Texas Water Development Board

WATER Conditions

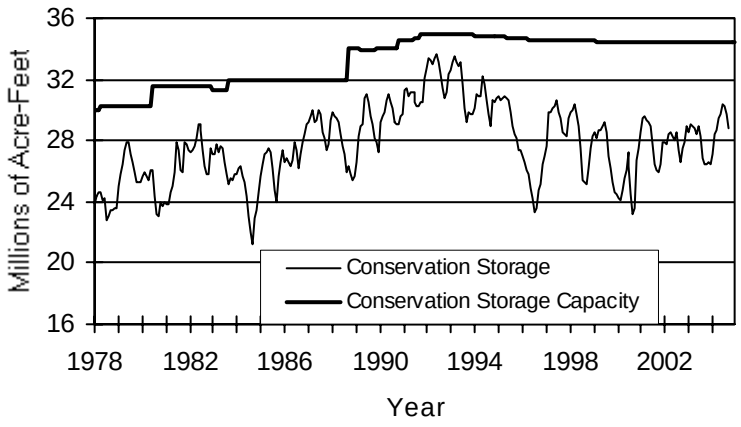
RESERVOIR STORAGE

September 2004

Near the end of September, the 77 reservoirs monitored for this report held 28.9 million acre-feet in conservation storage, or 84 percent of the conservation storage capacity of the state's major reservoirs. Statewide total storage is above normal for this time of year. Storage decreased during the month by 834,170 acre-feet (2% of conservation storage capacity). Compared to the previous year, storage is greater, up 2.41 million acre-feet (7%).

Storage is near capacity in the North Central and East (90%), Upper Coast (94%), and South Central (98%) Regions, while the High Plains (27%) and Trans-Pecos (24%) Regions remained lower than one-third. Storage is at 100% in 11 reservoirs. Compared to this time last year, Low Rolling Plains and Upper Coast have decreases in storage (-1% and –4% respectively), while all other regions have increases in storage with the greatest increase (+23%) in Edwards Plateau Region.

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.

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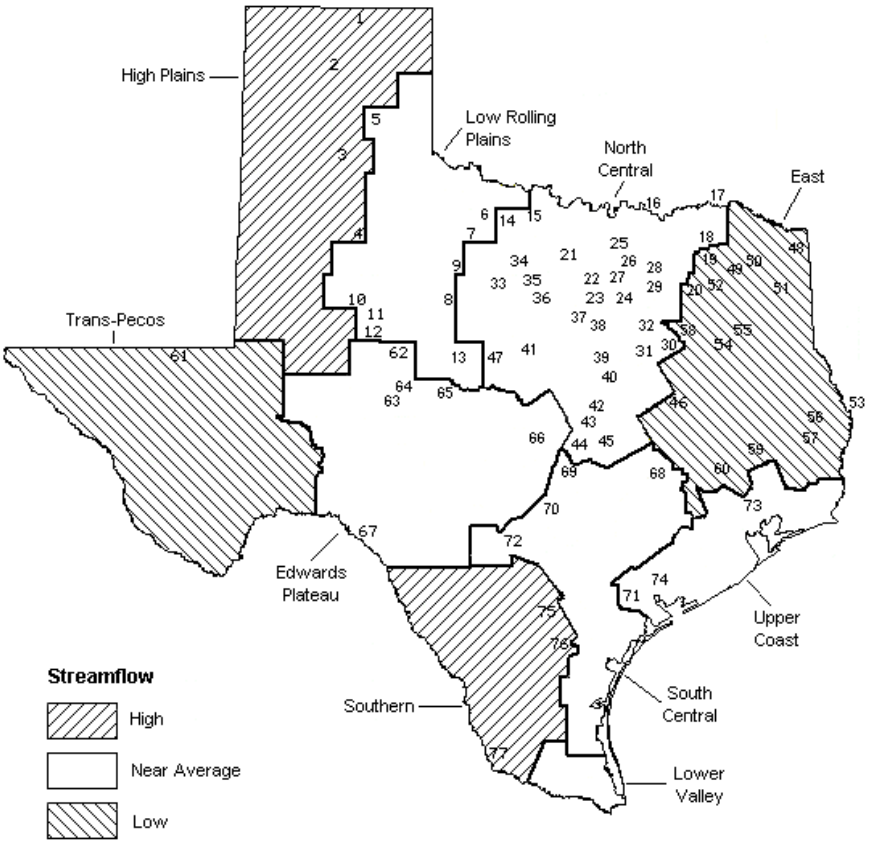
STREAMFLOW

Of 29 reporting index stations in September, computed 30-day mean flows are high (5% - 30% exceedance) at 11 stations, near normal (30% - 70% exceedance) at 8 stations, low (70 – 95%) at 9 stations, and very low at 1 station. In comparison to August, flows have increased at 6 index stations and decreased at 23 stations.

On a regional basis, flows in September have been high in the High Plains and Southern Regions, low in the East Texas and Trans-Pecos Regions, and near normal everywhere else.

SEPTEMBER STREAMFLOW CONDITIONS



Reservoirs Shown on Map

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

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late Sept. 2004 (acre-feet)	(%)	Change since Late August 2004 (acre-feet)	(%)	Change since Late September 2003 (acre-feet)	(%)
HIGH PLAINS								
Palo Duro Reservoir	1	60,900	4,880	8	-410	-1	1,540	3
Lake Meredith (Texas)	2	500,000	151,200	30	-1,530	0	-1,180	0
Lake Meredith (Texas and Oklahoma)	(2)	779,560	151,200	19	-1,530	0	-1,180	0
MacKenzie Reservoir	3	46,250	7,220	16	-120	0	850	2
White River Lake	4	31,850	6,700	21	-420	-1	380	1
TOTAL		639,000	170,000	27	-2,480	0	1,590	0
LOW ROLLING PLAINS								
Greenbelt Reservoir	5	58,200	22,090	38	-690	-1	-2,470	-4
Lake Kemp	6	319,600	179,740	56	-21,710	-7	-8,350	-3
Miller's Creek Reservoir	7	27,890	14,640	52	-830	-3	1,410	5
Fort Phantom Hill Reservoir	8	70,030	38,090	54	-1,720	-2	3,880	6
Lake Stamford	9	52,700	29,590	56	-1,850	-4	-5,770	-11
Lake J. B. Thomas	10	202,300	26,800	13	1,940	1	4,740	2
Lake Colorado City	11	30,800	21,280	69	-550	-2	-110	0
Champion Creek Reservoir	12	41,600	4,300	10	-60	0	1,070	3
Hords Creek Lake	13	8,600	3,300	38	-150	-2	1,440	17
TOTAL		811,720	339,830	42	-25,620	-3	-4,160	-1
NORTH CENTRAL								
Lake Kickapoo	14	106,000	65,580	62	-4,440	-4	-2,470	-2
Lake Arrowhead	15	262,100	147,230	56	-5,580	-2	18,230	7
Lake Texoma	16	2,722,300	2,448,190	90	-115,830	-4	101,470	4
Pat Mayse Lake	17	124,500	109,150	88	-4,050	-3	110	0
Cooper Lake	18	273,000	167,580	61	-17,310	-6	-87,920	-32
Lake Sulphur Springs	19	17,710	15,590	88	-1,140	-6	-500	-3
Lake Tawakoni	20	936,200	848,200	91	-17,200	-2	35,900	4
Bridgeport Reservoir	21	374,830	331,100	88	-15,200	-4	72,500	19
Eagle Mountain Reservoir	22	178,380	156,300	88	-7,700	-4	16,200	9
Benbrook Lake	23	88,200	72,870	83	-4,420	-5	1,900	2
Joe Pool Lake	24	175,800	175,500	100	-300	0	-300	0
Ray Roberts Lake	25	798,760	785,180	98	-13,580	-2	32,380	4
Lewisville Lake	26	555,000	555,000	100	0	0	10,820	2
Grapevine Lake	27	187,700	175,560	94	-8,630	-5	7,100	4
Lavon Lake	28	443,800	400,580	90	-25,380	-6	40,110	9
Lake Ray Hubbard	29	413,420	371,900	90	-24,800	-6	4,000	1
Richland-Chambers Creek Lake	30	1,103,820	1,103,820	100	0	0	39,820	4
Navarro Mills Lake	31	55,810	53,390	96	-2,420	-4	4,160	7
Bardwell Lake	32	53,580	45,880	86	-740	-1	2,800	5
Hubbard Creek Reservoir	33	317,800	120,840	38	-5,980	-2	-9,060	-3
Lake Graham	34	45,000	29,920	66	-1,520	-3	5,310	12
Possum Kingdom Lake	35	551,820	526,100	95	-14,200	-3	69,700	13
Lake Palo Pinto	36	27,650	20,600	75	310	1	4,500	16
Lake Granbury	37	135,680	132,600	98	-600	0	-300	0
Lake Pat Cleburne	38	25,300	24,470	97	-830	-3	3,140	12
Whitney Lake	39	622,800	545,860	88	-76,940	-12	98,330	16
Waco Lake	40	144,500	144,500	100	0	0	5,120	4
Proctor Lake	41	55,590	55,190	99	-400	-1	11,340	20
Belton Lake	42	434,500	434,500	100	0	0	19,370	4
Stillhouse Hollow Lake	43	226,060	224,660	99	-1,400	-1	4,040	2
Lake Georgetown	44	37,010	31,760	86	-2,670	-7	4,610	12
Granger Lake	45	54,280	54,280	100	0	0	6,800	13
Lake Limestone	46	215,750	202,980	94	-5,940	-3	6,080	3
Lake Brownwood	47	143,400	129,880	91	-2,660	-2	7,150	5
TOTAL		11,908,050	10,706,740	90	-381,550	-3	532,440	4

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

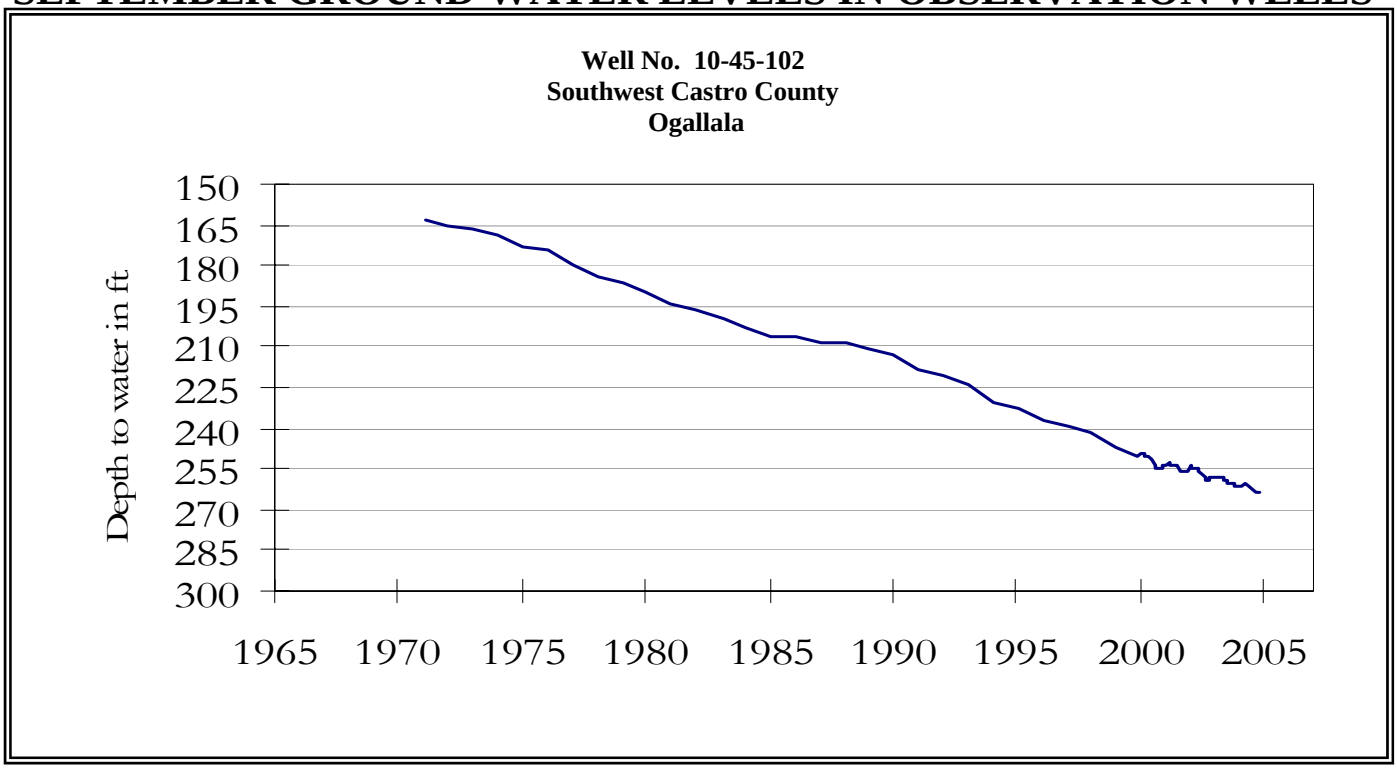
Name of Lake or Reservoir	No. on Map	Conservation Storage Capacity (acre-feet)	Conservation Storage Late Sept. 2004 (acre-feet)	(%)	Change since Late August 2004 (acre-feet)	(%)	Change since Late September 2003 (acre-feet)	(%)
EAST								
Wright Patman Lake	48	142,700	142,700	100	0	0	0	0
Lake Cypress Springs	49	66,800	64,100	96	-1,740	-3	230	0
Lake Bob Sandlin	50	202,300	191,500	95	-5,300	-3	4,400	2
Lake O' the Pines	51	252,000	251,390	100	-610	0	17,450	7
Lake Fork Reservoir	52	635,200	633,900	100	-1,300	0	41,400	7
Toledo Bend Reservoir	53	4,472,900	3,811,000	85	-218,000	-5	240,000	5
Lake Palestine	54	411,300	387,450	94	-17,070	-4	12,320	3
Lake Tyler	55	73,700	72,570	98	-1,130	-2	1,070	1
Sam Rayburn Reservoir	56	2,876,300	2,522,420	88	-133,920	-5	80,080	3
B. A. Steinhagen Lake	57	94,200	92,950	99	19,450	21	11,420	12
Cedar Creek Reservoir	58	637,050	596,400	94	-20,900	-3	15,200	2
Lake Livingston	59	1,750,000	1,730,000	99	-20,000	-1	-2,000	0
Lake Conroe	60	429,900	393,000	91	-9,000	-2	-20,100	-5
TOTAL		12,044,350	10,889,380	90	-409,520	-3	401,470	3
TRANS-PECOS								
Red Bluff Reservoir	61	307,000	75,060	24	8,730	3	24,600	8
TOTAL		307,000	75,060	24	8,730	3	24,600	8
EDWARDS PLATEAU								
E. V. Spence Reservoir	62	488,760	42,540	9	-2,220	0	-9,450	-2
Twin Buttes Reservoir	63	177,800	4,460	3	-100	0	30	0
O.C. Fisher Lake	64	119,200	1,560	1	-170	0	-1,760	-1
O. H. Ivie Reservoir	65	554,340	163,710	30	-7,370	-1	-30,490	-6
Lake Buchanan	66	896,980	853,030	95	-21,970	-2	63,910	7
Amistad Reservoir (Texas)	67	1,771,030	1,835,000	104	59,000	3	880,000	50
Amistad Reservoir (Texas and Mexico)	(67)	3,151,300	2,150,000	68	84,000	3	916,000	29
TOTAL		4,008,110	2,900,300	72	27,170	1	902,240	23
SOUTH CENTRAL								
Somerville Lake	68	155,060	151,580	98	-3,030	-2	-330	0
Lake Travis	69	1,144,100	1,119,600	98	-24,500	-2	159,750	14
Canyon Lake	70	385,600	378,770	98	-5,550	-1	5,170	1
Coleto Creek Reservoir	71	35,060	30,240	86	-780	-2	-1,660	-5
Medina Lake	72	254,000	254,000	100	0	0	14,700	6
TOTAL		1,973,820	1,934,190	98	-33,860	-2	177,630	9
UPPER COAST								
Lake Houston	73	128,860	128,860	100	0	0	0	0
Lake Texana	74	157,900	139,350	88	-13,980	-9	-12,880	-8
TOTAL		286,760	268,210	94	-13,980	-5	-12,880	-4
SOUTHERN								
Choke Canyon Reservoir	75	695,260	689,000	99	-6,260	-1	-1,000	0
Lake Corpus Christi	76	241,240	239,300	99	-800	0	-1,940	-1
Falcon Reservoir (Texas)	77	1,555,120	646,000	42	4,000	0	389,000	25
Falcon Reservoir (Texas and Mexico)	(77)	2,653,290	1,665,000	63	55,000	2	1,080,500	41
TOTAL		2,491,620	1,574,300	63	-3,060	0	386,060	15
STATE TOTAL		34,470,430	28,858,010	84	-834,170	-2	2,408,990	7

Note:

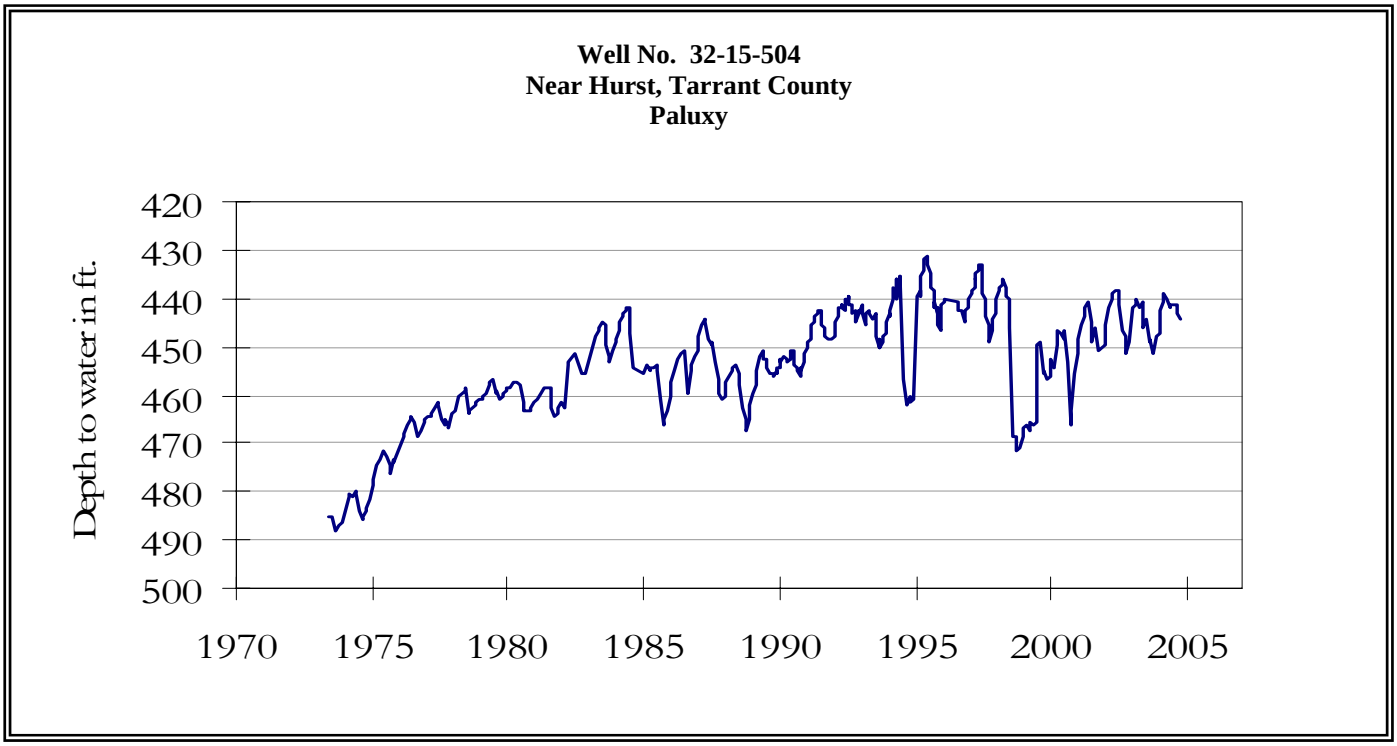
Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included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

SEPTEMBER GROUND WATER LEVELS IN OBSERVATION WELLS

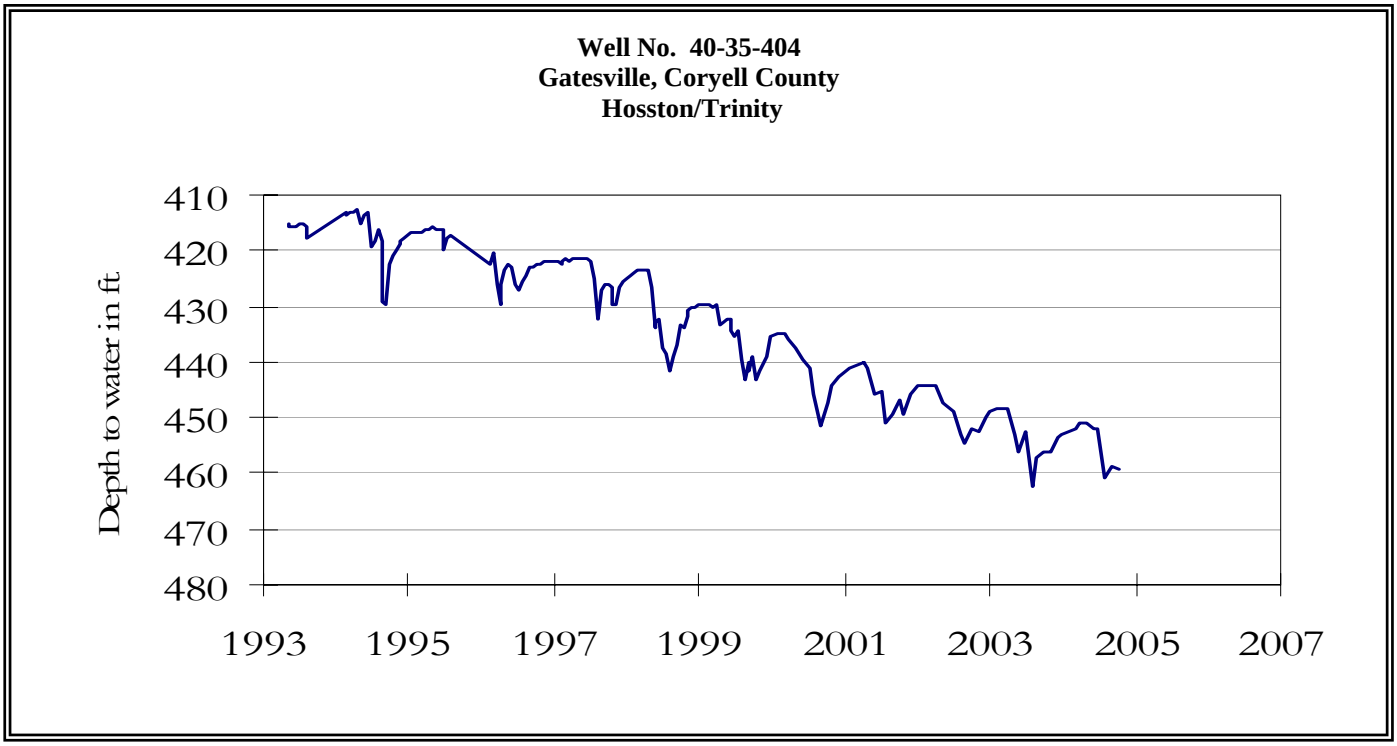


The late September water-level measurement in this Ogallala aquifer well, elevation 3,816 feet above sea level, was 263.60 feet below land surface. This measurement was 0.10 foot below last month's measurement, 2.77 feet below last year's measurement, and 107.60 feet below the initial measurement recorded in 1968.

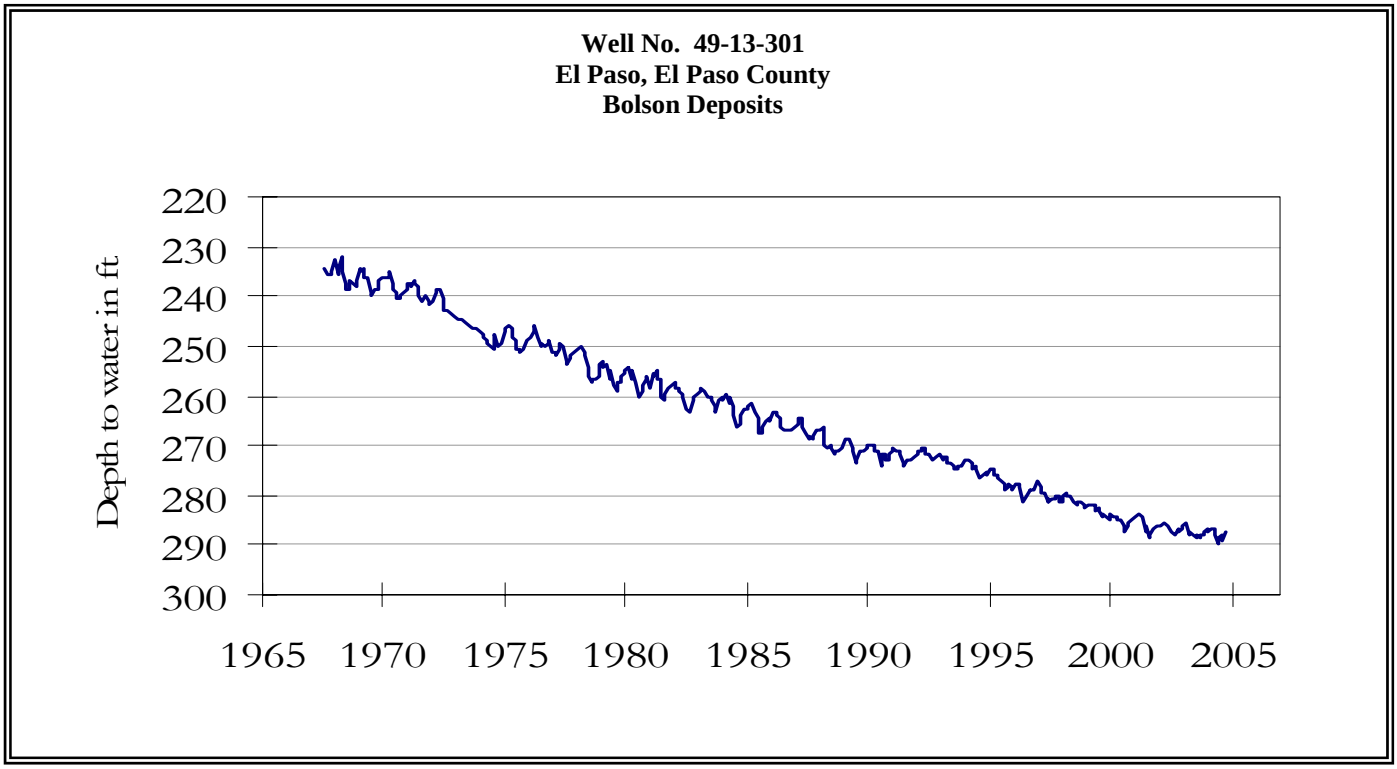


The late September water-level measurement in this Paluxy Formation Trinity aquifer well, elevation 535 feet above sea level, was 444.20 feet below land surface. This measurement was 1.00 foot below last

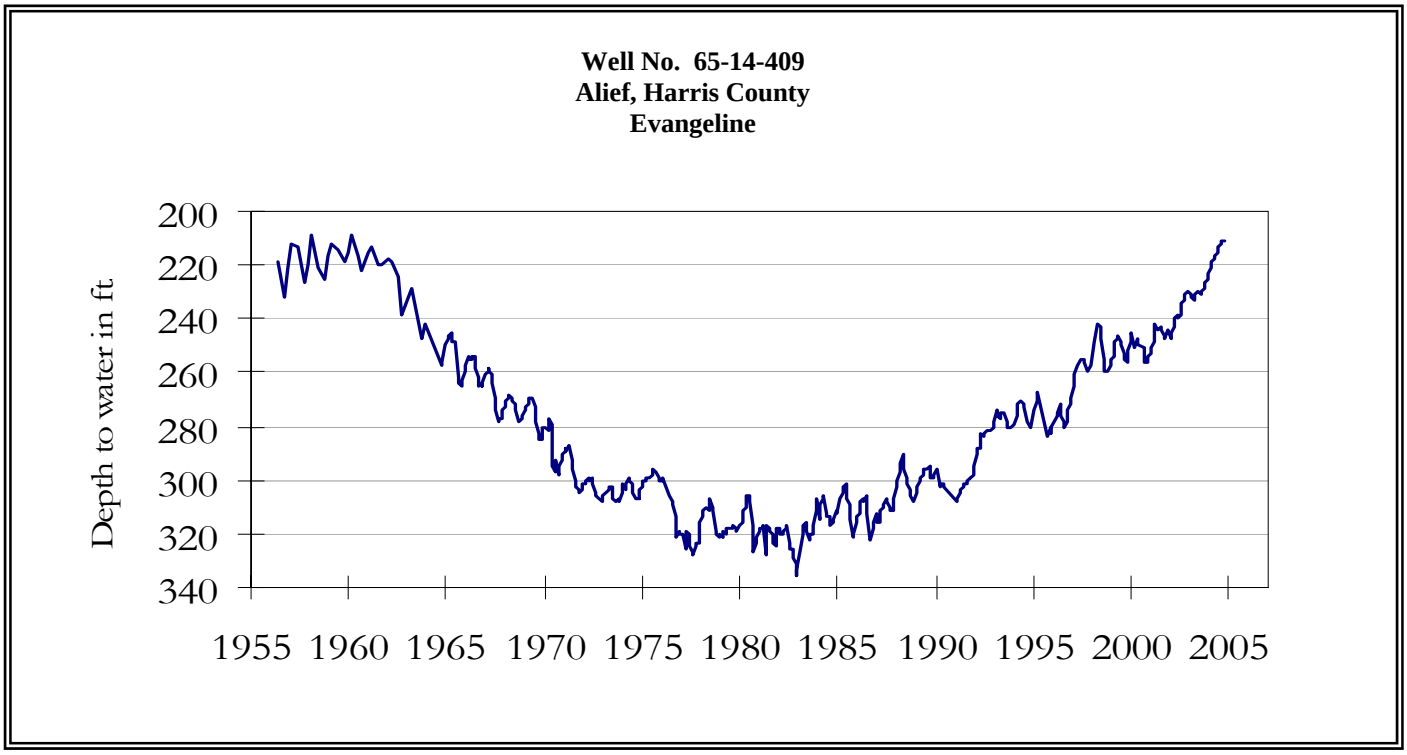
month’s measurement, 6.99 feet above last year's measurement, and 50.81 feet below the initial measurement recorded in 1953.



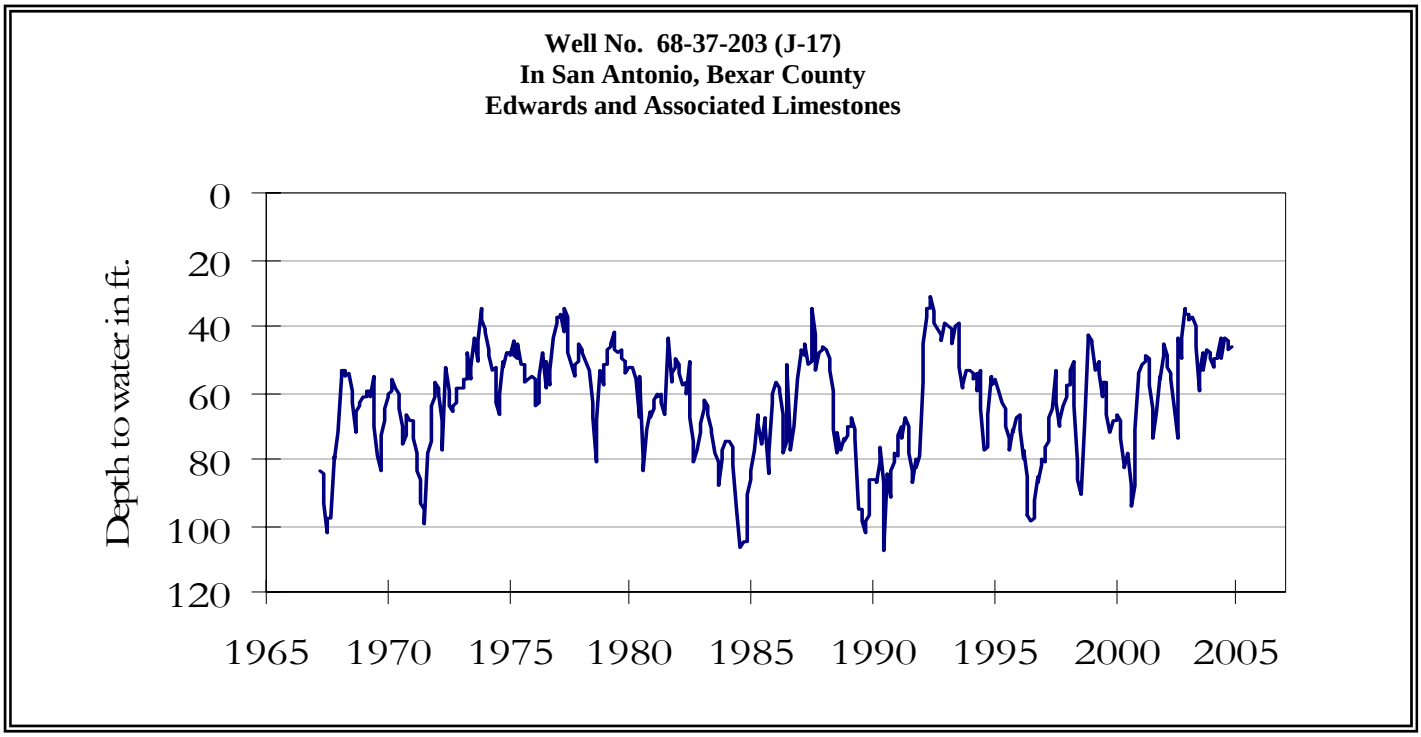
The late September water-level measurement in this Hosston Formation Trinity aquifer well, elevation 823 feet above sea level, was 459.4 feet below land surface. This water level was 0.50 foot below last month’s measurement, 3.19 feet below last year’s measurement, and 167.4 feet below the initial measurement recorded in 1955.



The late September water-level measurement in this Hueco Bolson aquifer well, elevation 3,882 feet above sea level, was 287.6 feet below land surface. This was 1.60 feet above last month’s measurement, 0.66 foot above last year’s measurement, and 55.7 feet below the initial measurement recorded in 1964.

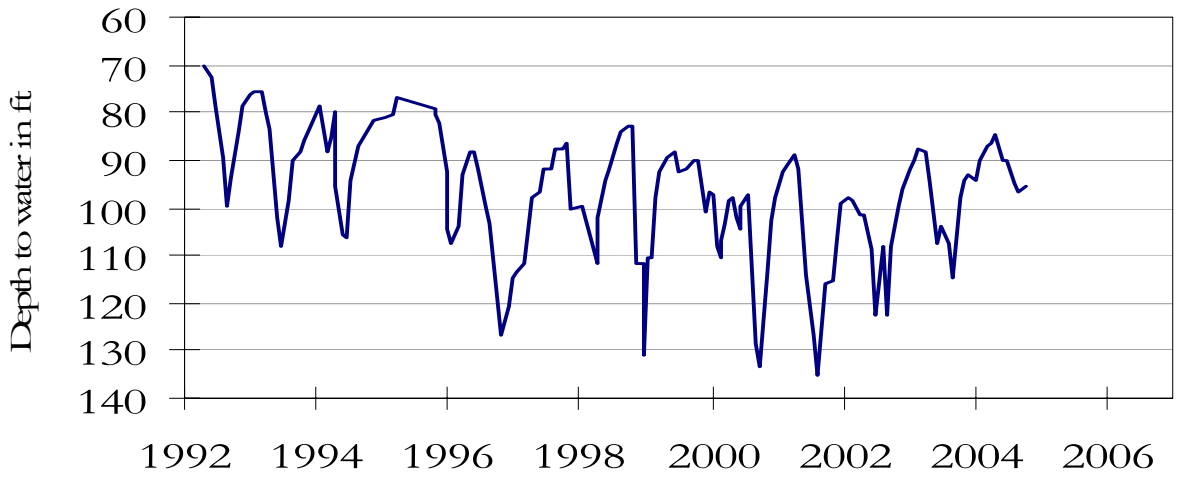


The late September water-level measurement in this Evangeline Formation Gulf Coast aquifer well, elevation 66 feet above sea level, was 210.90 feet below land surface. This was 0.10 foot below last month's measurement, 17.69 feet above last year's measurement, and 107.67 feet below the initial measurement recorded in 1947.



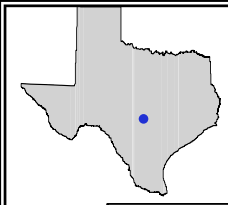
The late September water-level measurement in this Edwards (BFZ) aquifer well, elevation 731 feet above sea level, was 46.50 feet below land surface. This was 0.50 foot above last month's measurement, 0.74 foot above last year's measurement, and 13.12 feet above the initial measurement recorded in 1962.

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



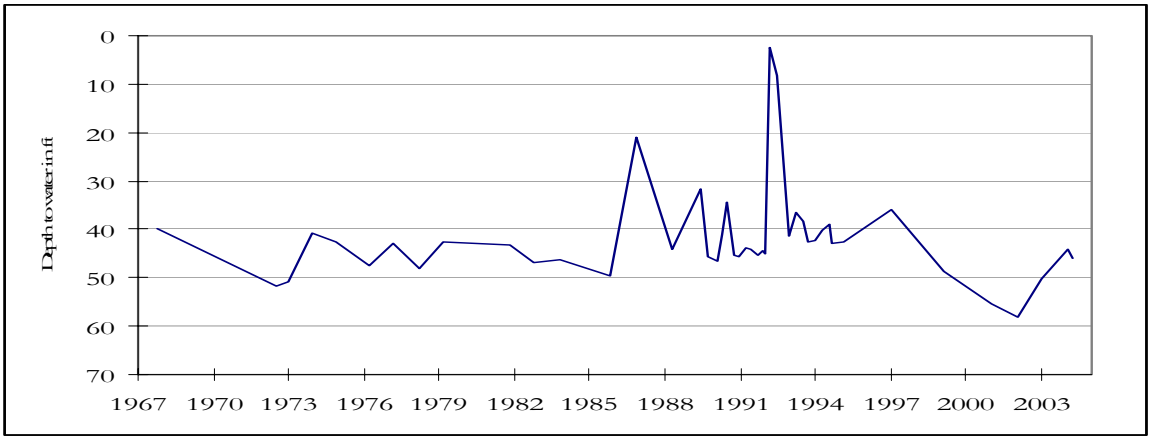
The late September water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 95.75 feet below land surface. This measurement was 1.08 feet above last month's measurement, 1.99 feet above last year's measurement, and 14.50 feet below the initial measurement recorded 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. 4151404
San Saba County



This irrigation observation well, located one mile west of San Saba at an elevation of 1,270 feet ASL, was completed in the Marble Falls Limestone Aquifer. Marble Falls water is used primarily for municipal use. Water quality is generally suitable for most purposes with the exception of wells located within Blanco County which have generated groundwater having nitrate concentrations above drinking water standards.

September 30, 2004
Water levels increased in three key monitoring wells since the beginning of September, ranging from 0.5 feet in the San Antonio Well No. 68-37-203 (J-17), Bexar County (Edwards and Associated Limestones) to 1.6 feet in the El Paso Well No. 49-13-301, El Paso County (Bolson Deposits), and decreased in four key monitoring wells, ranging from 0.1 feet in the Southwest Castro County well (Ogallala aquifer) and Alief Well No. 65-14-409, Harris County (Evangeline deposit) to 1.0 feet in Near Hurst Well No. 32-15-504, Tarrant County (Paluxy Aquifer).

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