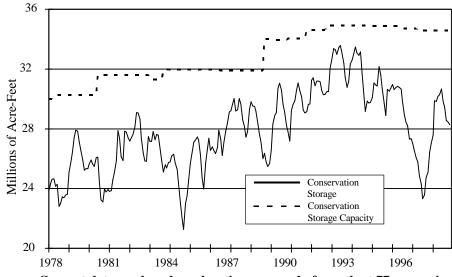
December 1997

Near the end of November, the 77 reservoirs monitored for this report held 28,272,250 acre-feet in conservation storage. This was 82 percent of the conservation storage capacity of the State's major reservoirs. Compared to last month, storage has decreased 175,690 acre-feet. Compared to this month last year, storage has increased 1,864,840 acre-feet.

Of the monitored reservoirs, 13 held 100 percent or more of their conservation storage capacities near the end of November. Lakes Granbury, Cypress Springs, Tyler, Livingston, Coleto Creek, Houston, and Texana were full and spilling. An additional amount of water (acre-feet) was contained in the flood storage pool in each of the reservoirs as follows: Texoma, 18,200; Stillhouse Hollow, 1,940; Granger, 1,360; Wright Patman, 47,810; Lake O' the Pines, 6,000; and Somerville, 8,490.



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.

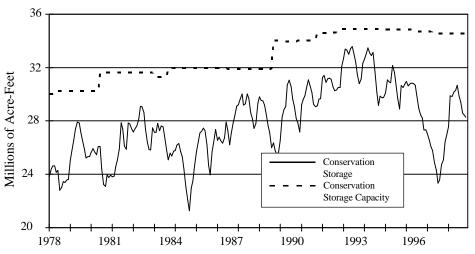
Texas Water Development Board

RESERVOIR STORAGE

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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.

P.O. Box 13231 • 1700 N. Congress Avenue • Austin, Texas 78711-3231 Telephone (512) 463-7847 • Telefax (512) 475-2053 • 1-800-RELAYTX (for the hearing impaired)

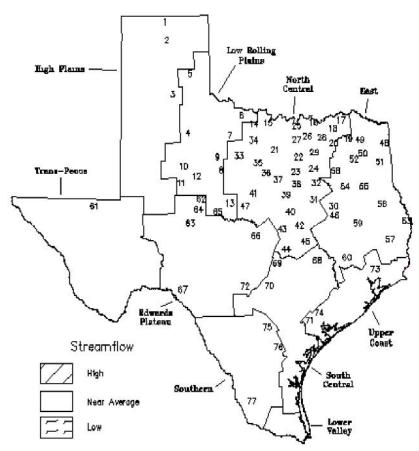
STREAMFLOW

Streamflow conditions across Texas were near-normal during the month of November. There were scattered thunderstorms throughout southeast Texas toward the end of the month, producing one to three inches of rainfall. South Texas received light to moderate rainfall. The following is a summary of the measured flows at various index stations across the State.

The index station for the East Texas climatic division is located on the Neches River near Rockland. Streamflow for November was near-normal, averaging 794 cubic feet per second (cfs). The monthly average flow rate, when compared to the 1961-90 reference period, was 121 percent of the reference period median and 605 cfs above the below-normal level for this location. For North-central Texas, the index station is

located on the North Bosque River near Clifton. Streamflow past the gage was near-normal, averaging 22.1 cfs, or 89 percent of the monthly reference period median. This was 15.8 cfs below the station's abovenormal flow level. Elsewhere across the State, the index station for the Edwards Plateau is located on the North Concho River near Carlsbad. Streamflow past the gage was 0.002 cfs, or 0.7 percent of the monthly reference period median. This was 3.078 cfs below the station's above-normal flow level. The index station for South-central Texas is located on the Guadalupe River near Spring Branch. Streamflow past the gage was near-normal, averaging 217 cfs, or 111 percent of the monthly reference period median. This was 102 cfs above the station's below-normal flow level

STREAMFLOW CONDITIONS FOR NOVEMBER **COMPARED WITH PAST RECORD**



Reservoirs Shown on Map

| Kesel voli s |
|--|
| 1. Palo Duro Reservoir |
| Lake Meredith |
| MacKenzie Reservoir |
| White River Lake |
| Greenbelt Reservoir |
| 6. Lake Kemp |
| 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 L |
| 31 Navarro Mills Lake |

- 30. 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

| : | No.: Storage : | | Conservation Storage in Acre-Feet and as Percent of Conservation Storage Capacity | | | | | | | |
|--|----------------|------------------------------|--|-----------|--------------------|-----------|--------------------|---------------|--|--|
| Name of Lake : or Reservoir : | | Capacity :_ (acre-feet) : | | | Late Oct 1997 : | | Late Nov 1996 | | | |
| HIGH PLAINS | | | | | | | | | | |
| Palo Duro Reservoir Lake Meredith | 1 | 60,900 | 8,610 | 14 | 8,610 | 14 | 13,900 | 23 | | |
| (Texas) Lake Meredith | 2 | 500,000 | 387,240 | 77 | 391,390 | 78 | 371,600 | 74 | | |
| (Texas and Oklahoma) | (2) | (779,560) | (387,240) | (50) | (391,390) | (50) | (371,600) | (48) | | |
| MacKenzie Reservoir | 3 | 46,250 | 8,760 | 19 | 9,170 | 20 | 7,790 | 17 | | |
| White River Lake | 4 | 31,850 | 12,870 | 40 | 13,160 | 41 | 7,900 | 25 | | |
| TOTAL | | 639,000 | 417,480 | 65 | 422,330 | 66 | 401,190 | 63 | | |
| | | LOW ROI | LING PLAINS | | | | | | | |
| Greenbelt Reservoir | 5 | 58,200 | 27,100 | 47 | 27,170 | 47 | 12,600 | 22 | | |
| Lake Kemp | б | 319,600 | 238,200 | 75 | 240,830 | 75 | 202,080 | 63 | | |
| Miller's Creek Reservoir | 7 | 27,890 | 11,550 | 41 | 11,840 | 42 | 12,130 | 43 | | |
| Fort Phantom Hill Reservoir | 8 | 70,030 | 60,290 | 86 | 62,800 | 90 | 58,880 | 84 | | |
| Lake Stamford | 9 | 52,700 | 29,500 | 56 | 30,100 | 57 | 21,290 | 40 | | |
| Lake J. B. Thomas | 10 | 202,300 | 16,910 | 8 | 17,500 | 9 | 8,890 | 4 | | |
| Lake Colorado City | 11 | 30,800 | 19,960 | 65 | 20,400 | 66 | 19,120 | 62 | | |
| Champion Creek Reservoir Hords Creek Lake | 12 13 | 41,600 8,600 | 20,000 6,800 | 48 79 | 20,200 6,980 | 49 81 | 20,840 6,710 | 50 78 | | |
| TOTAL | 15 | 811,720 | 430,310 | 53 | 437,820 | 54 | 362,540 | 45 | | |
| | | NORT | H CENTRAL | | | | | | | |
| Lake Kickapoo | 14 | 106,000 | 57,290 | 54 | 58,990 | 56 | 66,500 | 63 | | |
| Lake Arrowhead | 15 | 262,100 | 196,340 | 75 | 200,440 | 76 | 194,480 | 74 | | |
| Lake Texoma | 16 | 2,722,300 | 2,722,300 | 100 | 2,722,300 | 100 | 2,722,300 | 100 | | |
| Pat Mayse Lake | 17 | 124,500 | 109,100 | 88 | 109,800 | 88 | 124,500 | 100 | | |
| Cooper Lake | 18 | 273,000 | 251,190 | 92 | 250,820 | 92 | 273,000 | 100 | | |
| Lake Sulphur Springs | 19 | 17,710 | 17,100 | 97 | 16,800 | 95 | 17,710 | 100 | | |
| Lake Tawakoni | 20 | 936,200 | 842,500 | 90 | 865,400 | 92 | 774,700 | 83 | | |
| Bridgeport Reservoir Eagle Mountain Reservoir | 21 22 | 374,830 178,380 | 333,700 157,260 | 89 88 | 338,000 162,760 | 90 91 | 326,600 178,380 | 87 100 | | |
| Benbrook Lake | 23 | 88,200 | 84,630 | 96 | 84,710 | 96 | 88,200 | 100 | | |
| Joe Pool Lake | 24 | 175,800 | 163,570 | 93 | 164,870 | 94 | 165,370 | 94 | | |
| Ray Roberts Lake | 25 | 798,760 | 741,190 | 93 | 748,420 | 94 | 798,760 | 100 | | |
| Lewisville Lake | 26 | 555,000 | 473,540 | 85 | 487,680 | 88 | 555,000 | 100 | | |
| Grapevine Lake | 27 | 187,700 | 152,970 | 81 | 160,160 | 85 | 187,700 | 100 | | |
| Lavon Lake | 28 | 443,800 | 348,660 | 79 | 356,520 | 80 | 443,800 | 100 | | |
| Lake Ray Hubbard | 29 | 490,000 | 441,400 | 90 | 442,400 | 90 | 477,300 | 97 | | |
| Richland-Chambers Creek Lake | 30 | 1,103,820 | 1,005,020 | 91 | 1,012,320 | 92 | 850,690 | 77 | | |
| Navarro Mills Lake | 31 | 55,810 | 51,150 | 92 | 49,840 | 89 | 37,450 | 67 | | |
| Bardwell Lake | 32 | 53,580 | 51,040 | 95 | 50,510 | 94 | 52,300 | 98 | | |
| Hubbard Creek Reservoir | 33 | 317,800 | 290,900 | 92 | 294,000 | 93 | 317,800 | 100 | | |
| Lake Graham | 34 | 45,000 | 44,400 | 99 | 45,000 | 100 | 45,000 | 100 | | |
| Possum Kingdom Lake Lake Palo Pinto | 35 36 | 551,820 42,200 | 470,120 | 85 84 | 478,360 | 87 84 | 551,820 | 100 100 | | |
| Lake Granbury | 36 37 | 42,200 135,680 | 35,380 135,680 | 84 100 | 35,260 135,680 | 84 100 | 42,200 135,680 | 100 | | |
| Lake Pat Cleburne | 38 | 25,300 | 20,200 | 80 | 21,000 | 83 | 19,870 | 79 | | |
| Whitney Lake | 39 | 622,800 | 509,200 | 82 | | | | 100 | | |
| | | | 509 780 | × / | 531,820 | 85 | 622,800 | 1, 1, 1, 1, 1 | | |

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

| Name of Lake | : : : No.: : on : | Conservation: Storage : | Conservation Storage in Acre-Feet and as Percent of Conservation Storage Capacity | | | | | | | |
|----------------------------------|-------------------------|------------------------------|--|---------------|-------------|------|-------------|-----|--|--|
| Name of Lake or Reservoir | : Map: | Capacity :_ (acre-feet) : | Late Nov 19 | Late Nov 1996 | | | | | | |
| NORTH CENTRAL (continued) | | | | | | | | | | |
| Proctor Lake | 41 | 55,590 | 46,780 | 84 | 47,190 | 85 | 55,590 | 100 | | |
| Belton Lake | 42 | 434,500 | 431,740 | 99 | 429,290 | 99 | 434,500 | 100 | | |
| Stillhouse Hollow Lake | 43 | 226,060 | 226,060 | 100 | 224,850 | 99 | 194,090 | 86 | | |
| Lake Georgetown | 44 | 37,010 | 32,290 | 87 | 32,900 | 89 | 20,860 | 56 | | |
| Granger Lake | 45 | 54,280 | 54,280 | 100 | 54,280 | 100 | 54,280 | 100 | | |
| Lake Limestone | 46 | 215,750 | 179,900 | 83 | 179,550 | 83 | 139,420 | 65 | | |
| Jake Brownwood | 47 | 143,400 | 125,200 | 87 | 128,000 | 89 | 142,000 | 99 | | |
| TOTAL | | 11,999,230 | 10,937,110 | 91 | 11,054,660 | 92 | 11,255,200 | 94 | | |
| | | | EAST | | | | | | | |
| Vright Patman Lake | 48 | 142,700 | 142,700 | 100 | 142,700 | 100 | 142,700 | 100 | | |
| Lake Cypress Springs | 49 | 66,800 | 66,800 | 100 | 66,060 | 99 | 66,800 | 100 | | |
| Lake Bob Sandlin | 50 | 202,300 | 192,800 | 95 | 192,520 | 95 | 200,450 | 99 | | |
| Lake O' the Pines | 51 | 252,000 | 252,000 | 100 | 252,000 | 100 | 252,000 | 100 | | |
| Lake Fork Reservoir | 52 | 635,200 | 606,340 | 95 | 609,290 | 96 | 632,200 | 99 | | |
| Toledo Bend Reservoir | 53 | 4,472,900 | 3,870,000 | 87 | 3,960,000 | 89 | 3,488,000 | 78 | | |
| Lake Palestine | 54 | 411,300 | 381,400 | 93 | 381,400 | 93 | 340,600 | 83 | | |
| lake Tyler | 55 | 73,700 | 73,700 | 100 | 73,700 | 100 | 65,470 | 89 | | |
| Sam Rayburn Reservoir | 56 | 2,876,300 | 2,601,710 | 90 | 2,595,250 | 90 | 1,768,950 | 62 | | |
| 3. A. Steinhagen Lake | 57 | 94,200 | 89,020 | 95 | 82,760 | 88 | 94,200 | 100 | | |
| Cedar Creek Reservoir | 58 | 637,050 | 631,200 | 99 | 637,050 | 100 | 516,200 | 81 | | |
| Lake Livingston | 59 | 1,750,000 | 1,750,000 | 100 | 1,750,000 | 100 | 1,750,000 | 100 | | |
| Lake Conroe | 60 | 429,900 | 420,970 | 98 | 410,970 | 96 | 412,270 | 96 | | |
| TOTAL | | 12,044,350 | 11,078,640 | 92 | 11,153,700 | 93 | 9,729,840 | 81 | | |
| | | TRA | NS-PECOS | | | | | | | |
| Red Bluff Reservoir | 61 | 307,000 | 86,880 | 28 | 60,280 | 20 | 71,200 | 23 | | |
| TOTAL | | 307,000 | 86,880 | 28 | 60,280 | 20 | 71,200 | 23 | | |
| | | EDWAR | DS PLATEAU | | | | | | | |
| . V. Spence Reservoir | 62 | 484,800 | 125,600 | 26 | 127,000 | 26 | 116,000 | 24 | | |
| Win Buttes Reservoir | 63 | 177,800 | 42,150 | 24 | 42,400 | 24 | 66,080 | 37 | | |
| D. C. Fisher Lake | 64 | 119,200 | 16,450 | 14 | 16,770 | 14 | 17,730 | 15 | | |
|). H. Ivie Reservoir | 65 | 554,340 | 509,760 | 92 | 513,860 | 93 | 419,560 | 76 | | |
| ake Buchanan mistad Reservoir | 66 | 896,980 | 808,080 | 90 | 832,500 | 93 | 617,850 | 69 | | |
| (Texas) Amistad Reservoir | 67 | 1,771,030 | 902,320 | 51 | 921,780 | 52 | 855,300 | 48 | | |
| (Texas and Mexico) | (67) | (3,151,300) | (1,486,840 |) (47) | (1,495,760) | (47) | (1,268,760) | (40 | | |
| TOTAL | | 4,004,150 | 2,404,360 | 60 | 2,454,310 | 61 | 2,092,520 | 52 | | |
| | | SOUT | H CENTRAL | | | | | | | |
| Somerville Lake | 68 | 155,060 | 155,060 | 100 | 155,060 | 100 | 151,750 | 98 | | |
| Jake Travis | 69 | 1,144,100 | 1,066,870 | 93 | 1,053,100 | 92 | 968,280 | 85 | | |
| Canyon Lake | 70 | 385,600 | 382,100 | 99 | 381,520 | 99 | 379,630 | 98 | | |
| Coleto Creek Reservoir | 71 | 35,060 | 35,060 | 100 | 35,060 | 100 | 27,580 | 79 | | |
| Medina Lake | 72 | 254,000 | 228,300 | 90 | 233,400 | 92 | 71,890 | 28 | | |
| TOTAL | | 1,973,820 | 1,867,390 | 95 | 1,858,140 | 94 | 1,599,130 | 81 | | |

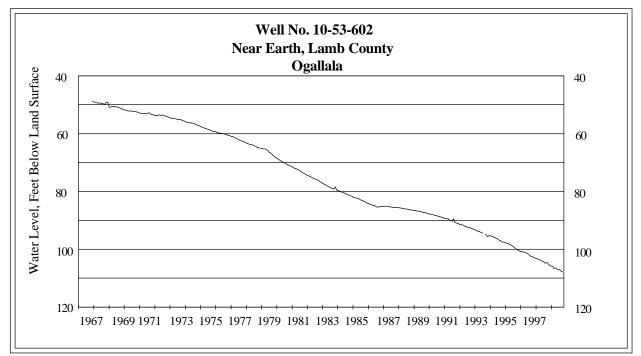
CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

| | : | : No.: | Conservation: Storage : | Conservation Storage in Acre-Feet and as Percent of Conservation Storage Capacity | | | | | | |
|---|---|--------------|------------------------------|--|------|-------------|------|---------------|------|--|
| Name of Lake or Reservoir | : | on : Map: | Capacity :_ (acre-feet) : | Late Nov 1997 : | | Late Oct 19 | 97 : | Late Nov 1996 | | |
| | | | | | | | | | | |
| | | | UPF | PER COAST | | | | | | |
| Lake Houston | | 73 | 128,860 | 128,860 | 100 | 128,860 | 100 | 128,860 | 100 | |
| Lake Texana | | 74 | 157,900 | 157,900 | 100 | 157,900 | 100 | 156,990 | 99 | |
| TOTAL | | | 286,760 | 286,760 | 100 | 286,760 | 100 | 285,850 | 99 | |
| | | | S | OUTHERN | | | | | | |
| Choke Canyon Reservoir | | 75 | 695,260 | 280,710 | 40 | 286,630 | 41 | 177,810 | 26 | |
| Lake Corpus Christi Falcon Reservoir | | 76 | 241,240 | 179,400 | 74 | 182,800 | 76 | 119,200 | 49 | |
| (Texas) Falcon Reservoir | | 77 | 1,555,120 | 303,210 | 19 | 250,510 | 16 | 312,930 | 20 | |
| (Texas and Mexico) | | (77) | (2,653,290) | (545,610) | (21) | (489,670) | (18) | (570,740) | (21) | |
| TOTAL | | . , | 2,491,620 | 763,320 | 31 | 719,940 | 29 | 609,940 | 24 | |
| STATE TOTAL | | | 34,557,650 | 28,272,250 | 82 | 28,447,940 | 82 | 26,407,410 | 76 | |

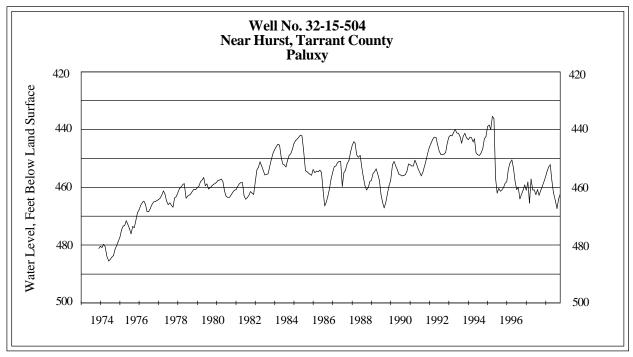
CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

NOTES: 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). Percentages are based on the conservation storage capacity of and the conservation storage in the reservoirs for date shown. 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 parenthesis 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. Figures in parentheses show the total conservation storage in parentheses may be subject to revision on completion of international water accounting. Figures in parentheses show the total conservation storage for both Texas (United States' share) and Mexico and are not included in State total.

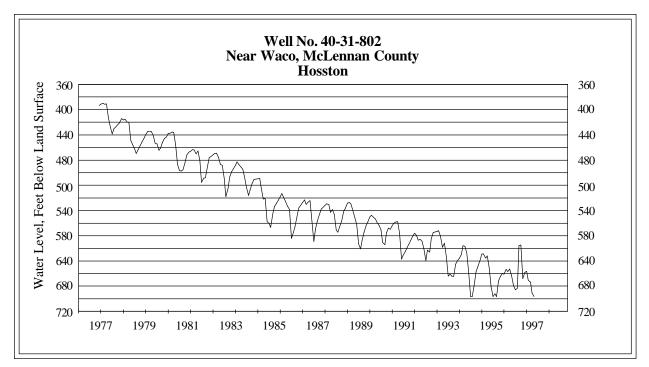
GROUND WATER LEVELS IN OBSERVATION WELLS



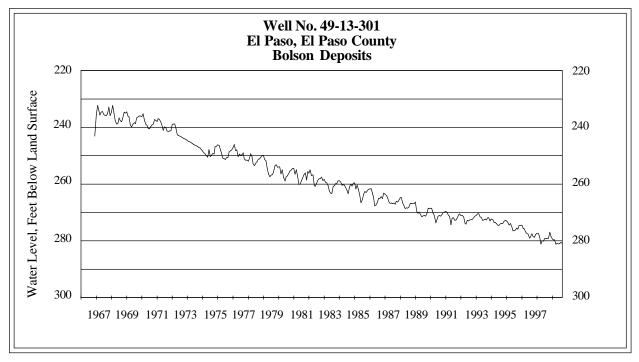
The November water-level measurement in this Ogallala aquifer well, elevation 3667 feet above sea level, was 107.85 feet below land surface. This was 0.25 feet below last month's measurement, 3.19 feet below last year's measurement, and 79.70 feet below the initial measurement recorded in 1950.



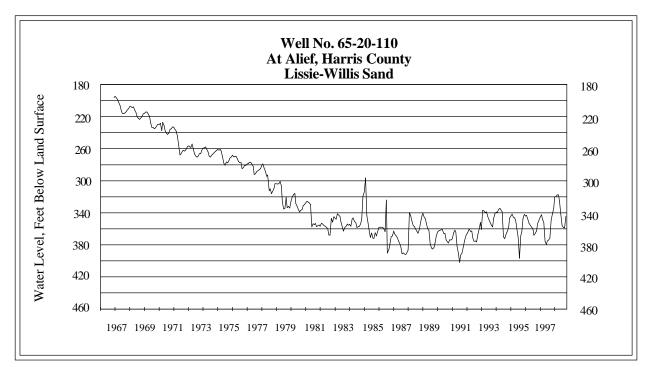
The November water-level measurement in this Paluxy aquifer well, elevation 535 feet above sea level, was 462.34 feet below land surface. This measurement was 1.60 feet above last month's measurement, 1.16 feet below last year's measurement, and 68.95 feet below the initial measurement recorded in 1953.



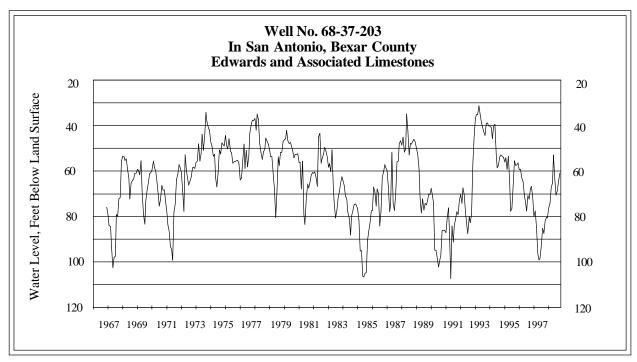
The November water-level measurement in this Hosston Formation aquifer well, elevation 593 feet above sea level, was not available for this month.



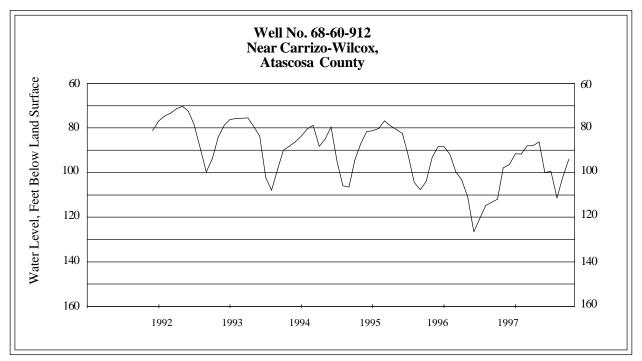
The November water-level measurement in this Bolson Deposits aquifer well, elevation 3882 feet above sea level, was 280.98 feet below land surface. This was .42 feet below last month's measurement, 1.58 feet below last year's measurement, and 49.08 feet below the initial measurement recorded in 1964.



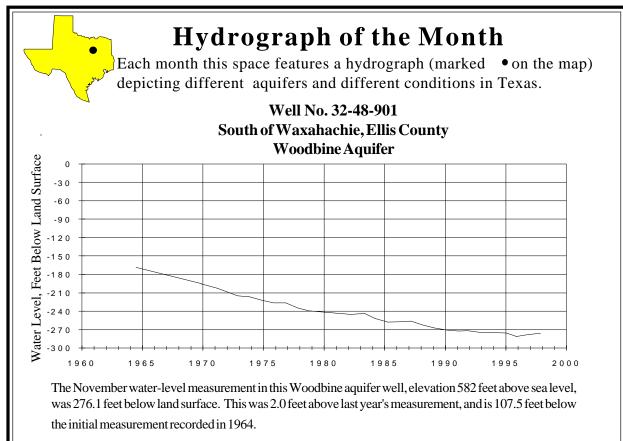
The November water-level measurement in this Lissie Willis Sand aquifer well, elevation 83 feet above sea level, was 344.32 feet below land surface. This was 14.40 feet above last month's measurement, 5.04 feet above last year's measurement, and 308.32 feet below the initial measurement recorded in 1939.



The November water-level measurement in this Edwards aquifer well, elevation 731 feet above sea level, was 60.9 feet below land surface. This was 3.40 feet above last month's measurement, 21.10 feet above last year's measurement, and 1.28 feet below the initial measurement recorded in 1962.



The November water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 94.01 feet below land surface. This was 8.01 feet above last month's measurement, 17.93 feet above last year's measurement, and 12.76 feet below the initial measurement recorded in 1992.



TEXAS WATER CONDITIONS



Texas Water Development Board P.O. Box 13231 Capitol Station Austin, Texas 78711-3231