Texas Water Conditions Report

Texas Water Development Board

RESERVOIR STORAGE

November 2015

At the end of the month, total storage in 114 of the state's major water supply reservoirs was at 26.45 million acre-feet*, or 85% of their total conservation storage capacity. This is 935,055 acre-feet more than a month ago and 6.85 million acre-feet more than the storage at this time last year.

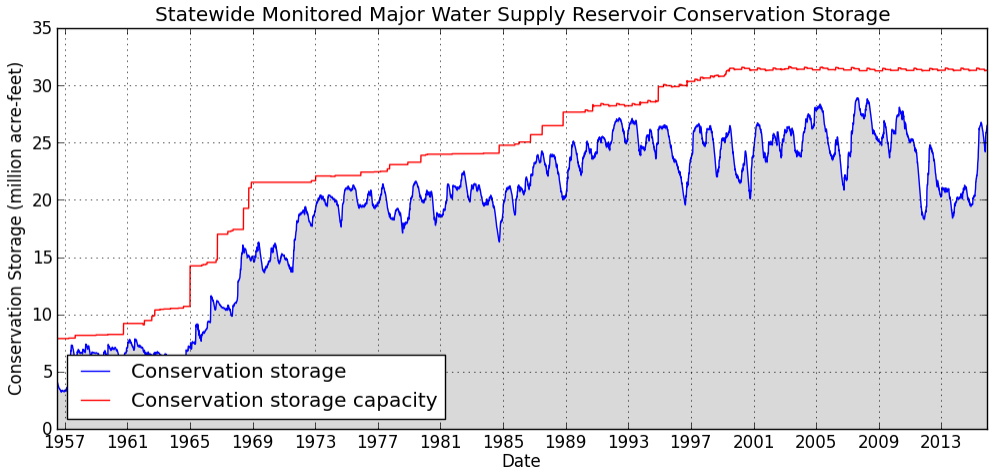
Sixty-six (66) reservoirs held 100% of conservation storage capacity, primarily in the North Central (46) and East (16) regions. Three (3) reservoirs remain below 10% full: Abilene (4%), Twin Buttes (5%), E.V. Spence (9%).

Total combined storage was greater than 70% in the Upper Coast (100%), East (98%), North Central (98%), Trans-Pecos (89%) and South Central (88%) regions. The regions with the lowest percentage storage were the High Plains (25%), Southern (49%) and Edwards Plateau (50%). Storage increased in 8 regions and remained unchanged in 1 region over the past month.

Elephant Butte reservoir held 230,735 acre-feet, or 12% of storage capacity. This is 48,011 acre-feet more than a month ago.

* Only the Texas share of storage in border reservoirs is counted.

CONSERVATION STORAGE DATA FOR



Figures are based on the end of the month data at 114 major reservoirs that represent 96 percent of the total conservation storage capacity of the 188 major water supply reservoirs in Texas. Major reservoirs are defined as having a conservation storage capacity of 5,000 acre-feet or greater.

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CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation Storage end of Nov 2015 (acre-feet)	(%)	Change since end of Oct 2015 (acre-feet)	(%)	Change since end of Nov 2014 (acre-feet)	(%)
HIGH PLAINS							
Palo Duro Reservoir	61066	no data					
Meredith, Lake (Texas)	500,000	124,979	25	3,203	1	99,865	20
Meredith, Lake (Texas & Oklahoma)	779,556	124,979	16	3,203	0	99,865	13
MacKenzie Reservoir	46,450	7,597	16	-47	-0	4,178	9
White River Lake	29,880	9,935	33	36	0	8,535	29
TOTAL	576,330	142,511	25	3,192	1	112,578	20
LOW ROLLING PLAINS							
Greenbelt Lake	59,968	13,494	23	253	0	6,328	11
N. Fork Buffalo Crk Reservoir	15,400	12,526	81	1,682	11	11,809	77
Kemp, Lake	245,307	185,613	76	8,650	4	119,328	49
Millers Creek Reservoir	26,768	25,462	95	1,817	7	23,209	87
Alan Henry Reservoir	94,808	91,145	96	342	0	20,256	21
Stamford, Lake	51,570	45,462	88	2,082	4	39,979	78
J B Thomas, Lake	199,931	146,110	73	-1,560	-1	54,338	27
Fort Phantom Hill, Lake	70,030	59,376	85	7,707	11	37,411	53
Sweetwater, Lake	12,267	1,435	12	89	1	-220	-2
Colorado City, Lake	30,758	8,756	28	-23	-0	2,038	7
Champion Creek Reservoir	41,580	9,379	23	146	0	6,954	17
Abilene, Lake	7,900	286	4	19	0	no data	
Coleman, Lake	38,075	28,093	74	2,208	6	15,768	41
Hords Creek Lake	8,443	3,982	47	805	10	491	6
TOTAL	902,805	631,119	70	24,217	3	337,689	37
NORTH CENTRAL							
Nocona, Lake (Farmers Crk)	21,444	21,444	100	705	3	14,639	68
Hubert H Moss Lake	24,058	24,058	100	0	0	4,156	17
Texoma, Lake (Texas)	1,258,113	1,258,113	100	68,225	5	201,962	16
Texoma, Lake (Texas & Oklahoma)	2,525,281	1,258,113	50	68,225	3	201,962	8
*Pat Mayse Lake	113,683	113,683	100	7,952	7	no data	
Kickapoo, Lake	86,345	86,345	100	8,208	10	61,361	71
Arrowhead, Lake	230,359	230,359	100	16,896	7	184,750	80
Bonham, Lake	11,027	11,027	100	2,280	21	3,140	28
Crook, Lake	9,195	9,195	100	1,367	15	261	3
Amon G Carter, Lake	19,266	19,266	100	0	0	9,539	50
Ray Roberts, Lake	788,167	788,167	100	0	0	204,782	26
Jim Chapman Lake (Cooper)	260,332	260,332	100	0	0	176,861	68
Graham, Lake	45,288	45,288	100	3,326	7	27,627	61
*Lost Creek Reservoir	11,950	11,950	100	0	0	4,648	39
Bridgeport, Lake	366,236	366,236	100	32,084	9	226,098	62
Lewisville Lake	563,228	563,228	100	0	0	182,144	32
Lavon Lake	406,388	406,388	100	56,241	14	217,860	54
Hubbard Creek Reservoir	318,067	136,059	43	21,757	7	89,927	28
Possum Kingdom Lake	523,873	520,122	99	-3,751	-1	185,831	35
*Mineral Wells, Lake	6,760	6,760	100	0	0	3,402	50
Weatherford, Lake	17,812	17,812	100	3,731	21	8,016	45
Eagle Mountain Lake	179,880	179,880	100	11,259	6	79,085	44
Worth, Lake	33,495	33,495	100	3,335	10	10,658	32
Grapevine Lake	164,703	164,703	100	0	0	70,961	43
Ray Hubbard, Lake	452,040	452,040	100	207	0	191,172	42
New Terrell City Lake	8,583	8,583	100	0	0	2,000	23

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation Storage end of Nov 2015 (acre-feet)	(%)	Change since end of Oct 2015 (acre-feet)	(%)	Change since end of Nov 2014 (acre-feet)	(%)
(North Central Continue)							
Palo Pinto, Lake	26,766	26,766	100	1,448	5	24,018	90
Benbrook Lake	85,648	85,648	100	16,650	19	26,858	31
Arlington, Lake	40,188	40,188	100	0	0	18,617	46
Joe Pool Lake	175,358	175,358	100	0	0	14,508	8
*Cisco, Lake	25,895	19,668	76	1,852	7	7,661	30
Leon, Lake	26,476	26,476	100	0	0	10,035	38
Granbury, Lake	125,756	122,961	98	-978	-1	55,110	44
Pat Cleburne, Lake	26,008	26,008	100	0	0	8,824	34
Waxahachie, Lake	10,780	10,780	100	0	0	2,985	28
Bardwell Lake	46,122	46,122	100	0	0	6,992	15
Proctor Lake	55,457	55,457	100	3,793	7	38,766	70
Whitney, Lake	553,344	553,344	100	0	0	198,176	36
Aquilla Lake	43,243	43,243	100	0	0	7,265	17
Navarro Mills Lake	49,827	49,827	100	0	0	8,691	17
*Halbert, Lake	6,033	5,912	98	-121	-2	1,735	29
Richland-Chambers Reservoir	1,087,839	1,087,839	100	0	0	396,962	36
*Brownwood, Lake	128,839	128,839	100	13,312	10	65,392	51
Waco, Lake	189,418	189,418	100	0	0	25,092	13
Limestone, Lake	208,014	208,014	100	0	0	25,483	12
Belton Lake	435,225	435,225	100	0	0	132,730	30
Stillhouse Hollow Lake	227,771	227,771	100	0	0	74,126	33
Georgetown, Lake	36,823	36,823	100	7,222	20	15,020	41
Granger Lake	50,779	50,779	100	0	0	0	0
Tawakoni, Lake	871,685	871,685	100	0	0	379,746	44
Mountain Creek, Lake	22,850	22,850	100	0	0	0	0
Squaw Creek, Lake	151,250	151,250	100	0	0	1,733	1
TOTAL	10,627,686	10,432,784	98	277,000	3	3,707,405	35
EAST							
Wright Patman Lake	122,593	122,593	100	-12,476	-10	0	0
*Sulphur Springs, Lake	17,747	17,747	100	0	0	2,127	12
Cypress Springs, Lake	66,756	66,756	100	2,150	3	2,022	3
Bob Sandlin, Lake	190,822	190,822	100	6,593	3	23,623	12
Caddo, Lake	29,898	29,718	99	-180	-1	no data	
Martin, Lake	75,726	75,726	100	11,591	15	8,946	12
Monticello, Lake	34,740	34,740	100	0	0	669	2
Fork Reservoir, Lake	605,061	605,061	100	25,474	4	171,891	28
O the Pines, Lake	241,363	241,363	100	0	0	8,039	3
Cedar Creek Reservoir in Trinity	644,686	644,686	100	0	0	179,265	28
Athens, Lake	29,503	29,503	100	0	0	2,924	10
Palestine, Lake	373,199	373,199	100	0	0	16,344	4
Tyler, Lake	72,073	72,073	100	3,700	5	3,016	4
Murvaul, Lake	38,285	38,285	100	4,951	13	0	0
Jacksonville, Lake	25,670	24,991	97	1,250	5	-517	-2
Nacogdoches, Lake	39,522	39,522	100	6,114	15	1,167	3
Houston County Lake	17,113	17,113	100	1,568	9	0	0
Sam Rayburn Reservoir	2,857,077	2,720,985	95	159,340	6	192,999	7
Toledo Bend Reservoir (Texas)	2,236,450	2,173,512	97	251,492	11	251,492	11
Toledo Bend Reservoir (TX & LA)	4,472,900	2,173,512	49	251,492	6	251,492	6
*Livingston, Lake	1,785,348	1,785,348	100	0	0	0	0
B A Steinhagen Lake	66,961	56,612	85	359	1	-6,188	-9
Conroe, Lake	410,988	405,633	99	23,792	6	2,663	1
TOTAL	9,981,581	9,765,988	98	485,718	5	860,482	9

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

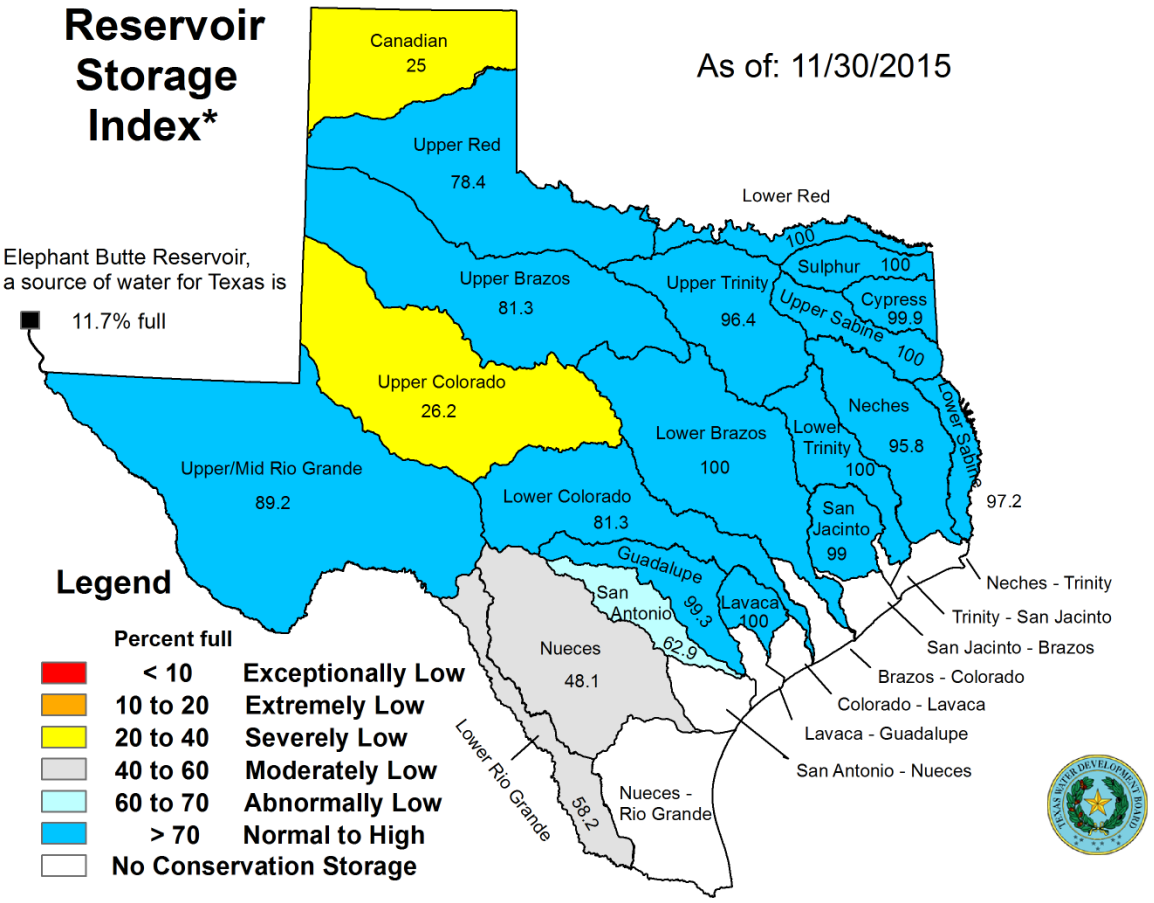
Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation Storage end of Nov 2015 (acre-feet)	(%)	Change since end of Oct 2015 (acre-feet)	(%)	Change since end of Nov 2014 (acre-feet)	(%)
TRANS-PECOS							
**Red Bluff Reservoir	151,110	134,838	89	484	0	6,984	5
TOTAL	151,110	134,838	89	484	0	6,984	5
EDWARDS PLATEAU							
Oak Creek Reservoir	39,210	10,494	27	751	2	4,407	11
E V Spence Reservoir	517,272	47,568	9	1,425	0	35,278	7
O C Fisher Lake	115,742	18,941	16	-76	-0	18,094	16
*O H Ivie Reservoir	554,340	70,964	13	74	0	-14,009	-3
Twin Buttes Reservoir	182,454	8,636	5	-1,056	-1	2,607	1
Nasworthy	9,615	7,624	79	509	5	309	3
Brady Creek Reservoir	28,808	10,246	36	983	3	2,314	8
Buchanan, Lake	860,607	620,480	72	18,694	2	328,912	38
Inks, Lake	13,962	12,892	92	-30	-0	-288	-2
Lyndon B Johnson, Lake	115,249	110,636	96	731	1	-551	-0
*Amistad Reservoir (Texas)	1,840,849	1,201,150	65	30,431	2	51,670	3
*Amistad Reservoir (TX & Mexico)	3,275,532	1,201,150	37	30,431	1	51,670	2
TOTAL	4,278,108	2,119,631	50	52,436	1	428,743	10
SOUTH CENTRAL							
Travis, Lake	1,113,348	974,592	88	66,377	6	612,346	55
*Austin, Lake	23,972	22,849	95	-232	-1	15	0
Somerville Lake	147,104	147,104	100	0	0	6,973	5
Canyon Lake	378,781	378,781	100	0	0	90,315	24
Medina Lake	254,823	160,305	63	-511	-0	151,586	59
*Coleto Creek Reservoir	31,040	28,158	91	-865	-3	7,748	25
TOTAL	1,949,068	1,711,789	88	64,769	3	868,983	45
UPPER COAST							
Houston, Lake	120,686	120,686	100	0	0	0	0
Texana, Lake	159,566	159,566	100	0	0	35,563	22
TOTAL	280,252	280,252	100	0	0	35,563	13
SOUTHERN							
Choke Canyon Reservoir	695,262	240,487	35	-4,456	-1	63,223	9
Corpus Christi, Lake	256,961	217,886	85	-3,493	-1	91,842	36
*Falcon Reservoir (Texas)	1,551,007	772,450	50	35,188	2	340,810	22
*Falcon Reservoir (TX & Mexico)	2,646,817	772,450	29	35,188	1	340,810	13
TOTAL	2,503,230	1,230,823	49	27,239	1	495,875	20
STATE TOTAL	31,250,170	26,449,735	85	935,055	3	6,854,302	22

* Conservation volume is used as conservation storage capacity because the dead storage is unknown.
** Nov 11/27 2013 – 12/02 2014 data were not available. End of Nov 2013 storage was estimated.

Elephant Butte Reservoir	1,973,358	230,735	12	48,011	2	18,826	1

Note:
Conservation storage capacity is the space available to store water above the lowest outlet and below the 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 the dead storage. Conservation storage percentage is based on the conservation storage capacity of the reservoir and the conservation storage in the reservoir on date shown. Percent change is given by 100*(current conservation storage - past conservation storage)/conservation storage capacity. Figures shown are for the Texas share of conservation storage in all reservoirs.

NOVEMBER RESERVOIR CONDITIONS



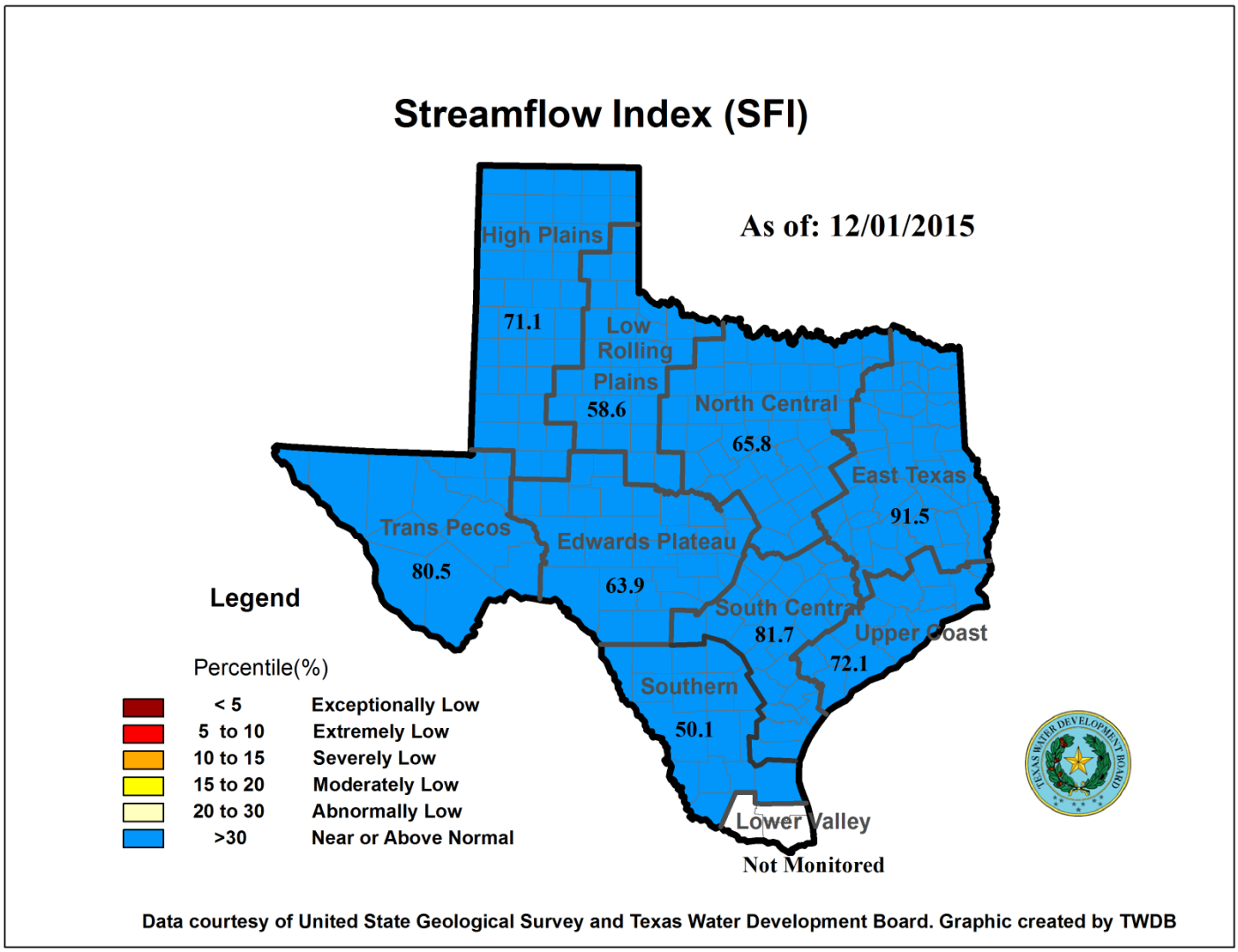
*Percent of combined conservation storage capacity of 114 major water supply reservoirs by sub-basin (dead pools are excluded)

NOVEMBER STREAMFLOW CONDITIONS

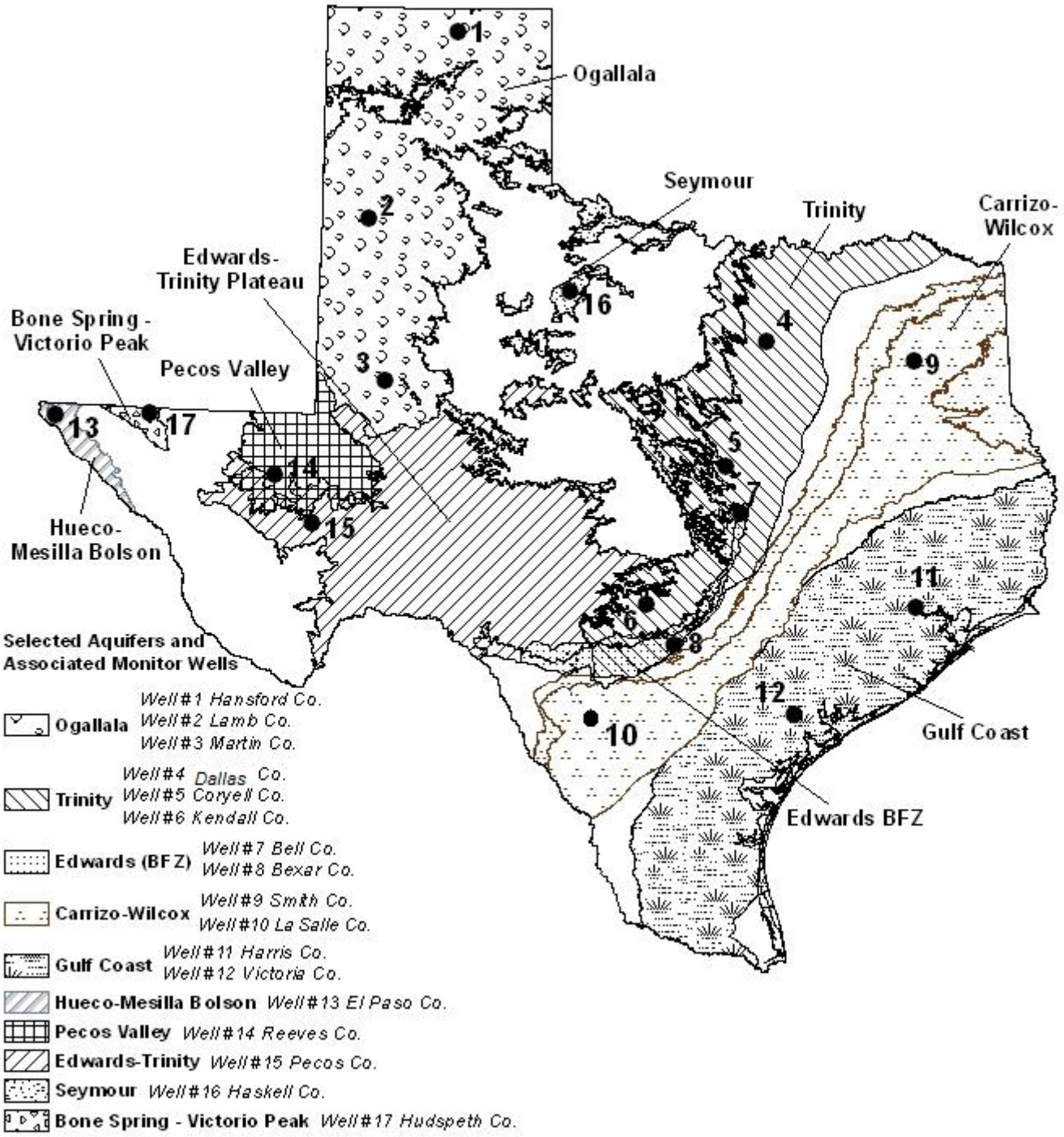
The computed 30-day mean flow status for 29 reporting index stations monitored this month is presented below:

Flow Status	Number of Stations
Normal to High (>30%)	28
Abnormally Low (20-30%)	0
Moderately Low (15-20%)	0
Severely Low (10-15%)	0
Extremely Low (5-10%)	0
Exceptionally Low (<5%)	1

Flows went up at 17 index stations and down at 12 stations. On a regional basis, flows in this month at index stations were near or above normal in all 9 regions. Streamflow in the Lower Valley region is not monitored.



NOVEMBER 2015 GROUNDWATER LEVELS IN OBSERVATION WELLS



November, 2015

Water-level measurements were available for all of the seventeen key monitoring wells in the state. Water levels rose in twelve of the monitoring wells since the beginning of November, ranging from 0.36 feet in the Haskell County Seymour Aquifer well to 15.46 feet in the Pecos County Edwards-Trinity (Plateau) Aquifer well. Water levels declined in four monitoring wells, ranging from 0.03 feet in the Dallas County Twin Mountains Formation-Trinity Aquifer well to 2.22 feet in the Victoria County Lissie Formation-Gulf Coast Aquifer well. Water levels remained constant in the Martin County Ogallala Aquifer at 142.32 feet. The J-17 well in San Antonio recorded a water level of 68.01 feet below land surface or 662.99 feet above mean sea level. There are no restrictions currently in place for the San Antonio portion of the Edwards BFZ, with water levels at 2.99 feet above Stage I critical management levels, in that segment of the Edwards Aquifer.

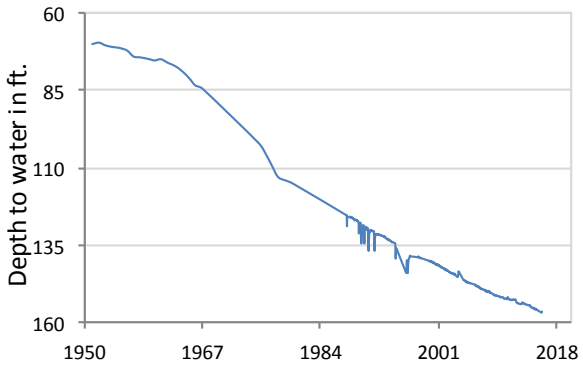
***IDs used in this publication on the aquifer map to indicate the monitoring well location (IDs 1 - 17) are different than the TWDB's six- or seven-digit state well "identification" number.**

Monitoring Well	November	October	month change	year change	historical change	first measured
(1) Hansford 0354301	156.40	156.77	0.37	-1.00	-86.28	1951
(2) Lamb 1053602	146.25	146.15	-0.1	-1.27	-118.1	1951
(3) Martin 2739903	142.32	142.32	0	0.34	-37.43	1964
(4) Dallas 3319101	495.23	495.2	-0.03	-5.46	-273.23	1954
(5) Coryell 4035404	509.45	515.53	6.08	-4.19	-217.45	1955
(6) Kendall 6802609	130.03	136.93	6.9	16.36	-70.03	1975
(7) Bell 5804816	120.65	122.76	2.11	5.53	2.48	2008
(8) Bexar 6837203	78.81	78.81	5.5	22.49	-32.17	1932
(9) Smith 3430907	436.74	438.72	1.98	0.53	-70.74	1987
(10) La Salle 7738103	468.09	475.97	7.88	40.79	-215.02	2003
(11) Harris 6514409	189.81	190.26	0.45	3.36	-54.31*	1956
(12) Victoria 8017502	37.74	35.52	-2.22	0.62	-3.74	1958
(13) El Paso 4913301	295.73	295.21	-0.52	0.25	-63.83	1964
(14) Reeves 4644501	156.22	158.04	1.82	-0.72	-64.13	1952
(15) Pecos 5216802	202.12	217.58	15.46	7.24	44.76	1976
(16) Haskell 2135748	47.48	47.84	0.36	1.47	-6.15	2002
(17) Hudspeth 4807516	141.25	146.32	5.07	-1.22	-37.33	1966

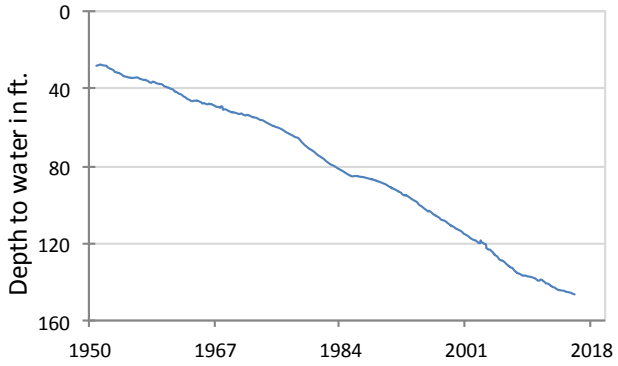
*change since the original measurement of 135.5 feet below land surface in 1947 (measurement not shown on the hydrograph)

NOVEMBER GROUNDWATER LEVELS IN OBSERVATION WELLS

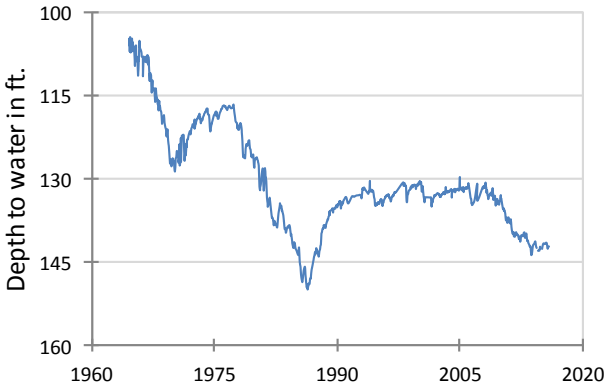
(1) State Well ID 03-54-301
Near Spearman, Hansford County
Ogallala Aquifer



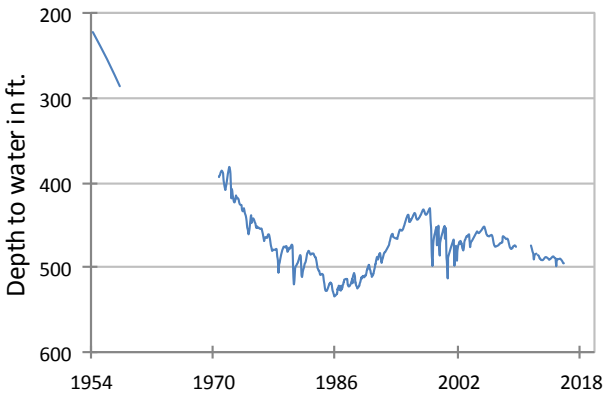
(2) State Well ID 10-53-602
Near Earth, Lamb County
Ogallala Aquifer



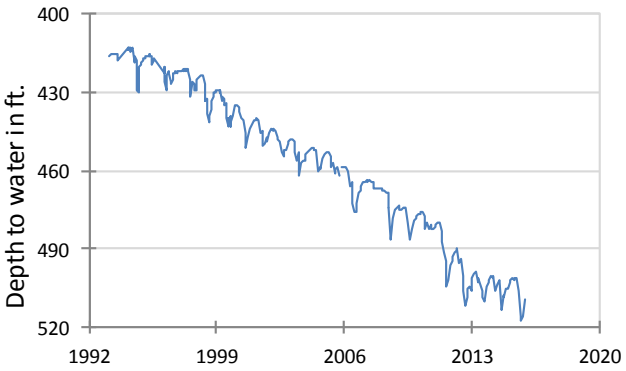
(3) State Well ID 27-39-903
Northwest Martin County
Ogallala Aquifer



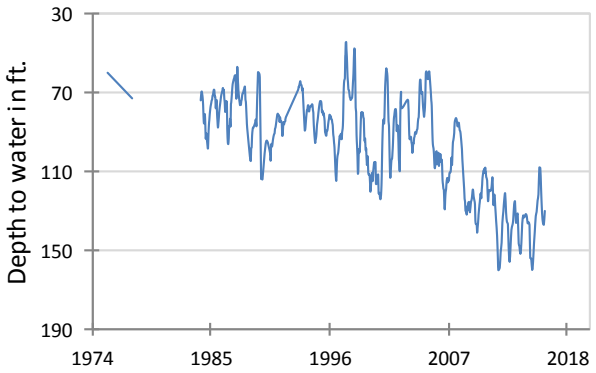
(4) State Well ID 33-19-101
Southeast Dallas, Dallas County
Twin Mountains Formation-Trinity Aquifer



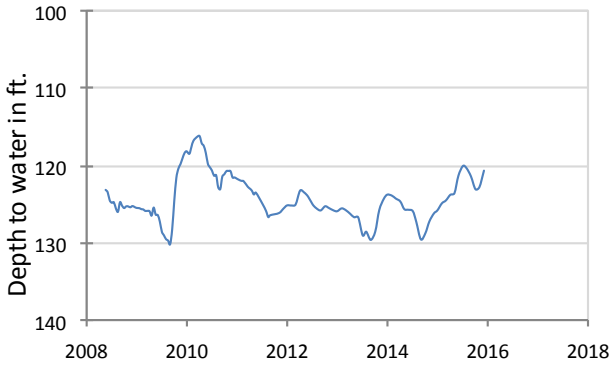
(5) State Well ID 40-35-404
Gatesville, Coryell County
Hosston Formation-Trinity Aquifer



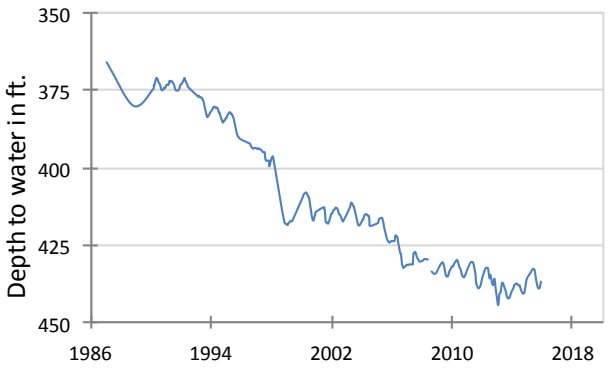
(6) State Well ID 68-02-609
Waring, Kendall County
Cow Creek Formation-Trinity Aquifer



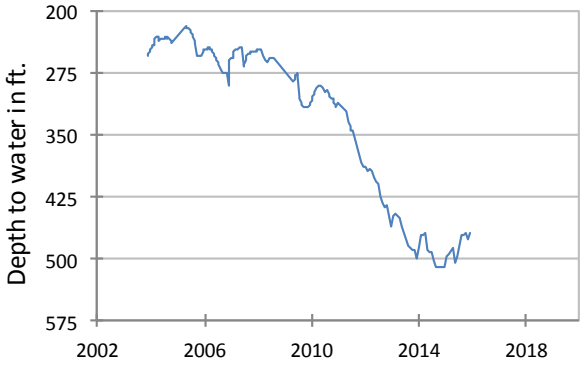
(7) State Well ID 58-04-816
Near Salado, Bell County
Edwards (BFZ) Aquifer



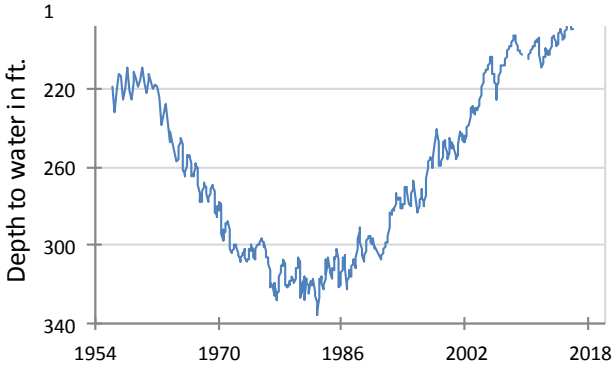
(9) State Well ID 34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer



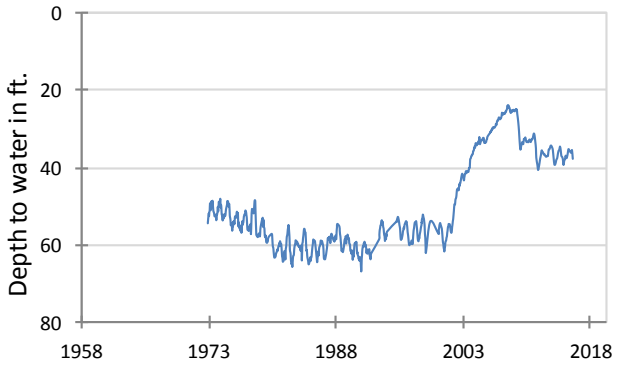
(10) State Well ID 77-38-103
Near Cotulla, La Salle County
Carrizo-Wilcox Aquifer



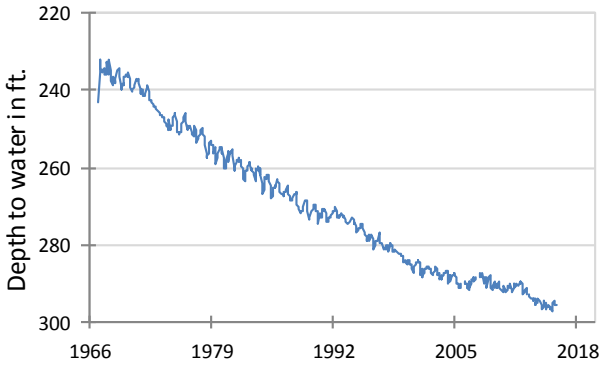
(11) State Well ID 65-14-409
Alief, Harris County
Evangeline Formation-Gulf Coast Aquifer



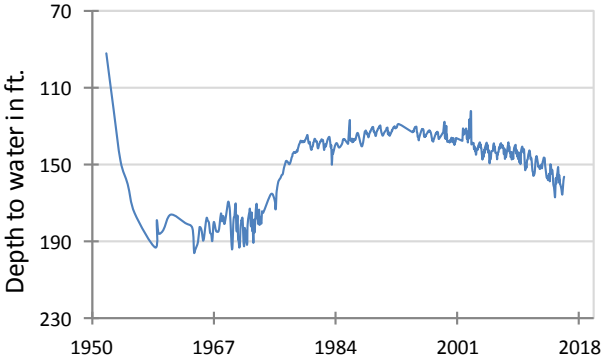
(12) State Well ID 80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer



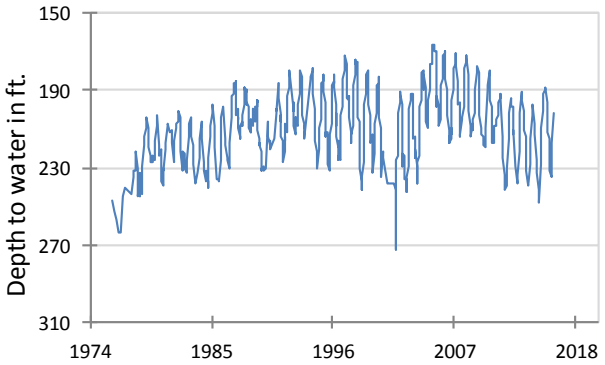
(13) State Well ID 49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolson Aquifer



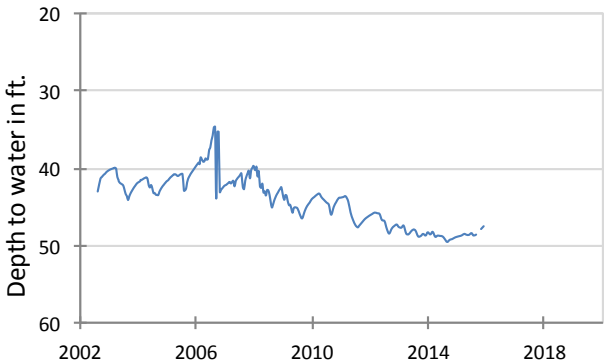
(14) State Well ID 46-44-501
Near Pecos, Reeves County
Pecos Valley Aquifer



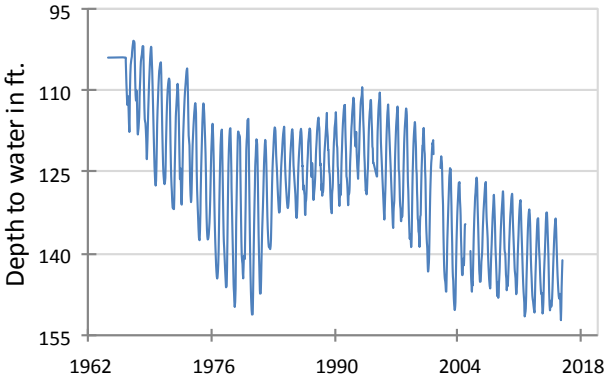
(15) State Well ID 52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer



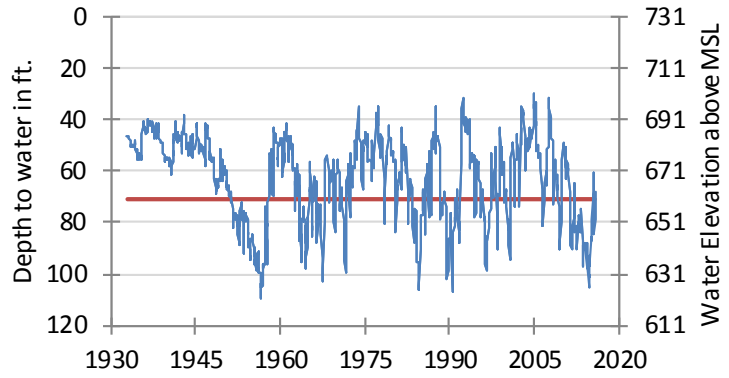
(16) State Well ID 21-35-748
Near O'Brien, Haskell County
Seymour Aquifer

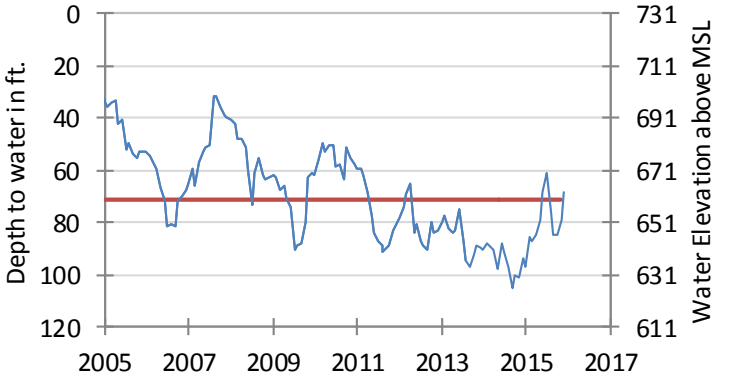


(17) State Well ID 48-07-516
Dell City, Hudspeth County
Bone Spring - Victorio Peak Aquifer



(8) State Well ID 68-37-203 (J-17)
In San Antonio, Bexar County
Edwards (BFZ) Aquifer

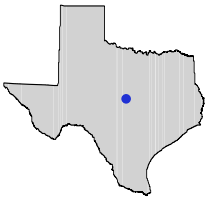




The late November water-level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above mean sea level, was 68.01 feet below land surface, or 662.99 feet above mean sea level. This was 12.8 feet above last month's measurement, 27.2 feet above last year's measurement, and 19.37 feet below the initial measurement recorded in 1932.

***** Water levels below the red line indicate Edwards Aquifer Authority Stage I drought restrictions. *****

HYDROGRAPH OF THE MONTH



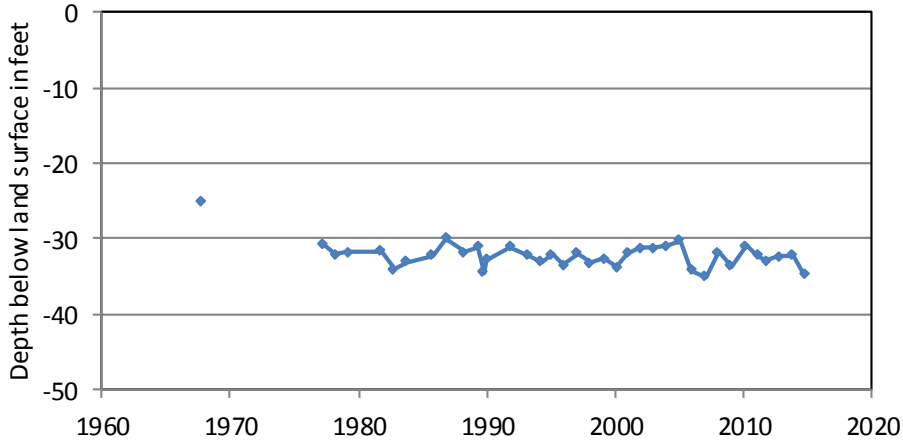
Each month this space features a new hydrograph (marked with the • symbol on the map) depicting different aquifers and different conditions in Texas.

Marble Falls Aquifer

The Marble Falls Aquifer is a minor aquifer which occurs in several separated outcrops along the northern and eastern flanks of the Llano Uplift region of Central Texas. Groundwater occurs in fractures, solution cavities, and channels in the limestone of the Marble Falls Formation of the Bend Group. Maximum thickness of the formation is 600 feet. Because the limestone beds composing the aquifer are relatively shallow, the aquifer is susceptible to pollution by surface uses and activities.

The groundwater contains less than 1,000 milligrams per liter of total dissolved solids. Water from the aquifer is used for municipal, agricultural, and industrial uses, and no significant water-level declines have occurred in wells measured by the TWDB.

Well #4160303, 170 feet deep
domestic, eastern San Saba County



The initial measurement in this domestic well was 25 feet below land surface as recorded in 1967 by the driller, and TWDB has measured this well every year since 1977. The water level has remained relatively stable throughout the period of record with no more than an overall decline of 10 feet in the last 39 years. The next-to-lowest water-level measurement of 34.8 feet below land surface was taken in 2014 and reflects recent drought conditions.

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