	100	45,000	100
Possum Kingdom Lake	35	551,820	534,540	97	545,410	99	497,310	87
Lake Palo Pinto	36	42,200	41,530	98	39,840	94	38,320	91
Lake Granbury	37	135,680	135,680	100	135,680	100	135,680	100
Lake Pat Cleburne	38	25,300	19,650	78	20,200	80	20,900	83
Whitney Lake	39	622,800	599,530	96	618,540	99	525,150	84
Waco Lake	40	144,550	144,550	100	144,550	100	138,200	91

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

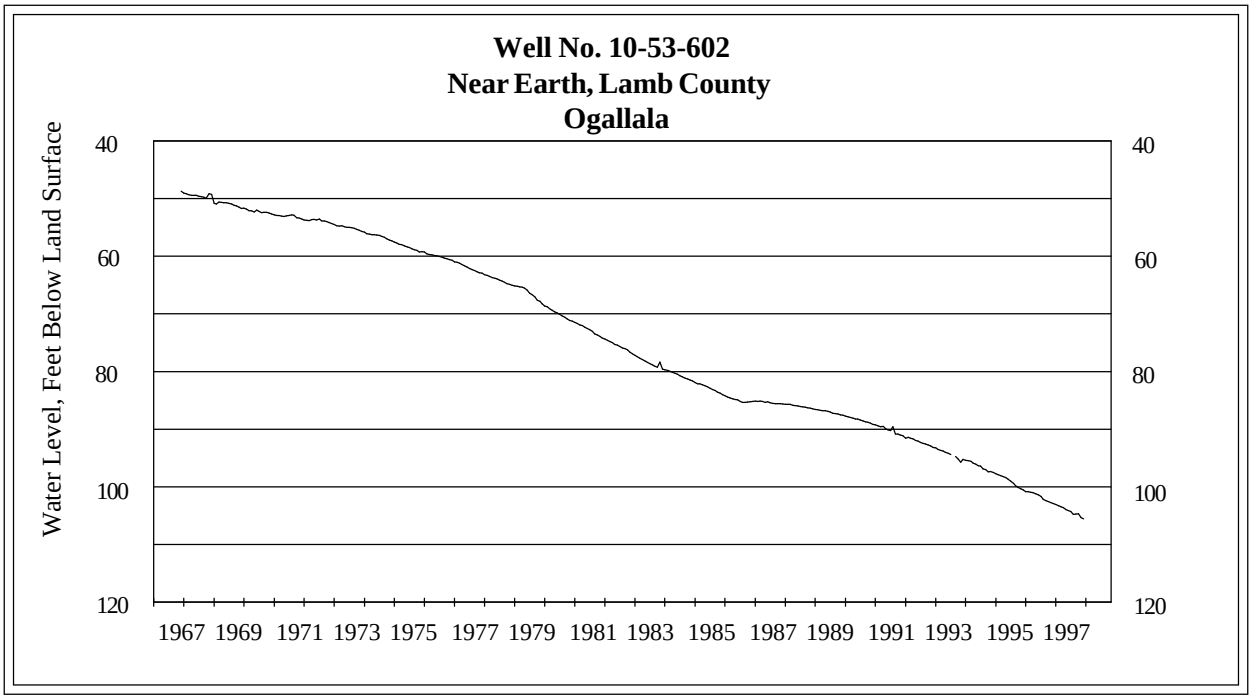
Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage in Acre-Feet and as Percent of Conservation Storage Capacity					
			Late Jan 1997		Late Dec 1996		Late Jan 1996	
NORTH CENTRAL - continued								
Proctor Lake	41	55,590	55,590	100	55,590	100	56,550	95
Belton Lake	42	434,500	434,500	100	434,500	100	424,590	96
Stillhouse Hollow Lake	43	226,060	226,060	100	212,300	94	225,090	96
Lake Georgetown	44	37,010	32,440	88	26,730	72	26,310	71
Granger Lake	45	54,280	54,280	100	54,280	100	64,540	100
Lake Limestone	46	215,750	152,260	71	142,380	66	200,200	93
Lake Brownwood	47	143,400	142,700	99	142,700	99	120,500	84
TOTAL		11,999,230	11,194,760	93	11,256,970	94	10,762,070	90
EAST								
Wright Patman Lake	48	142,700	142,700	100	142,700	100	142,700	100
Lake Cypress Springs	49	66,800	66,800	100	66,800	100	64,110	96
Lake Bob Sandlin	50	202,300	202,300	100	202,300	100	180,980	89
Lake O' the Pines	51	252,000	252,000	100	252,000	100	248,270	99
Lake Fork Reservoir	52	635,200	628,110	99	628,110	99	569,610	90
Toledo Bend Reservoir	53	4,472,900	4,109,000	92	3,772,000	84	3,482,000	78
Lake Palestine	54	411,300	380,200	92	359,100	87	344,800	84
Lake Tyler	55	73,700	72,510	98	67,630	92	68,940	94
Sam Rayburn Reservoir	56	2,876,300	2,158,230	75	1,943,490	68	2,066,310	72
B. A. Steinhagen Lake	57	94,200	89,680	95	85,010	90	27,060	29
Cedar Creek Reservoir	58	637,050	547,100	86	533,300	84	592,600	87
Lake Livingston	59	1,750,000	1,750,000	100	1,750,000	100	1,750,000	100
Lake Conroe	60	429,900	416,770	97	429,570	99	428,770	99
TOTAL		12,044,350	10,815,400	90	10,232,010	85	9,966,150	83
TRANS-PECOS								
Red Bluff Reservoir	61	307,000	77,030	25	73,700	24	75,430	25
TOTAL		307,000	77,030	25	73,700	24	75,430	25
EDWARDS PLATEAU								
E. V. Spence Reservoir	62	484,800	113,000	23	114,600	24	159,300	33
Twin Buttes Reservoir	63	177,800	68,830	39	67,140	38	40,830	23
O. C. Fisher Lake	64	119,200	17,630	15	17,700	15	17,390	15
O. H. Ivie Reservoir	65	554,340	423,860	76	422,860	76	524,260	95
Lake Buchanan	66	896,980	631,840	70	643,430	72	751,210	84
Amistad Reservoir (Texas)	67	1,771,030	845,570	48	843,950	48	1,041,760	55
Amistad Reservoir (Texas and Mexico)	(67)	(3,151,300)	(1,260,650)	(40)	(1,264,710)	(40)	(1,212,820)	(36)
TOTAL		4,004,150	2,100,730	52	2,109,680	53	2,534,750	63
SOUTH CENTRAL								
Somerville Lake	68	155,060	155,060	100	155,060	100	160,100	100
Lake Travis	69	1,144,100	1,087,440	95	1,035,180	90	970,940	85
Canyon Lake	70	385,600	381,200	99	382,840	99	368,340	96
Coleto Creek Reservoir	71	35,060	27,230	78	26,620	76	24,010	68
Medina Lake	72	254,000	70,500	28	71,890	28	120,700	48
TOTAL		1,973,820	1,721,430	87	1,671,590	85	1,644,090	83

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

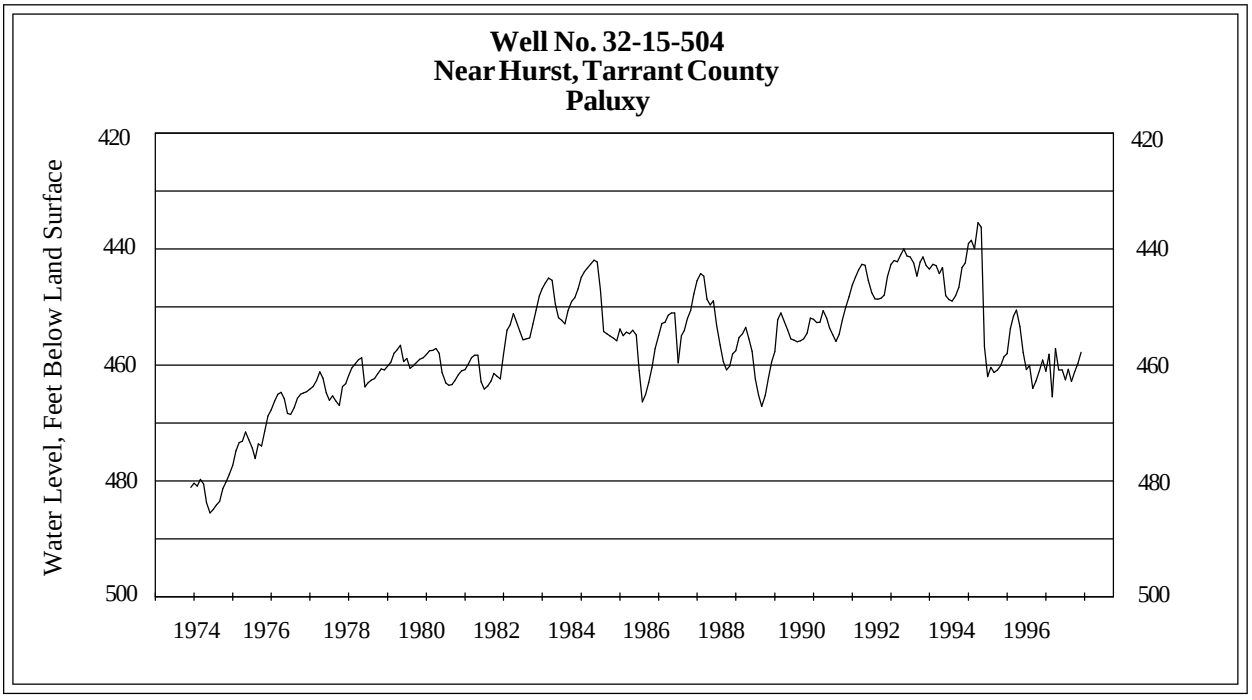
Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage in Acre-Feet and as Percent of Conservation Storage Capacity					
			Late Jan 1997		Late Dec 1996		Late Jan 1996	
UPPER COAST								
Lake Houston	73	128,860	128,860	100	128,860	100	140,500	100
Lake Texana	74	157,900	157,900	100	157,900	100	151,840	96
TOTAL		286,760	286,760	100	286,760	100	292,340	100
SOUTHERN								
Choke Canyon Reservoir	75	695,260	170,950	25	173,290	25	263,090	38
Lake Corpus Christi	76	241,240	112,100	46	116,400	48	156,700	65
Falcon Reservoir (Texas)	77	1,555,120	340,500	22	333,200	21	532,640	34
Falcon Reservoir (Texas and Mexico)	(77)	(2,653,290)	(598,300)	(23)	(592,630)	(22)	(811,520)	(30)
TOTAL		2,491,620	623,550	25	622,890	25	952,430	38
STATE TOTAL		34,557,650	27,576,380	80	27,022,660	78	27,028,430	78

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). Percentages are based on the conservation storage capacity of and the conservation storage in the reservoirs for date shown. 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 parenthesis 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. Figures in parentheses show the total conservation storage for both Texas (United States' share) and Mexico and are not included in State total.

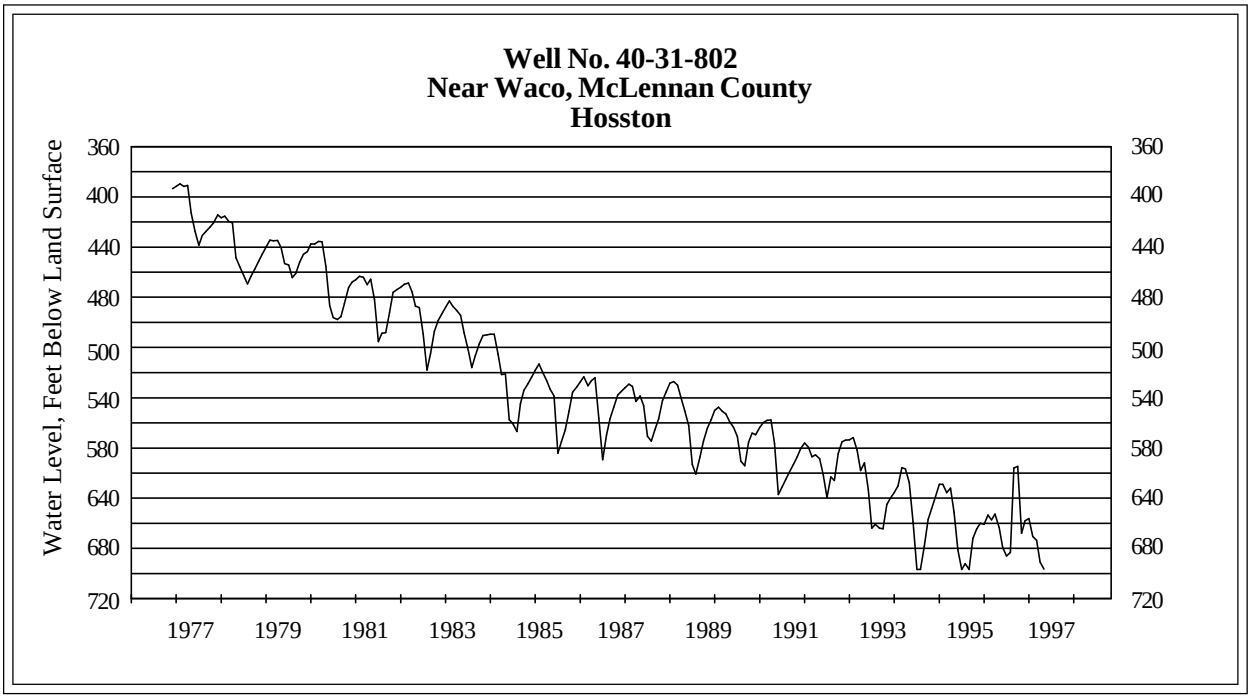
GROUND WATER LEVELS IN OBSERVATION WELLS



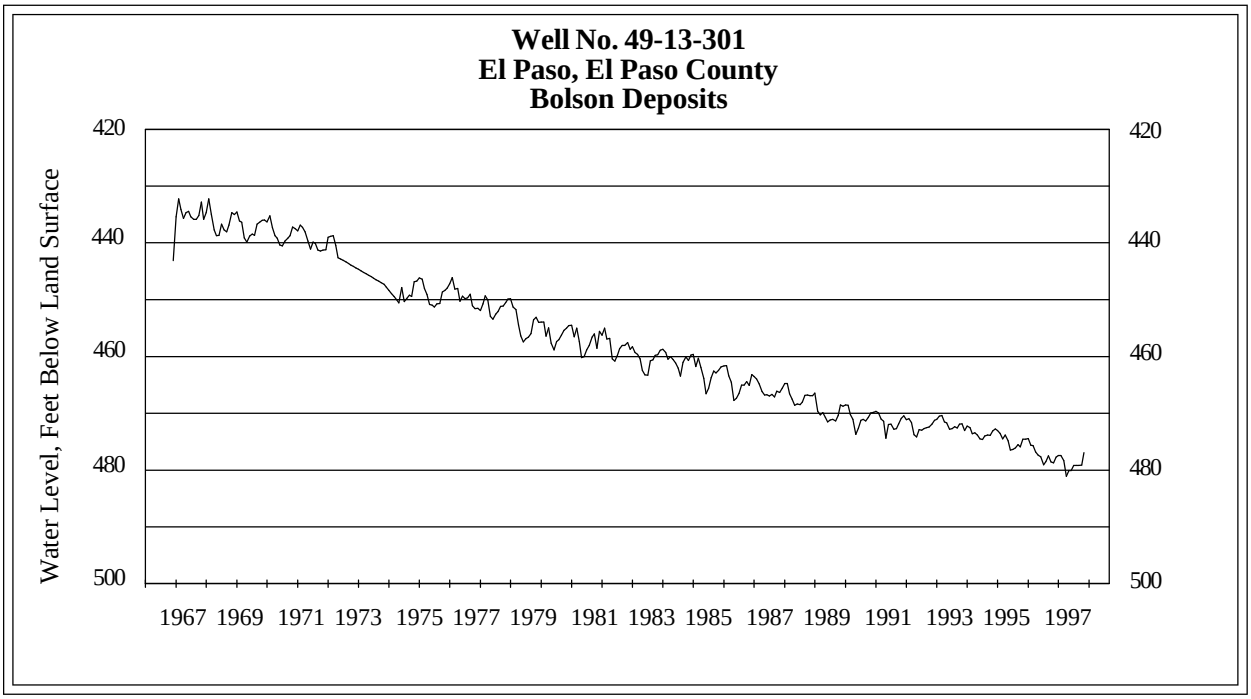
The January water-level measurement in this Ogallala aquifer well, elevation 3,667 feet above sea level, was 105.56 feet below land surface. This was 0.22 of a foot below last month's measurement, 2.66 feet below last year's measurement, and 77.41 feet below the initial measurement recorded in 1950.



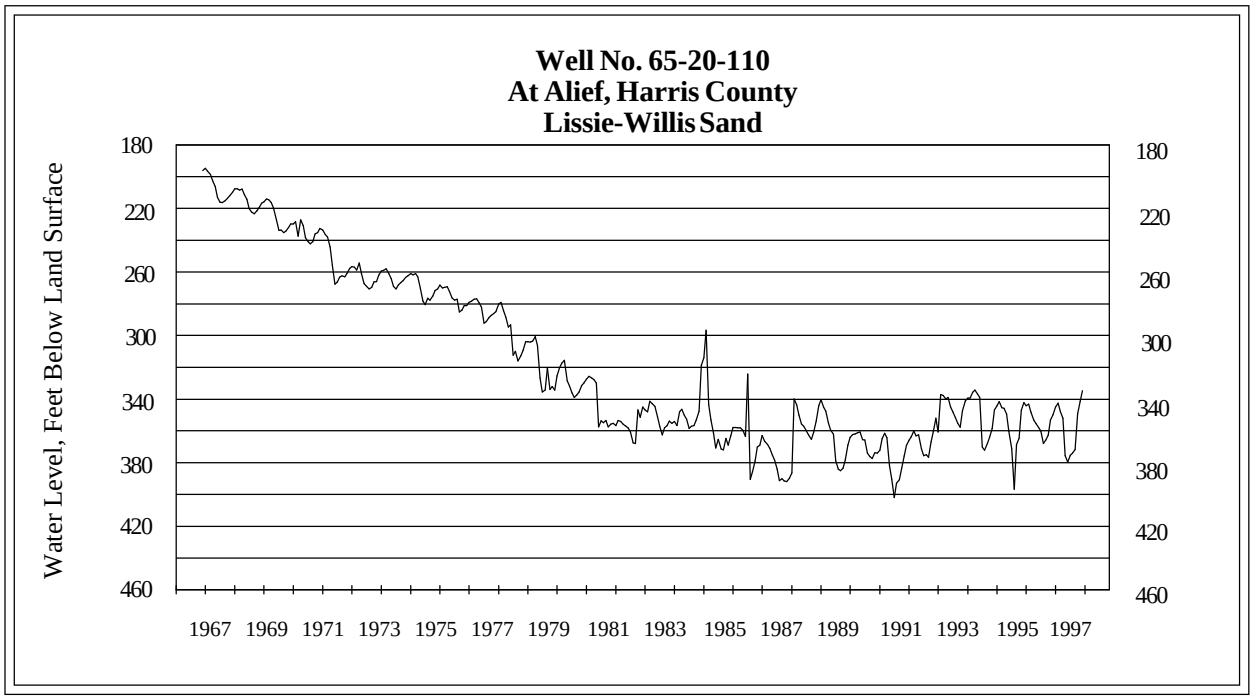
The January water-level measurement in this Paluxy aquifer well, elevation 535 feet above sea level, was 459.77 feet below land surface. This was 1.98 feet above last month's measurement, 1.38 feet above last year's measurement, and 64.38 feet below the initial measurement recorded in 1953.



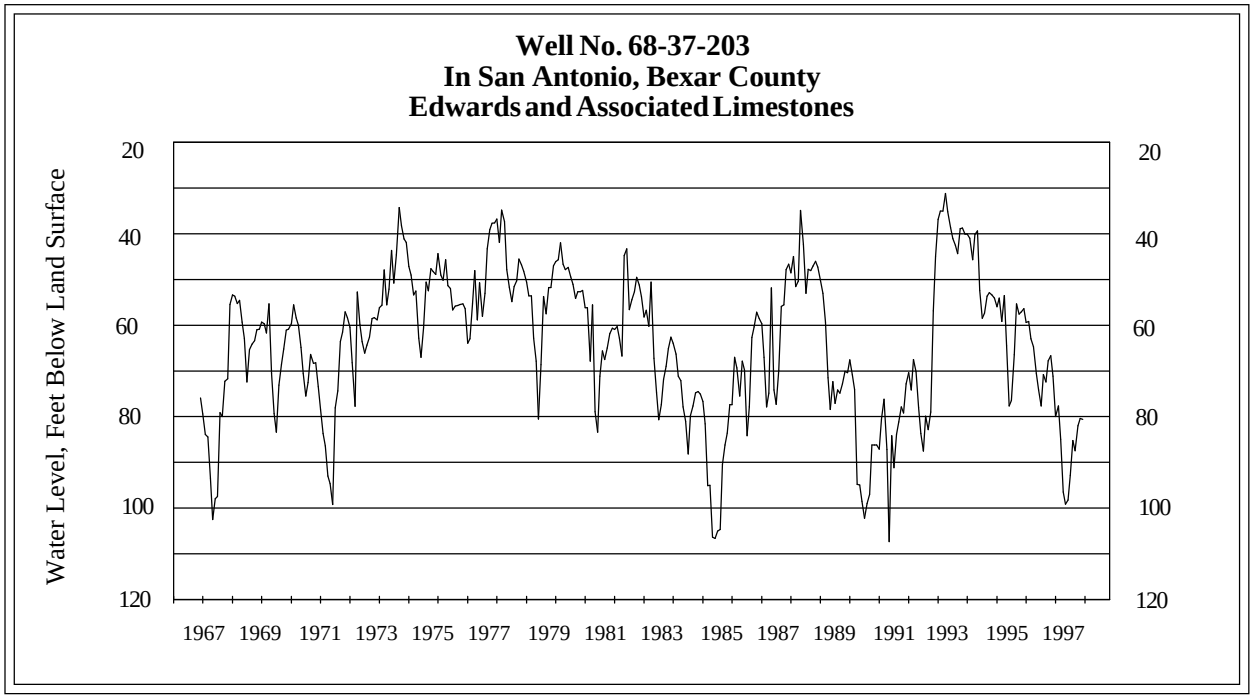
The January water-level measurement in this Hosston Formation aquifer well, elevation 593 feet above sea level, was not available.



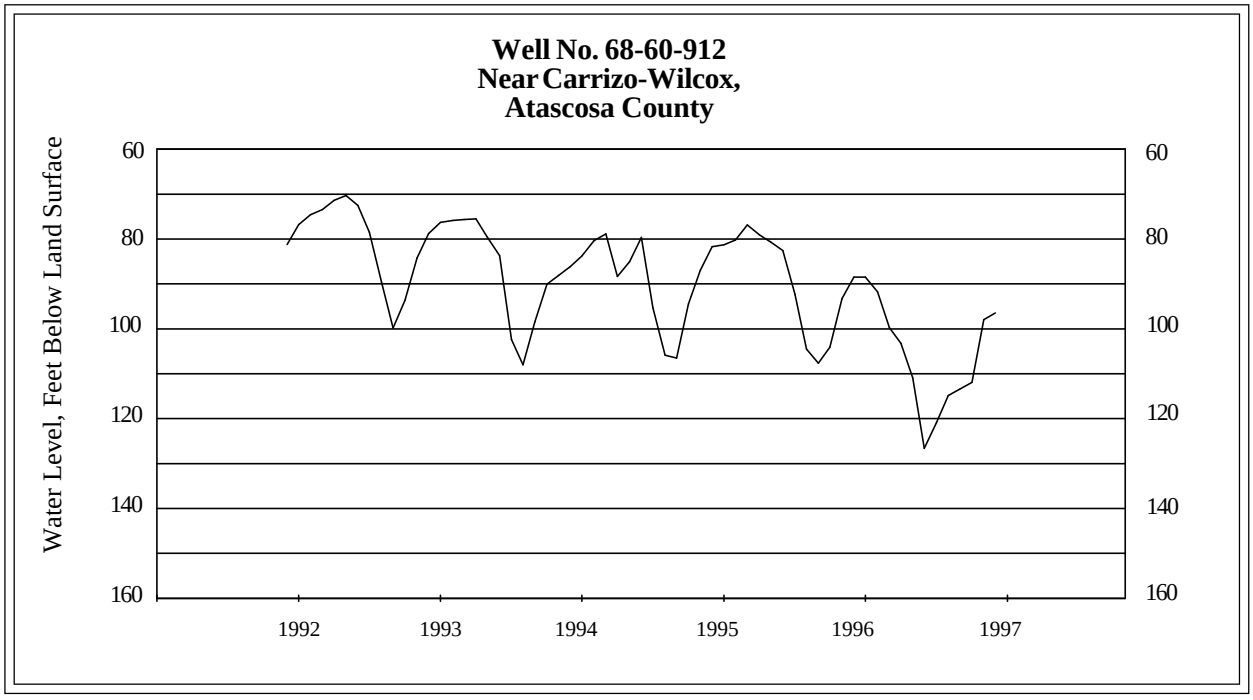
The January water-level measurement in this Bolson Deposits aquifer well, elevation 3,882 feet above sea level, was 276.93 feet below land surface. This was 2.20 feet above last month's measurement, 1.84 feet above last year's measurement, and 45.03 feet below the initial measurement recorded in 1964.



The January water-level measurement in this Lissie Willis Sand aquifer well, elevation 83 feet above sea level, was 334.60 feet below land surface. This was 6.59 feet above last month's measurement, 15.33 feet above last year's measurement, and 298.60 feet below the initial measurement recorded in 1939.



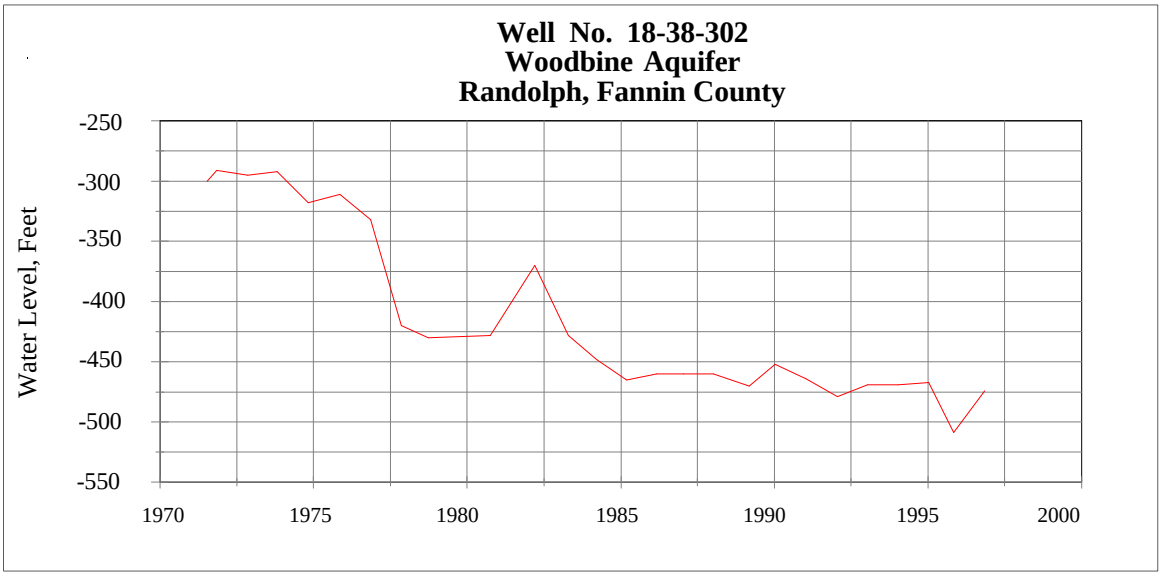
The January water-level measurement in this Edwards aquifer well, elevation 731 feet above sea level, was 80.60 feet below land surface. This was 0.20 of a foot below last month's measurement, 9.40 feet below last year's measurement, and 15.25 feet below the initial measurement recorded in 1962.



The January water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 97.97 feet below land surface. This was 13.97 feet above last month's measurement, 4.72 feet below last year's measurement, and 16.72 feet below the initial measurement recorded in 1992.

Hydrograph of the Month

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



Water levels in this public-supply well in south-central Fannin County, at an elevation of 668 feet above sea level, have dropped approximately 175 during the 23-year period of record. Other wells in the area also exhibit a less dramatic rate of decline, as seen here since 1985, due to increased reliance on surface water for public supply.