

# Texas Water Development Board



# WATER Conditions

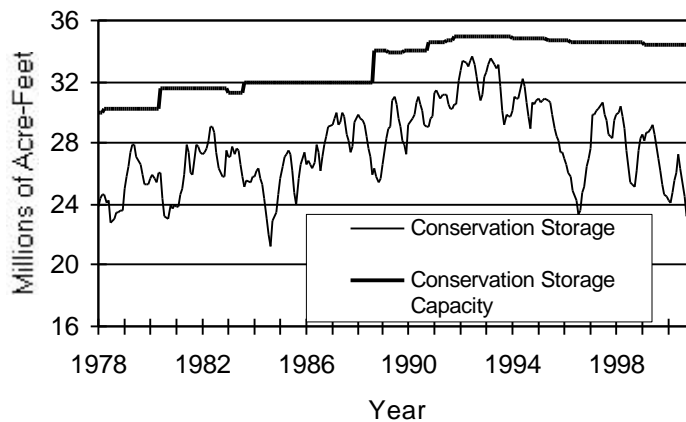
## RESERVOIR STORAGE

*November 2000*

Near the end of November, the 77 reservoirs monitored for this report held 26.7 million acre-feet in conservation storage, or 77.5 percent of the conservation storage capacity of the State's major reservoirs. This represents the sixth-lowest percentage of capacity for the end of November recorded in 23 years. Storage increased by 3.1 million acre-feet (+9.0% of conservation storage capacity) during the month. Compared to November 1999, storage is up 2.1 million acre-feet (+6.0%). Statewide storage was on the rise at the end of the month

Storage remained nearly constant in the High Plains climatic region, and increased in all other regions. The North Central, East, South Central, and Upper Coast regions remained above 85% capacity, while the Low Rolling Plains, Trans-Pecos, and Southern regions were all below 35%. Storage increased in 70 of the 77 monitored reservoirs and is at 100% in 22 reservoirs. Lake Travis experienced the largest percentage increase (41.9%) and increase in storage (0.48 million acre-feet).

### 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.

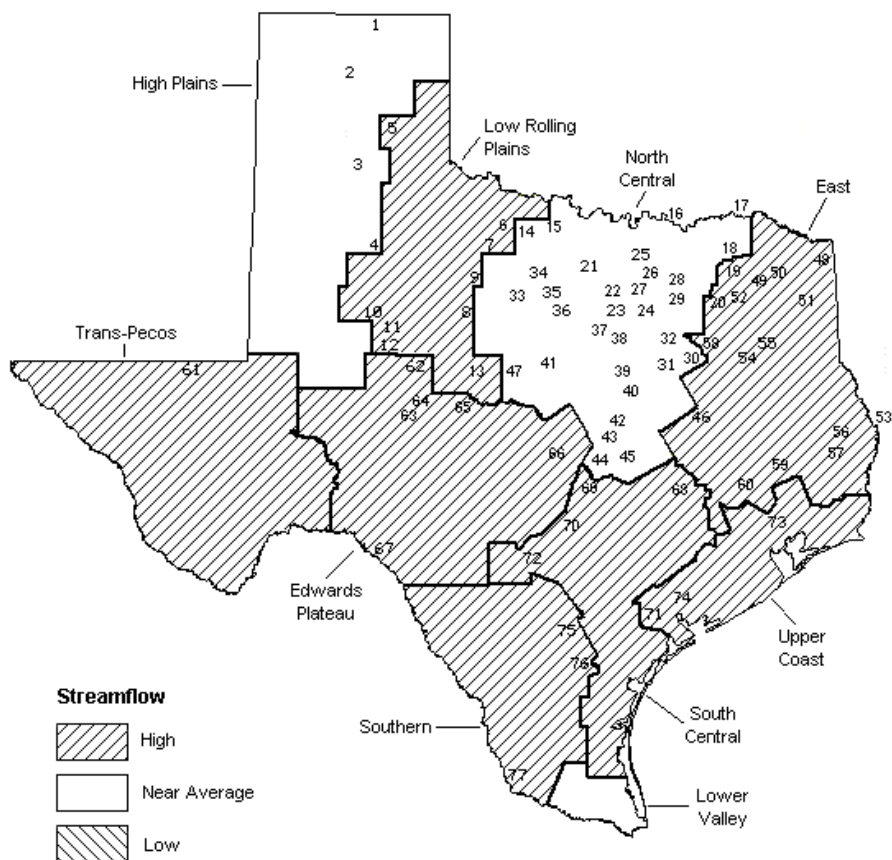
# STREAMFLOW

Of 29 reporting index stations in November, computed 30-day mean flows were very high (0% - 5% exceedance) at 4 stations, high (5% - 30% exceedance) at 16 stations, near normal (30% - 70% exceedance) at 7 stations, and low (70% - 95% exceedance) at 2 stations. In comparison to October, flows increased at 23 index stations, decreased at 5, and remained the same, with no flow recorded, at 1.

On a regional basis, flows in November were near normal in the North Central and High Plains regions, and were high in all other regions. Three of four reporting stations in the Edwards Plateau reported very high flows, and the fourth reported high flows. Only two stations, one each in the High Plains and North Central regions, reported low flows. One station, Hubbard Creek below Albany, reported zero flows in November.

## NOVEMBER 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 November 2000 (acre-feet)		Change since Late October 2000 (acre-feet)		Change since Late November 1999 (acre-feet)	
			(%)		(%)		(%)	
<b>HIGH PLAINS</b>								
Palo Duro Reservoir	1	60,900	14,310	23	-810	-1	-5,910	-10
Lake Meredith (Texas)	2	500,000	341,200	68	1,200	0	-52,000	-10
Lake Meredith (Texas and Oklahoma)	(2)	779,560	341,200	44	1,200	0	-52,000	-7
MacKenzie Reservoir	3	46,250	8,110	18	-110	0	-1,770	-4
White River Lake	4	31,850	11,960	38	130	0	-5,150	-16
TOTAL		639,000	375,580	59	410	0	-64,830	-10
<b>LOW ROLLING PLAINS</b>								
Greenbelt Reservoir	5	58,200	23,160	40	-190	0	-2,290	-4
Lake Kemp	6	319,600	138,800	43	28,200	9	-14,000	-4
Miller's Creek Reservoir	7	27,890	8,260	30	1,910	7	-3,210	-12
Fort Phantom Hill Reservoir	8	70,030	40,940	58	4,450	6	20,440	29
Lake Stamford	9	52,700	9,110	17	1,990	4	2,370	4
Lake J. B. Thomas	10	202,300	28,670	14	-1,340	-1	-2,230	-1
Lake Colorado City	11	30,800	21,440	70	-380	-1	6,480	21
Champion Creek Reservoir	12	41,600	4,430	11	10	0	-710	-2
Hords Creek Lake	13	8,600	4,260	50	780	9	712	8
TOTAL		811,720	279,070	34	35,430	4	7,562	1
<b>NORTH CENTRAL</b>								
Lake Kickapoo	14	106,000	57,870	55	16,850	16	4,348	4
Lake Arrowhead	15	262,100	115,200	44	21,390	8	-21,200	-8
Lake Texoma	16	2,722,300	2,722,300	100	68,300	3	409,224	15
Pat Mayse Lake	17	124,500	124,500	100	18,500	15	21,997	18
Cooper Lake	18	273,000	273,000	100	0	0	54,895	20
Lake Sulphur Springs	19	17,710	17,710	100	2,550	14	3,920	22
Lake Tawakoni	20	936,200	936,200	100	104,600	11	165,200	18
Bridgeport Reservoir	21	374,830	192,900	51	26,540	7	-28,968	-8
Eagle Mountain Reservoir	22	178,380	112,500	63	9,800	5	-25,518	-14
Benbrook Lake	23	88,200	53,200	60	2,510	3	-6,873	-8
Joe Pool Lake	24	175,800	167,400	95	6,000	3	11,110	6
Ray Roberts Lake	25	798,760	497,200	62	73,500	9	-113,311	-14
Lewisville Lake	26	555,000	378,000	68	67,700	12	54,146	10
Grapevine Lake	27	187,700	132,100	70	22,500	12	-415	0
Lavon Lake	28	443,800	374,100	84	60,500	14	88,753	20
Lake Ray Hubbard	29	413,420	377,700	91	62,000	15	-35,720	-9
Richland-Chambers Creek Lake	30	1,103,820	1,103,820	100	86,820	8	135,860	12
Navarro Mills Lake	31	55,810	55,810	100	9,780	18	15,221	27
Bardwell Lake	32	53,580	49,380	92	4,570	9	11,950	22
Hubbard Creek Reservoir	33	317,800	142,400	45	1,600	1	-67,000	-21
Lake Graham	34	45,000	37,050	82	5,790	13	-4,250	-9
Possum Kingdom Lake	35	551,820	478,100	87	48,500	9	47,100	9
Lake Palo Pinto	36	27,650	10,670	39	3,730	13	-20,202	-73
Lake Granbury	37	135,680	128,100	94	13,500	10	2,500	2
Lake Pat Cleburne	38	25,300	21,320	84	1,160	5	4,078	16
Whitney Lake	39	622,800	498,200	80	15,000	2	71,300	11
Waco Lake	40	144,500	144,500	100	21,400	15	33,815	23
Proctor Lake	41	55,590	19,440	35	13,040	23	-2,096	-4
Belton Lake	42	434,500	434,500	100	67,400	16	52,677	12
Stillhouse Hollow Lake	43	226,060	226,060	100	20,360	9	13,147	6
Lake Georgetown	44	37,010	21,930	59	7,780	21	-5,603	-15
Granger Lake	45	54,280	54,280	100	4,910	9	5,273	10
Lake Limestone	46	215,750	215,750	100	36,050	17	40,050	19
Lake Brownwood	47	143,400	109,600	76	25,460	18	23,120	16
TOTAL		11,908,050	10,282,790	86	950,090	8	938,528	8

## 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 October 2000		Change since Late November 1999	
			Late November 2000 (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	2,730	4	80	0
Lake Bob Sandlin	50	202,300	202,300	100	11,400	6	30,598	15
Lake O' the Pines	51	252,000	252,000	100	10,700	4	25,113	10
Lake Fork Reservoir	52	635,200	635,200	100	22,700	4	44,600	7
Toledo Bend Reservoir	53	4,472,900	3,943,000	88	362,000	8	437,000	10
Lake Palestine	54	411,300	411,300	100	58,600	14	60,500	15
Lake Tyler	55	73,700	60,700	82	7,600	10	-11,406	-15
Sam Rayburn Reservoir	56	2,876,300	2,150,000	75	172,000	6	108,000	4
B. A. Steinhagen Lake	57	94,200	80,230	85	-9,090	-10	-1,763	-2
Cedar Creek Reservoir	58	637,050	587,900	92	65,900	10	12,667	2
Lake Livingston	59	1,750,000	1,750,000	100	128,000	7	74,000	4
Lake Conroe	60	429,900	418,000	97	72,400	17	40,400	9
TOTAL		12,044,350	10,700,130	89	904,940	8	819,789	7
<b>TRANS-PECOS</b>								
Red Bluff Reservoir	61	307,000	64,120	21	10,130	3	-21,220	-7
TOTAL		307,000	64,120	21	10,130	3	-21,220	-7
<b>EDWARDS PLATEAU</b>								
E. V. Spence Reservoir	62	488,760	87,210	18	-1,400	0	25,360	5
Twin Buttes Reservoir	63	177,800	8,130	5	110	0	616	0
O.C. Fisher Lake	64	119,200	10,300	9	20	0	2,054	2
O. H. Ivie Reservoir	65	554,340	322,200	58	29,000	5	-9,200	-2
Lake Buchanan	66	896,980	731,000	81	291,300	32	115,765	13
Amistad Reservoir (Texas)	67	1,771,030	1,034,000	58	169,000	10	-9,000	-1
Amistad Reservoir (Texas and Mexico)	(67)	3,151,300	1,195,000	38	167,000	5	-185,000	-6
TOTAL		4,008,110	2,192,840	55	488,030	12	125,595	3
<b>SOUTH CENTRAL</b>								
Somerville Lake	68	155,060	141,300	91	36,800	24	2,069	1
Lake Travis	69	1,144,100	1,144,100	100	479,400	42	308,460	27
Canyon Lake	70	385,600	385,600	100	1,600	0	25,419	7
Coletto Creek Reservoir	71	35,060	31,360	89	7,660	22	7,130	20
Medina Lake	72	254,000	180,300	71	46,500	18	-28,000	-11
TOTAL		1,973,820	1,882,660	95	571,960	29	315,078	16
<b>UPPER COAST</b>								
Lake Houston	73	128,860	128,860	100	29,390	23	27,960	22
Lake Texana	74	157,900	157,100	99	33,300	21	37,000	23
TOTAL		286,760	285,960	100	62,690	22	64,960	23

## CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

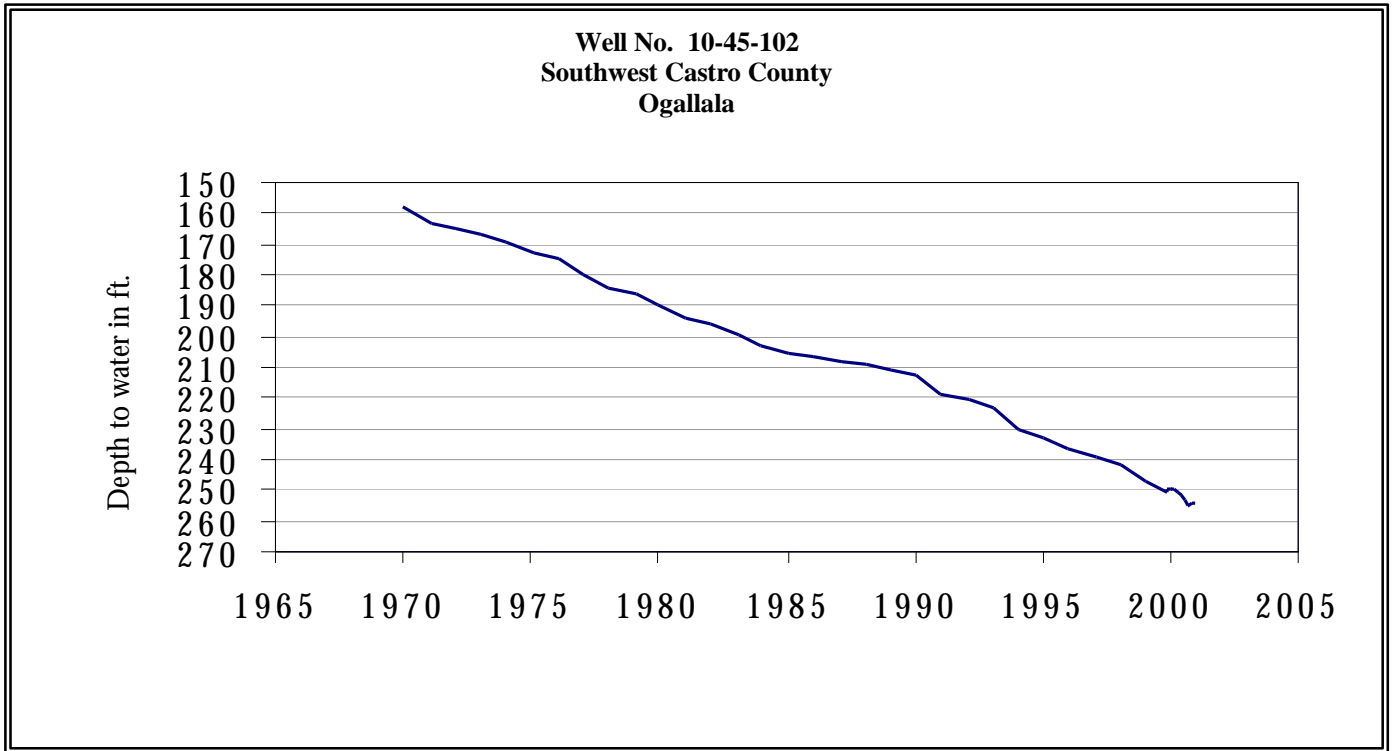
Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late November 2000 (acre-feet)	(%)	Change since Late October 2000 (acre-feet)	(%)	Change since Late November 1999 (acre-feet)	(%)
<b>SOUTHERN</b>								
Choke Canyon Reservoir	75	695,260	273,000	39	32,000	5	-30,000	-4
Lake Corpus Christi	76	241,240	94,500	39	31,210	13	-69,000	-29
Falcon Reservoir (Texas)	77	1,555,120	292,000	19	31,000	2	-24,000	-2
Falcon Reservoir (Texas and Mexico)	(77)	2,653,290	331,000	12	33,000	1	-321,000	-12
TOTAL		2,491,620	659,500	26	94,210	4	-123,000	-5
<b>STATE TOTAL</b>		34,470,430	26,722,650	78	3,117,890	9	2,062,462	6

**Note:**

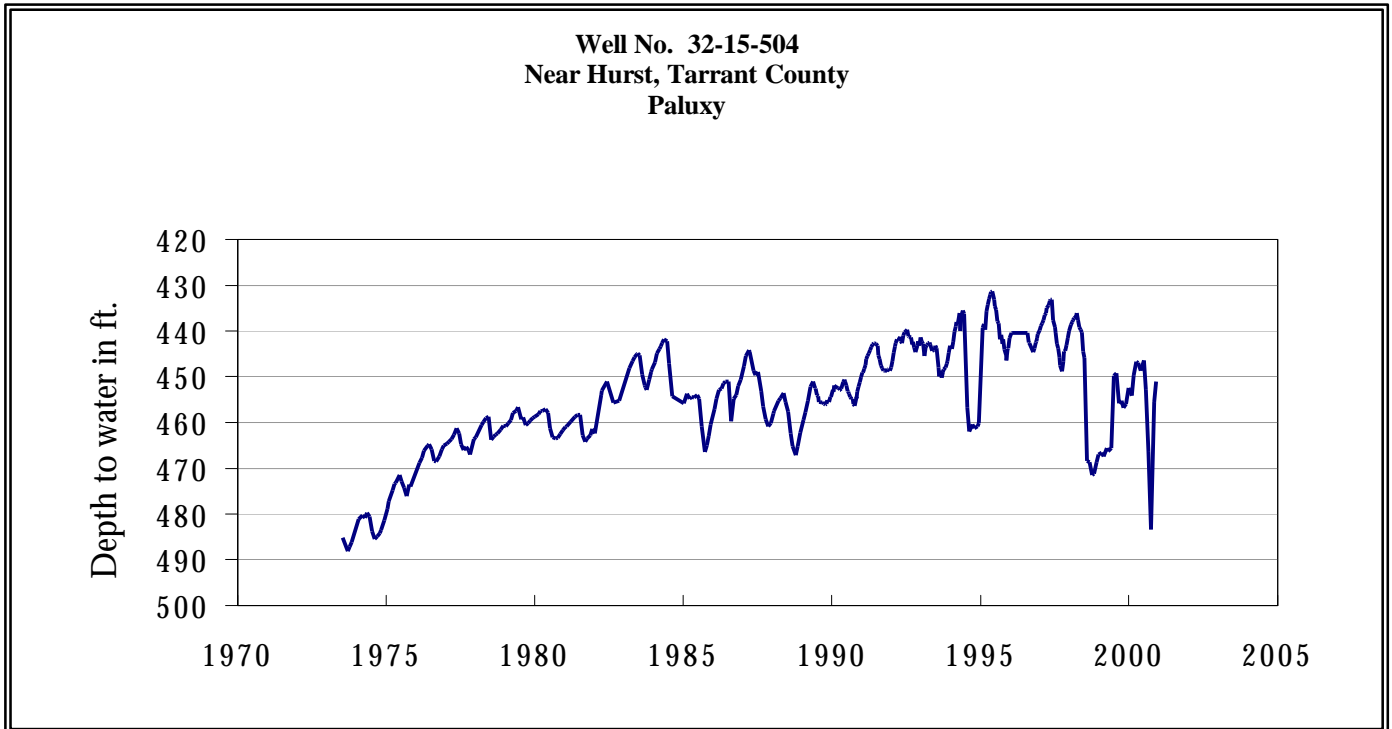
Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included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

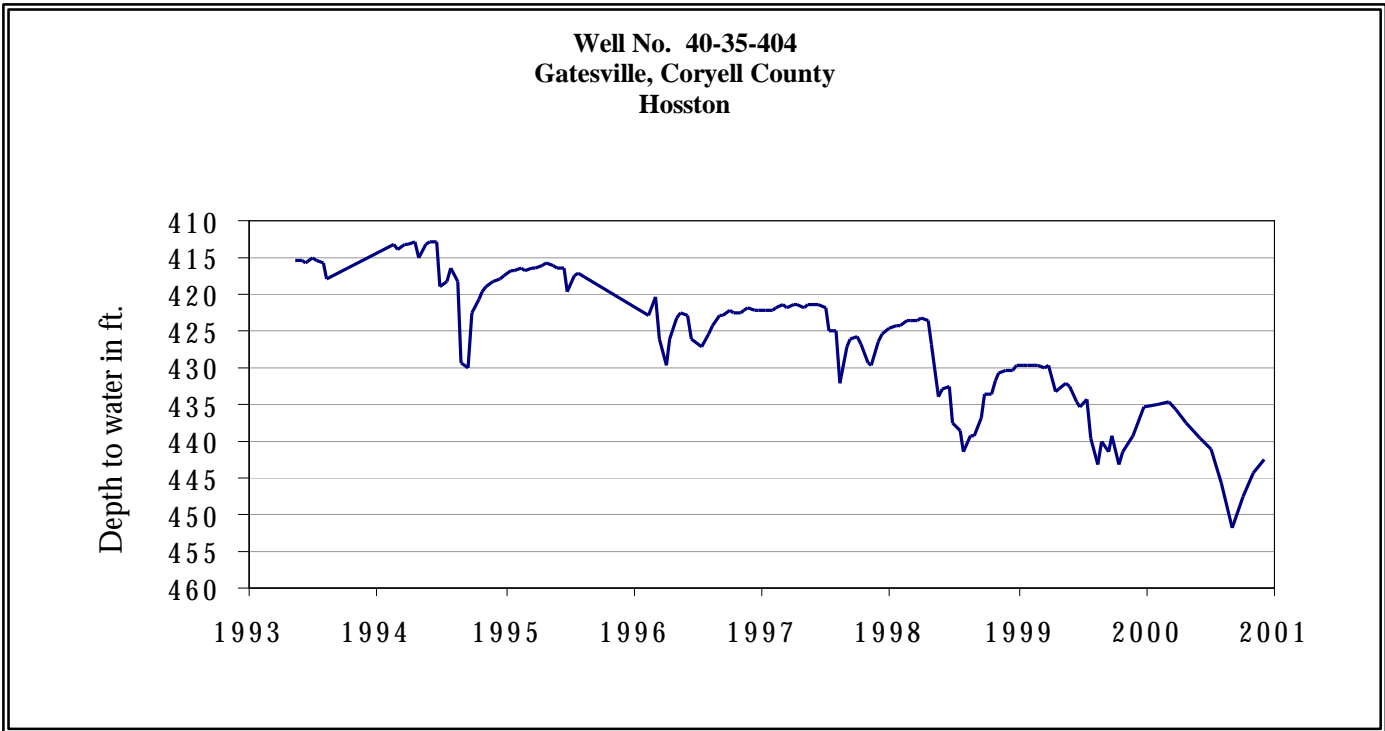
# NOVEMBER GROUND WATER LEVELS IN OBSERVATION WELLS



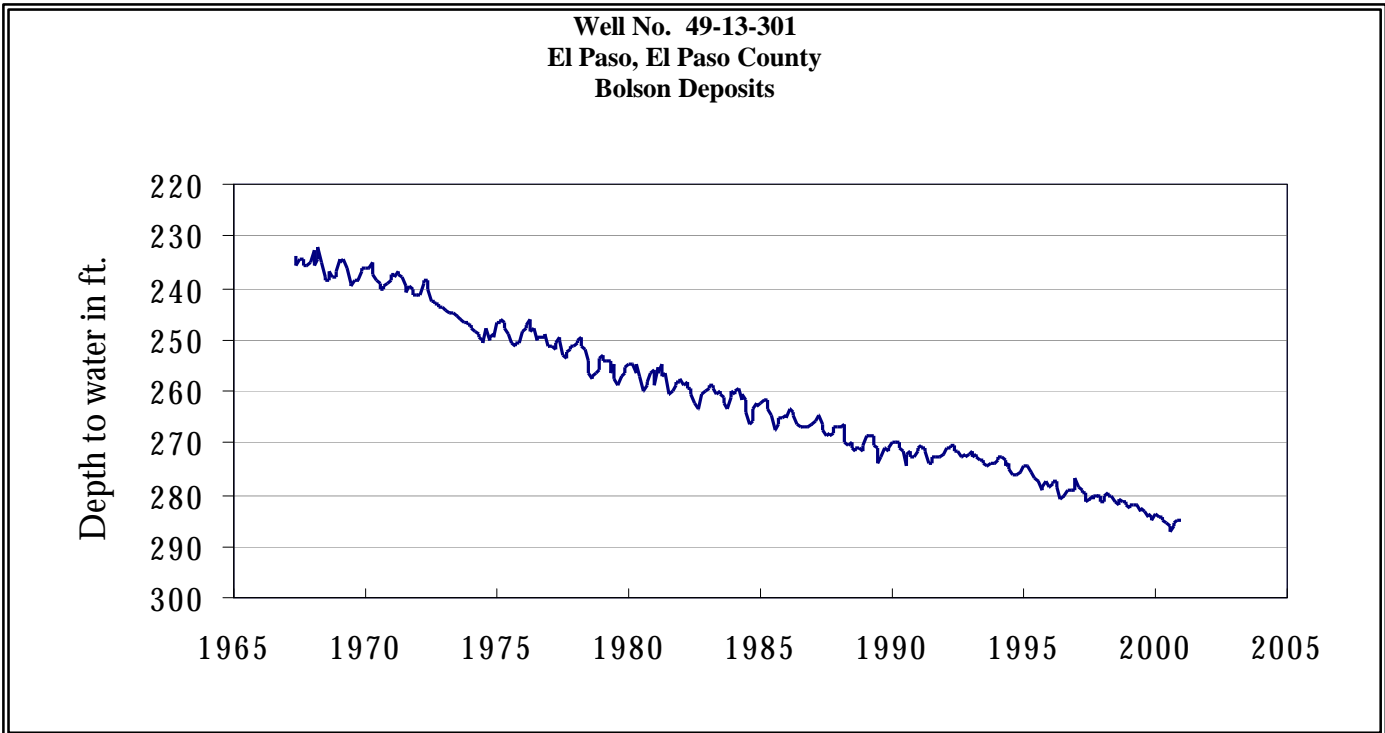
The late November water-level measurement in this Ogallala aquifer well, elevation 3,816 feet above sea level, was 253.95 feet below land surface. This measurement was 0.36 feet above last month's measurement, 3.91 feet below last year's measurement, and 97.95 feet below the initial measurement recorded in 1968.



The late November water-level measurement in this Paluxy Formation Trinity aquifer well, elevation 535 feet above sea level, was 451.12 feet below land surface. This measurement was 4.43 feet above last month's measurement, 4.85 feet above last year's measurement, and 57.73 feet below the initial measurement recorded in 1953.

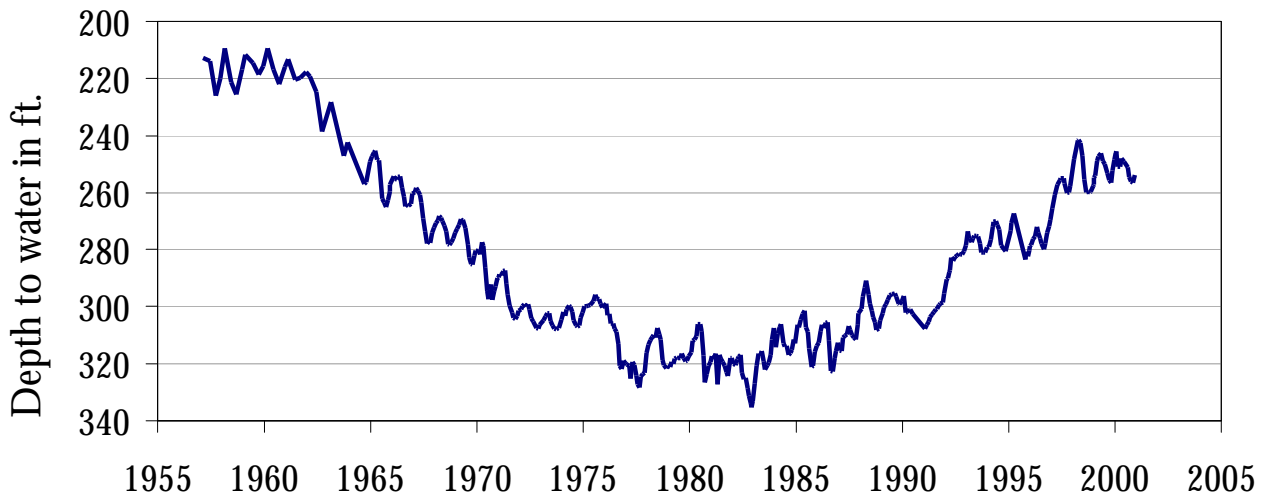


The late November water-level measurement in this Hosston Formation Trinity aquifer well, elevation 823 feet above sea level, was 442.55 feet below land surface. This measurement was 1.68 feet above last month's measurement, 3.40 feet below last year's measurement, and 150.55 feet below the initial measurement recorded in 1955.



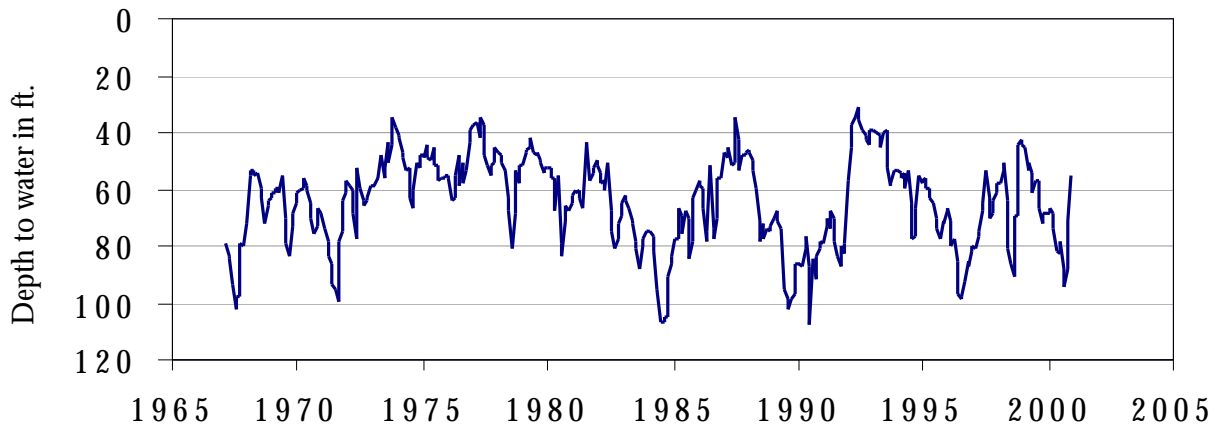
The late November water-level measurement in this Hueco Bolson aquifer well, elevation 3,882 feet above sea level, was 284.82 feet below land surface. This was 0.18 feet above last month's measurement, 0.24 feet below last year's measurement, and 52.92 feet below the initial measurement recorded in 1964.

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



The early November water-level measurement in this Evangeline Formation Gulf Coast aquifer well, elevation 66 feet above sea level, was 253.88 feet below land surface. This was 2.75 feet above last month's measurement, 1.59 feet below last year's measurement, and 150.65 feet below the initial measurement recorded in 1947.

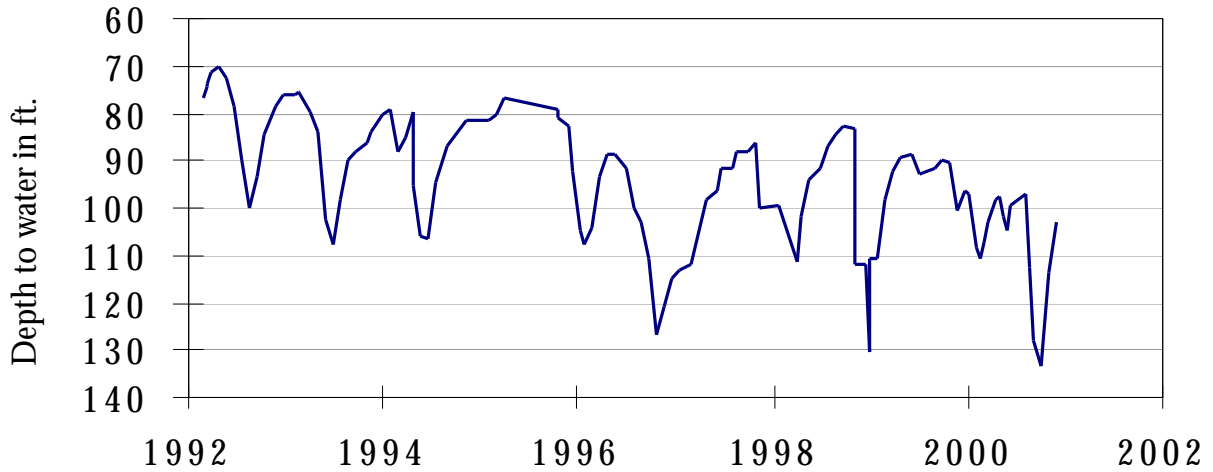
**Well No. 68-37-203 (J-17)  
In San Antonio, Bexar County  
Edwards and Associated Limestones**



The late November water-level measurement in this Edwards (BFZ) aquifer well, elevation 731 feet above sea level, was 54.76 feet below land surface. This was 16.53 feet above last month's measurement, 13.44 feet above last year's measurement, and 4.86 feet above the initial measurement recorded in 1962.

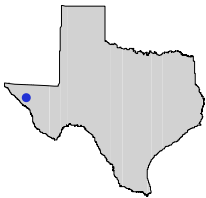


**Well No. 68-60-912  
Between Poteet and Pleasanton, Atascosa County  
Carrizo**



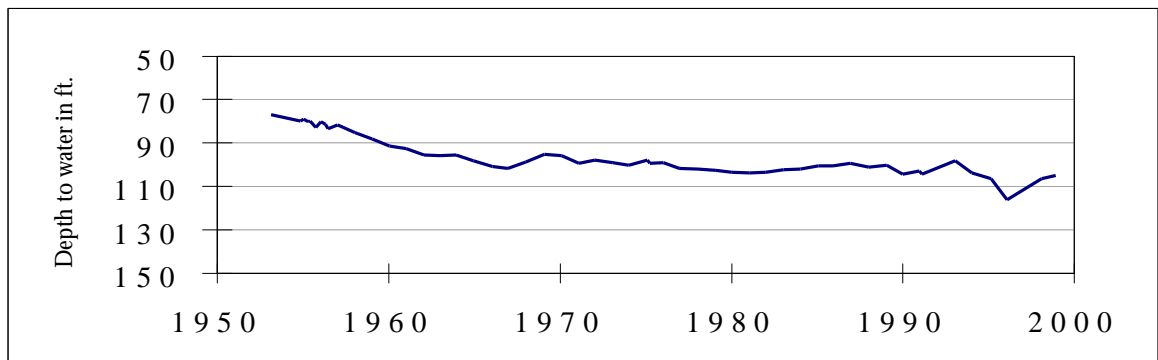
The late November water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 102.75 feet below land surface. This measurement was 10.82 feet above last month's measurement, 4.44 feet above last year's measurement, and 21.50 feet below the initial measurement recorded 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 4904439  
El Paso County**



This irrigation well, located approximately 7 miles north of El Paso at an elevation of 3845 feet above sea level, was completed in the Mesilla Bolson aquifer. Declining water levels from the 1950's are probably due increased pumpage rates, with the lowest measurements reflecting recent drought conditions.