

RESERVOIR STORAGE

November 2014

At the end of the month, total storage in 114 of the state's major water supply reservoirs was at 19.59 million acre-feet*, or 63% of their total conservation storage capacity. This is 53,718 acre-feet less than a month ago and 214,431 acre-feet less than the storage at this time last year.

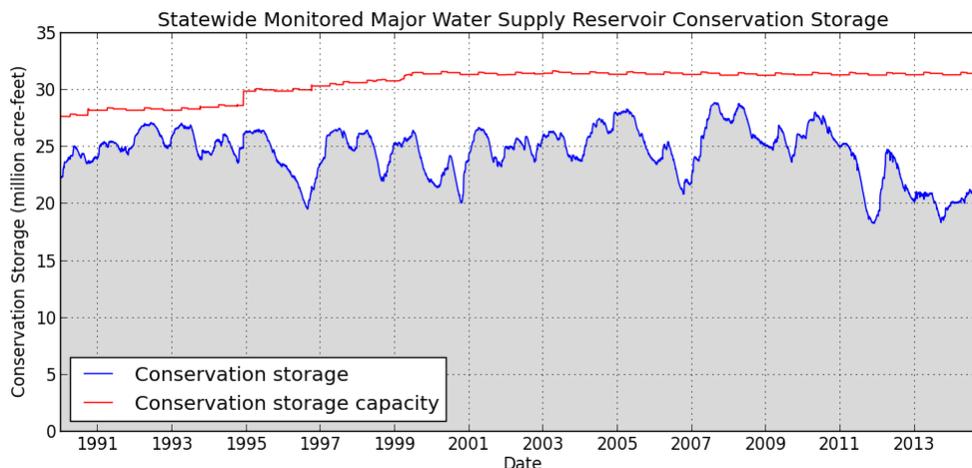
Eight reservoirs held 100% of conservation storage capacity. Thirteen (13) reservoirs were below 10% full: Electra (0%), O. C. Fisher (1%), Palo Duro (2%), E.V. Spence (2%), Meredith (3%), Abilene (3%), Medina (3%), Twin Buttes (3%), North Fork Buffalo Creek (5%), White River (5%), Champion Creek (6%), Mackenzie (7%), and Millers Creek (8%).

Total combined storage was greater than 70% in the Trans-Pecos (85%), Upper Coast (87%) and East (89%) regions. The regions with the lowest percentage storage were the High Plains (5%) and Southern regions (29%). Storage declined in 5 regions and increased in 4 regions over the past month.

Elephant Butte reservoir held 211,909 acre-feet, or 11% of storage capacity. This is 28,487 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.

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation Storage end of Nov		Change since end of Oct 2014		Change since end of Nov 2013	
		2014 (acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)	(%)
HIGH PLAINS							
Palo Duro Reservoir	61,066	1,078	2	-102	-0	-1,911	-3
Meredith, Lake (Texas)	500,000	25,270	5	-748	-0	25,270	5
Meredith, Lake (Texas & Oklahoma)	779,556	25,270	3	-748	-0	25,270	3
MacKenzie Reservoir	46,450	3,419	7	-18	-0	925	2
White River Lake	29,880	1,414	5	-165	-1	1,414	5
TOTAL	637,396	31,181	5	-1,033	-0	25,698	4
LOW ROLLING PLAINS							
Greenbelt Lake	59,968	7,229	12	-40	-0	-1,268	-2
*Electra, Lake	5,626	no data	0				
N. Fork Buffalo Crk Reservoir	15,400	714	5	683	4	608	4
Kemp, Lake	245,307	66,463	27	4,395	2	6,550	3
Millers Creek Reservoir	26,768	2,262	8	279	1	-2,269	-8
Alan Henry Reservoir	94,808	70,889	75	-353	-0	8,436	9
Stamford, Lake	51,570	5,494	11	-62	-0	-2,939	-6
J B Thomas, Lake	199,931	91,678	46	-1,881	-1	88,947	44
Fort Phantom Hill, Lake	70,030	21,965	31	-74	-0	-9,716	-14
Sweetwater, Lake	12,267	1,655	13	-16	-0	-945	-8
Colorado City, Lake	30,758	6,724	22	-58	-0	-1,551	-5
Champion Creek Reservoir	41,580	2,407	6	-82	-0	-702	-2
Abilene, Lake	7,900	268	3	1	0	-222	-3
Coleman, Lake	38,075	12,325	32	8	0	-3,260	-9
Hords Creek Lake	8,443	3,476	41	333	4	812	10
TOTAL	902,805	293,549	33	3,133	0	82,481	9
NORTH CENTRAL							
Nocona, Lake (Farmers Crk)	21,444	6,897	32	14	0	-2,233	-10
Hubert H Moss Lake	24,058	19,902	83	-106	-0	-97	-0
Texoma, Lake (Texas)	1,258,113	1,056,151	84	14,591	1	14,591	1
Texoma, Lake (Texas & Oklahoma)	2,525,281	1,056,151	42	14,591	1	14,591	1
*Pat Mayse Lake	113,683	102,389	90	-2,250	-2	16,423	14
Kickapoo, Lake	86,345	24,747	29	1,494	2	-3,743	-4
Arrowhead, Lake	230,359	45,881	20	2,143	1	-17,925	-8
Bonham, Lake	11,027	7,846	71	-261	-2	-712	-6
Crook, Lake	9,195	8,924	97	-156	-2	476	5
Amon G Carter, Lake	19,266	9,716	50	-31	-0	271	1
Ray Roberts, Lake	788,167	583,385	74	-10,563	-1	-7,498	-1
Jim Chapman Lake (Cooper)	260,332	83,471	32	-7,770	-3	7,756	3
Graham, Lake	45,288	17,661	39	-57	-0	-6,485	-14
*Lost Creek Reservoir	11,950	7,302	61	-74	-1	-1,393	-12
Bridgeport, Lake	366,236	140,773	38	-353	-0	-24,314	-7
Lewisville Lake	563,228	381,084	68	-6,446	-1	18,850	3
Lavon Lake	406,388	188,800	46	-2,319	-1	-4,927	-1
Hubbard Creek Reservoir	318,067	46,132	15	259	0	-33,918	-11
Possum Kingdom Lake	540,340	334,291	62	2,575	0	-22,104	-4
*Mineral Wells, Lake	6,760	3,360	50	7	0	-682	-10
Weatherford, Lake	17,812	9,804	55	565	3	-518	-3
Eagle Mountain Lake	179,880	100,795	56	1,061	1	-22,868	-13
Worth, Lake	33,495	22,894	68	971	3	-1,518	-5
Grapevine Lake	164,703	93,790	57	-921	-1	-12,818	-8
Ray Hubbard, Lake	452,040	260,868	58	-6,928	-2	-55,233	-12
New Terrell City Lake	8,583	6,575	77	-92	-1	517	6

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation Storage end of Nov 2014 (acre-feet)	(%)	Change since end of Oct 2014 (acre-feet)	(%)	Change since end of Nov 2013 (acre-feet)	(%)
(North Central Continue)							
Palo Pinto, Lake	26,827	2,737	10	-204	-1	-6,229	-23
Benbrook Lake	85,648	59,229	69	1,109	1	-7,905	-9
Arlington, Lake	40,188	21,571	54	-1,328	-3	-8,242	-21
Joe Pool Lake	175,358	160,850	92	-1,512	-1	-2,304	-1
*Cisco, Lake	25,895	12,046	47	78	0	-2,807	-11
Leon, Lake	26,476	16,463	62	-33	-0	-5,698	-22
Granbury, Lake	128,046	67,851	53	-1,626	-1	-6,286	-5
Pat Cleburne, Lake	26,008	17,197	66	-248	-1	1,399	5
Waxahachie, Lake	10,780	7,768	72	215	2	-139	-1
Bardwell Lake	46,122	39,100	85	-739	-2	5,385	12
Proctor Lake	55,457	16,672	30	20	0	-10,328	-19
Whitney, Lake	553,344	355,321	64	-5,699	-1	12,998	2
Aquilla Lake	44,460	37,253	84	-1,219	-3	5,860	13
Navarro Mills Lake	49,827	41,093	82	-744	-1	-8,734	-18
*Halbert, Lake	6,033	4,192	69	212	4	-1,291	-21
Richland-Chambers Reservoir	1,087,839	689,876	63	-16,777	-2	-87,343	-8
*Brownwood, Lake	128,839	63,573	49	2,585	2	-10,982	-9
Waco, Lake	189,567	164,326	87	-1,439	-1	3,538	2
Limestone, Lake	208,014	182,531	88	699	0	-25,483	-12
Belton Lake	435,225	302,691	70	-2,159	-0	-19,957	-5
Stillhouse Hollow Lake	227,771	153,554	67	-2,869	-1	-17,451	-8
Georgetown, Lake	36,823	21,794	59	1,569	4	2,702	7
Granger Lake	50,779	50,779	100	0	0	0	0
Tawakoni, Lake	871,685	491,939	56	-14,662	-2	-79,165	-9
Mountain Creek, Lake	22,850	22,850	100	0	0	0	0
Squaw Creek, Lake	151,250	149,517	99	188	0	-1,733	-1
TOTAL	10,647,870	6,716,211	63	-59,230	-1	-430,297	-4
EAST							
Wright Patman Lake	122,593	122,593	100	-12,476	-10	0	0
*Sulphur Springs, Lake	17,747	15,620	88	-313	-2	-1,963	-11
Cypress Springs, Lake	66,756	64,574	97	-606	-1	3,521	5
Bob Sandlin, Lake	190,822	167,199	88	-1,700	-1	28,012	15
Caddo, Lake	29,898	29,898	100	4,564	15	0	0
Martin, Lake	75,116	66,548	89	1,542	2	-8,568	-11
Monticello, Lake	34,740	34,071	98	-384	-1	-669	-2
Fork Reservoir, Lake	605,061	433,170	72	-16,569	-3	-31,421	-5
O the Pines, Lake	241,363	234,191	97	-4,359	-2	23,465	10
Cedar Creek Reservoir in Trinity	644,686	465,690	72	-13,079	-2	-34,561	-5
Athens, Lake	29,435	26,580	90	101	0	399	1
Palestine, Lake	373,199	356,855	96	1,297	0	-16,344	-4
Tyler, Lake	73,161	70,118	96	785	1	10,492	14
Murvaul, Lake	38,285	38,285	100	1,702	4	0	0
Jacksonville, Lake	25,670	25,508	99	391	2	-162	-1
Nacogdoches, Lake	39,522	38,334	97	593	2	2,656	7
Houston County Lake	17,113	17,113	100	206	1	232	1
Sam Rayburn Reservoir	2,857,077	2,527,986	88	-48,453	-2	254,890	9
Toledo Bend Reservoir (Texas)	2,245,752	1,924,070	86	-27,717	-1	-26,872	-1
Toledo Bend Reservoir (TX & LA)	4,472,900	1,924,070	43	-27,717	-1	-26,872	-1
*Livingston, Lake	1,785,348	1,785,348	100	36,309	2	0	0
B A Steinhagen Lake	66,961	62,800	94	1,425	2	6,994	10
Conroe, Lake	416,177	407,889	98	4,280	1	21,682	5
TOTAL	9,996,482	8,914,440	89	-72,461	-1	231,783	2

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation Storage end of Nov 2014 (acre-feet)	(%)	Change since end of Oct 2014 (acre-feet)	(%)	Change since end of Nov 2013 (acre-feet)	(%)
TRANS-PECOS							
**Red Bluff Reservoir	151,110	127,854	85	-830	-1	63,633	43
TOTAL	151,110	127,854	85	-830	-1	63,633	43
EDWARDS PLATEAU							
Oak Creek Reservoir	39,210	6,092	16	-133	-0	-2,346	-6
E V Spence Reservoir	517,272	12,303	2	-1,483	-0	-9,690	-2
O C Fisher Lake	119,445	1,461	1	-8	-0	-2,077	-2
*O H Ivie Reservoir	554,340	85,111	15	-644	-0	5,766	1
Twin Buttes Reservoir	182,454	5,991	3	133	0		
Brady Creek Reservoir	28,808	7,947	28	-7	-0	-1,404	-5
Buchanan, Lake	860,607	291,568	34	1,184	0	-22,474	-3
Inks, Lake	13,962	13,180	94	190	1	228	2
Lyndon B Johnson, Lake	115,056	111,247	97	917	1	-123	-0
*Amistad Reservoir (Texas)	1,840,849	1,149,480	62	33,433	2	254,344	14
*Amistad Reservoir (TX & Mexico)	3,275,532	1,149,480	35	33,433	1	254,344	8
TOTAL	4,272,003	1,684,380	39	33,582	1	222,224	5
SOUTH CENTRAL							
Travis, Lake	1,113,348	362,246	33	7,689	1	-32,827	-3
*Austin, Lake	23,972	22,834	95	77	0	-823	-3
Somerville Lake	147,104	140,131	95	3,905	3	23,539	16
Canyon Lake	378,781	288,466	76	0	0	-32,501	-9
Medina Lake	254,823	8,719	3	-178	-0	-1,158	-0
*Coletto Creek Reservoir	31,040	20,430	66	-825	-3	-543	-2
TOTAL	1,949,068	842,826	43	10,668	1	-44,313	-2
UPPER COAST							
Houston, Lake	120,686	120,686	100	0	0	0	0
Texana, Lake	159,566	124,003	78	-1,815	-1	-18,644	-12
TOTAL	280,252	244,689	87	-1,815	-1	-18,644	-7
SOUTHERN							
Choke Canyon Reservoir	695,262	177,264	25	-3,893	-1	-66,138	-10
Corpus Christi, Lake	256,961	126,716	49	-2,430	-1	-119,360	-46
*Falcon Reservoir (Texas)	1,551,007	431,640	28	40,591	3	-96,865	-6
*Falcon Reservoir (TX & Mexico)	2,646,817	431,640	16	40,591	2	-96,865	-4
TOTAL	2,503,230	735,620	29	34,268	1	-282,363	-11
STATE TOTAL	31,340,216	19,590,750	63	-53,718	-0	-213,431	-1
* 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	211,909	11	28,487	1	-23,264	-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

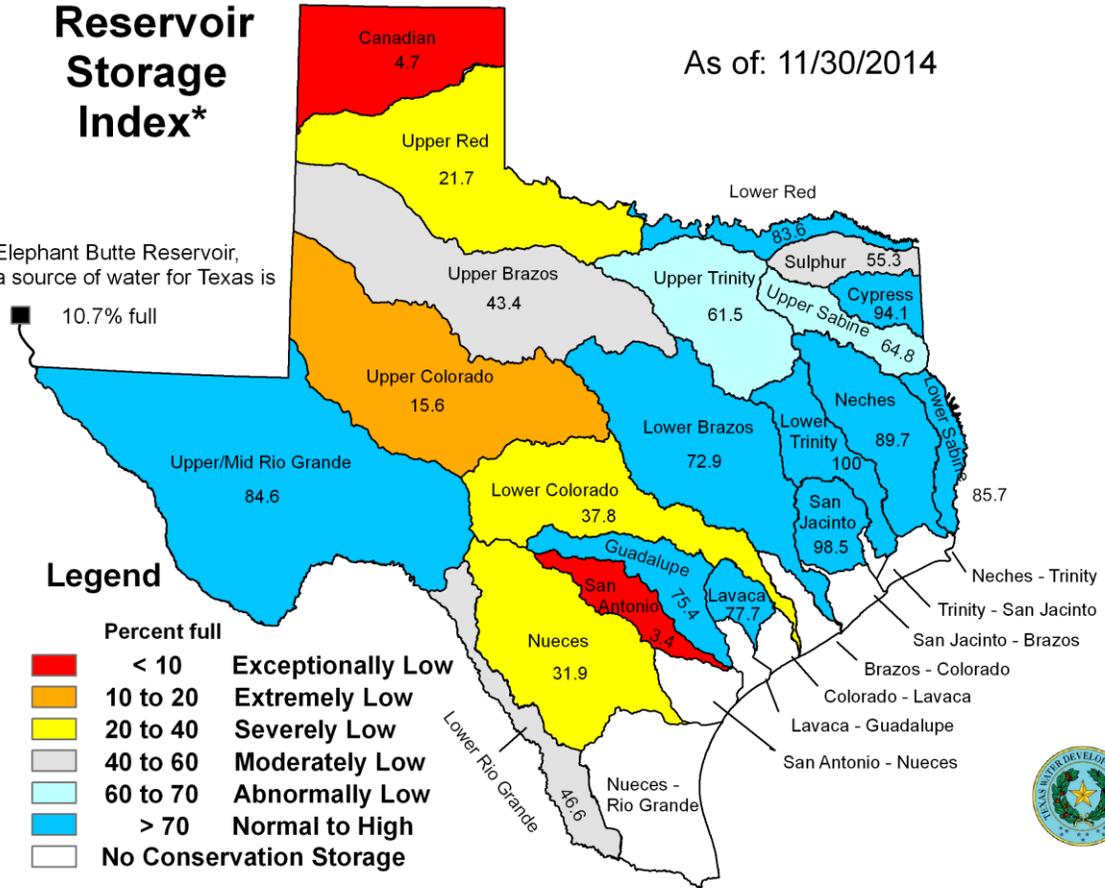
As of: 11/30/2014

Reservoir Storage Index*

Elephant Butte Reservoir, a source of water for Texas is 10.7% full

Legend

Percent full	Exceptionally Low
< 10	Exceptionally Low
10 to 20	Extremely Low
20 to 40	Severely Low
40 to 60	Moderately Low
60 to 70	Abnormally Low
> 70	Normal to High
No Conservation Storage	

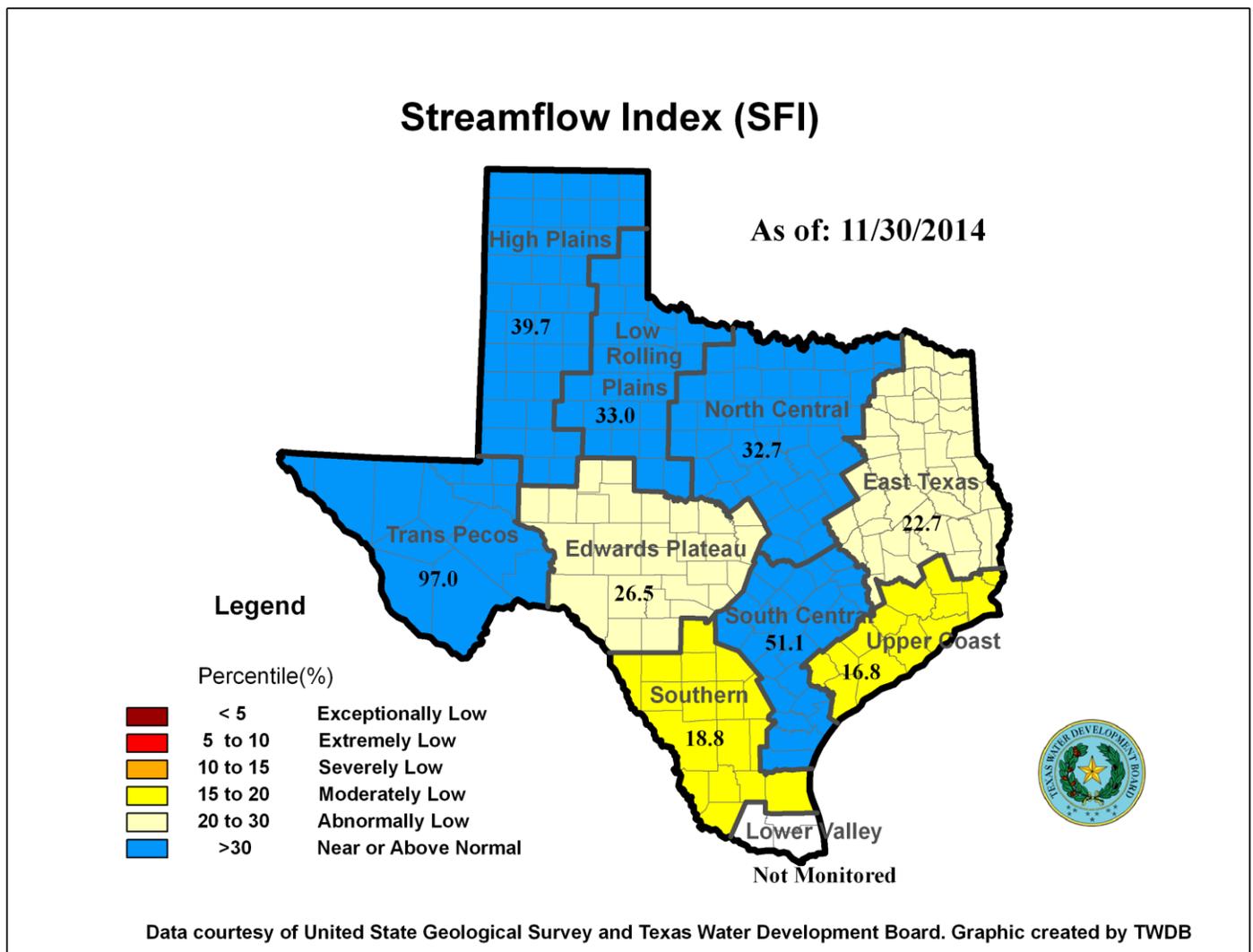


*Percent of combined conservation storage capacity of 114 major water supply reservoirs by sub-basin (dead pools are excluded)

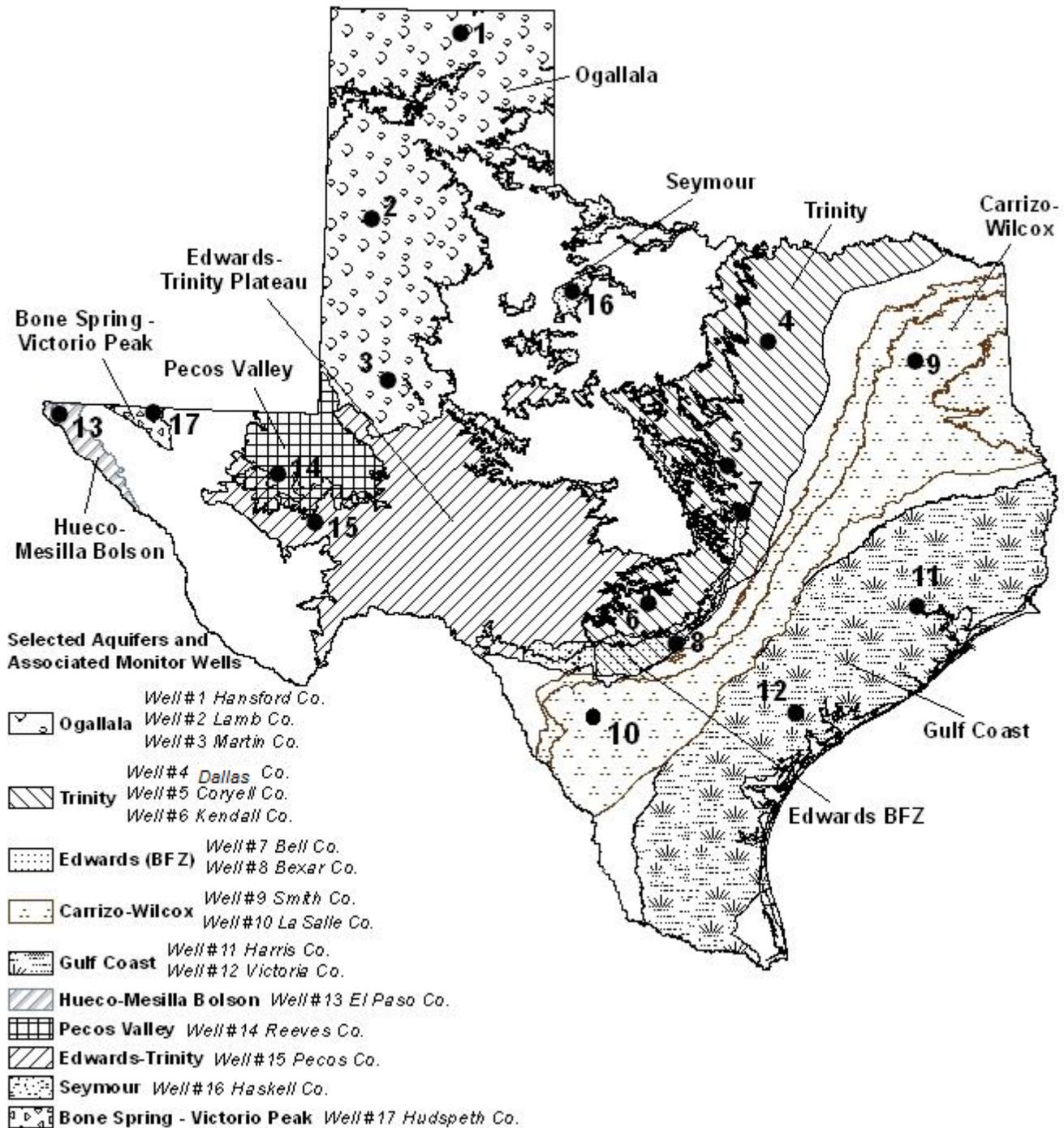
NOVEMBER STREAMFLOW CONDITIONS

Of 29 reporting index stations monitored this month, computed 30-day mean flows were exceptionally low (<5%) at 7 stations, extremely low (5-10%) at 3 stations, severely low (10-15%) at 3 stations, moderately low (15-20%) at 2 stations, abnormally low (20-30%) at 2 stations, and near normal (30% - 70%) at the remaining 12 stations. Compared to last month, flows have increased at 12 index stations and decreased at 15 stations.

On a regional basis, flows in this month at index stations were moderately low in the Upper Coast and Southern regions, and abnormally low in the East Texas and Edwards Plateau regions, but near or above normal in all other regions. Streamflow in the Lower Valley region is not monitored.



NOVEMBER 2014 GROUNDWATER LEVELS IN OBSERVATION WELLS



November, 2014

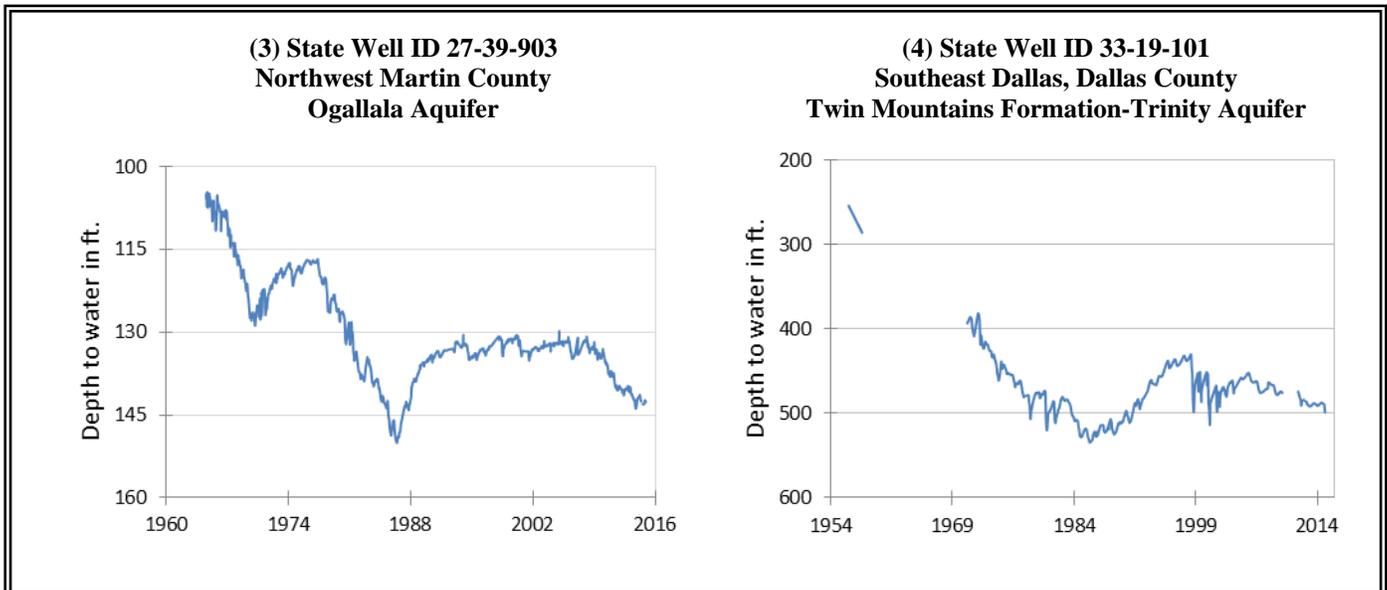
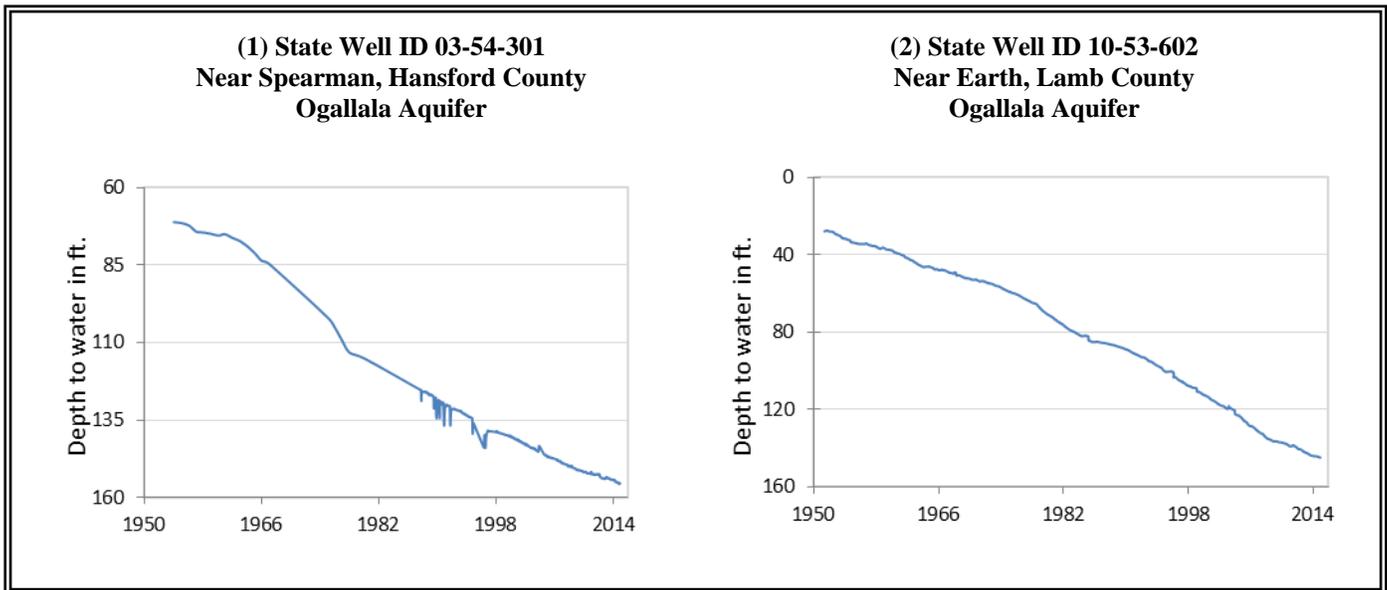
Water level measurements were available for all of the seventeen key monitoring wells in the state. Water levels rose in fourteen of the monitoring wells since the beginning of November, ranging from 0.19 feet in the Haskell County Seymour Aquifer well to 17.72 feet in the Pecos County Pecos Valley Aquifer well. Water levels declined in three monitoring wells, ranging from 0.02 feet in the Lamb County Ogallala Aquifer well to 0.32 feet in the Martin County Ogallala Aquifer well. The J-17 well in San Antonio recorded a water level of 93.21 feet below land surface or 637.79 feet above mean sea level. This water level is 2.21 feet below the Stage III critical management level in that segment of the Edwards Aquifer. Stage III restrictions were declared by the EAA when the ten-day average fell below the 640-foot elevation, or 91 feet below land surface.

* ID is used in this publication to differentiate between the monitoring well number (1 - 17) as displayed on the aquifer map and the TWDB's six- or seven-digit state well "identification" number.

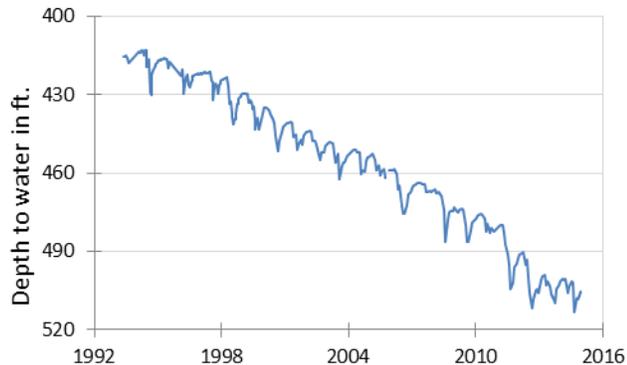
Monitoring Well	November	October	month change	year change	historical change	first measured
(1) Hansford 0354301	155.40	155.69	0.29	-0.99	-85.28	1951
(2) Lamb 1053602	144.98	144.96	-0.02	-0.93	-116.83	1951
(3) Martin 2739903	142.66	142.34	-0.32	-0.12	-37.77	1964
(4) Dallas 3319101	489.77	489.57	-0.20	0.38	-267.77	1954
(5) Coryell 4035404	505.26	508.39	3.13	-2.33	-213.26	1955
(6) Kendall 6802609	146.39	155.78	9.39	-14	-86.39	1975
(7) Bell 5804816	126.18	127.21	1.03	-1.88	-3.05	2008
(8) Bexar 6837203	93.21	101.3	8.09	-3.41	-46.57	1932
(9) Smith 3430907	437.27	440.06	2.79	3.38	-71.27	1987
(10) La Salle 7738103	508.88	510.8	1.92	-9.54	-255.81	2003
(11) Harris 6514409	193.17	194.05	0.88	4.26	-57.67*	1956
(12) Victoria 8017502	38.06	39.32	1.26	0.86	-4.06	1958
(13) El Paso 4913301	295.98	296.32	0.34	-1.6	-64.08	1967
(14) Reeves 4644501	155.5	159.64	4.14	3.1	-63.41	1952
(15) Pecos 5216802	209.36	227.08	17.72	6.06	37.52	1976
(16) Haskell 2135748	48.95	49.14	0.19	-0.27	-7.62	2002
(17) Hudspeth 4807516	140.03	144.27	4.24	-0.18	-36.11	1964

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

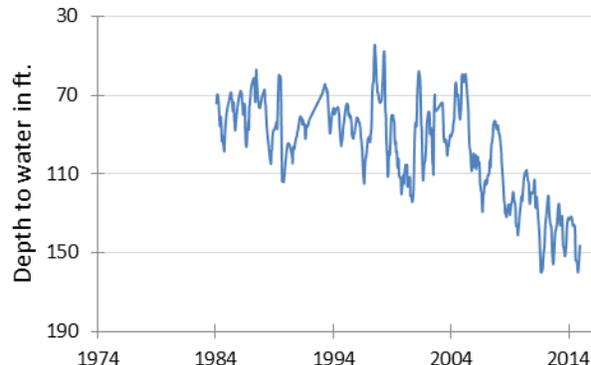
NOVEMBER GROUNDWATER LEVELS IN OBSERVATION WELLS



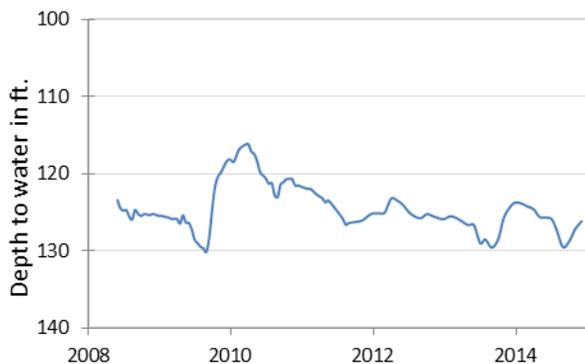
**(5) State Well ID 40-35-404
Gatesville, Coryell County
Hosston Formation-Trinity Aquifer**



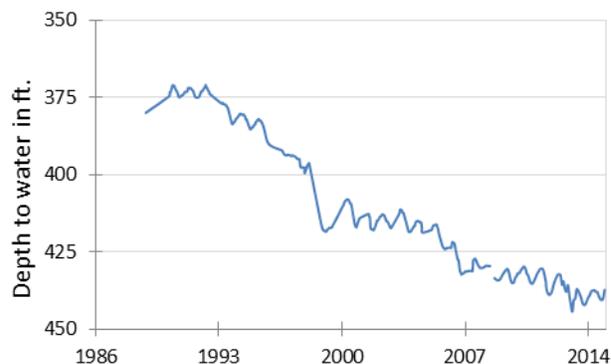
**(6) State Well ID 68-02-609
Waring, Kendall County
Cow Creek Formation-Trinity Aquifer**



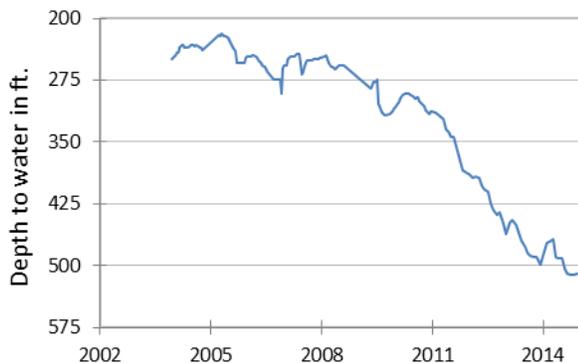
**(7) State Well ID 58-04-816
Near Salado, Bell County
Edwards (BFZ) Aquifer**



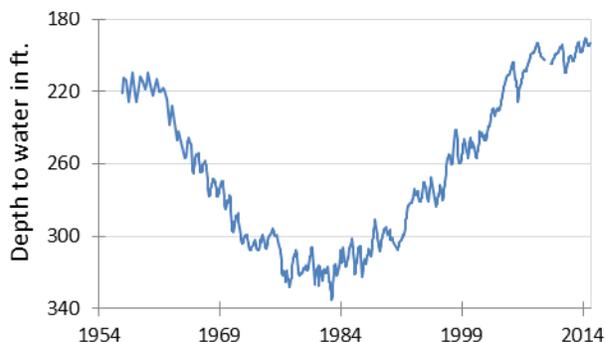
**(9) State Well ID 34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer**



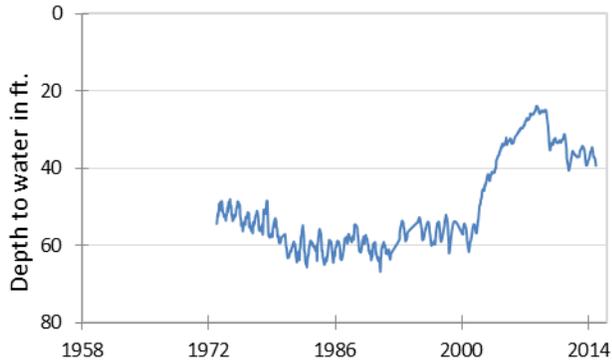
**(10) State Well ID 77-38-103
Near Cotulla, La Salle County
Carrizo-Wilcox Aquifer**



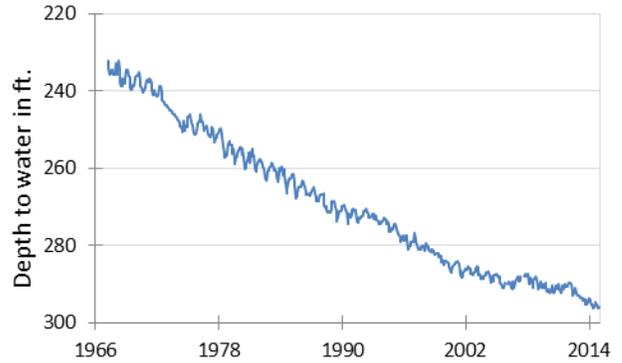
**(11) State Well ID 65-14-409
Alief, Harris County
Evangeline Formation-Gulf Coast Aquifer**



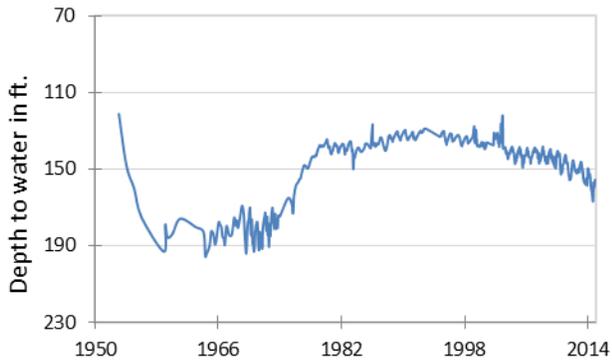
(12) State Well ID 80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer



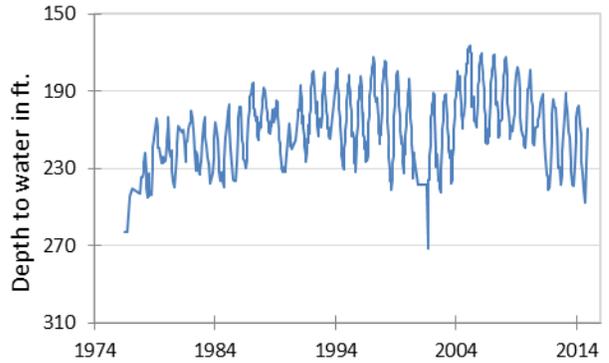
(13) State Well ID 49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolson Aquifer



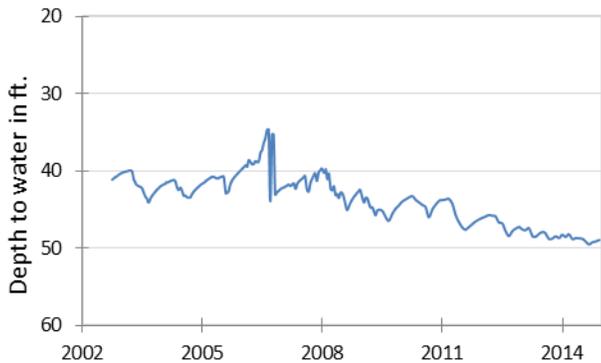
(14) State Well ID 46-44-501
Near Pecos, Reeves County
Pecos Valley Aquifer



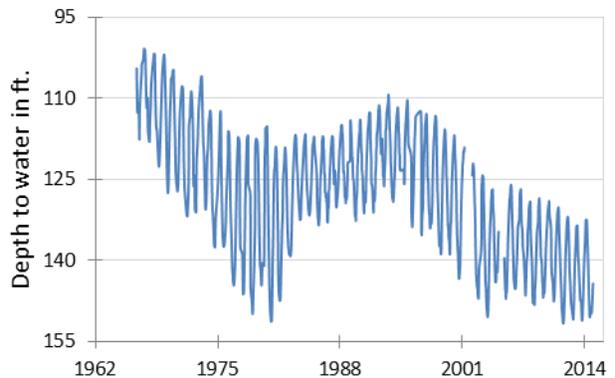
(15) State Well ID 52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer



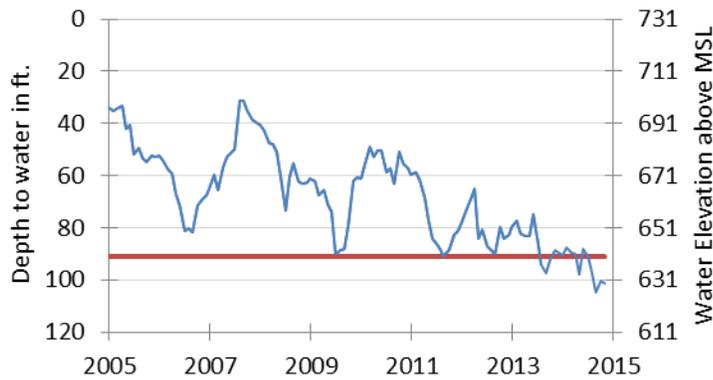
(16) State Well ID 21-35-748
Near O'Brien, Haskell County
Seymour Aquifer



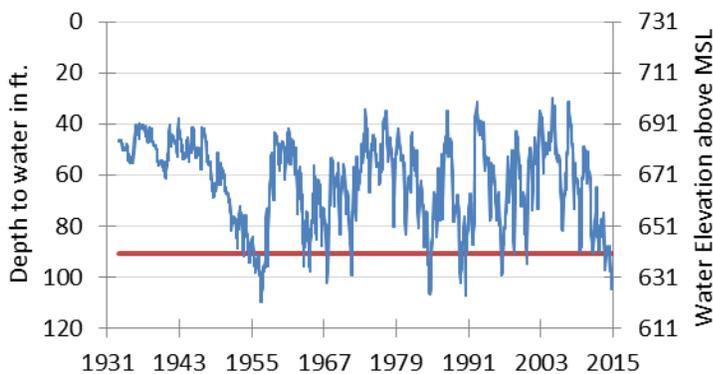
(17) State Well ID 48-07-516
Dell City, Hudspeth County
Bone Spring - Victorio Peak Aquifer



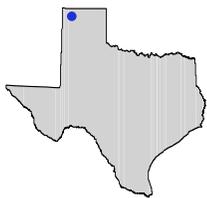
**(8) State Well ID 68-37-203 (J-17)
In San Antonio, Bexar County
Edwards (BFZ) Aquifer**



The late November water level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above mean sea level, was 93.21 feet below land surface, or 637.79 feet above mean sea level. This was 80.9 feet above last month's measurement, 3.41 feet below last year's measurement, and 46.57 feet below the initial measurement recorded in 1932.



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



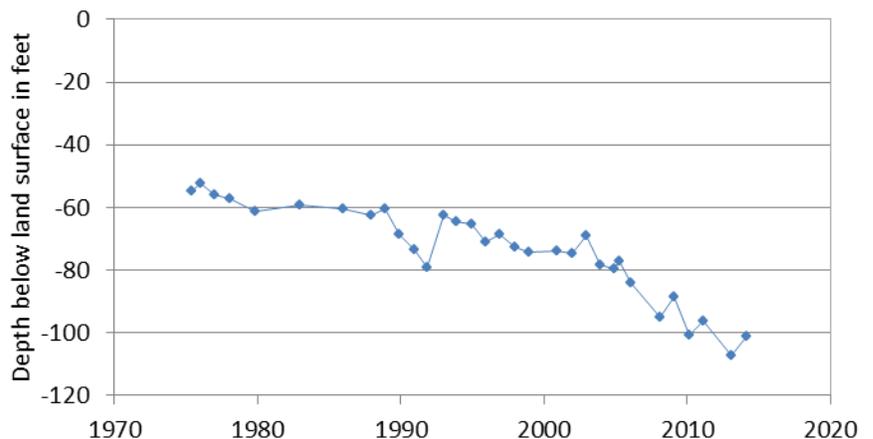
HYDROGRAPH OF THE MONTH

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

Rita Blanca Aquifer

The Rita Blanca is a minor aquifer in the northwest corner of the Texas Panhandle that underlies the Ogallala Aquifer. The aquifer is as much as 250 feet thick, and freshwater saturated thickness averages about 180 feet. Water in the aquifer is usually fresh, containing less than 1,000 milligrams per liter of total dissolved solids, but very hard. However, some parts of the aquifer produce water that is slightly saline, containing more than 1,000 milligrams per liter of total dissolved solids. Most of the water in the aquifer is used for irrigation. Texline is the only community that uses the aquifer for municipal water supply. Water levels in municipal wells have remained stable, whereas water levels in irrigation wells have declined steadily.

Well #0234402, 300 feet deep
irrigation, northwestern Dallam County



Depth-to-water in this irrigation well has been measured by TWDB since 1975. The water level has generally declined after the first measurement due to greater pumping during periods of drought of different intensity.

*TEXAS WATER DEVELOPMENT BOARD
1700 N. CONGRESS AVE.
P.O. BOX 13231
AUSTIN TX 78711-3231*