

Texas Water Development Board



WATER Conditions

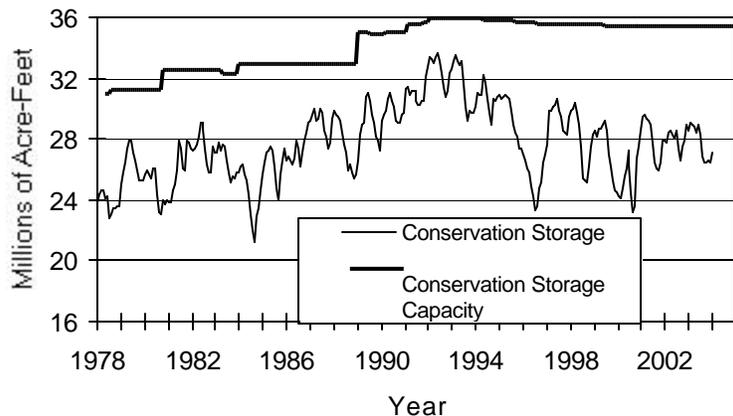
RESERVOIR STORAGE

January 2004

Near the end of January, the 77 reservoirs monitored for this report held 27.15 million acre-feet in conservation storage, or 79 percent of the conservation storage capacity of the state's major reservoirs. Statewide total storage is below normal for this time of year. Storage increased during the month by 712,480 acre-feet (2.1% of conservation storage capacity). Compared to the previous year, storage is less, down 1.34 million acre-feet (-3.9%).

Storage in the Upper Coast Region is at capacity (100%), East Region (92%) and South Central Region (90%) near capacity, while the High Plains (23%) and Trans-Pecos (18%) Regions remained lower than one-third. Storage is at 100% in 8 reservoirs. Compared to this time last year, the Edwards Plateau had the largest increase in storage (+10%), while the Low Rolling Plains had the steepest decline (-11%).

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.

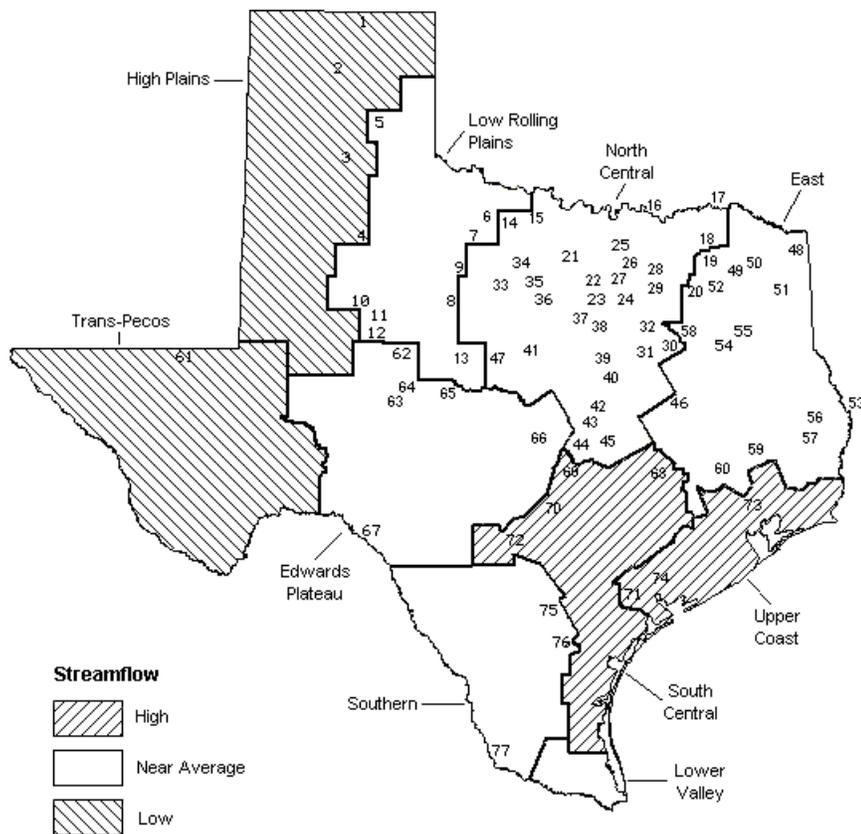
STREAMFLOW

Of 29 reporting index stations in January, computed 31-day mean flows were high (5% - 30% exceedance) at 9 stations, near normal (30% - 70% exceedance) at 11 stations, and low (70% - 95% exceedance) at 9 stations. In comparison to December, flows increased at 21 index stations, decreased at 7, and remain unchanged at 1.

On a regional basis, flows in January were low in the Trans-Pecos and High Plains Regions, high in Upper Coast and South Central Regions, and near normal everywhere else.

JANUARY STREAMFLOW CONDITIONS

Reservoirs Shown on Map



- | | |
|----------------------------------|-----------------------------|
| 1. Palo Duro Reservoir | 40. Waco Lake |
| 2. Lake Meredith | 41. Proctor Lake |
| 3. MacKenzie Reservoir | 42. Belton Lake |
| 4. White River Lake | 43. Stillhouse Hollow Lake |
| 5. Greenbelt Reservoir | 44. Lake Georgetown |
| 6. Lake Kemp | 45. Granger Lake |
| 7. Miller's Creek Reservoir | 46. Lake Limestone |
| 8. Fort Phantom Hill Reservoir | 47. Lake Brownwood |
| 9. Lake Stamford | 48. Wright Patman Lake |
| 10. Lake J. B. Thomas | 49. Lake Cypress Springs |
| 11. Lake Colorado City | 50. Lake Bob Sandlin |
| 12. Champion Creek Reservoir | 51. Lake O' the Pines |
| 13. Hords Creek Lake | 52. Lake Fork Reservoir |
| 14. Lake Kickapoo | 53. Toledo Bend Reservoir |
| 15. Lake Arrowhead | 54. Lake Palestine |
| 16. Lake Texoma | 55. Lake Tyler |
| 17. Pat Mayse Lake | 56. Sam Rayburn Reservoir |
| 18. Cooper Lake | 57. B. A. Steinhagen Lake |
| 19. Lake Sulphur Springs | 58. Cedar Creek Reservoir |
| 20. Lake Tawakoni | 59. Lake Livingston |
| 21. Bridgeport Reservoir | 60. Lake Conroe |
| 22. Eagle Mountain Reservoir | 61. Red Bluff Reservoir |
| 23. Benbrook Lake | 62. E. V. Spence Reservoir |
| 24. Joe Pool Lake | 63. Twin Buttes Reservoir |
| 25. Ray Roberts Lake | 64. O. C. Fisher Lake |
| 26. Lewisville Lake | 65. O. H. Ivie Reservoir |
| 27. Grapevine Lake | 66. Lake Buchanan |
| 28. Lavon Lake | 67. Intl. Amistad Reservoir |
| 29. Lake Ray Hubbard | 68. Somerville Lake |
| 30. Richland-Chambers Creek Lake | 69. Lake Travis |
| 31. Navarro Mills Lake | 70. Canyon Lake |
| 32. Bardwell Lake | 71. Coletto Creek Reservoir |
| 33. Hubbard Creek Reservoir | 72. Medina Lake |
| 34. Lake Graham | 73. Lake Houston |
| 35. Possum Kingdom Lake | 74. Lake Texana |
| 36. Lake Palo Pinto | 75. Choke Canyon Reservoir |
| 37. Lake Granbury | 76. Lake Corpus Christi |
| 38. Lake Pat Cleburne | 77. Intl. Falcon Reservoir |
| 39. Whitney Lake | |

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation	Conservation	Change since		Change since		
		Storage Capacity (acre-feet)	Storage Late January 2004 (acre-feet) (%)	Late December 2003 (acre-feet) (%)	Late January 2003 (acre-feet) (%)			
HIGH PLAINS								
Palo Duro Reservoir	1	60,900	2,690	4	-110	0	-680	-1
Lake Meredith (Texas)	2	500,000	135,940	27	-1,770	0	-57,780	-12
Lake Meredith (Texas and Oklahoma)	(2)	779,560	135,940	17	-1,770	0	-57,780	-7
MacKenzie Reservoir	3	46,250	5,770	12	-20	0	-2,150	-5
White River Lake	4	31,850	5,540	17	130	0	-270	-1
TOTAL		639,000	149,940	23	-1,770	0	-60,880	-10
LOW ROLLING PLAINS								
Greenbelt Reservoir	5	58,200	23,870	41	210	0	340	1
Lake Kemp	6	319,600	169,240	53	2,260	1	-70,710	-22
Miller's Creek Reservoir	7	27,890	11,940	43	130	0	-3,040	-11
Fort Phantom Hill Reservoir	8	70,030	28,180	40	-740	-1	-14,130	-20
Lake Stamford	9	52,700	30,970	59	-320	-1	-8,480	-16
Lake J. B. Thomas	10	202,300	20,660	10	-240	0	190	0
Lake Colorado City	11	30,800	20,110	65	-100	0	3,710	12
Champion Creek Reservoir	12	41,600	3,360	8	20	0	1,100	3
Hords Creek Lake	13	8,600	2,370	28	-40	0	-50	-1
TOTAL		811,720	310,700	38	1,180	0	-91,070	-11
NORTH CENTRAL								
Lake Kickapoo	14	106,000	59,000	56	-680	-1	-20,700	-20
Lake Arrowhead	15	262,100	117,140	45	-750	0	-36,000	-14
Lake Texoma	16	2,722,300	2,140,920	79	-25,360	-1	-223,760	-8
Pat Mayse Lake	17	124,500	105,060	84	1,820	1	-15,470	-12
Cooper Lake	18	273,000	206,530	76	-6,490	-2	-66,470	-24
Lake Sulphur Springs	19	17,710	15,600	88	0	0	-620	-4
Lake Tawakoni	20	936,200	782,100	84	0	0	-99,700	-11
Bridgeport Reservoir	21	374,830	221,800	59	-4,200	-1	-55,900	-15
Eagle Mountain Reservoir	22	178,380	139,000	78	200	0	-2,400	-1
Benbrook Lake	23	88,200	81,080	92	6,340	7	-4,870	-6
Joe Pool Lake	24	175,800	175,800	100	1,630	1	0	0
Ray Roberts Lake	25	798,760	721,170	90	-1,080	0	-77,590	-10
Lewisville Lake	26	555,000	513,490	93	9,010	2	-41,510	-7
Grapevine Lake	27	187,700	148,460	79	-780	0	-24,310	-13
Lavon Lake	28	443,800	348,900	79	17,830	4	-74,620	-17
Lake Ray Hubbard	29	413,420	352,700	85	18,100	4	-60,400	-15
Richland-Chambers Creek Lake	30	1,103,820	1,024,000	93	11,000	1	-79,820	-7
Navarro Mills Lake	31	55,810	55,420	99	6,600	12	-390	-1
Bardwell Lake	32	53,580	48,180	90	5,130	10	260	0
Hubbard Creek Reservoir	33	317,800	120,680	38	-560	0	-28,920	-9
Lake Graham	34	45,000	21,940	49	-150	0	-7,300	-16
Possum Kingdom Lake	35	551,820	410,600	74	-5,400	-1	-67,700	-12
Lake Palo Pinto	36	27,650	12,820	46	-210	-1	-9,490	-34
Lake Granbury	37	135,680	133,100	98	1,000	1	0	0
Lake Pat Cleburne	38	25,300	20,290	80	380	2	-560	-2
Whitney Lake	39	622,800	444,980	71	8,640	1	-10,540	-2
Waco Lake	40	144,500	144,500	100	0	0	2,540	2
Proctor Lake	41	55,590	47,280	85	-680	-1	-8,260	-15
Belton Lake	42	434,500	434,500	100	4,100	1	0	0
Stillhouse Hollow Lake	43	226,060	222,200	98	3,640	2	-3,860	-2
Lake Georgetown	44	37,010	21,800	59	230	1	-15,210	-41
Granger Lake	45	54,280	49,330	91	3,170	6	-4,950	-9
Lake Limestone	46	215,750	201,450	93	750	0	-13,550	-6
Lake Brownwood	47	143,400	126,100	88	-890	-1	-5,540	-4
TOTAL		11,908,050	9,667,920	81	52,340	0	-1,057,610	-9

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation	Conservation		Change since		Change since		
		Storage Capacity (acre-feet)	Storage Late January 2004 (acre-feet)	(%)	Late December 2003 (acre-feet)	(%)	Late January 2003 (acre-feet)	(%)	
EAST									
Wright Patman Lake	48	142,700	142,700	100	0	0	0	0	
Lake Cypress Springs	49	66,800	64,100	96	630	1	-2,700	-4	
Lake Bob Sandlin	50	202,300	180,100	89	600	0	-22,200	-11	
Lake O' the Pines	51	252,000	230,800	92	7,860	3	4,650	2	
Lake Fork Reservoir	52	635,200	609,900	96	36,500	6	-25,300	-4	
Toledo Bend Reservoir	53	4,472,900	3,972,000	89	214,000	5	39,000	1	
Lake Palestine	54	411,300	386,950	94	6,270	2	-24,350	-6	
Lake Tyler	55	73,700	68,990	94	1,210	2	-4,710	-6	
Sam Rayburn Reservoir	56	2,876,300	2,570,380	89	174,170	6	-305,920	-11	
B. A. Steinhagen Lake	57	94,200	86,720	92	5,190	6	1,810	2	
Cedar Creek Reservoir	58	637,050	545,900	86	-4,800	-1	-89,700	-14	
Lake Livingston	59	1,750,000	1,750,000	100	0	0	0	0	
Lake Conroe	60	429,900	420,500	98	2,700	1	4,700	1	
TOTAL		12,044,350	11,029,040	92	444,330	4	-424,720	-4	
TRANS-PECOS									
Red Bluff Reservoir	61	307,000	54,920	18	-480	0	-3,220	-1	
TOTAL		307,000	54,920	18	-480	0	-3,220	-1	
EDWARDS PLATEAU									
E. V. Spence Reservoir	62	488,760	43,920	9	-1,520	0	3,020	1	
Twin Buttes Reservoir	63	177,800	4,510	3	160	0	-830	0	
O.C. Fisher Lake	64	119,200	2,930	2	-40	0	-380	0	
O. H. Ivie Reservoir	65	554,340	193,020	35	-2,740	0	-16,880	-3	
Lake Buchanan	66	896,980	812,210	91	-19,180	-2	-71,660	-8	
Amistad Reservoir (Texas)	67	1,771,030	1,415,000	80	215,000	12	488,000	28	
Amistad Reservoir (Texas and Mexico)	(67)	3,151,300	1,562,000	50	36,000	1	496,000	16	
TOTAL		4,008,110	2,471,590	62	191,680	5	401,270	10	
SOUTH CENTRAL									
Somerville Lake	68	155,060	155,060	100	3,370	2	0	0	
Lake Travis	69	1,144,100	981,730	86	38,930	3	-162,370	-14	
Canyon Lake	70	385,600	379,840	99	1,810	0	-5,760	-1	
Coletto Creek Reservoir	71	35,060	31,980	91	240	1	0	0	
Medina Lake	72	254,000	219,900	87	-5,000	-2	-34,100	-13	
TOTAL		1,973,820	1,768,510	90	39,350	2	-202,230	-10	
UPPER COAST									
Lake Houston	73	128,860	128,860	100	0	0	0	0	
Lake Texana	74	157,900	157,170	100	10,850	7	-730	0	
TOTAL		286,760	286,030	100	10,850	4	-730	0	

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

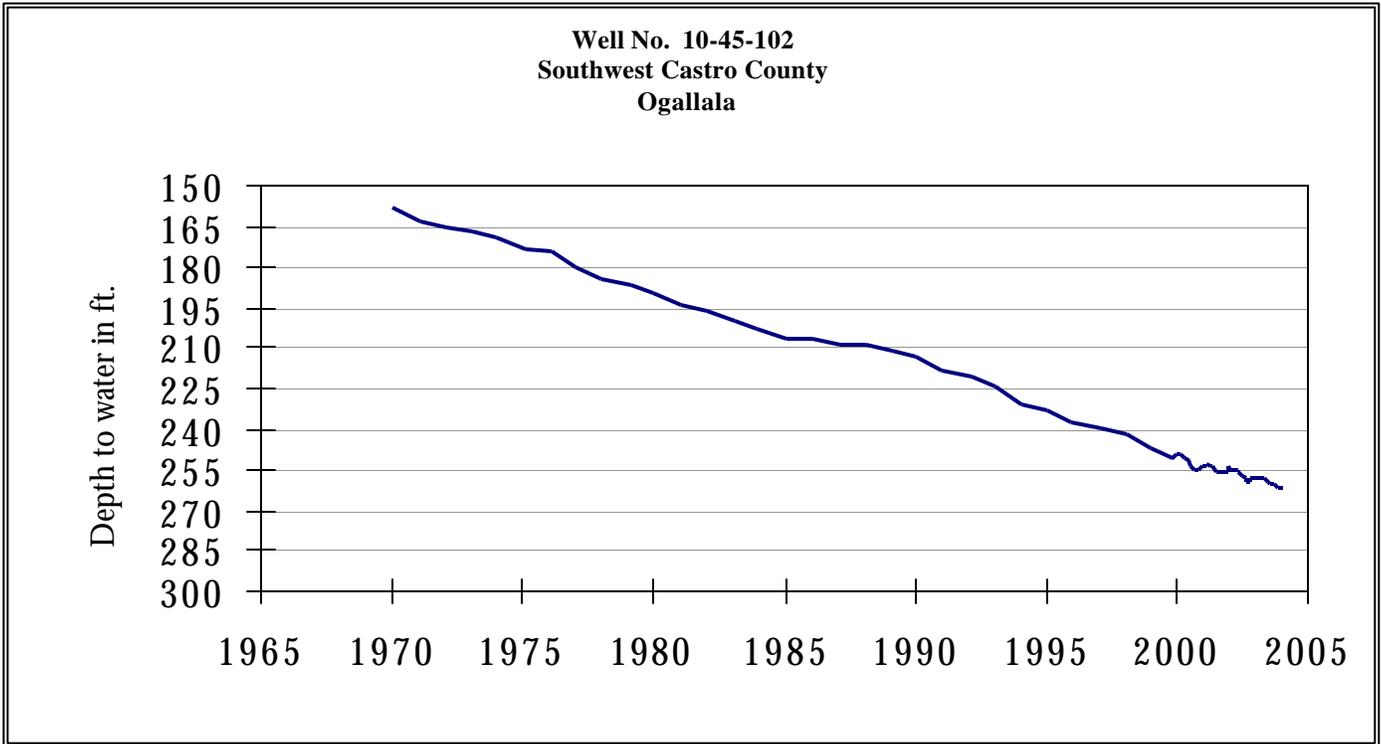
Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late January 2004 (acre-feet) (%)		Change since Late December 2003 (acre-feet) (%)		Change since Late January 2003 (acre-feet) (%)		
SOUTHERN									
Choke Canyon Reservoir	75	695,260	682,000	98	2,000	0	-13,260	-2	
Lake Corpus Christi	76	241,240	238,900	99	-1,000	0	-2,340	-1	
Falcon Reservoir (Texas)	77	1,555,120	490,000	32	-26,000	-2	111,000	7	
Falcon Reservoir (Texas and Mexico)	(77)	2,653,290	1,143,000	43	-5,000	0	428,000	16	
TOTAL		2,491,620	1,410,900	57	-25,000	-1	95,400	4	
STATE TOTAL		34,470,430	27,149,550	79	712,480	2.00	-1,343,790	-4	

Note:

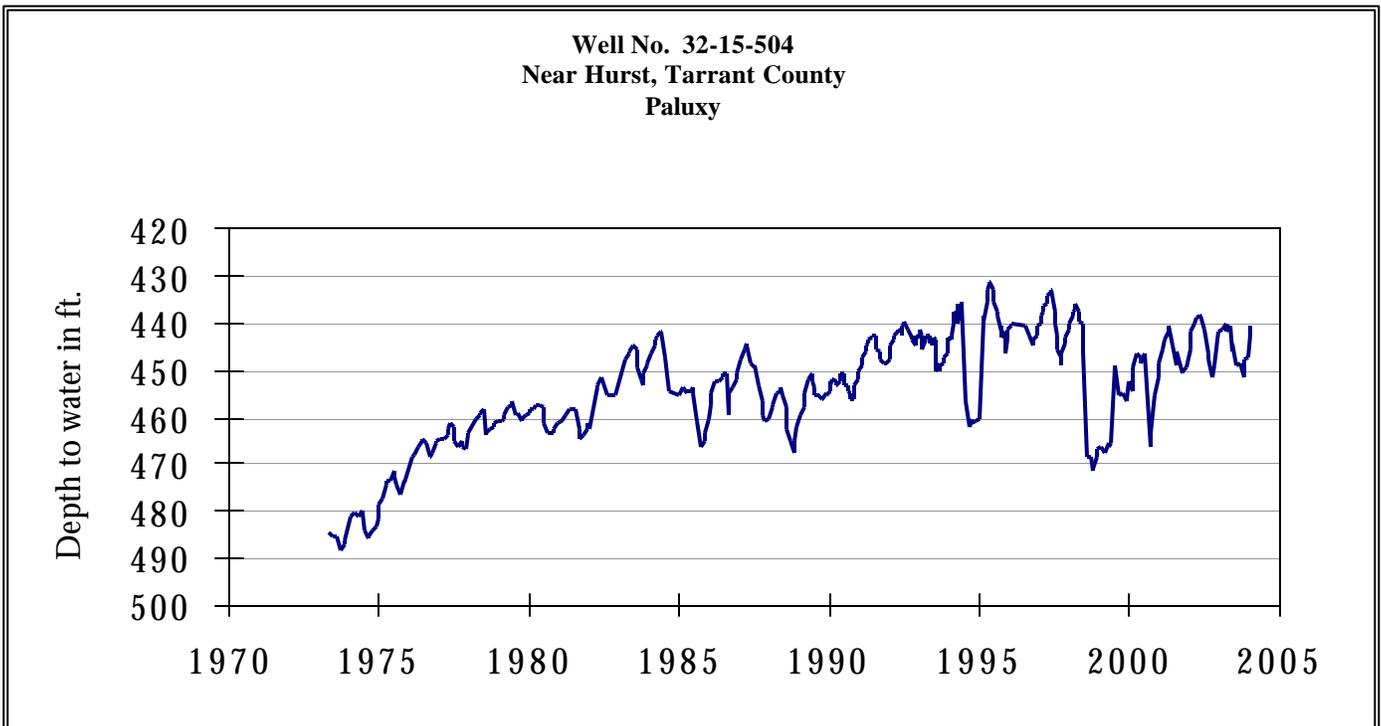
Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included 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). Preliminary figures are shown for the Texas' share of conservation storage in all reservoirs.

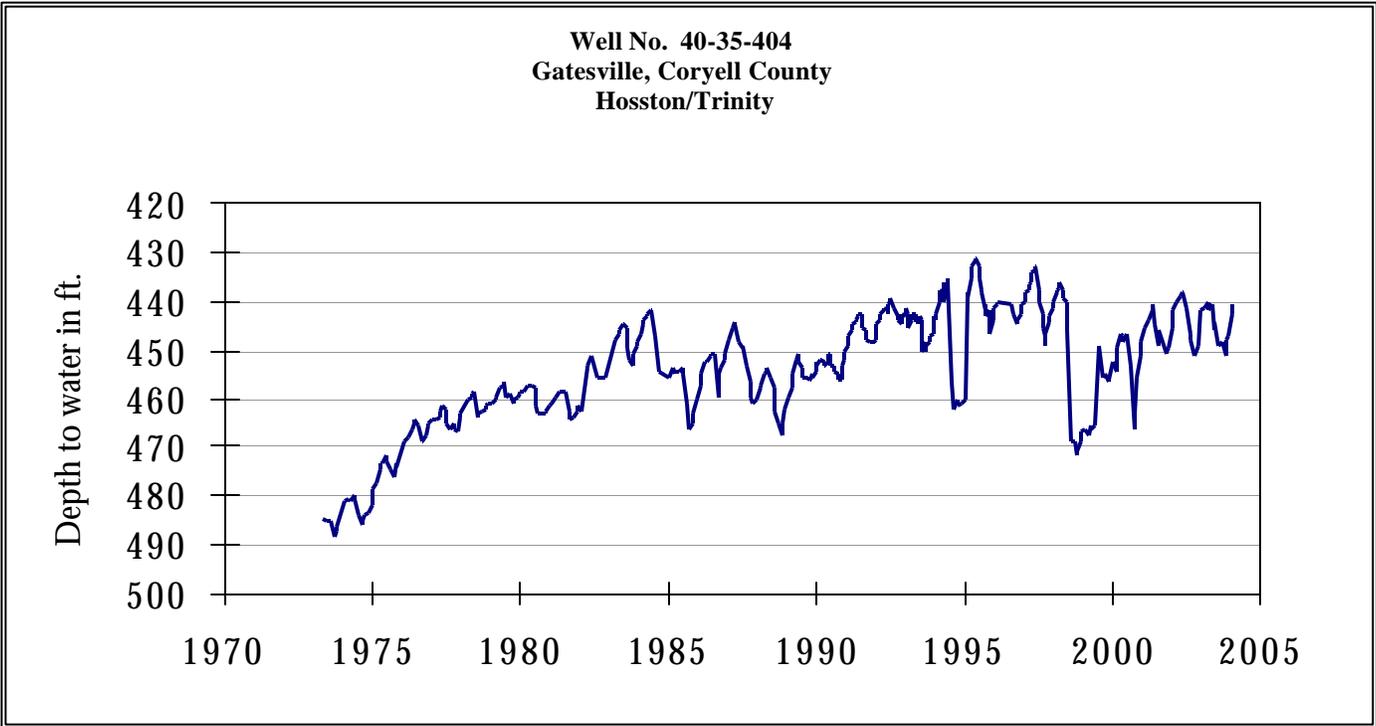
JANUARY GROUND WATER LEVELS IN OBSERVATION WELLS



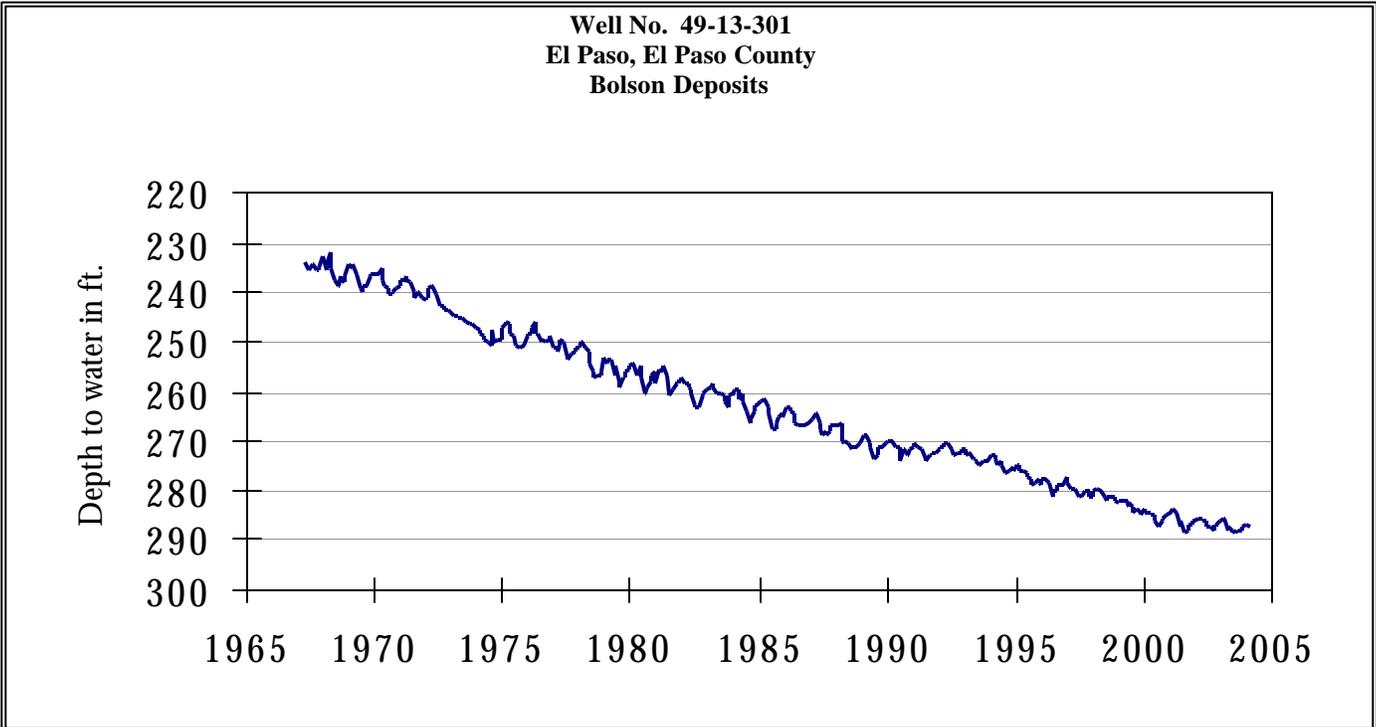
The late January water-level measurement in this Ogallala aquifer well, elevation 3,816 feet above sea level, was 261.00 feet below land surface. This measurement was 0.17 feet above last month's measurement, last year's measurement was not recorded, and 105.20 feet below the initial measurement recorded in 1968.



The late January water-level measurement in this Paluxy Formation Trinity aquifer well, elevation 535 feet above sea level, was 440.73 feet below land surface. This measurement was 1.57 feet above last month's measurement, 0.49 feet above last year's measurement, and 47.34 feet below the initial measurement recorded in 1953.

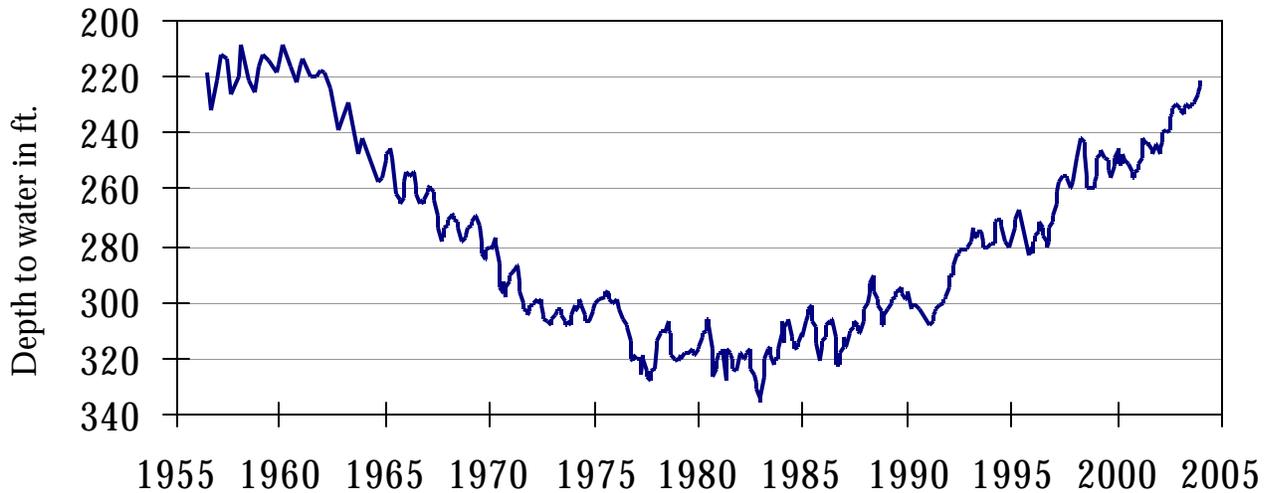


The late January water-level measurement in this Hosston Formation Trinity aquifer well, elevation 823 feet above sea level, was 452.31 feet below land surface. This measurement was 0.69 feet above last month's measurement, 4.09 feet below last year's measurement, and 160.31 feet below the initial measurement recorded in 1955.



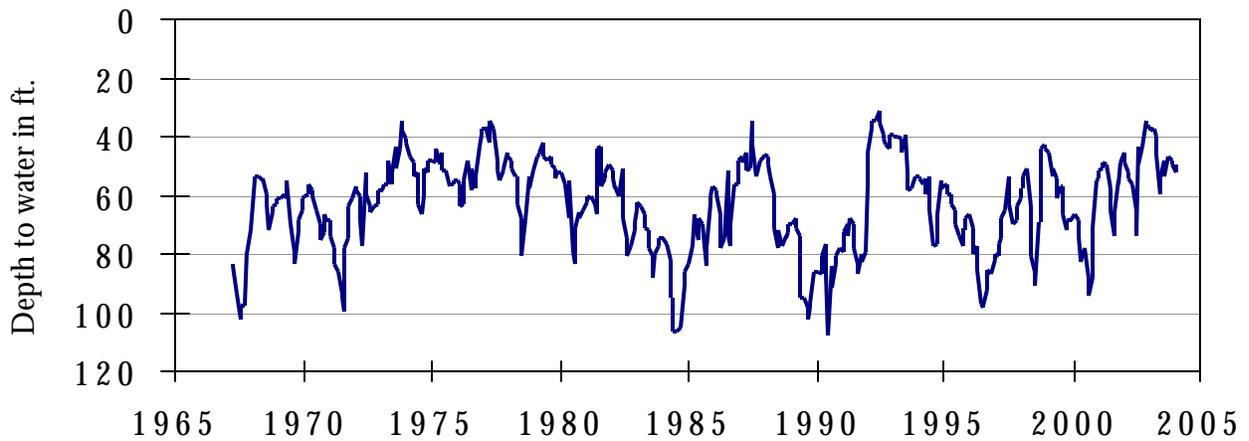
The late January water-level measurement in this Hueco Bolson aquifer well, elevation 3,882 feet above sea level, was 287.10 feet below land surface. This was 0.30 feet above last month's measurement, 1.58 feet below last year's measurement, and 55.20 feet below the initial measurement recorded in 1964.

Well No. 65-14-409
Alief, Harris County
Evangeline



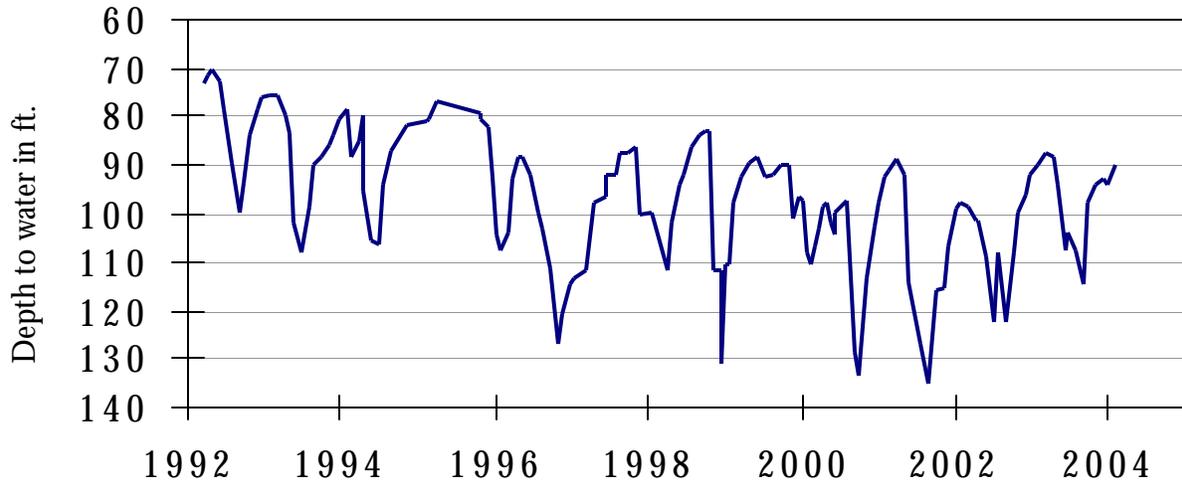
The late January water-level measurement in this Evangeline Formation Gulf Coast aquifer well, elevation 66 feet above sea level, was 221.26 feet below land surface. This was 1.84 feet above last month's measurement, 10.85 feet above last year's measurement, and 118.03 feet below the initial measurement recorded in 1947.

Well No. 68-37-203 (J-17)
In San Antonio, Bexar County
Edwards and Associated Limestones



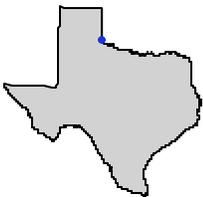
The late January water-level measurement in this Edwards (BFZ) aquifer well, elevation 731 feet above sea level, was 50.20 feet below land surface. This was 1.80 feet above last month's measurement, 12.42 feet below last year's measurement, and 9.42 feet above the initial measurement recorded in 1962.

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



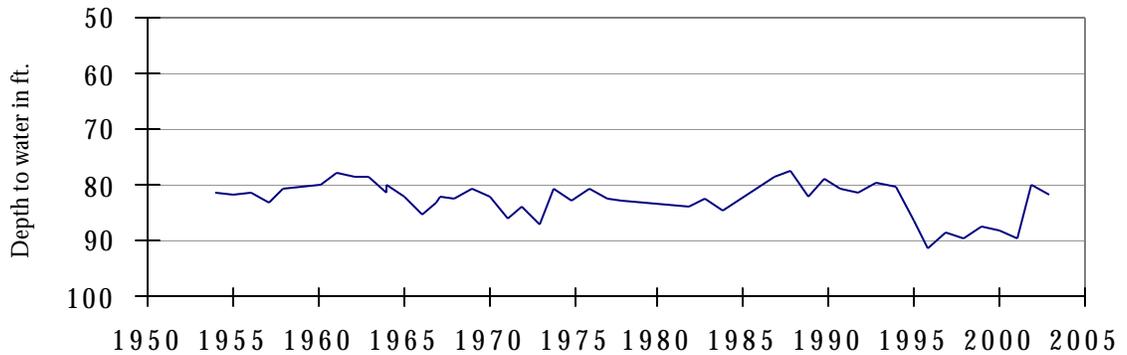
The late January water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 90.12 feet below land surface. This measurement was 3.88 feet above last month's measurement, 0.10 feet above last year's measurement, and 8.87 feet below the initial measurement recorded in 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. 12-15-501
Collingsworth County**



This 237 ft. observation well, located four miles south of the town of Wellington at an elevation of 1,940 feet above sea level, was completed in the Blaine Aquifer. The majority of the Blaine Fm. groundwater is used for irrigation activities due to elevated saline and nitrate concentrations. To date, no significant regional water levels have been recorded for the Blaine Aquifer.

January 31, 2004

Water levels increased in all seven key monitoring wells since the beginning of January, ranging from 0.17 foot in the Castro County (Ogallala Aquifer) well to 3.88 feet in the Atascosa County (Carrizo Aquifer) well. The water level increased 1.80 foot since the beginning of January in the Bexar County (J-17) San Antonio Edwards (BFZ) index well.

TEXAS WATER DEVELOPMENT BOARD

1700 N. CONGRESS AVE.

P.O. BOX 13231

AUSTIN TX 78711-3231