

Texas Water Development Board



W *Conditions* **A** **T** **T** **E** **R**

RESERVOIR STORAGE

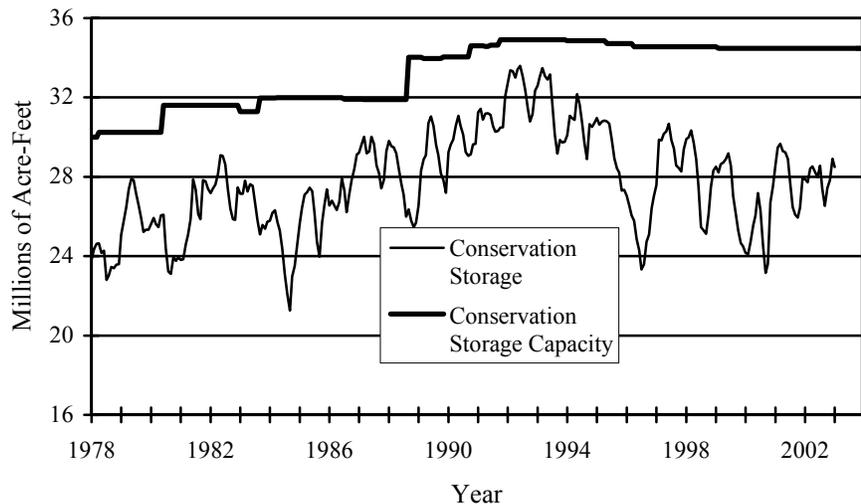
January 2003

Near the end of January, the 77 reservoirs monitored for this report held 28.49 million acre-feet in conservation storage, or 82.7 percent of the conservation storage capacity of the State's major reservoirs. Statewide total storage is at the median for this time of year. Storage decreased for the month, down 0.41 million acre-feet (-1.2%). Compared to last year at this time, storage is up 0.62 million acre-feet (+1.8%).

Storage in the South Central and Upper Coast Regions are at 100%. East (95%) and North Central (90%) Regions remain high, while the High Plains (33%), Low Rolling Plains (49%), Edwards Plateau (52%) and Southern (53%) Regions all remained low. The Trans-Pecos Region, represented by Red Bluff Reservoir, remained very low at 19% of capacity.

Lake Corpus Christi and Choke Canyon reservoir are still at 100% capacity, still feeling the benefits of our current El Nino pattern and the floods last year.

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.

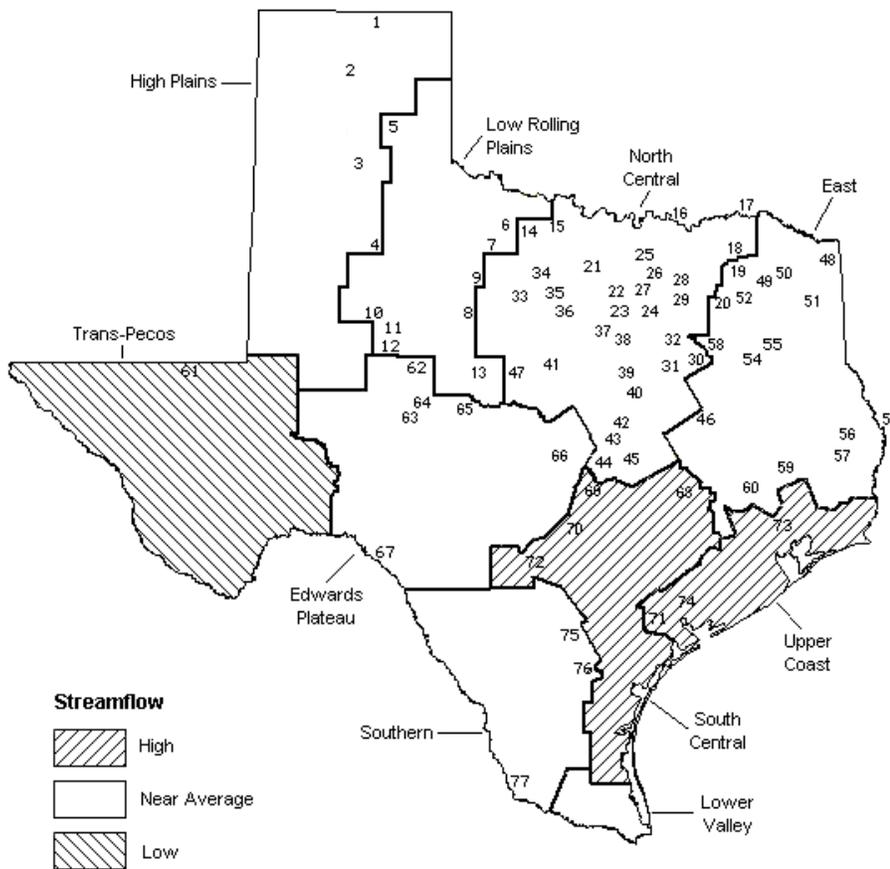
STREAMFLOW

Of 29 reporting index stations in January, computed 30-day mean flows were high (5% - 30% exceedance) at 10 stations, near normal (30% - 70% exceedance) at 15 stations, and low (70% - 95% exceedance) at 4 stations. Compared to December, flows increased at 2 index stations and decreased at 27.

On a regional basis, flows in January were high in the South Central and Upper Coast Regions, low in the Trans-Pecos Region and 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 Storage Capacity (acre-feet)	Conservation Storage Late January 2003 (acre-feet) (%)	Change since Late December 2002 (acre-feet) (%)	Change since Late January 2002 (acre-feet) (%)
HIGH PLAINS					
Palo Duro Reservoir	1	60,900	3,370 6	-150 0	-2,500 -4
Lake Meredith (Texas)	2	500,000	193,720 39	-3,860 -1	-59,380 -12
Lake Meredith (Texas and Oklahoma)	(2)	779,560	193,720 25	-3,860 0	-59,380 -8
MacKenzie Reservoir	3	46,250	7,920 17	-130 0	-530 -1
White River Lake	4	31,850	5,810 18	-280 -1	-1,650 -5
TOTAL		639,000	210,820 33	-4,420 -1	-64,060 -10
LOW ROLLING PLAINS					
Greenbelt Reservoir	5	58,200	23,530 40	120 0	-700 -1
Lake Kemp	6	319,600	239,950 75	-1,170 0	106,250 33
Miller's Creek Reservoir	7	27,890	14,980 54	-310 -1	2,400 9
Fort Phantom Hill Reservoir	8	70,030	42,310 60	-1,690 -2	12,060 17
Lake Stamford	9	52,700	39,450 75	-940 -2	23,600 45
Lake J. B. Thomas	10	202,300	20,470 10	-570 0	470 0
Lake Colorado City	11	30,800	16,400 53	-250 -1	-2,580 -8
Champion Creek Reservoir	12	41,600	2,260 5	-30 0	120 0
Hords Creek Lake	13	8,600	2,420 28	-70 -1	-650 -8
TOTAL		811,720	401,770 49	-4,910 -1	140,970 17
NORTH CENTRAL					
Lake Kickapoo	14	106,000	79,700 75	-2,410 -2	9,090 9
Lake Arrowhead	15	262,100	153,140 58	-1,110 0	-260 0
Lake Texoma	16	2,722,300	2,364,680 87	-302,960 -11	-100,320 -4
Pat Mayse Lake	17	124,500	120,530 97	-3,970 -3	-3,970 -3
Cooper Lake	18	273,000	273,000 100	0 0	0 0
Lake Sulphur Springs	19	17,710	16,220 92	-1,310 -7	-1,490 -8
Lake Tawakoni	20	936,200	881,800 94	-25,700 -3	-35,800 -4
Bridgeport Reservoir	21	374,830	277,700 74	-2,200 -1	-8,500 -2
Eagle Mountain Reservoir	22	178,380	141,400 79	-4,600 -3	-2,400 -1
Benbrook Lake	23	88,200	85,950 97	3,590 4	11,310 13
Joe Pool Lake	24	175,800	175,800 100	0 0	0 0
Ray Roberts Lake	25	798,760	798,760 100	0 0	40,060 5
Lewisville Lake	26	555,000	555,000 100	0 0	37,700 7
Grapevine Lake	27	187,700	172,770 92	-420 0	27,570 15
Lavon Lake	28	443,800	423,520 95	18,200 4	50,920 11
Lake Ray Hubbard	29	413,420	413,100 100	-320 0	-320 0
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	47,920 89	-1,240 -2	-1,240 -2
Hubbard Creek Reservoir	33	317,800	149,600 47	-2,200 -1	35,500 11
Lake Graham	34	45,000	29,240 65	-590 -1	-4,170 -9
Possum Kingdom Lake	35	551,820	478,300 87	-6,100 -1	19,500 4
Lake Palo Pinto	36	27,650	22,310 81	-610 -2	7,360 27
Lake Granbury	37	135,680	133,100 98	0 0	13,800 10
Lake Pat Cleburne	38	25,300	20,850 82	70 0	-3,640 -14
Whitney Lake	39	622,800	455,520 73	-7,400 -1	-20,780 -3
Waco Lake	40	144,500	141,960 98	-2,540 -2	-2,540 -2
Proctor Lake	41	55,590	55,540 100	-50 0	19,520 35
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	215,000 100	-750 0	-750 0
Lake Brownwood	47	143,400	131,640 92	-1,250 -1	23,340 16
TOTAL		11,908,050	10,725,530 90	-345,870 -3	109,490 1

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 2003 (acre-feet) (%)	Change since Late December 2002 (acre-feet) (%)	Change since Late January 2002 (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	226,150 90	-6,920 -3	-24,650 -10
Lake Fork Reservoir	52	635,200	635,200 100	0 0	0 0
Toledo Bend Reservoir	53	4,472,900	3,933,000 88	-216,000 -5	-298,000 -7
Lake Palestine	54	411,300	411,300 100	7,280 2	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	84,910 90	390 0	39,860 42
Cedar Creek Reservoir	58	637,050	635,600 100	-1,450 0	-1,450 0
Lake Livingston	59	1,750,000	1,750,000 100	0 0	0 0
Lake Conroe	60	429,900	415,800 97	-5,500 -1	-3,500 -1
TOTAL		12,044,350	11,453,760 95	-222,200 -2	-287,740 -2
TRANS-PECOS					
Red Bluff Reservoir	61	307,000	58,140 19	1,650 1	18,690 6
TOTAL		307,000	58,140 19	1,650 1	18,690 6
EDWARDS PLATEAU					
E. V. Spence Reservoir	62	488,760	40,900 8	-1,640 0	-17,640 -4
Twin Buttes Reservoir	63	177,800	5,340 3	110 0	-2,870 -2
O.C. Fisher Lake	64	119,200	3,310 3	-120 0	-1,080 -1
O. H. Ivie Reservoir	65	554,340	209,900 38	-4,200 -1	-44,300 -8
Lake Buchanan	66	896,980	883,870 99	0 0	106,970 12
Amistad Reservoir (Texas)	67	1,771,030	927,000 52	142,000 8	114,000 6
Amistad Reservoir (Texas and Mexico)	(67)	3,151,300	1,066,000 34	33,000 1	88,000 3
TOTAL		4,008,110	2,070,320 52	136,150 3	155,080 4
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	360 0	700 0
Coletto Creek Reservoir	71	35,060	31,980 91	0 0	-140 0
Medina Lake	72	254,000	254,000 100	0 0	0 0
TOTAL		1,973,820	1,970,740 100	360 0	560 0
UPPER COAST					
Lake Houston	73	128,860	128,860 100	0 0	0 0
Lake Texana	74	157,900	157,900 100	0 0	2,800 2
TOTAL		286,760	286,760 100	0 0	2,800 1

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 2003 (acre-feet) (%)	Change since Late December 2002 (acre-feet) (%)	Change since Late January 2002 (acre-feet) (%)
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SOUTHERN

Choke Canyon Reservoir	75	695,260	695,260 100	1,260 0	417,260 60
Lake Corpus Christi	76	241,240	241,240 100	0 0	0 0
Falcon Reservoir (Texas)	77	1,555,120	379,000 24	24,000 2	122,000 8
Falcon Reservoir (Texas and Mexico)	(77)	2,653,290	715,000 27	2,000 0	287,000 11
TOTAL		2,491,620	1,315,500 53	25,260 1	539,260 22

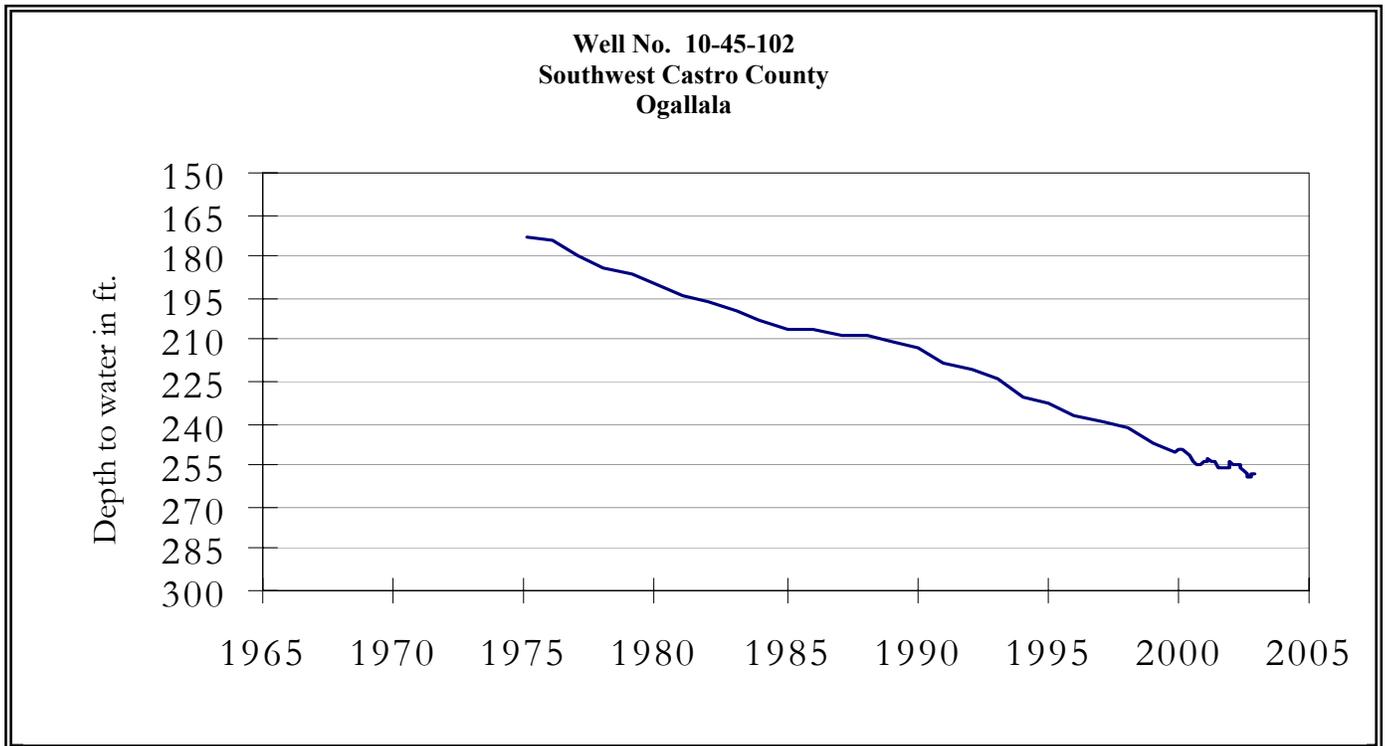
STATE TOTAL		34,470,430	28,493,340 83	-413,980 -1	615,050 2
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Note:

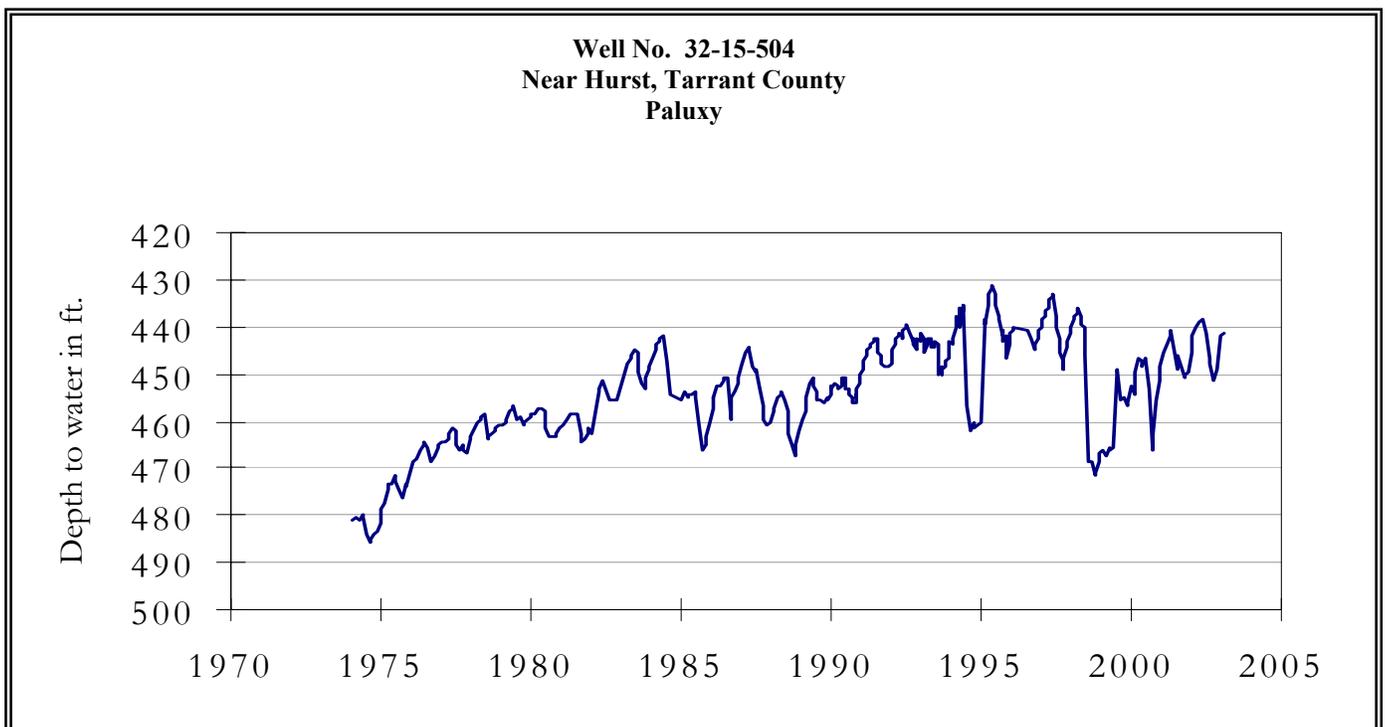
Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included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

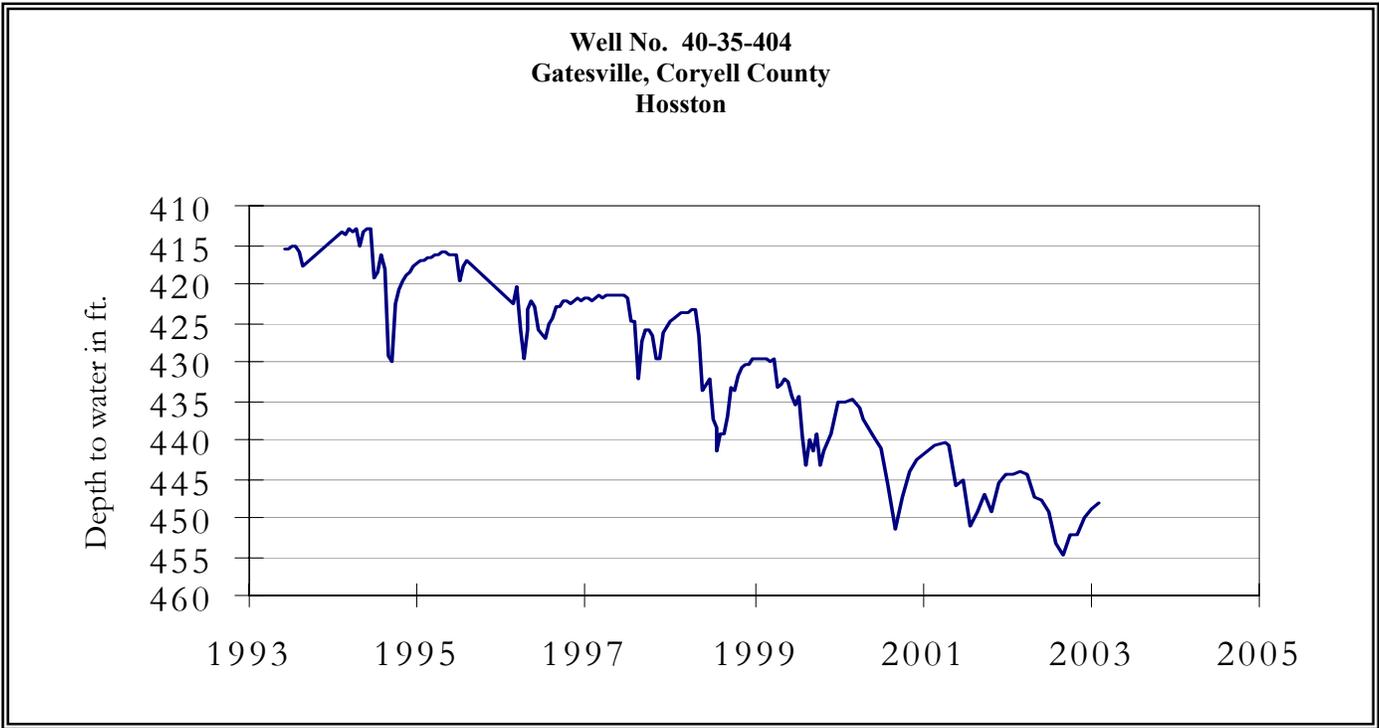
JANUARY GROUND WATER LEVELS IN OBSERVATION WELLS



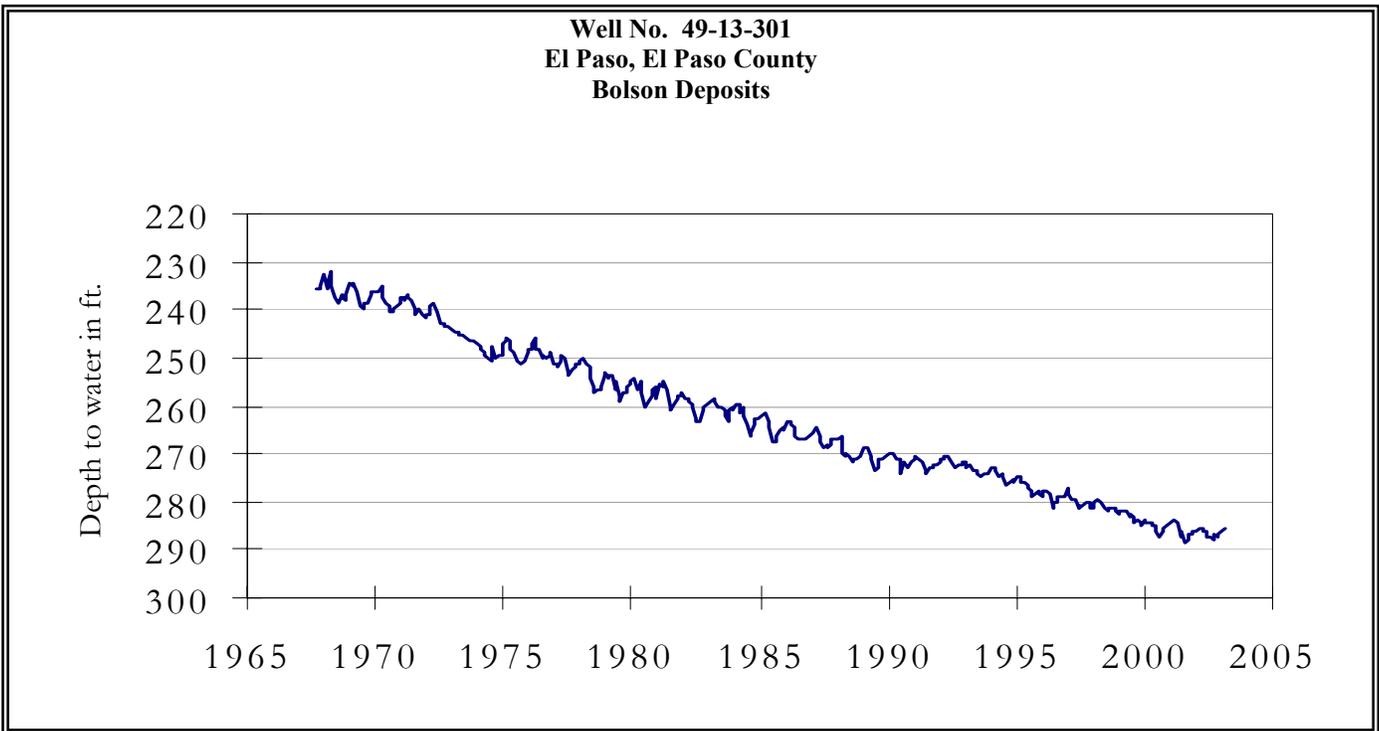
Due to a USGS water-level recorder malfunction in the Castro County well, the January water-level measurement was not available.



The late January water-level measurement in this Paluxy Formation Trinity aquifer well, elevation 535 feet above sea level, was 441.22 feet below land surface. This measurement was 0.64 feet above last month's measurement, 0.84 feet above last year's measurement, and 47.83 feet below the initial measurement recorded in 1953.

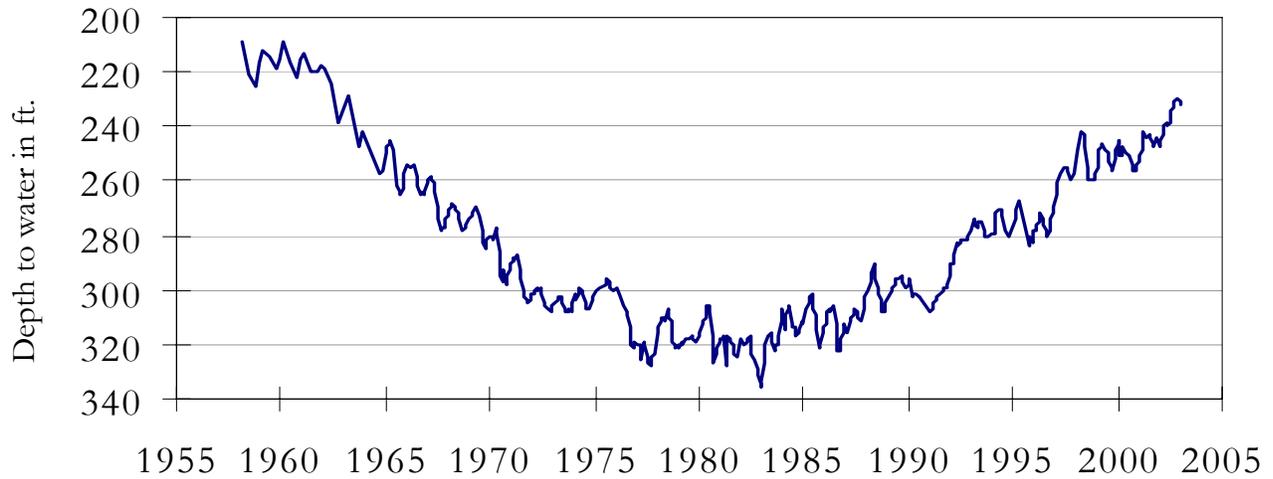


The late January water-level measurement in this Hosston Formation Trinity aquifer well, elevation 823 feet above sea level, was 448.22 feet below land surface. This measurement was 0.70 feet above last month's measurement, 3.77 feet below last year's measurement, and 156.22 feet below the initial measurement recorded in 1955.



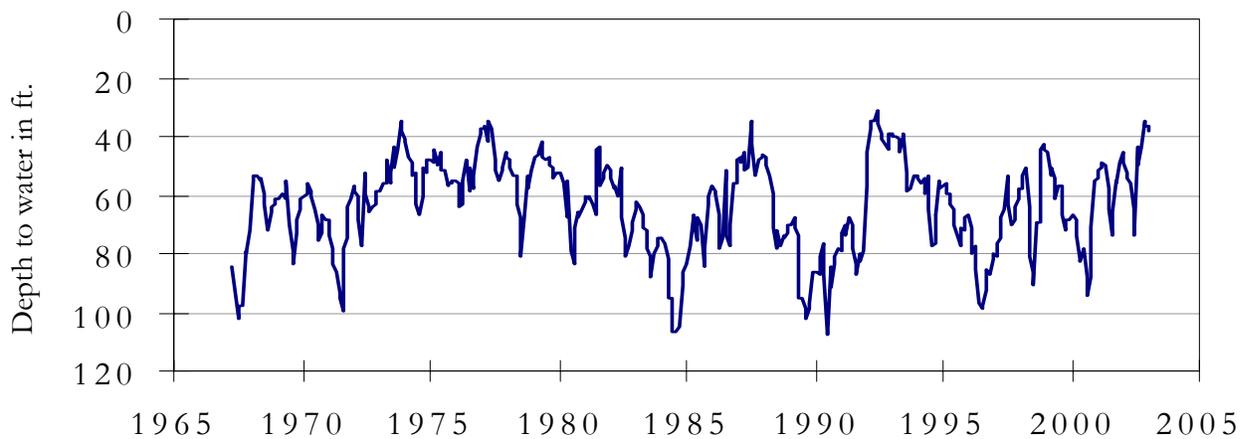
The late January water-level measurement in this Hueco Bolson aquifer well, elevation 3,882 feet above sea level, was 285.51 feet below land surface. This was 0.53 feet above last month's measurement, 0.76 feet above last year's measurement, and 53.61 feet below the initial measurement recorded in 1964.

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



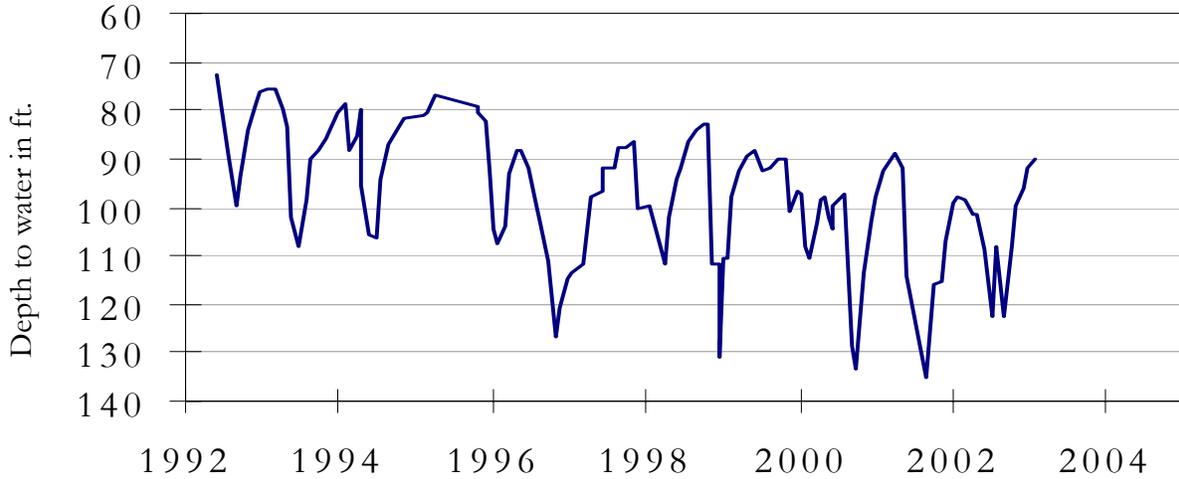
The late January water-level measurement in this Evangeline Formation Gulf Coast aquifer well, elevation 66 feet above sea level, was 232.11 feet below land surface. This was 1.04 feet below last month's measurement, 12.55 feet above last year's measurement, and 128.88 feet below the initial measurement recorded in 1947.

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



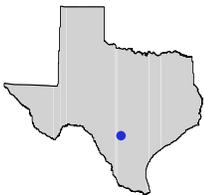
The late January water-level measurement in this Edwards (BFZ) aquifer well, elevation 731 feet above sea level, was 37.78 feet below land surface. This was 1.62 feet below last month's measurement, 11.22 feet above last year's measurement, and 21.84 feet above the initial measurement recorded in 1962.

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



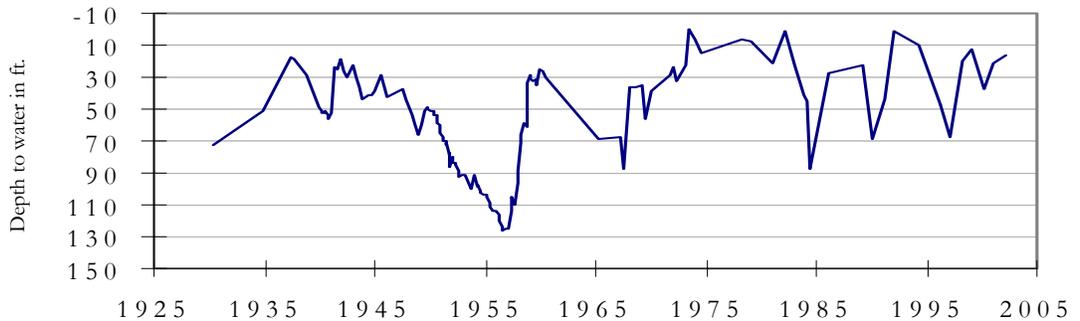
The late January water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 90.22 feet below land surface. This measurement was 1.55 feet above last month's measurement, 7.67 feet above last year's measurement, and 8.97 feet below the initial measurement recorded in 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. 6954401
Medina County**



This 2,000 ft. deep domestic well, located approximately 12.5 miles SW of the City of Hondo, at an elevation of 785 feet above sea level, was completed in the Edwards Limestone/Balcones Fault Zone aquifer. The graph correlates well with known periods of drought and with wetter times or events such as hurricanes. The most prominent is the drought of the 1950's followed by hurricanes Audrey in 1957 and Carla in 1961.

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