

Texas Water Development Board



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

RESERVOIR STORAGE

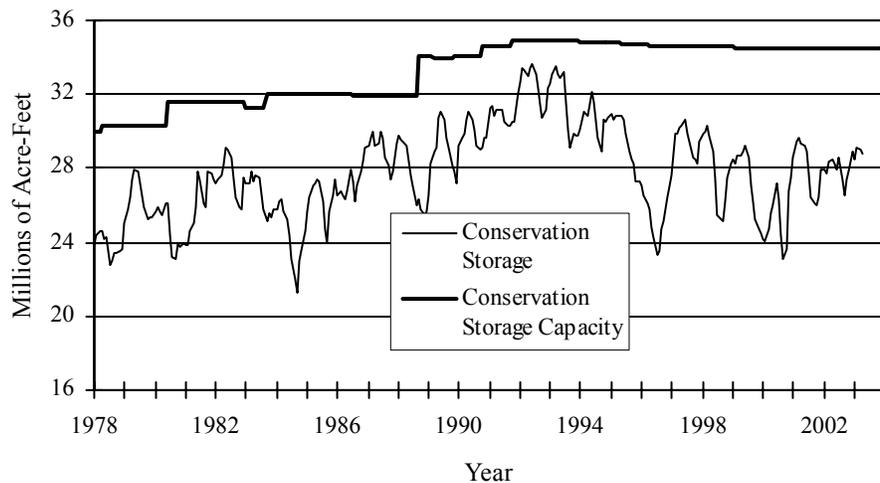
April 2003

Near the end of April, the 77 reservoirs monitored for this report held 28.83 million acre-feet in conservation storage, or 83.6 percent of the conservation storage capacity of the State's major reservoirs. Statewide total storage is slightly below median for this time of year. Storage decreased for the month, down 0.15 million acre-feet (-0.4%). Compared to last year at this time, storage is up 0.31 million acre-feet (+0.9%).

Storage in the South Central Region is at 100%. The North Central (91%), East (98%) and Upper Coast (95%) Regions remain high, while the High Plains (30%), Low Rolling Plains (46%), Edwards Plateau (53%) and Southern (50%) Regions all remained low. The Trans-Pecos Region, represented by Red Bluff Reservoir, remained very low at 19% of capacity, the same as last month. Storage is at 100% in 29 reservoirs this month.

E.V. Spence, Twin Buttes and O.C. Fisher remain very low this month, below 10% of capacity.

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.

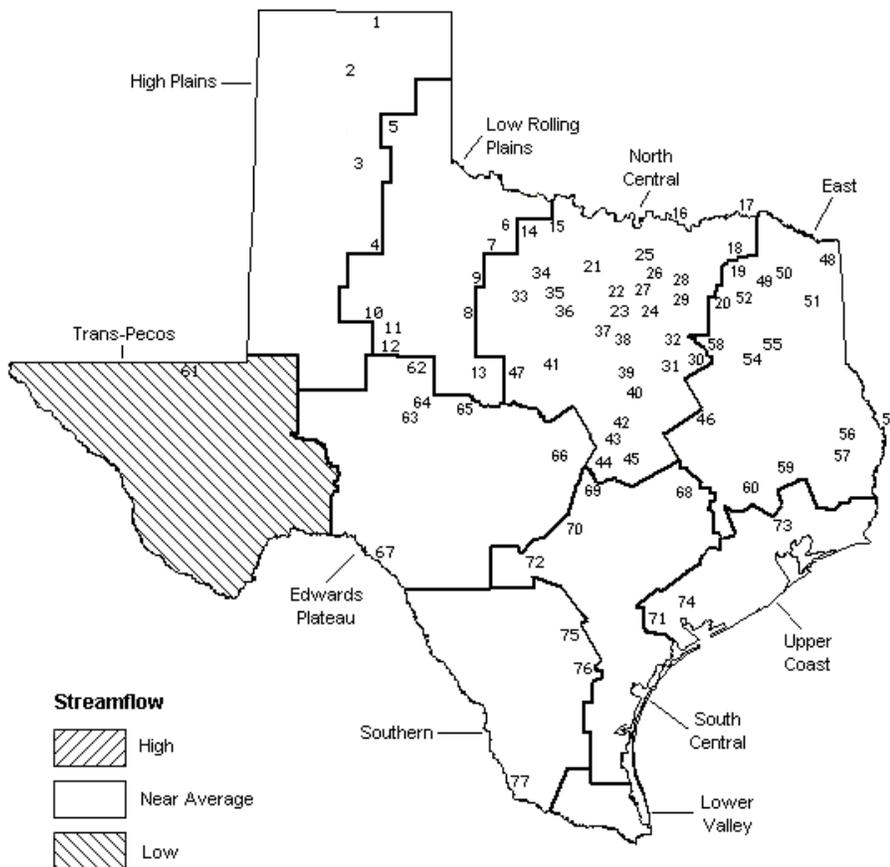
STREAMFLOW

Of 29 reporting index stations in April, computed 30-day mean flows were high (5% - 30% exceedance) at 4 stations, near normal (30% - 70% exceedance) at 19 stations, and low (70% - 95% exceedance) at 6 stations. Compared to March, flows decreased at 22 index stations and increased at 7.

On a regional basis, flows in April were normal everywhere except in the Trans-Pecos Region, which remained low.

APRIL 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 April 2003 (acre-feet) (%)	Change since Late March 2003 (acre-feet) (%)	Change since Late April 2002 (acre-feet) (%)
HIGH PLAINS					
Palo Duro Reservoir	1	60,900	2,870 5	-240 0	-2,020 -3
Lake Meredith (Texas)	2	500,000	178,590 36	-8,090 -2	-58,410 -12
Lake Meredith (Texas and Oklahoma)	(2)	779,560	178,590 23	-8,090 -1	-58,410 -7
MacKenzie Reservoir	3	46,250	7,430 16	-230 0	-670 -1
White River Lake	4	31,850	5,130 16	-150 0	-2,050 -6
TOTAL		639,000	194,020 30	-8,710 -1	-63,150 -10
LOW ROLLING PLAINS					
Greenbelt Reservoir	5	58,200	23,290 40	-270 0	-1,160 -2
Lake Kemp	6	319,600	226,440 71	-11,060 -3	66,440 21
Miller's Creek Reservoir	7	27,890	13,960 50	-660 -2	400 1
Fort Phantom Hill Reservoir	8	70,030	37,250 53	-2,840 -4	6,860 10
Lake Stamford	9	52,700	36,440 69	-1,510 -3	-1,030 -2
Lake J. B. Thomas	10	202,300	18,360 9	-910 0	-2,480 -1
Lake Colorado City	11	30,800	15,150 49	-610 -2	-3,150 -10
Champion Creek Reservoir	12	41,600	2,070 5	-100 0	-30 0
Hords Creek Lake	13	8,600	2,220 26	-100 -1	-650 -8
TOTAL		811,720	375,180 46	-18,060 -2	65,200 8
NORTH CENTRAL					
Lake Kickapoo	14	106,000	72,670 69	-3,130 -3	-11,230 -11
Lake Arrowhead	15	262,100	144,830 55	-5,080 -2	-17,870 -7
Lake Texoma	16	2,722,300	2,412,290 89	28,100 1	-224,710 -8
Pat Mayse Lake	17	124,500	118,770 95	-3,640 -3	-5,730 -5
Cooper Lake	18	273,000	273,000 100	0 0	0 0
Lake Sulphur Springs	19	17,710	17,710 100	0 0	0 0
Lake Tawakoni	20	936,200	888,300 95	-4,600 0	-16,900 -2
Bridgeport Reservoir	21	374,830	276,800 74	-2,000 -1	-27,500 -7
Eagle Mountain Reservoir	22	178,380	140,600 79	-5,400 -3	-36,800 -21
Benbrook Lake	23	88,200	83,440 95	-3,820 -4	-2,700 -3
Joe Pool Lake	24	175,800	175,800 100	0 0	0 0
Ray Roberts Lake	25	798,760	792,520 99	-6,240 -1	-6,240 -1
Lewisville Lake	26	555,000	555,000 100	0 0	0 0
Grapevine Lake	27	187,700	182,500 97	-1,110 -1	-5,200 -3
Lavon Lake	28	443,800	443,800 100	0 0	0 0
Lake Ray Hubbard	29	413,420	404,900 98	-5,600 -1	-7,800 -2
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	48,290 90	580 1	260 0
Hubbard Creek Reservoir	33	317,800	141,400 44	-4,900 -2	14,400 5
Lake Graham	34	45,000	27,350 61	-1,040 -2	-6,790 -15
Possum Kingdom Lake	35	551,820	453,600 82	-11,600 -2	-36,400 -7
Lake Palo Pinto	36	27,650	20,180 73	-1,350 -5	-3,790 -14
Lake Granbury	37	135,680	133,600 98	300 0	1,200 1
Lake Pat Cleburne	38	25,300	25,300 100	600 2	0 0
Whitney Lake	39	622,800	490,340 79	-1,310 0	-129,360 -21
Waco Lake	40	144,500	144,500 100	0 0	0 0
Proctor Lake	41	55,590	55,590 100	0 0	17,600 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	320 1
Granger Lake	45	54,280	54,280 100	0 0	0 0
Lake Limestone	46	215,750	215,750 100	0 0	0 0
Lake Brownwood	47	143,400	130,980 91	-940 -1	24,180 17
TOTAL		11,908,050	10,781,290 91	-32,180 0	-481,060 -4

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late April 2003 (acre-feet) (%)	Change since Late March 2003 (acre-feet) (%)	Change since Late April 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	228,240 91	1,130 0	-23,760 -9
Lake Fork Reservoir	52	635,200	635,200 100	0 0	0 0
Toledo Bend Reservoir	53	4,472,900	4,301,000 96	-43,000 -1	-118,000 -3
Lake Palestine	54	411,300	409,290 100	-2,010 0	-2,010 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	94,200 100	13,500 14	39,950 42
Cedar Creek Reservoir	58	637,050	631,900 99	-5,150 -1	-4,000 -1
Lake Livingston	59	1,750,000	1,735,000 99	0 0	5,000 0
Lake Conroe	60	429,900	411,700 96	-1,600 0	-600 0
TOTAL		12,044,350	11,808,330 98	-37,130 0	-103,420 -1
TRANS-PECOS					
Red Bluff Reservoir	61	307,000	58,740 19	-1,640 -1	16,960 6
TOTAL		307,000	58,740 19	-1,640 -1	16,960 6
EDWARDS PLATEAU					
E. V. Spence Reservoir	62	488,760	34,130 7	-3,140 -1	-18,410 -4
Twin Buttes Reservoir	63	177,800	6,170 3	-310 0	-2,560 -1
O.C. Fisher Lake	64	119,200	2,800 2	-330 0	-1,120 -1
O. H. Ivie Reservoir	65	554,340	196,600 35	-7,900 -1	-44,100 -8
Lake Buchanan	66	896,980	870,560 97	-24,490 -3	69,760 8
Amistad Reservoir (Texas)	67	1,771,030	1,015,000 57	50,000 3	183,000 10
Amistad Reservoir (Texas and Mexico)	(67)	3,151,300	1,093,000 35	-25,000 -1	112,000 4
TOTAL		4,008,110	2,125,260 53	13,830 0	186,570 5
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	45,100 4
Canyon Lake	70	385,600	385,600 100	0 0	3,300 1
Coleta Creek Reservoir	71	35,060	31,490 90	-190 -1	990 3
Medina Lake	72	254,000	253,600 100	-400 0	9,600 4
TOTAL		1,973,820	1,969,850 100	-590 0	58,990 3
UPPER COAST					
Lake Houston	73	128,860	128,860 100	0 0	38,330 30
Lake Texana	74	157,900	143,710 91	-11,330 -7	-8,690 -6
TOTAL		286,760	272,570 95	-11,330 -4	29,640 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 April 2003 (acre-feet) (%)	Change since Late March 2003 (acre-feet) (%)	Change since Late April 2002 (acre-feet) (%)
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SOUTHERN

Choke Canyon Reservoir	75	695,260	693,000 100	-2,260 0	430,000 62
Lake Corpus Christi	76	241,240	236,810 98	-4,430 -2	19,410 8
Falcon Reservoir (Texas)	77	1,555,120	316,000 20	-52,000 -3	147,000 9
Falcon Reservoir (Texas and Mexico)	(77)	2,653,290	469,000 18	-261,000 -10	204,000 8
TOTAL		2,491,620	1,245,810 50	-58,690 -2	596,410 24

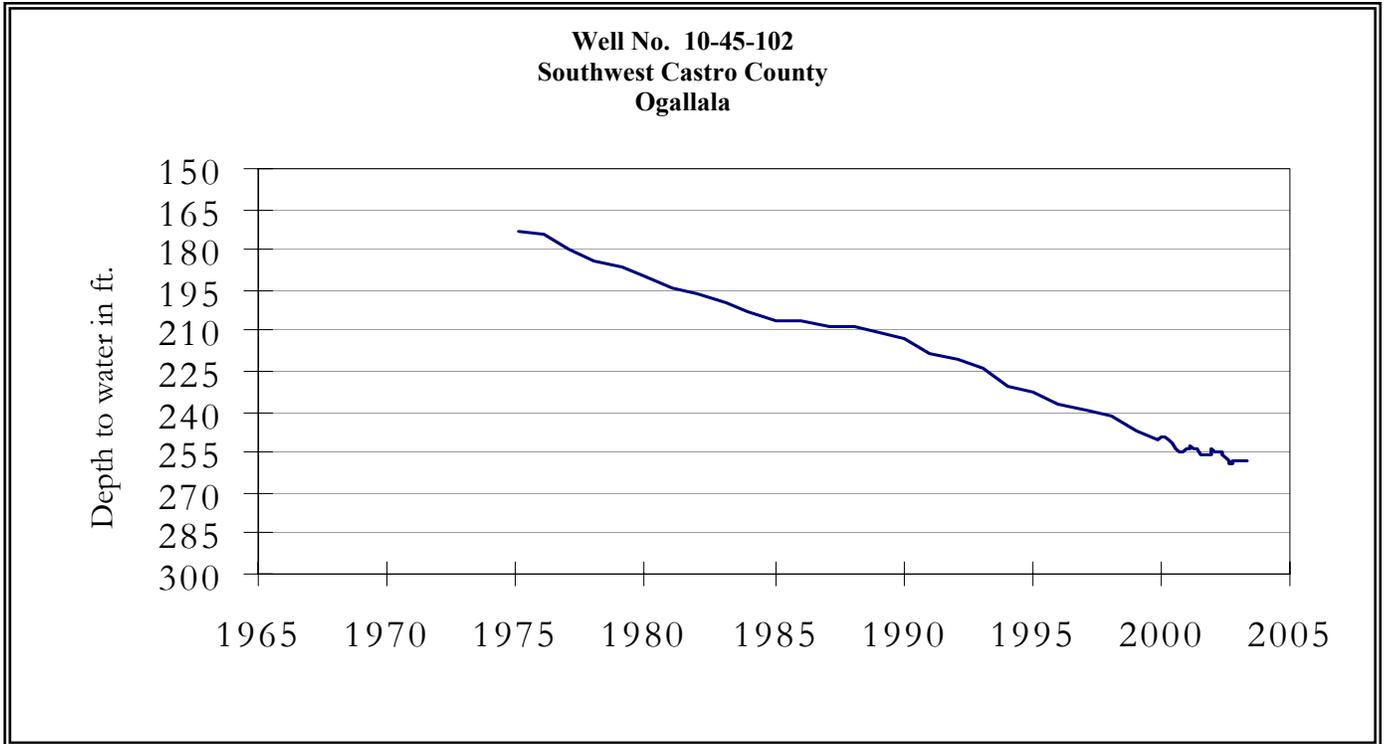
STATE TOTAL		34,470,430	28,831,050 84	-154,500 0	306,140 1
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Note:

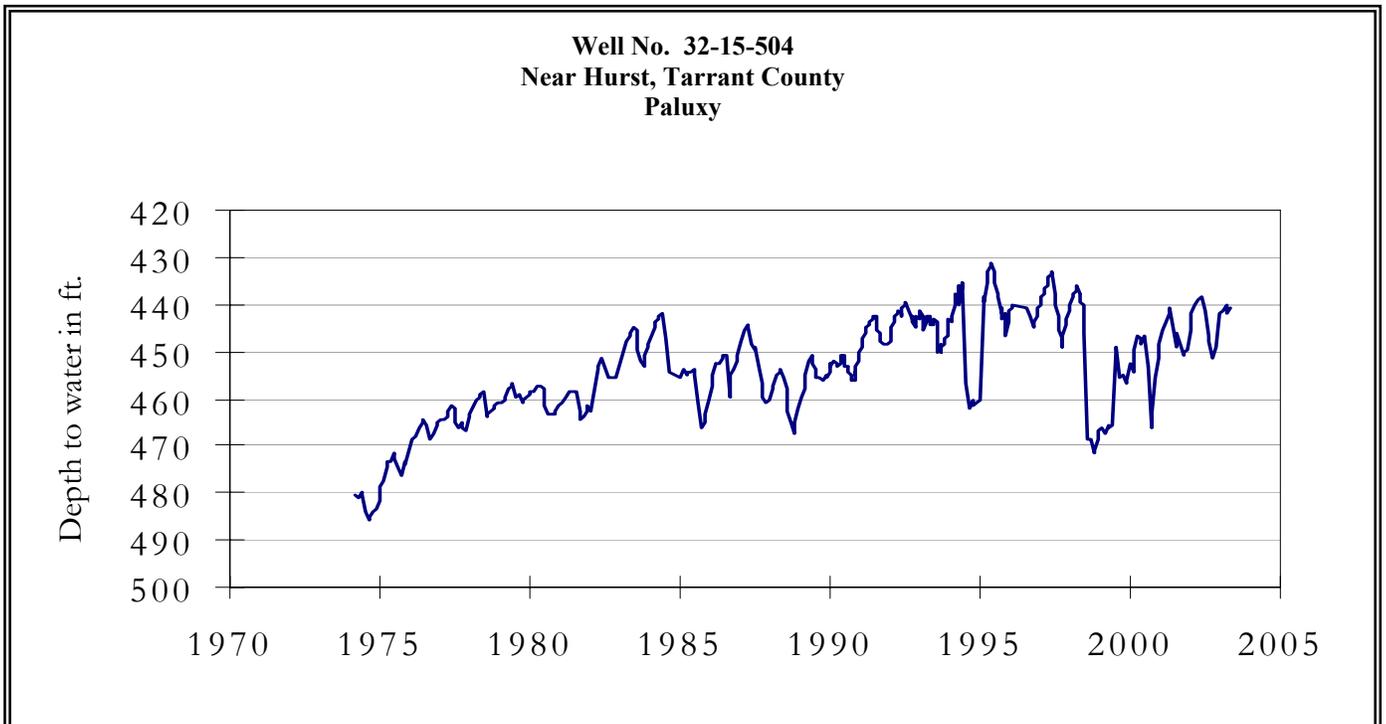
Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included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

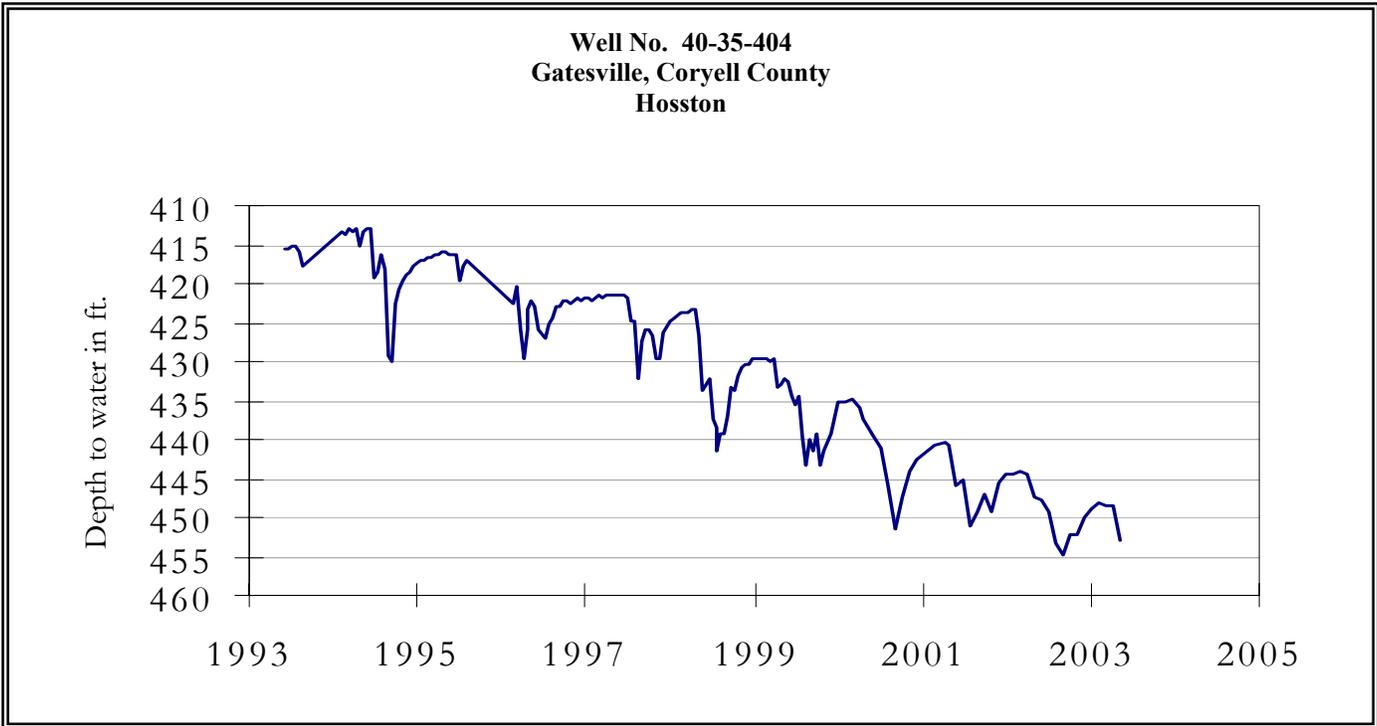
APRIL GROUND WATER LEVELS IN OBSERVATION WELLS



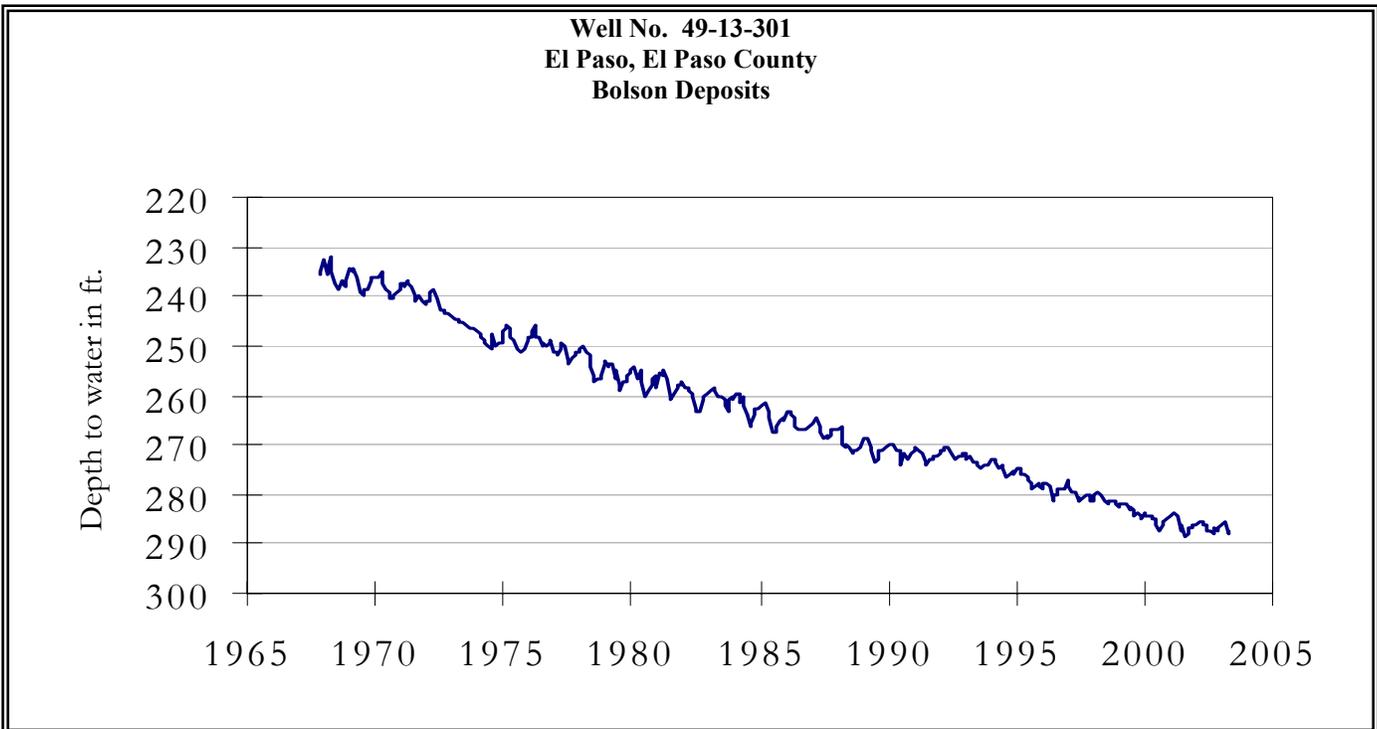
The late April water-level measurement in this Ogallala aquifer well, elevation 3,816 feet above sea level, was 258.63 feet below land surface. This measurement was 0.31 feet below last month's measurement, 3.31 feet below last year's measurement, and 102.63 feet below the initial measurement recorded in 1968.



The late April water-level measurement in this Paluxy Formation Trinity aquifer well, elevation 535 feet above sea level, was 440.75 feet below land surface. This measurement was 1.46 feet above last month's measurement, 2.33 feet below last year's measurement, and 47.36 feet below the initial measurement recorded in 1953.

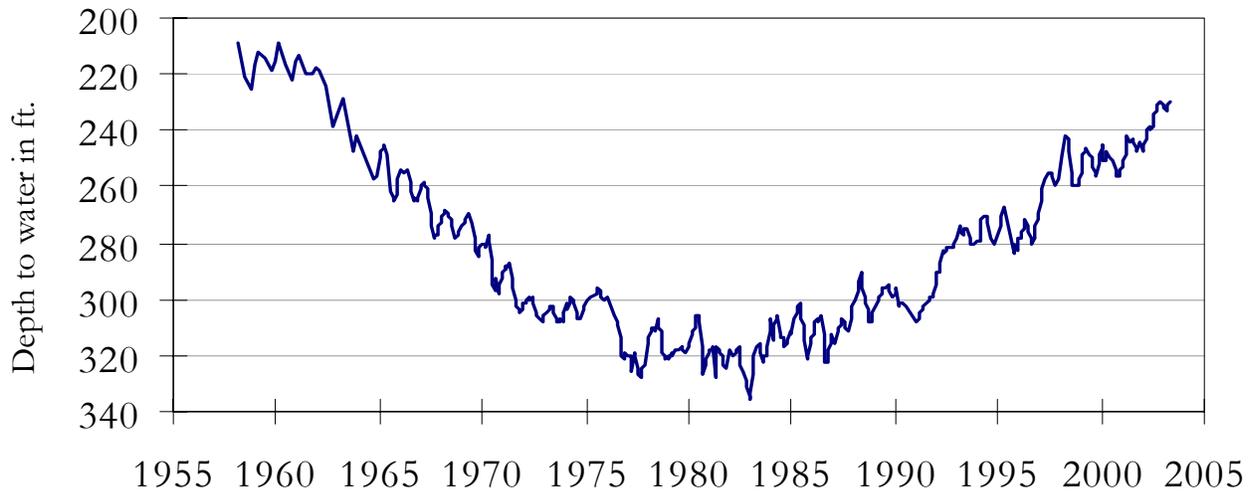


The late April water-level measurement in this Hosston Formation Trinity aquifer well, elevation 823 feet above sea level, was 452.78 feet below land surface. This measurement was 4.24 feet below last month's measurement, 5.29 feet below last year's measurement, and 160.78 feet below the initial measurement recorded in 1955.



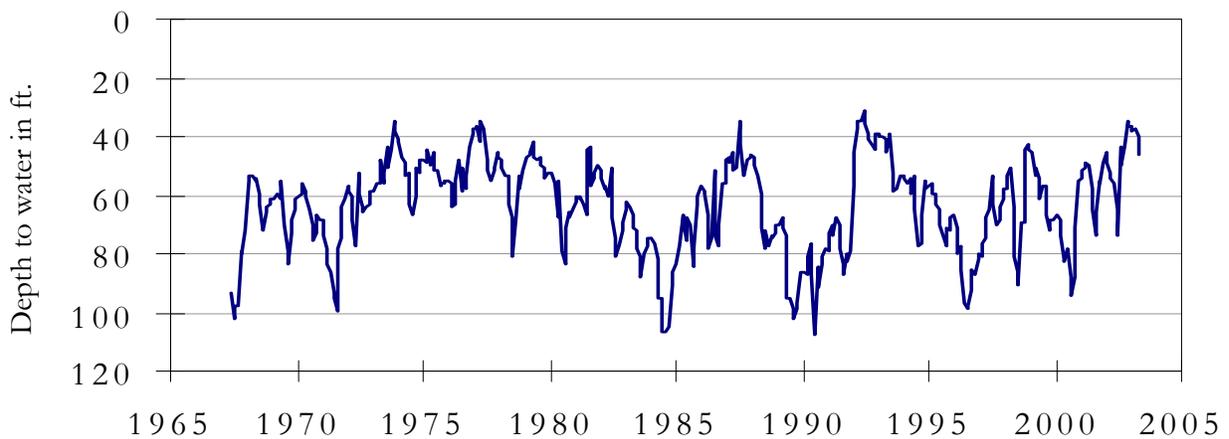
The late April water-level measurement in this Hueco Bolson aquifer well, elevation 3,882 feet above sea level, was 287.45 feet below land surface. This was 0.30 feet above last month's measurement, 1.35 feet below last year's measurement, and 55.55 feet below the initial measurement recorded in 1964.

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



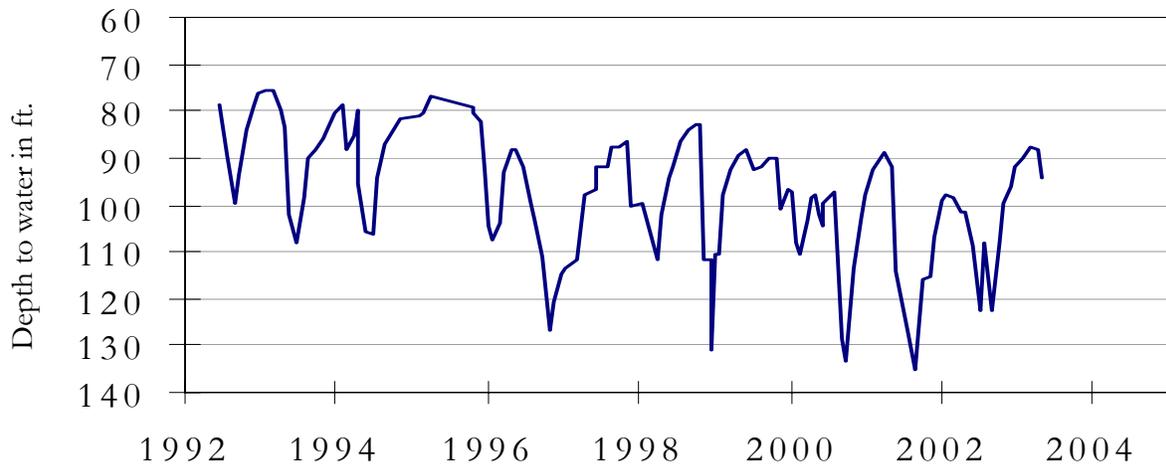
The late April water-level measurement in this Evangeline Formation Gulf Coast aquifer well, elevation 66 feet above sea level, was 229.59 feet below land surface. This was 1.22 feet above last month's measurement, 9.35 feet above last year's measurement, and 126.36 feet below the initial measurement recorded in 1947.

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



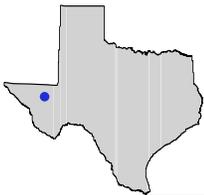
The late April water-level measurement in this Edwards (BFZ) aquifer well, elevation 731 feet above sea level, was 46.58 feet below land surface. This was 6.79 feet below last month's measurement, 9.63 feet above last year's measurement, and 13.04 feet above the initial measurement recorded in 1962.

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



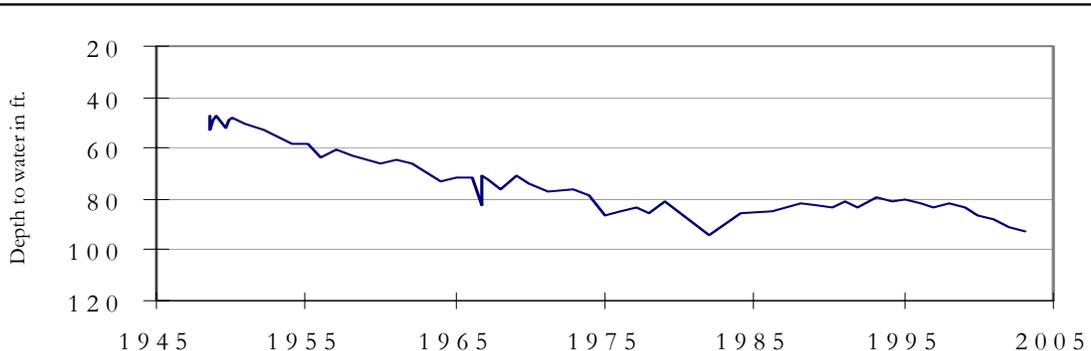
The late April water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 94.33 feet below land surface. This measurement was 6.22 feet below last month's measurement, 7.31 feet above last year's measurement, and 13.08 feet below the initial measurement recorded in 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. 4807502
Hudspeth County**



This 120 ft. deep water level observation well, located 0.5 mile east of the Dell City, at an elevation of 3,668 feet above sea level, was completed in the Bone Spring-Victorio Peak aquifer. The aquifer's water level is in direct response to irrigation pumpage rates. Water withdrawal reached its highest level in the early 1980s. Water levels recovered in the 1990s however, recent increase in withdrawal rates has resulted in water level decline.

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