Texas Water Development Board

WaterConditions

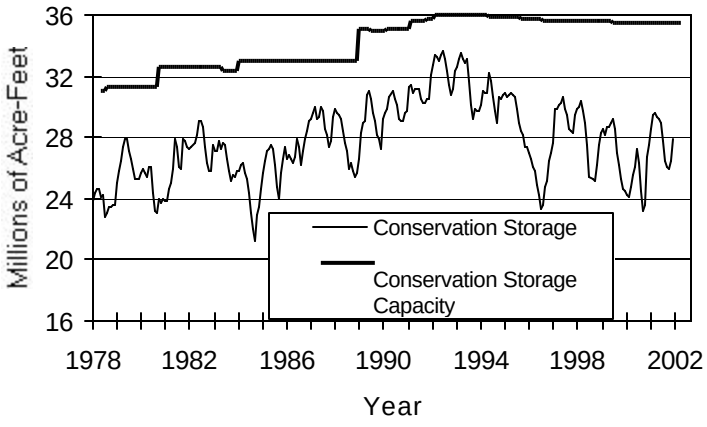
RESERVOIR STORAGE

December 2001

Near the end of December, the 77 reservoirs monitored for this report held 27.9 million acre-feet in conservation storage, or 81.0 percent of the conservation storage capacity of the State's major reservoirs. Statewide storage increased by 1.5 million acre-feet (+4.3% of conservation storage capacity) during the month. Compared to December 2000, storage is up 0.41 million acre-feet (+1.2% of conservation storage capacity), but below the historical median for this time of year.

Storage slightly increased or held steady in most Regions this month; however, the High Plains Regions decreased marginally (-1.2%). The East Region increased by 9.7%, due mainly to the filling of Sam Rayburn Reservoir. The Trans-Pecos Region (12.4%) remained below 25%. Storage is at 100% in 29 reservoirs, 9 more than last month. Lake Corpus Christi was at capacity for the first time in several years. Storage is down relative to this time last year in the High Plains (-14.1%), Low Rolling Plains (-1.8%), Trans-Pecos (-8.8%) and Edwards Plateau (-9.2%) Regions.

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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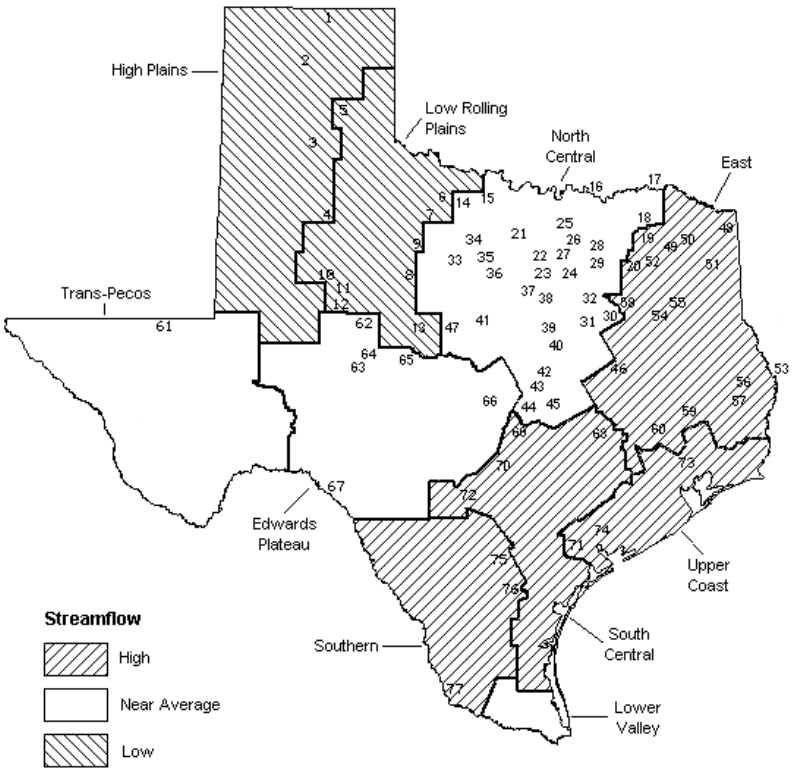
STREAMFLOW

Of 29 reporting index stations in December, computed 30-day mean flows were very high (0% - 5% exceedance) at 4 stations, high (5% - 30% exceedance) at 13 stations, near normal (30% - 70% exceedance) at 7 stations, low (70% - 95% exceedance) at 4 stations, and very low (95% - 100% exceedance) at 1 station. Compared to November, flows increased at 17 index stations, decreased at 10 stations and remained unchanged at 2 stations.

On a regional basis, flows in December were high in the East, South Central, Upper Coast and Southern Regions, low in the High Plains and Low Rolling Plains Regions and normal everywhere else. Very low flows were reported on the Pease River near Vernon and very high flows were reported on Little Cypress Creek near Jefferson, Big Sandy Creek near Big Sandy Village Creek near Kountz and Spring Creek near Spring.

DECEMBER STREAMFLOW CONDITIONS



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 December 2001 (acre-feet)	(%)	Change since Late November 2001 (acre-feet)	(%)	Change since Late December 2000 (acre-feet)	(%)
HIGH PLAINS								
Palo Duro Reservoir	1	60,900	6,170	10	-750	-1	-7,110	-12
Lake Meredith (Texas)	2	500,000	256,600	51	-6,300	-1	-79,700	-16
Lake Meredith (Texas and Oklahoma)	(2)	779,560	256,600	33	-6,300	-1	-79,700	-10
MacKenzie Reservoir	3	46,250	8,560	19	-130	0	530	1
White River Lake	4	31,850	7,700	24	-250	-1	-4,010	-13
TOTAL		639,000	279,030	44	-7,430	-1	-90,290	-14
LOW ROLLING PLAINS								
Greenbelt Reservoir	5	58,200	24,120	41	110	0	910	2
Lake Kemp	6	319,600	135,700	42	2,600	1	-4,500	-1
Miller's Creek Reservoir	7	27,890	12,840	46	-120	0	890	3
Fort Phantom Hill Reservoir	8	70,030	30,780	44	-250	0	-8,380	-12
Lake Stamford	9	52,700	16,270	31	300	1	7,430	14
Lake J. B. Thomas	10	202,300	21,220	10	-920	0	-5,950	-3
Lake Colorado City	11	30,800	19,200	62	-110	0	-1,800	-6
Champion Creek Reservoir	12	41,600	2,180	5	-20	0	-2,210	-5
Hords Creek Lake	13	8,600	3,150	37	-80	-1	-990	-12
TOTAL		811,720	265,460	33	1,510	0	-14,600	-2
NORTH CENTRAL								
Lake Kickapoo	14	106,000	71,900	68	-1,380	-1	13,620	13
Lake Arrowhead	15	262,100	154,400	59	-1,200	0	40,000	15
Lake Texoma	16	2,722,300	2,618,000	96	6,000	0	-104,300	-4
Pat Mayse Lake	17	124,500	124,500	100	7,500	6	0	0
Cooper Lake	18	273,000	273,000	100	0	0	0	0
Lake Sulphur Springs	19	17,710	13,510	76	1,490	8	-4,200	-24
Lake Tawakoni	20	936,200	919,200	98	99,000	11	-17,000	-2
Bridgeport Reservoir	21	374,830	289,500	77	-1,200	0	89,800	24
Eagle Mountain Reservoir	22	178,380	146,200	82	300	0	32,800	18
Benbrook Lake	23	88,200	70,030	79	2,420	3	8,770	10
Joe Pool Lake	24	175,800	175,800	100	1,200	1	700	0
Ray Roberts Lake	25	798,760	754,700	94	4,900	1	203,600	25
Lewisville Lake	26	555,000	509,000	92	500	0	66,100	12
Grapevine Lake	27	187,700	143,200	76	600	0	-6,800	-4
Lavon Lake	28	443,800	337,300	76	39,700	9	-106,500	-24
Lake Ray Hubbard	29	413,420	413,420	100	32,920	8	0	0
Richland-Chambers Creek Lake	30	1,103,820	1,103,820	100	77,820	7	0	0
Navarro Mills Lake	31	55,810	55,810	100	0	0	0	0
Bardwell Lake	32	53,580	53,580	100	7,790	15	0	0
Hubbard Creek Reservoir	33	317,800	119,200	38	-2,400	-1	-21,400	-7
Lake Graham	34	45,000	33,960	75	-430	-1	-3,000	-7
Possum Kingdom Lake	35	551,820	466,200	84	3,900	1	-12,700	-2
Lake Palo Pinto	36	27,650	15,690	57	-40	0	5,710	21
Lake Granbury	37	135,680	115,100	85	-700	-1	-16,800	-12
Lake Pat Cleburne	38	25,300	20,430	81	500	2	-2,310	-9
Whitney Lake	39	622,800	471,600	76	17,400	3	-15,800	-3
Waco Lake	40	144,500	144,500	100	0	0	0	0
Proctor Lake	41	55,590	36,880	66	-430	-1	17,850	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	11,420	31
Granger Lake	45	54,280	54,280	100	0	0	0	0
Lake Limestone	46	215,750	213,800	99	6,200	3	-1,950	-1
Lake Brownwood	47	143,400	109,000	76	-1,600	-1	900	1
TOTAL		11,908,050	10,725,080	90	300,760	3	178,510	1

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity	Conservation Storage Late December 2001		Change since Late November 2001		Change since Late December 2000	
		(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(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	0	0
Toledo Bend Reservoir	53	4,472,900	4,172,000	93	890,000	20	100,000	2
Lake Palestine	54	411,300	411,300	100	3,500	1	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	261,300	9	464,300	16
B. A. Steinhagen Lake	57	94,200	33,170	35	2,410	3	-46,480	-49
Cedar Creek Reservoir	58	637,050	636,900	100	10,300	2	-150	0
Lake Livingston	59	1,750,000	1,750,000	100	0	0	0	0
Lake Conroe	60	429,900	418,000	97	-2,700	-1	-500	0
TOTAL		12,044,350	11,670,370	97	1,164,810	10	517,170	4
TRANS-PECOS								
Red Bluff Reservoir	61	307,000	37,950	12	4,150	1	-27,160	-9
TOTAL		307,000	37,950	12	4,150	1	-27,160	-9
EDWARDS PLATEAU								
E. V. Spence Reservoir	62	488,760	60,830	12	-1,090	0	-24,510	-5
Twin Buttes Reservoir	63	177,800	7,850	4	290	0	-10	0
O.C. Fisher Lake	64	119,200	4,480	4	-110	0	-5,580	-5
O. H. Ivie Reservoir	65	554,340	256,100	46	-4,200	-1	-62,800	-11
Lake Buchanan	66	896,980	768,400	86	8,600	1	31,300	3
Amistad Reservoir (Texas)	67	1,771,030	777,000	44	23,000	1	-308,000	-17
Amistad Reservoir (Texas and Mexico)	(67)	3,151,300	949,000	30	18,000	1	-297,000	-9
TOTAL		4,008,110	1,874,660	47	26,490	1	-369,600	-9
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	385,600	100	0	0	1,700	0
Coleto Creek Reservoir	71	35,060	31,850	91	140	0	910	3
Medina Lake	72	254,000	254,000	100	1,600	1	65,600	26
TOTAL		1,973,820	1,970,610	100	1,740	0	68,210	3
UPPER COAST								
Lake Houston	73	128,860	128,860	100	0	0	0	0
Lake Texana	74	157,900	157,900	100	0	0	200	0
TOTAL		286,760	286,760	100	0	0	200	0

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CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

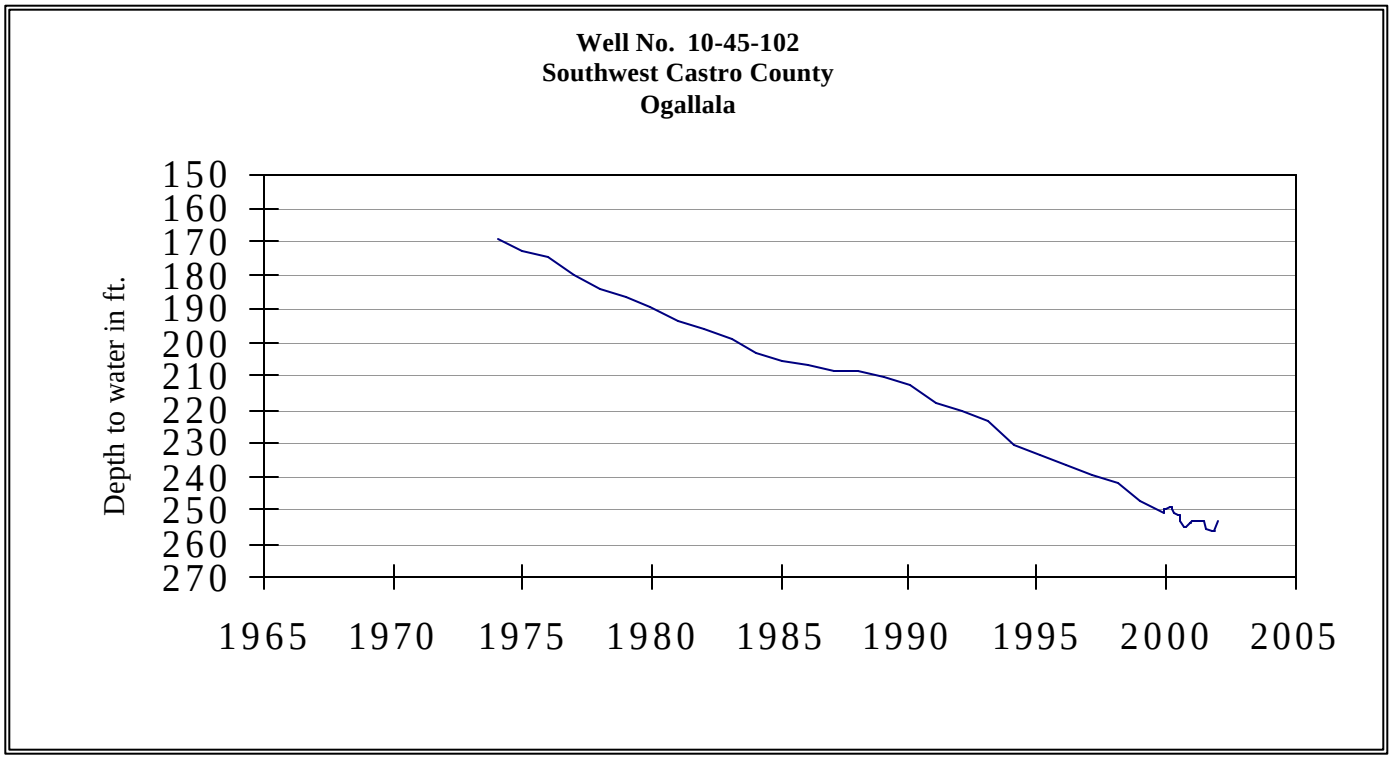
Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity	Conservation Storage Late December 2001		Change since Late November 2001		Change since Late December 2000	
		(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)	(%)
SOUTHERN								
Choke Canyon Reservoir	75	695,260	283,000	41	-4,000	-1	13,000	2
Lake Corpus Christi	76	241,240	241,240	100	0	0	140,840	58
Falcon Reservoir (Texas)	77	1,555,120	293,000	19	2,000	0	-9,000	-1
Falcon Reservoir (Texas and Mexico)	(77)	2,653,290	462,000	17	10,000	0	119,000	4
TOTAL		2,491,620	817,240	33	-2,000	0	144,840	6
STATE TOTAL		34,470,430	27,927,160	81	1,490,030	4	407,280	1

Note:

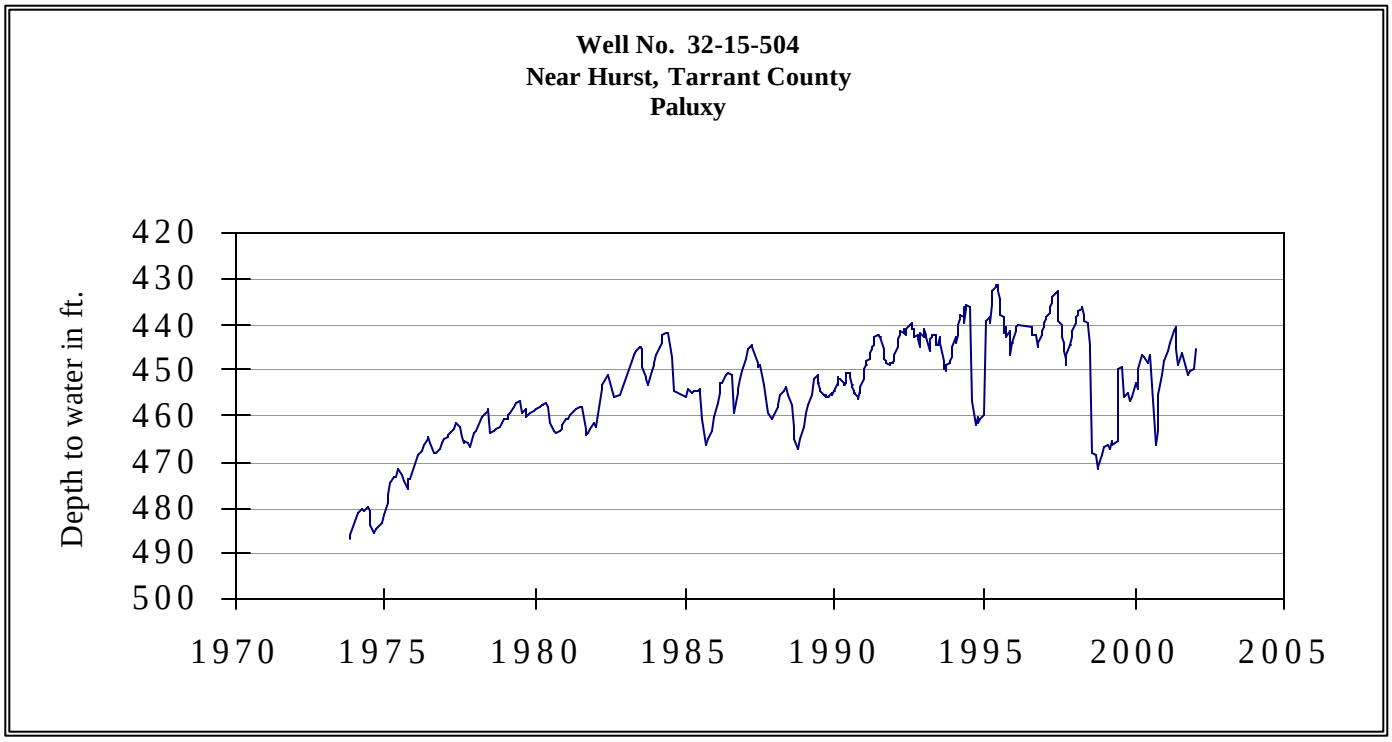
Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included 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.

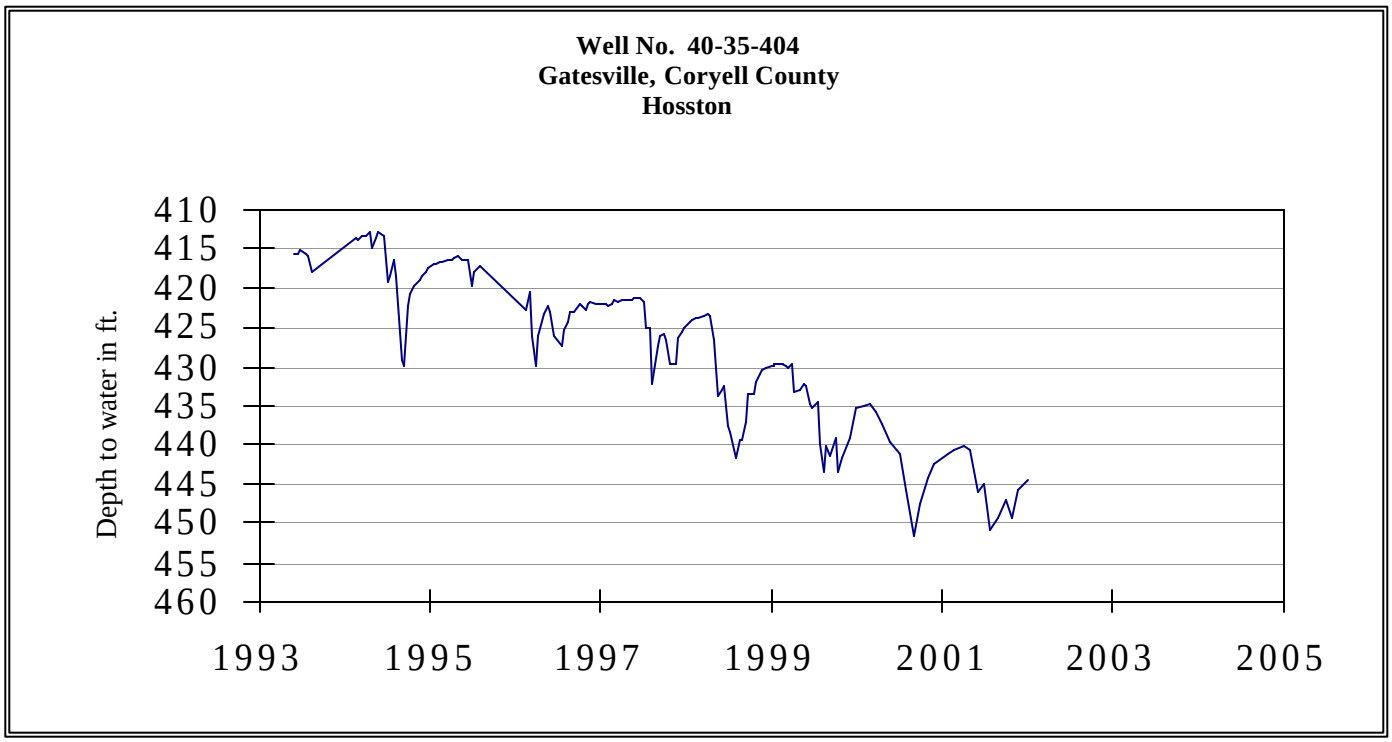
DECEMBER GROUND WATER LEVELS IN OBSERVATION WELLS



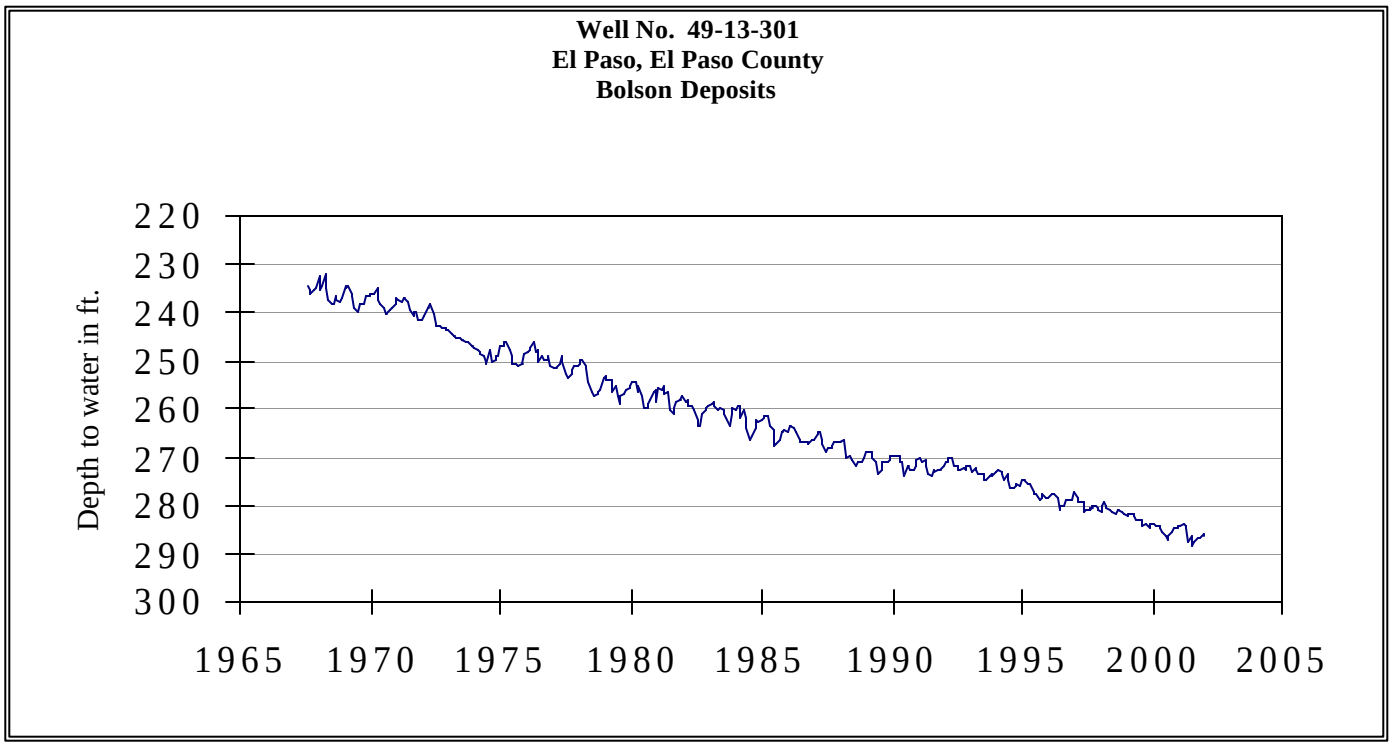
The late December water-level measurement in this Ogallala aquifer well, elevation 3,816 feet above sea level, was 255.30 feet below land surface. This measurement was 0.58 feet above last month's measurement, 1.61 feet below last year's measurement, and 99.30 feet below the initial measurement recorded in 1968.



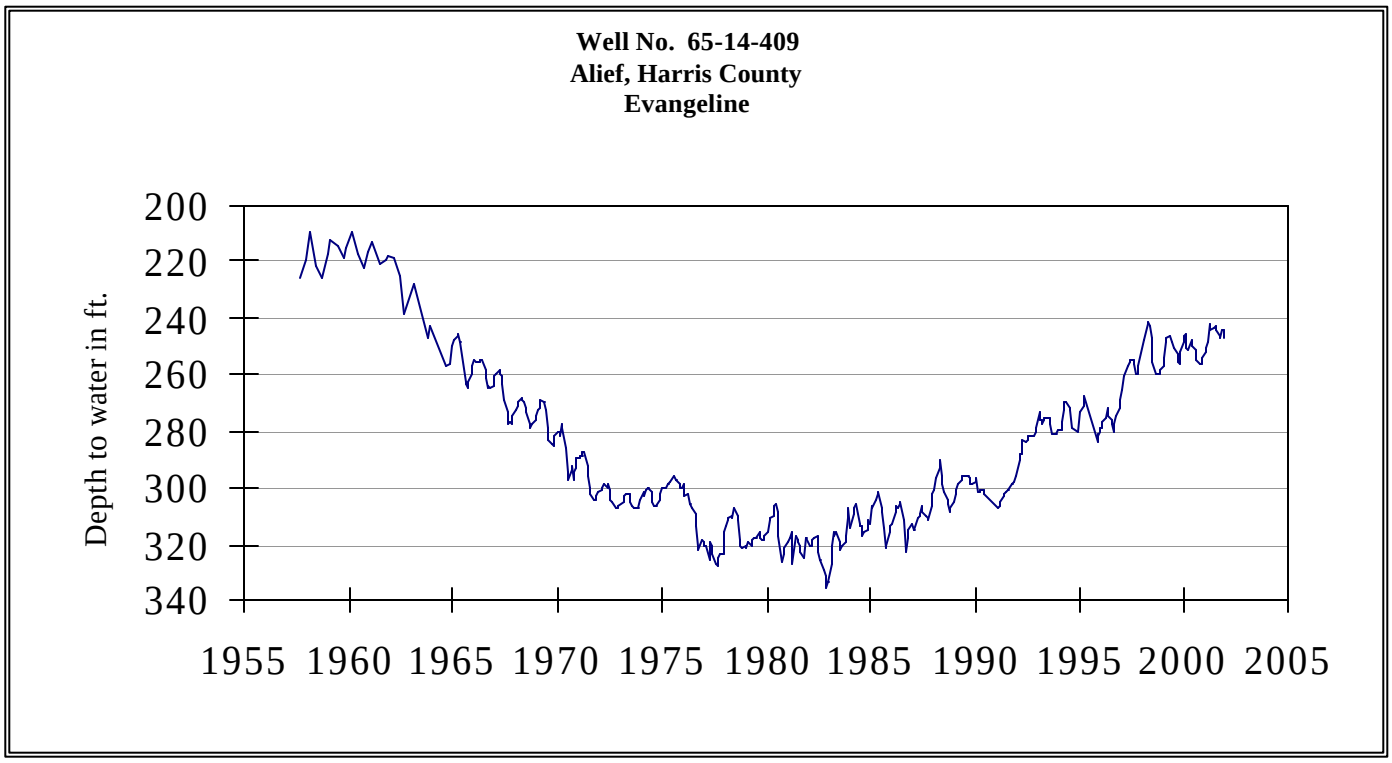
The late December water-level measurement in this Paluxy Formation Trinity aquifer well, elevation 535 feet above sea level, was 445.37 feet below land surface. This measurement was 4.48 feet above last month's measurement, 2.87 feet above last year's measurement, and 51.98 feet below the initial measurement recorded in 1953.



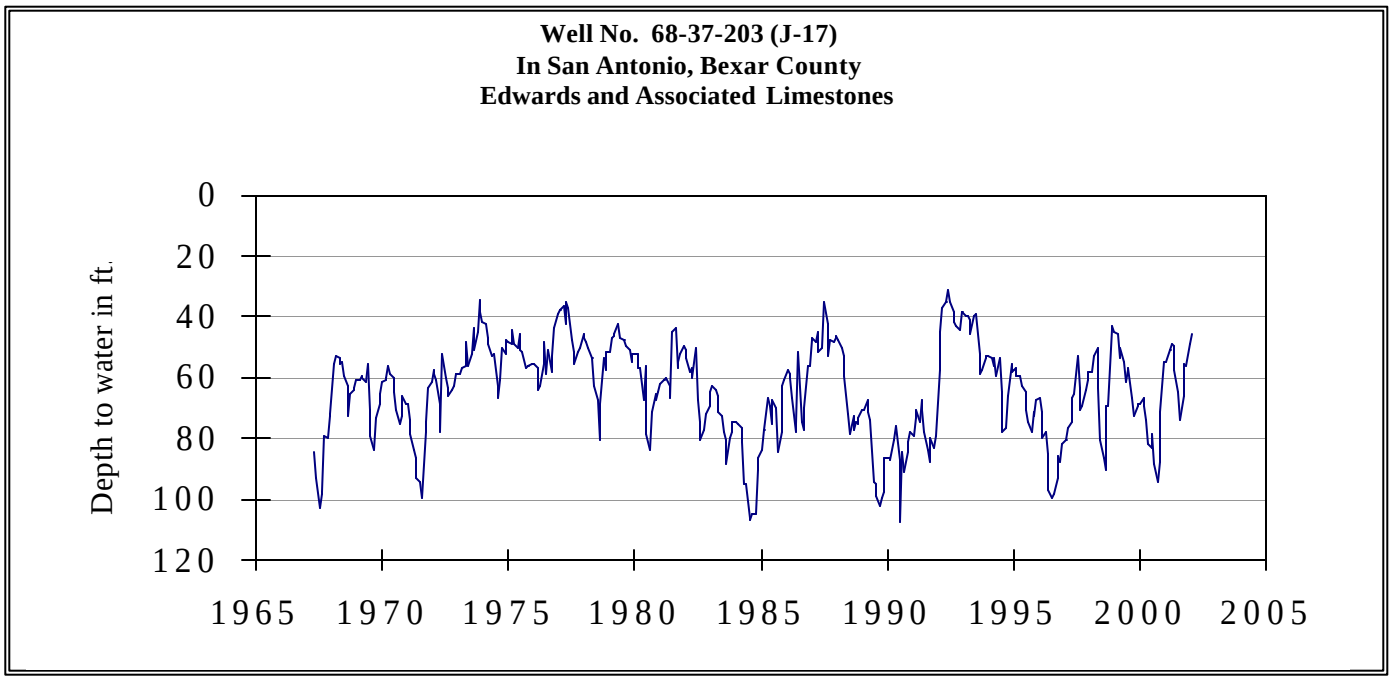
The late December water-level measurement in this Hosston Formation Trinity aquifer well, elevation 823 feet above sea level, was 444.41 feet below land surface. This measurement was 1.11 feet above last month's measurement, 2.52 feet below last year's measurement, and 152.41 feet below the initial measurement recorded in 1955.



The late December water-level measurement in this Hueco Bolson aquifer well, elevation 3,882 feet above sea level, was 286.35 feet below land surface. This was 0.45 feet below last month's measurement, 1.80 feet below last year's measurement, and 54.45 feet below the initial measurement recorded in 1964.

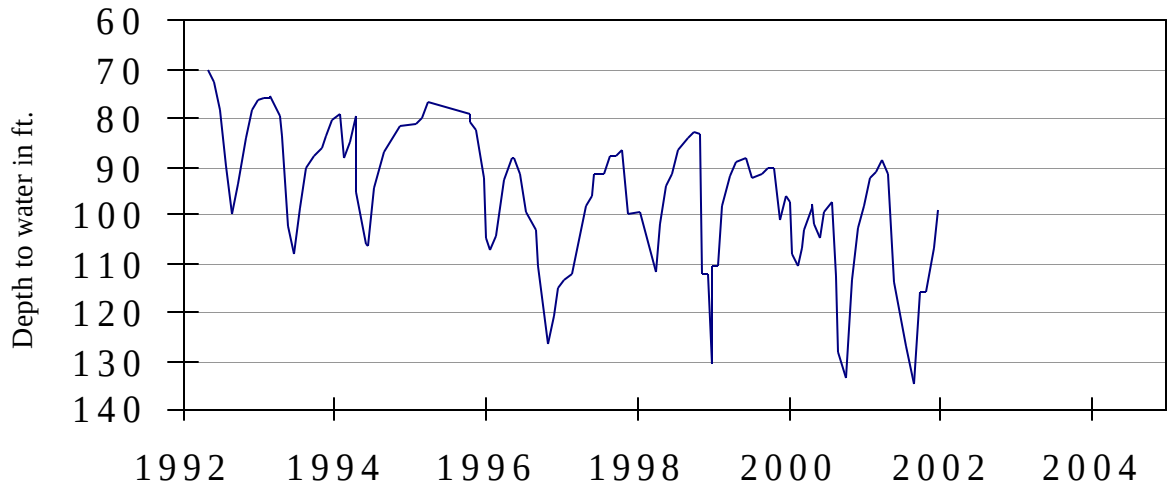


The late December water-level measurement in this Evangeline Formation Gulf Coast aquifer well, elevation 66 feet above sea level, was 246.87 feet below land surface. This was 2.51 feet below last month's measurement, 5.52 feet above last year's measurement, and 143.64 feet below the initial measurement recorded in 1947.



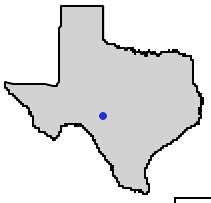
The late December water-level measurement in this Edwards (BFZ) aquifer well, elevation 731 feet above sea level, was 45.60 feet below land surface. This was 3.20 feet above last month's measurement, 8.62 feet above last year's measurement, and 14.02 feet above the initial measurement recorded in 1962.

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



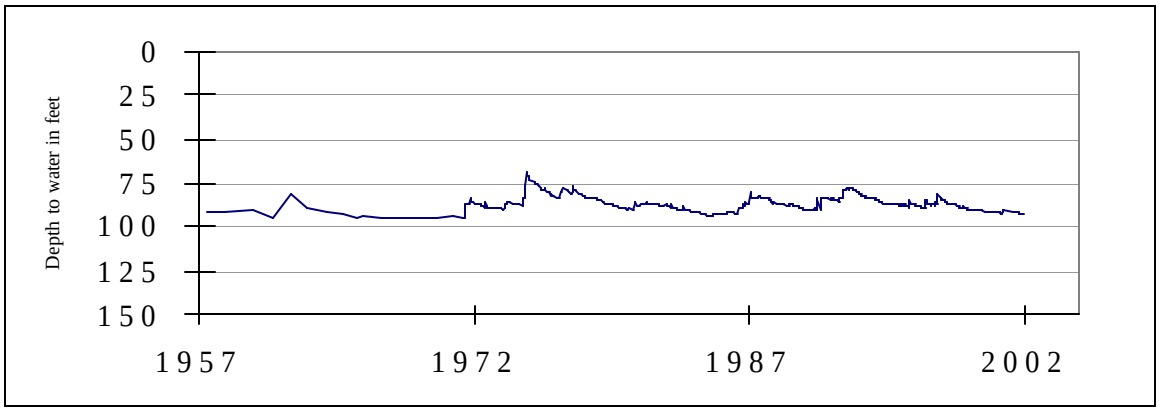
The late December water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 99.20 feet below land surface. This measurement was 7.63 feet above last month's measurement, 1.23 feet below last year's measurement, and 17.95 feet below the initial measurement recorded 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. 4361706
Schleicher County



This 175 ft. deep recorder well, located approximately 18 miles northeast of the town of Eldorado, at an elevation of 2,195 feet above sea level, was completed in the Edwards aquifer. The aquifer water levels have remained fairly consistent through time with drawdown during the irrigation season and recharge during the winter the months.

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