

# Texas Water Development Board



# WATER Conditions

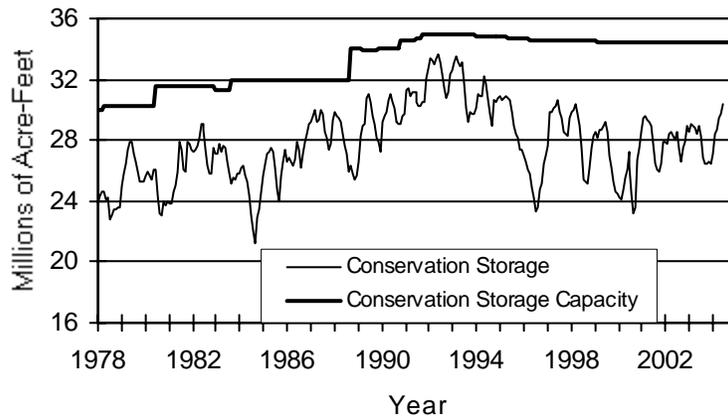
## RESERVOIR STORAGE

June 2004

Near the end of June, the 77 reservoirs monitored for this report held 30.4 million acre-feet in conservation storage, or 88.2 percent of the conservation storage capacity of the state's major reservoirs. Statewide total storage is at normal for this time of year. Storage increased during the month by 720,330 acre-feet (2.1% of conservation storage capacity). Compared to the previous year, storage is greater, up 1,420,300 acre-feet (4.1%).

Storage is near capacity in the North Central (94%), Upper Coast (99.8%), South Central (99.8%) and the East (99.9%) Regions, while the High Plains (25.1%) and Trans-Pecos (22%) Regions remained lower than one-third. Storage is at 100% in 34 reservoirs. Compared to this time last year, the Edwards Plateau Region had the largest increase in storage (+18.1%), while the Low Rolling Plains had the steepest decline (-9.7%). The combined total storage in the Amistad and Falcon reservoirs is 70.1% of US share of the conservation storage capacities in these two international reservoirs, highest since January 1996.

### 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.

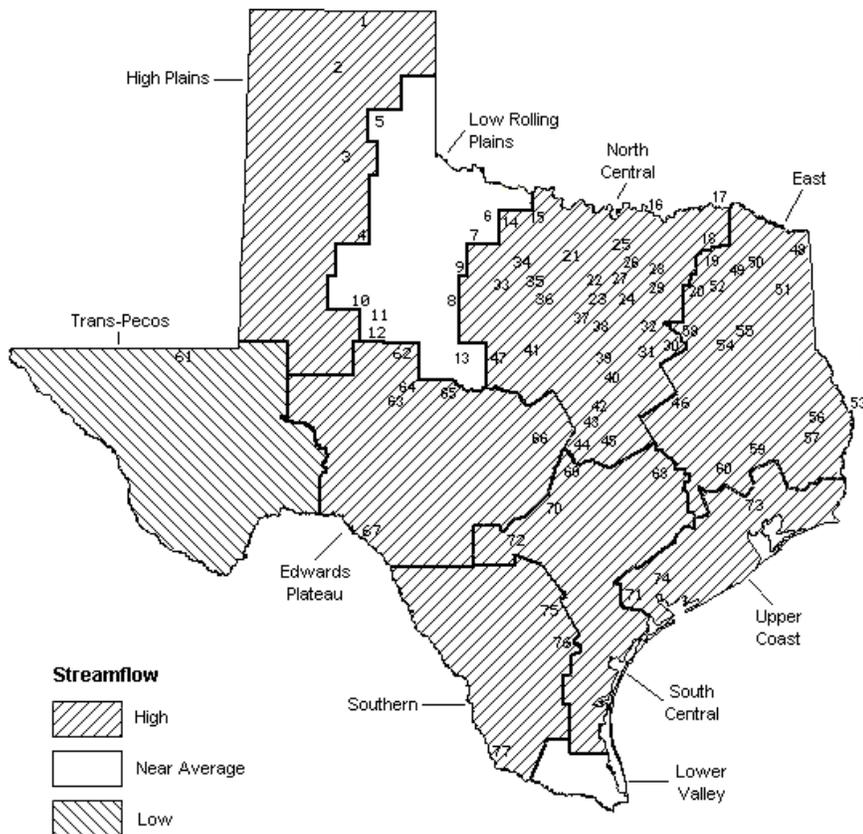
# STREAMFLOW

Of 29 reporting index stations in June, computed 30-day mean flows were very high (0% - 5% exceedance) at 8 stations, high (5% - 30% exceedance) at 13 stations, near normal (30% - 70% exceedance) at 5 stations, and low (70 - 95%) at 3 stations. In comparison to May, flows increased at 18 index stations, and decreased at 11.

On a regional basis, flows in June were very high in the Upper Coast Region, high in the High Plains, North Central, East, Edwards Plateau, South Central and Southern Regions, low in the Trans-Pecos Region, and near normal everywhere else.

## JUNE 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 June 2004 (acre-feet)	(%)	Change since Late May 2004 (acre-feet)	(%)	Change since Late June 2003 (acre-feet)	(%)
<b>HIGH PLAINS</b>								
Palo Duro Reservoir	1	60,900	7,150	12	4,880	8	2,520	4
Lake Meredith (Texas)	2	500,000	139,010	28	4,650	1	-36,320	-7
Lake Meredith (Texas and Oklahoma)	(2)	779,560	139,010	18	4,650	1	-36,320	-5
MacKenzie Reservoir	3	46,250	7,560	16	2,060	4	340	1
White River Lake	4	31,850	6,650	21	70	0	-1,750	-5
TOTAL		639,000	160,370	25	11,660	2	-35,210	-6
<b>LOW ROLLING PLAINS</b>								
Greenbelt Reservoir	5	58,200	24,220	42	-240	0	-50	0
Lake Kemp	6	319,600	179,960	56	11,410	4	-53,620	-17
Miller's Creek Reservoir	7	27,890	10,650	38	-390	-1	-5,390	-19
Fort Phantom Hill Reservoir	8	70,030	31,620	45	-230	0	-11,290	-16
Lake Stamford	9	52,700	33,660	64	3,230	6	-7,810	-15
Lake J. B. Thomas	10	202,300	21,610	11	-240	0	-2,620	-1
Lake Colorado City	11	30,800	22,150	72	-610	-2	1,900	6
Champion Creek Reservoir	12	41,600	3,220	8	-130	0	-30	0
Hords Creek Lake	13	8,600	2,770	32	50	1	500	6
TOTAL		811,720	329,860	41	12,850	2	-78,410	-10
<b>NORTH CENTRAL</b>								
Lake Kickapoo	14	106,000	54,640	52	-1,590	-2	-25,390	-24
Lake Arrowhead	15	262,100	116,580	44	930	0	-31,320	-12
Lake Texoma	16	2,722,300	2,691,430	99	199,530	7	-30,870	-1
Pat Mayse Lake	17	124,500	120,470	97	3,360	3	180	0
Cooper Lake	18	273,000	206,530	76	130	0	-66,470	-24
Lake Sulphur Springs	19	17,710	17,240	97	200	1	-470	-3
Lake Tawakoni	20	936,200	891,300	95	19,500	2	9,500	1
Bridgeport Reservoir	21	374,830	334,500	89	107,100	29	26,800	7
Eagle Mountain Reservoir	22	178,380	178,380	100	36,880	21	26,880	15
Benbrook Lake	23	88,200	88,200	100	0	0	4,790	5
Joe Pool Lake	24	175,800	175,800	100	0	0	0	0
Ray Roberts Lake	25	798,760	798,760	100	40,660	5	7,410	1
Lewisville Lake	26	555,000	555,000	100	0	0	0	0
Grapevine Lake	27	187,700	187,700	100	22,650	12	4,750	3
Lavon Lake	28	443,800	442,450	100	38,910	9	5,680	1
Lake Ray Hubbard	29	413,420	399,200	97	33,100	8	-11,500	-3
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	50,630	94	3,870	7	2,520	5
Hubbard Creek Reservoir	33	317,800	132,690	42	3,920	1	-15,110	-5
Lake Graham	34	45,000	22,890	51	190	0	-6,110	-14
Possum Kingdom Lake	35	551,820	469,200	85	31,100	6	-34,000	-6
Lake Palo Pinto	36	27,650	20,640	75	2,170	8	1,210	4
Lake Granbury	37	135,680	132,500	98	-800	-1	-1,300	-1
Lake Pat Cleburne	38	25,300	25,300	100	0	0	890	4
Whitney Lake	39	622,800	622,800	100	38,380	6	141,250	23
Waco Lake	40	144,500	144,500	100	0	0	0	0
Proctor Lake	41	55,590	55,590	100	3,600	6	400	1
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	35,760	97	4,820	13	820	2
Granger Lake	45	54,280	54,280	100	0	0	0	0
Lake Limestone	46	215,750	215,750	100	5,260	2	3,150	1
Lake Brownwood	47	143,400	131,570	92	1,370	1	-3,120	-2
TOTAL		11,908,050	11,192,470	94	595,240	5	10,570	0

## CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage		Change since Late May 2004		Change since Late June 2003		
			Late June 2004 (acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)	(%)	
<b>EAST</b>									
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	11,050	4	
Lake Fork Reservoir	52	635,200	635,200	100	0	0	1,400	0	
Toledo Bend Reservoir	53	4,472,900	4,472,900	100	44,900	1	198,900	4	
Lake Palestine	54	411,300	411,300	100	0	0	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	19,110	1	
B. A. Steinhagen Lake	57	94,200	86,850	92	-3,770	-4	900	1	
Cedar Creek Reservoir	58	637,050	637,050	100	6,350	1	450	0	
Lake Livingston	59	1,750,000	1,750,000	100	13,000	1	12,000	1	
Lake Conroe	60	429,900	429,900	100	14,400	3	16,400	4	
TOTAL		12,044,350	12,037,000	100	74,880	1	260,210	2	
<b>TRANS-PECOS</b>									
Red Bluff Reservoir	61	307,000	67,640	22	-16,120	-5	10,640	3	
TOTAL		307,000	67,640	22	-16,120	-5	10,640	3	
<b>EDWARDS PLATEAU</b>									
E. V. Spence Reservoir	62	488,760	44,160	9	-1,950	0	-14,570	-3	
Twin Buttes Reservoir	63	177,800	5,460	3	20	0	-100	0	
O.C. Fisher Lake	64	119,200	2,220	2	-260	0	-2,540	-2	
O. H. Ivie Reservoir	65	554,340	182,440	33	-5,090	-1	-39,960	-7	
Lake Buchanan	66	896,980	875,000	98	11,050	1	8,870	1	
Amistad Reservoir (Texas)	67	1,771,030	1,634,000	92	25,000	1	774,000	44	
Amistad Reservoir (Texas and Mexico)	(67)	3,151,300	1,832,000	58	37,000	1	815,000	26	
TOTAL		4,008,110	2,743,280	68	28,770	1	725,700	18	
<b>SOUTH CENTRAL</b>									
Somerville Lake	68	155,060	155,060	100	0	0	0	0	
Lake Travis	69	1,144,100	1,144,100	100	8,300	1	42,500	4	
Canyon Lake	70	385,600	385,600	100	0	0	0	0	
Coletto Creek Reservoir	71	35,060	31,360	89	-760	-2	2,020	6	
Medina Lake	72	254,000	254,000	100	0	0	6,500	3	
TOTAL		1,973,820	1,970,120	100	7,540	0	51,020	3	
<b>UPPER COAST</b>									
Lake Houston	73	128,860	128,860	100	0	0	0	0	
Lake Texana	74	157,900	157,380	100	510	0	26,280	17	
TOTAL		286,760	286,240	100	510	0	26,280	9	

## CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

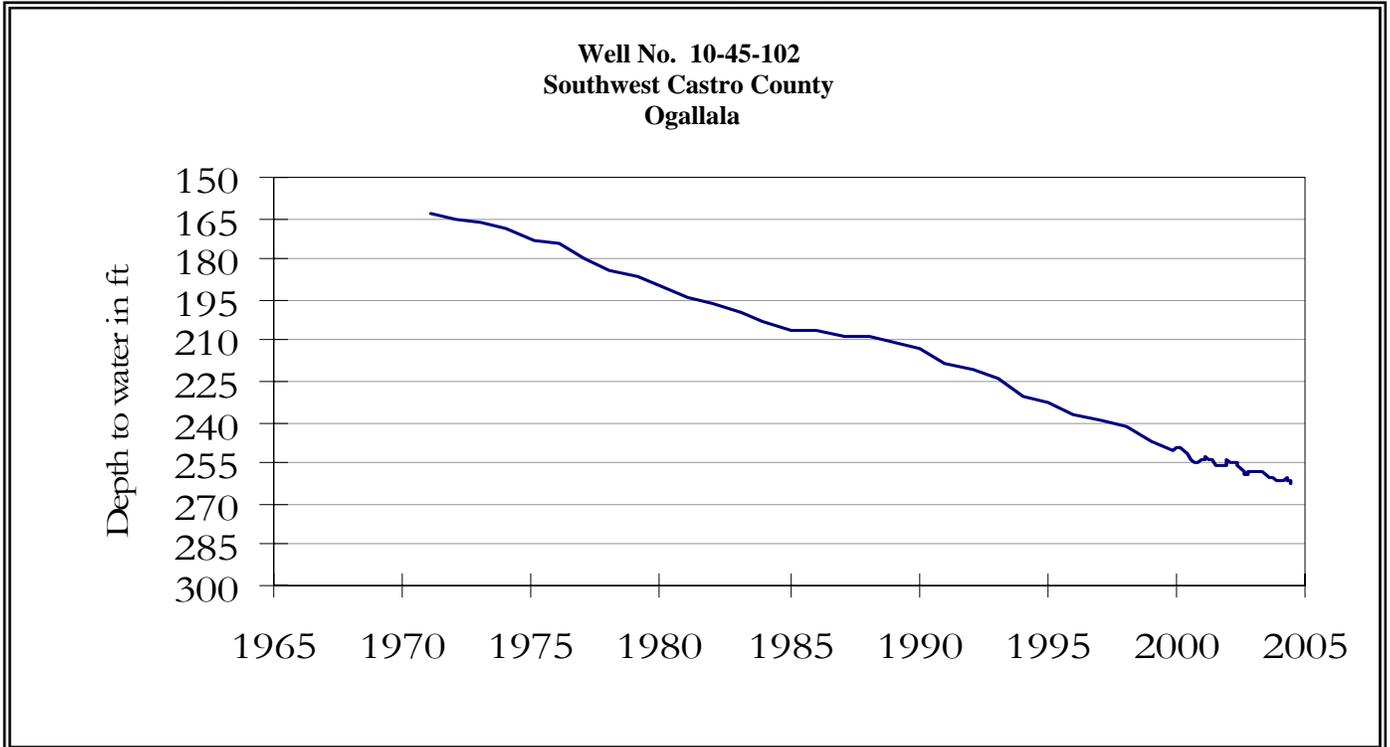
Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late June 2004 (acre-feet) (%)	Change since Late May 2004 (acre-feet) (%)	Change since Late June 2003 (acre-feet) (%)
<b>SOUTHERN</b>					
Choke Canyon Reservoir	75	695,260	695,000 100	4,000 1	4,000 1
Lake Corpus Christi	76	241,240	241,240 100	0 0	33,500 14
Falcon Reservoir (Texas)	77	1,555,120	696,000 45	1,000 0	412,000 26
Falcon Reservoir (Texas and Mexico)	(77)	2,653,290	1,620,000 61	14,000 1	1,263,000 48
<b>TOTAL</b>		<b>2,491,620</b>	<b>1,632,240 66</b>	<b>5,000 0</b>	<b>449,500 18</b>
 <b>STATE TOTAL</b>		 <b>34,470,430</b>	 <b>30,419,220 88</b>	 <b>720,330 2</b>	 <b>1,420,300 4</b>

**Note:**

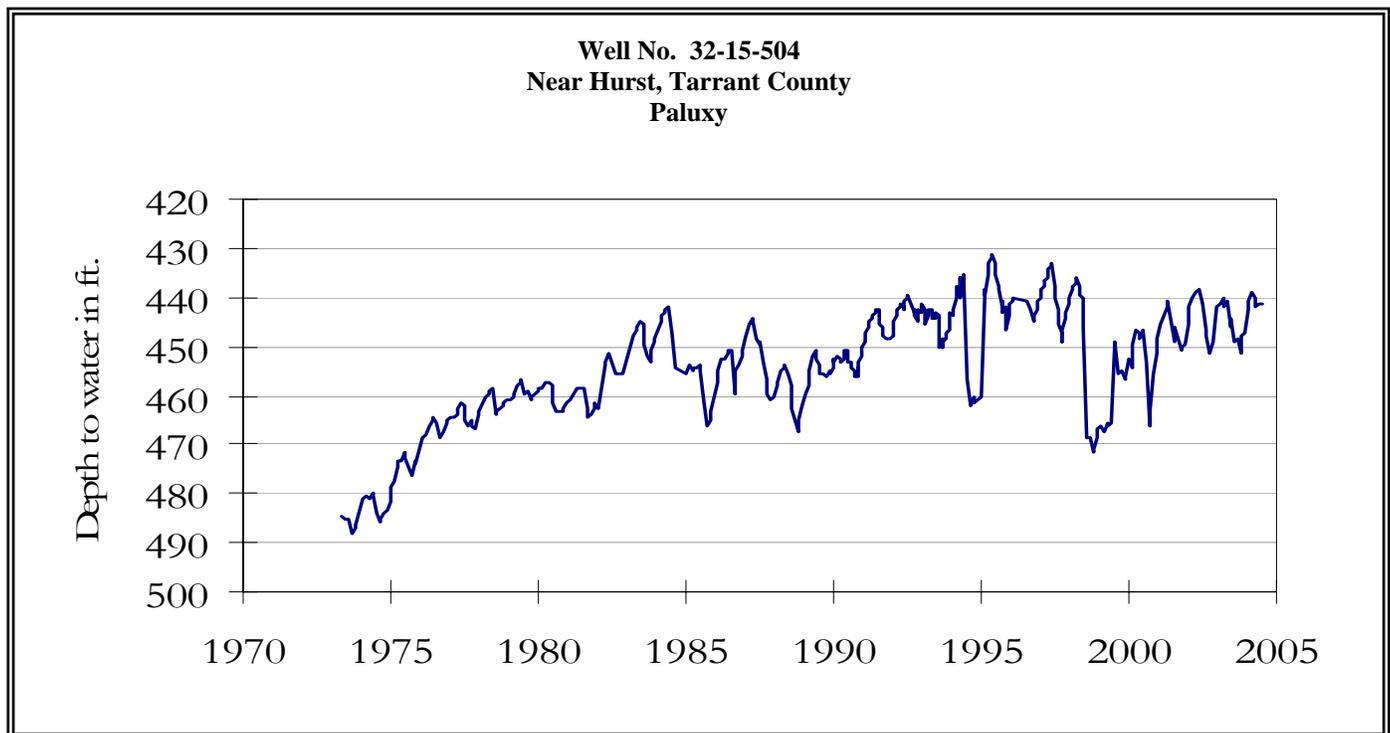
Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included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

## JUNE GROUND WATER LEVELS IN OBSERVATION WELLS

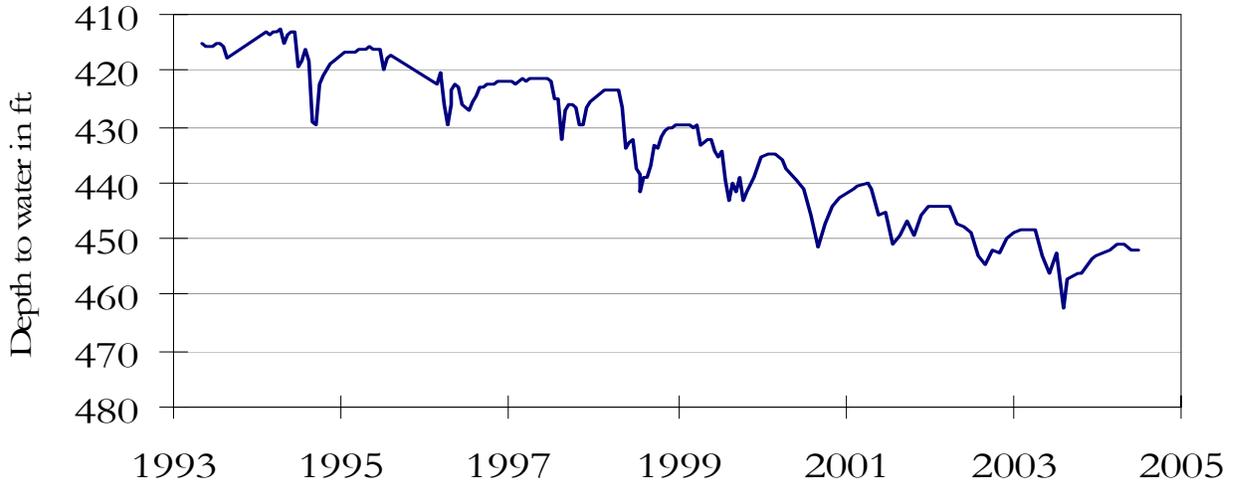


The late June water-level measurement in this Ogallala aquifer well, elevation 3,816 feet above sea level, was 262.40 feet below land surface. This measurement was 0.50 foot below last month's measurement, 3.16 feet below last year's measurement, and 106.40 feet below the initial measurement recorded in 1968.



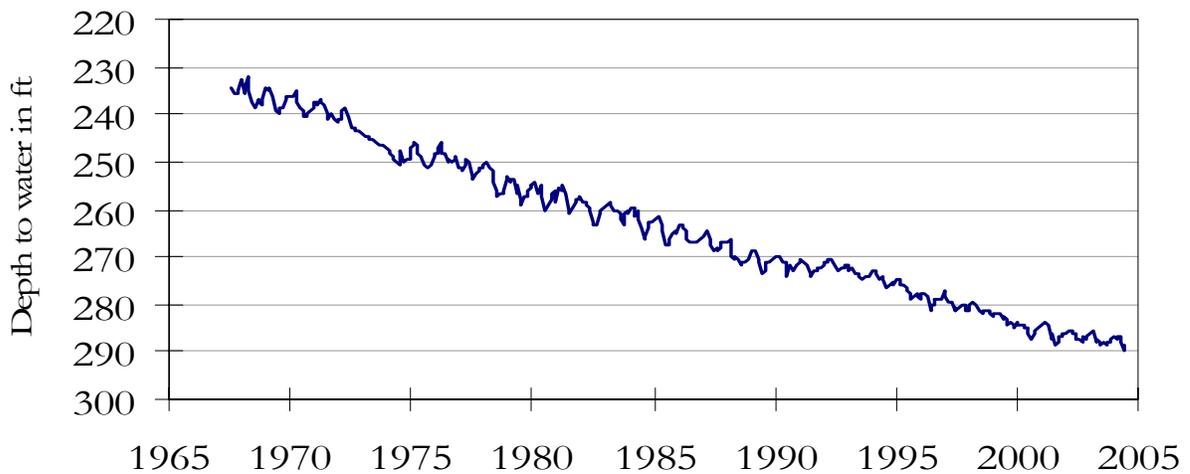
The late June water-level measurement in this Paluxy Formation Trinity aquifer well, elevation 535 feet above sea level, was 441.50 feet below land surface. This measurement was 0.07 feet above last month's measurement, 2.72 feet above last year's measurement, and 48.11 feet below the initial measurement recorded in 1953.

**Well No. 40-35-404  
Gatesville, Coryell County  
Hosston/Trinity**



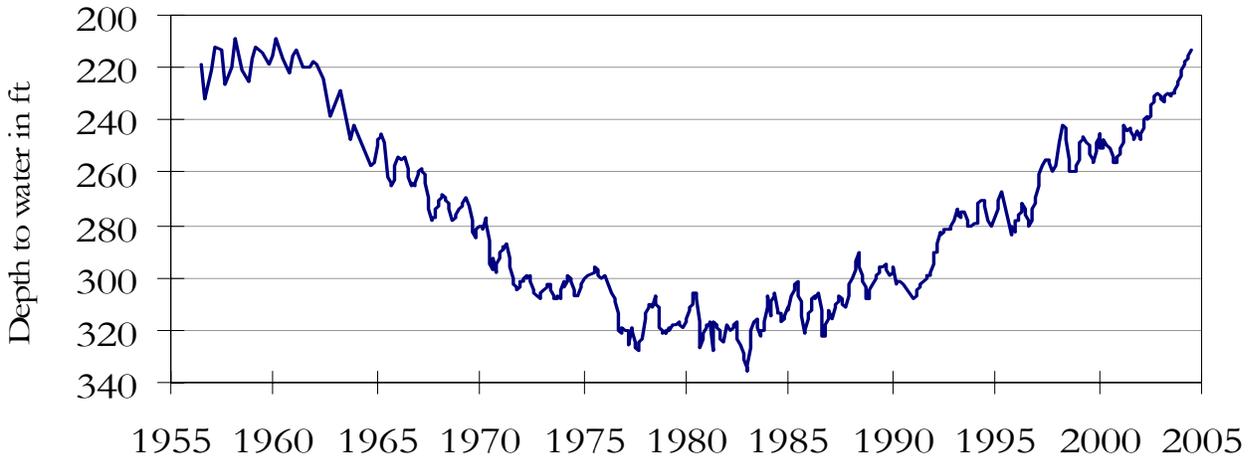
The late June water-level measurement in this Hosston Formation Trinity aquifer well, elevation 823 feet above sea level, was 452.10 feet below land surface. This water level was the same as last month's measurement, 0.67 feet below last year's measurement, and 160.10 feet below the initial measurement recorded in 1955.

**Well No. 49-13-301  
El Paso, El Paso County  
Bolson Deposits**



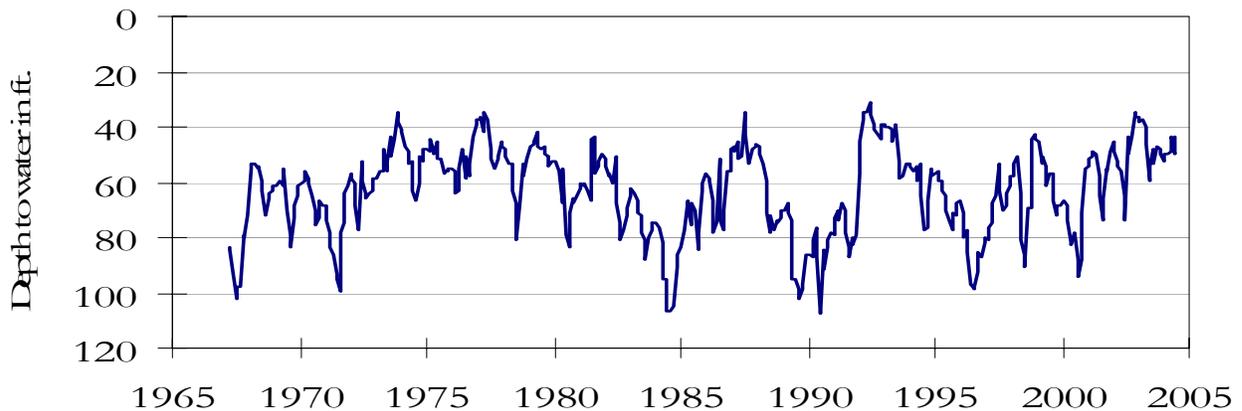
The late June water-level measurement in this Hueco Bolson aquifer well, elevation 3,882 feet above sea level, was 288.80 feet below land surface. This was 0.88 foot below last month's measurement, 0.03 foot below last year's measurement, and 56.90 feet below the initial measurement recorded in 1964.

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



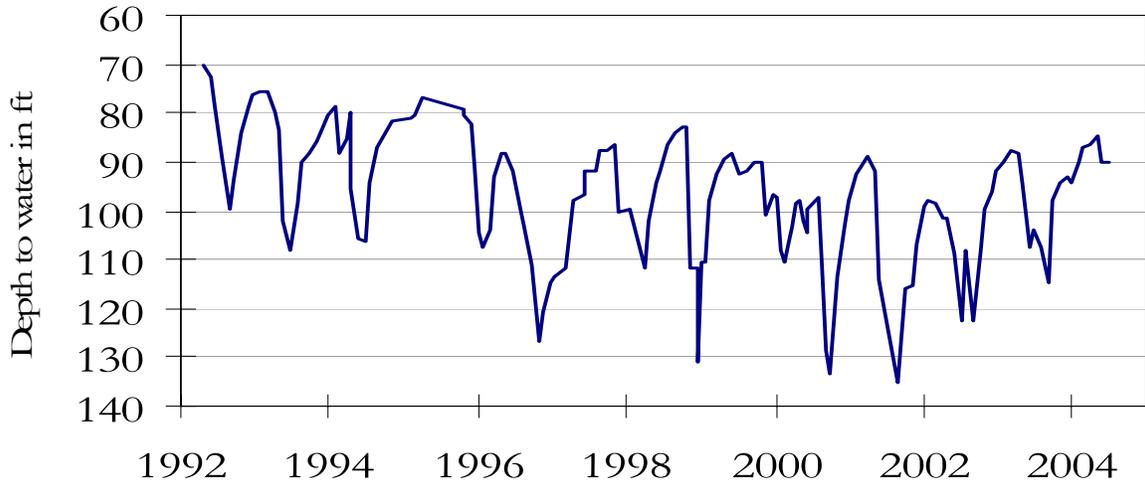
The late June water-level measurement in this Evangeline Formation Gulf Coast aquifer well, elevation 66 feet above sea level, was 212.90 feet below land surface. This was 2.03 feet above last month's measurement, 17.66 feet above last year's measurement, and 109.67 feet below the initial measurement recorded in 1947.

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



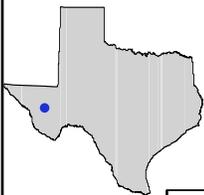
The late June water-level measurement in this Edwards (BFZ) aquifer well, elevation 731 feet above sea level, was 40.70 feet below land surface. This was 6.51 feet above last month's measurement, 10.75 feet above last year's measurement, and 15.92 feet above the initial measurement recorded in 1962.

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



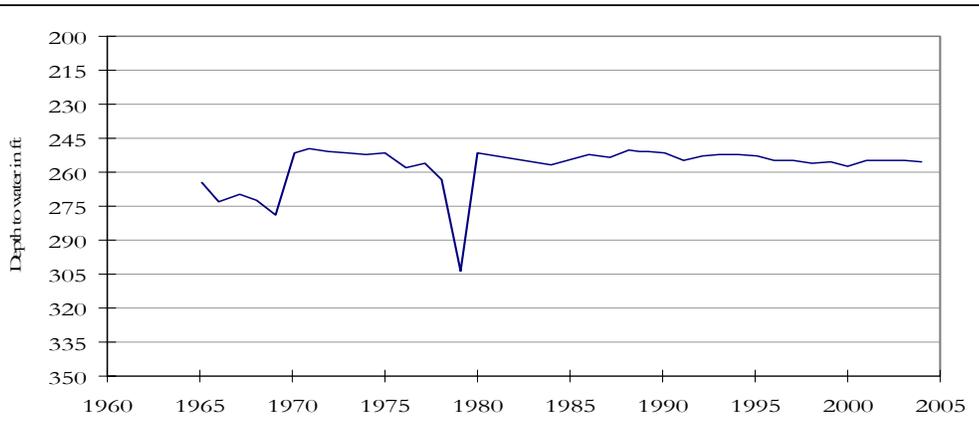
The late June water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 89.99 feet below land surface. This measurement was 0.36 foot above last month's measurement, 13.88 feet above last year's measurement, and 8.74 feet below the initial measurement recorded in 1965.

***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. 4660902  
Reeves County**



This observation well, located twenty-eight miles south of the town of Pecos at an elevation of 2,950 feet ASL, was completed in the Rustler aquifer. Due to general poor water quality (2,000 to 6,000 mg/l dissolved solids) groundwater pumped from this aquifer is utilized primarily for irrigation. Because of limited pumpage from the Rustler, no significant regional water level declines have been documented.

**June 30, 2004**

Water levels increased in four key monitoring wells since the beginning of June, ranging from 0.07 feet in the Near Hurst well, Tarrant County (Paluxy aquifer) to 6.51 feet in the San Antonio Well, Bexar County (Edwards and Associated Limestones) and decreased in two key monitoring wells, ranging from 0.5 feet in the Southwest Castro County well (Ogallala aquifer) to 0.88 feet in the El Paso Well, El Paso County (Bolson deposits). The water level in Gatesville Well, Coryell County (Trinity aquifer) remained unchanged.

*TEXAS WATER DEVELOPMENT BOARD*

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