

RESERVOIR STORAGE

December 2012

At the end of the month, total storage in 109 of the state's major water supply reservoirs was at 20.0 million acre-feet*, or 65% of their total conservation storage capacity. This is 0.19 million acre-feet less than a month ago but 1.28 million acre-feet more than storage at this time last year.

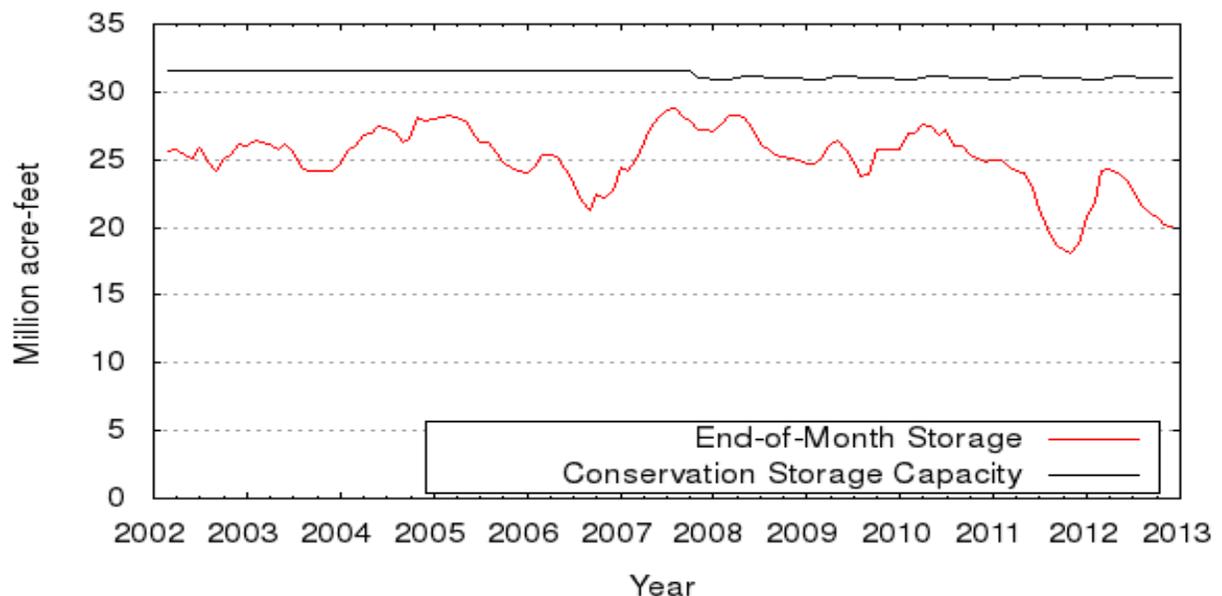
Only two reservoirs, Houston County Lake and Wright Patman Lake, held 100% of conservation storage capacity. Fifteen (15) reservoirs were at or below 10% full: O. C. Fisher, Twin Buttes, Electra and Meredith were effectively empty, and J. B. Thomas was at 1%, Palo Duro was at 2%, Hords Creek Lake was at 3%, E.V. Spence, White River were at 5%, North Fork Buffalo Creek was at 6%, Lake Abilene and Mackenzie were at 7%, and Champion Creek Reservoir was at 9%, and Red Bluff and Medina were at 10% full.

Total combined storage was greater than 70% in the North Central (74%), East (85%), and Upper Coast (91%) regions. The regions with the lowest percentage storage were the High Plains (1%) and Trans-Pecos regions (10%). Storage over the last month declined in 7 regions and increased in 2 regions.

Elephant Butte reservoir held 155,656 acre-feet, or 8% of storage capacity. This is 33,239 acft more than a month ago.

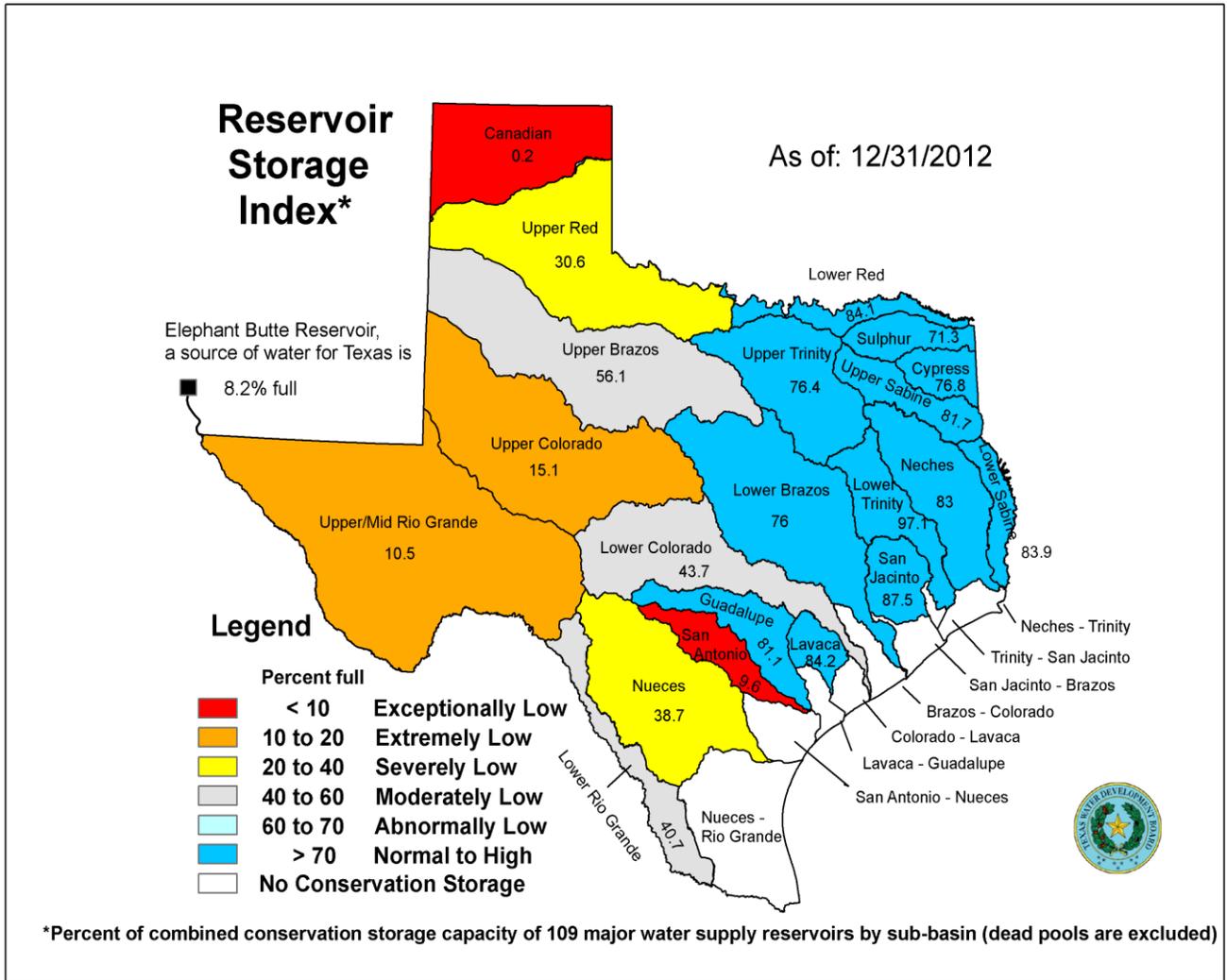
* Only the Texas share of storage in border reservoirs is counted.

CONSERVATION STORAGE DATA FOR



Figures are based on the end of the month data at 109 major reservoirs that represent 95 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.

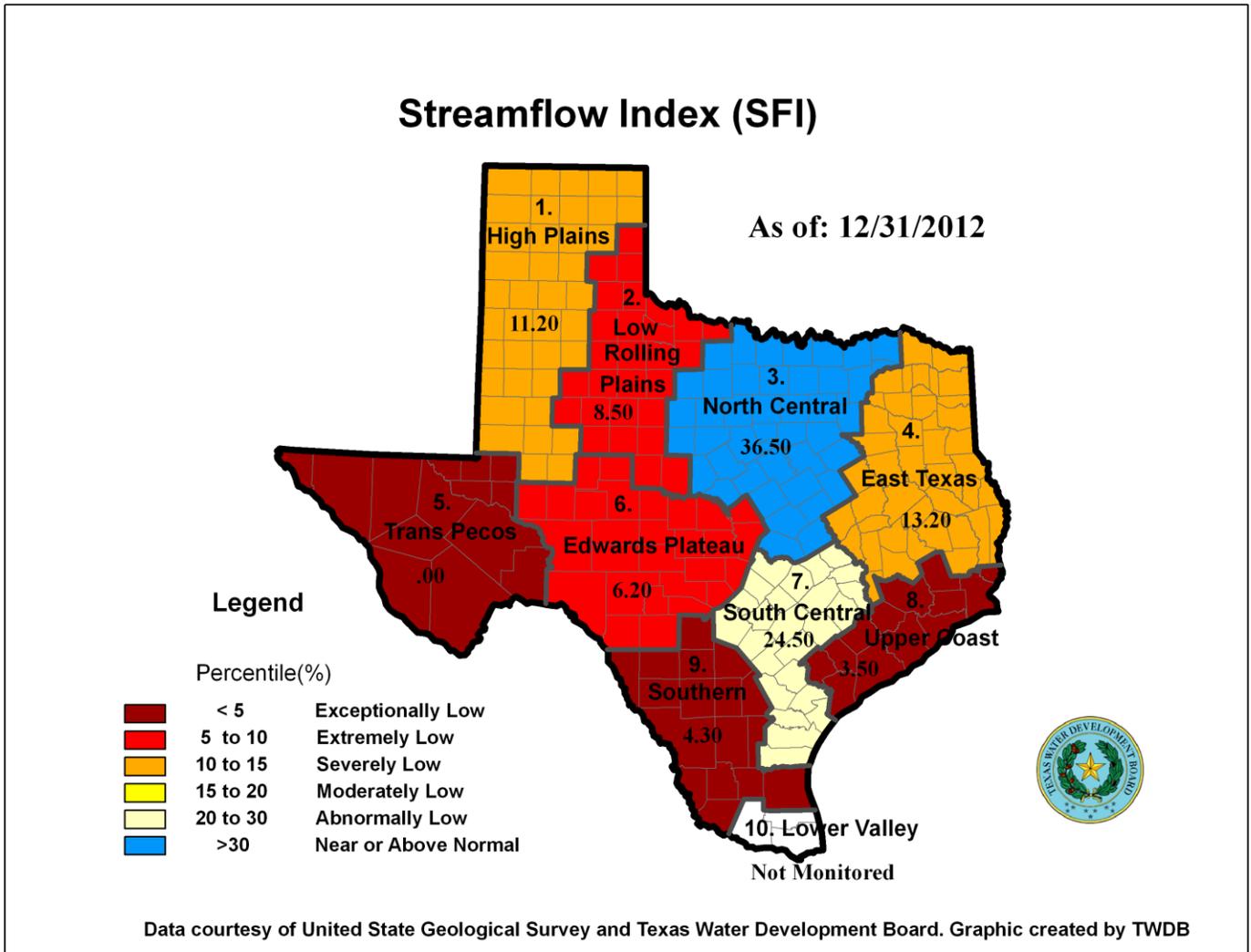
DECEMBER RESERVOIR CONDITIONS



DECEMBER STREAMFLOW CONDITIONS

Of 29 reporting index stations monitored this month, computed 30-day mean flows were exceptionally low (<5%) at 14 stations, extremely low (5-10%) at 6 stations, severely low (10-15%) at 2 stations, moderately low (15-20%) at 1 station, abnormally low (20% - 30%) at 3 stations, and near normal (30% - 70%) at the remaining 3 stations. Compared to last month, flows have increased at 13 index stations and decreased at 9 stations.

On a regional basis, flows in this month were exceptionally low in Trans-Pecos, Southern, and Upper Coast regions, extremely low in Low Rolling Plains and Edwards Plateau regions, severely low in High Plains and East Texas regions, abnormally low in South Central region, and near normal in North Central region. Streamflow in the Lower Valley region is not monitored.



CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation Storage		Change since Late Nov.		Change since Late Dec.		
		Capacity (acre-feet)	Late Dec. (acre-feet)	2012 (%)	2012 (acre-feet)	(%)	2011 (acre-feet)	(%)
HIGH PLAINS								
Palo Duro Reservoir	1	60,897	1,314	2	-104	0	-2,394	-4
Meredith, Lake (Texas)	2	500,000	0	0	0	0	0	0
Meredith, Lake (Texas & Oklahoma)	(2)	779,556	0	0	0	0	0	0
MacKenzie Reservoir	3	46,429	3,077	7	-75	0	-1,224	-3
White River Lake	4	29,880	1,437	5	-195	-1	-3,094	-10
TOTAL		637,206	5,828	1	-374	0	-6,712	-1
LOW ROLLING PLAINS								
Greenbelt Lake	5	59,500	7,440	13	-338	-1	-3,170	-5
*Electra, Lake	6	5,626	0	0	0	0	-60	-1
N. Fork Buffalo Crk Reservoir	7	15,400	970	6	-58	0	-1,491	-10
Kemp, Lake	8	245,308	69,861	28	-1,333	-1	-16,355	-7
Millers Creek Reservoir	9	27,888	7,234	26	-209	-1	-3,140	-11
Alan Henry Reservoir	10	94,808	69,709	74	-874	-1	-5,142	-5
Stamford, Lake	11	51,570	13,846	27	-494	-1	-13,451	-26
J B Thomas, Lake	12	199,931	1,125	1	-36	0	-1,062	-1
Fort Phantom Hill, Lake	13	70,030	34,824	50	-678	-1	-2,693	-4
Sweetwater, Lake	14	10,006	1,657	17	-94	-1	-1,409	-14
Colorado City, Lake	15	31,793	11,058	35	-223	-1	1,103	3
Champion Creek Reservoir	16	41,618	3,771	9	-71	0	-1,163	-3
Abilene, Lake	17	6,099	452	7	-89	-1	-1,148	-19
Coleman, Lake	18	38,076	17,777	47	-454	-1	2,700	7
Hords Creek Lake	19	5,684	150	3	-80	-1	150	3
TOTAL		903,337	239,874	27	-5,031	-1	-46,331	-5
NORTH CENTRAL								
Nocona, Lake (Farmers Crk)	20	21,445	10,724	50	-123	-1	-2,165	-10
Hubert H Moss Lake	21	24,058	21,060	88	-132	-1	419	2
Texoma, Lake (Texas)	22	1,262,640	1,079,809	86	-23,117	-2	-37,982	-3
Texoma, Lake (Texas & Oklahoma)	(22)	2,525,281	2,159,619	86	-46,233	-2	-75,964	-3
*Pat Mayse Lake	23	117,844	96,402	82	-1,337	-1	-7,463	-6
Kickapoo, Lake	24	85,825	34,982	41	-995	-1	-10,504	-12
Arrowhead, Lake	25	235,997	96,128	41	-3,719	-2	-33,921	-14
Bonham, Lake	26	11,026	7,456	68	-135	-1	-135	-1
Crook, Lake	27	9,195	6,607	72	-124	-1	-2,381	-26
Amon G Carter, Lake	28	19,903	12,364	62	-437	-2	-188	-1
Ray Roberts, Lake	29	798,758	688,206	86	-6,812	-1	14,891	2
Jim Chapman Lake (Cooper)	30	260,332	148,685	57	-8,436	-3	66,539	26
Graham, Lake	31	45,260	34,008	75	-748	-2	-2,393	-5
*Lost Creek Reservoir	32	11,950	10,286	86	-104	-1	464	4
Bridgeport, Lake	33	366,236	211,060	58	-2,602	-1	-25,112	-7
Lewisville Lake	34	563,228	406,575	72	-2,891	-1	-5,560	-1
Lavon Lake	35	443,844	267,420	60	-3,242	-1	37,686	8
Hubbard Creek Reservoir	36	318,067	97,416	31	-3,743	-1	-40,963	-13
Possum Kingdom Lake	37	540,340	394,502	73	-6,793	-1	14,436	3
*Mineral Wells, Lake	38	7,065	5,012	71	-128	-2	-79	-1
Weatherford, Lake	39	17,789	10,800	61	-9	0	464	3
Eagle Mountain Lake	40	179,880	131,177	73	-3,736	-2	-1,372	-1
Worth, Lake	41	24,500	15,124	62	217	1	-93	0
Grapevine Lake	42	164,702	119,822	73	-1,807	-1	-18,014	-11
Ray Hubbard, Lake	43	452,040	368,572	82	-2,126	0	20,424	5
New Terrell City Lake	44	8,583	6,809	79	-15	0	1,180	14
Daniel, Lake	45	9,435	2,836	30	-161	-2	-460	-5
Palo Pinto, Lake	46	26,827	16,531	62	-836	-3	-2,196	-8
Benbrook Lake	47	85,648	56,909	66	661	1	1,425	2
Arlington, Lake	48	40,156	25,581	64	-418	-1	-5,072	-13

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 Nov. 2012		Change since Late Dec. 2011		
			Late Dec. (acre-feet)	2012 (%)	(acre-feet)	(%)	(acre-feet)	(%)	
NORTH CENTRAL (Continue)									
Joe Pool Lake	49	142,861	123,300	86	-1,122	-1	-2,666	-2	
*Cisco, Lake	50	26,000	9,983	38	-209	-1	-969	-4	
Leon, Lake	51	26,421	17,634	67	-398	-2	6,083	23	
Granbury, Lake	52	128,046	89,566	70	-2,476	-2	-563	0	
Pat Cleburne, Lake	53	26,008	18,649	72	-288	-1	342	1	
Waxahachie, Lake	54	10,779	9,739	90	586	5	2,264	21	
Bardwell Lake	55	46,122	35,295	77	-1,204	-3	2,613	6	
Proctor Lake	56	55,457	34,163	62	-792	-1	6,780	12	
Whitney, Lake	57	553,349	379,998	69	-4,751	-1	95,425	17	
Aquilla Lake	58	44,460	31,239	70	-1,220	-3	1,760	4	
Navarro Mills Lake	59	49,826	37,085	74	-1,169	-2	2,045	4	
*Halbert, Lake	60	6,033	4,085	68	-115	-2	-1,365	-23	
Richland-Chambers Reservoir	61	1,087,839	882,842	81	-20,632	-2	97,819	9	
*Brownwood, Lake	62	131,429	73,524	56	-1,493	-1	21,772	17	
Waco, Lake	62	198,943	163,502	82	-3,636	-2	12,311	6	
Limestone, Lake	64	208,015	148,445	71	-3,991	-2	38,987	19	
Belton Lake	65	435,225	357,871	82	-8,690	-2	53,903	12	
Stillhouse Hollow Lake	66	227,771	192,302	84	-5,384	-2	52,126	23	
Georgetown, Lake	67	36,823	21,527	58	1,142	3	4,684	13	
Granger Lake	68	50,779	46,008	91	-302	-1	11,803	23	
Tawakoni, Lake	69	888,126	720,098	81	-11,222	-1	65,485	7	
TOTAL		10,532,885	7,779,718	74	-141,214	-1	432,514	4	
EAST									
Wright Patman Lake	70	122,593	122,593	100	0	0	0	0	
*Sulphur Springs, Lake	71	17,838	13,939	78	90	1	3,905	22	
Cypress Springs, Lake	72	66,756	61,120	92	871	1	5,379	8	
Bob Sandlin, Lake	73	200,579	151,559	76	-388	0	21,478	11	
Fork Reservoir, Lake	74	604,927	490,074	81	-2,126	0	61,508	10	
O the Pines, Lake	75	238,933	175,666	74	5,255	2	2,773	1	
Cedar Creek Reservoir in Trinity	76	644,686	524,070	81	-6,469	-1	85,598	13	
Athens, Lake	77	29,435	23,599	80	162	1	1,490	5	
Palestine, Lake	78	370,907	332,177	90	1,063	0	71,514	19	
Tyler, Lake	79	73,256	52,171	71	-676	-1	6,712	9	
Murvaul, Lake	80	38,284	37,193	97	2,504	7	8,422	22	
Jacksonville, Lake	81	25,670	24,033	94	167	1	3,578	14	
Nacogdoches, Lake	82	39,521	33,447	85	455	1	14,419	36	
Houston County Lake	83	17,113	17,113	100	267	2	4,209	25	
Sam Rayburn Reservoir	84	2,857,077	2,353,212	82	-2,007	0	668,546	23	
Toledo Bend Reservoir (Texas)	85	2,236,450	1,877,176	84	20,832	1	475,706	21	
Toledo Bend Reservoir (TX & LA)	(85)	4,472,900	3,754,353	84	41,665	1	951,412	21	
*Livingston, Lake	86	1,741,867	1,686,000	97	7,000	0	86,000	5	
B A Steinhagen Lake	87	66,966	56,536	84	2,097	3	3,583	5	
Conroe, Lake	88	416,188	353,806	85	-352	0	74,363	18	
TOTAL		9,809,046	8,385,484	85	28,745	0	1,599,183	16	
TRANS-PECOS									
Red Bluff Reservoir	89	130,170	13,632	10	827	1	7,071	5	
TOTAL		130,170	13,632	10	827	1	7,071	5	

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			Late Dec. (acre-feet)	2012 (%)	(acre-feet)	(%)	(acre-feet)	(%)	
EDWARDS PLATEAU									
Oak Creek Reservoir	90	39,260	11,893	30	-282	-1	-2,817	-7	
E V Spence Reservoir	91	517,272	28,107	5	-1,013	0	25,911	5	
O C Fisher Lake	92	79,483	0	0	0	0	0	0	
*O H Ivie Reservoir	93	554,335	126,534	23	-3,676	-1	26,964	5	
Twin Buttes Reservoir	94	177,850	0	0	-1,779	-1	0	0	
Brady Creek Reservoir	95	29,110	6,757	23	-322	-1	-478	-2	
Buchanan, Lake	96	875,610	375,466	43	-10,015	-1	44,590	5	
Lyndon B Johnson, Lake	97	113,323	111,622	98	182	0	-61	0	
*Amistad Reservoir (Texas)	98	1,840,849	889,000	48	-17,000	-1	-604,000	-33	
*Amistad Reservoir (TX & Mexico)	(98)	3,275,532	1,541,000	47	-18,000	-1	-1,197,000	-37	
TOTAL		4,227,092	1,549,379	37	-33,905	-1	-509,891	-12	
SOUTH CENTRAL									
Travis, Lake	99	1,113,255	427,939	38	-10,841	-1	41,401	4	
*Austin, Lake	100	21,804	20,329	93	0	0	-522	-2	
Somerville Lake	101	147,104	120,697	82	-1,898	-1	62,887	43	
Canyon Lake	102	378,781	309,833	82	-4,056	-1	10,023	3	
Medina Lake	103	254,823	24,367	10	-3,372	-1	-33,674	-13	
*Coletto Creek Reservoir	104	31,040	22,531	73	410	1	-2,642	-9	
TOTAL		1,946,807	925,696	48	-19,757	-1	77,473	4	
UPPER COAST									
Houston, Lake	105	128,863	127,800	99	-1,063	-1	-1,063	-1	
Texana, Lake	106	159,640	134,426	84	-6,017	-4	77,587	49	
TOTAL		288,503	262,226	91	-7,080	-2	76,524	27	
SOUTHERN									
Choke Canyon Reservoir	107	695,262	329,464	47	-13,159	-2	-97,921	-14	
Corpus Christi, Lake	108	256,961	40,035	16	-329	0	-46,851	-18	
*Falcon Reservoir (Texas)	109	1,551,034	490,000	32	5,000	0	-205,000	-13	
*Falcon Reservoir (TX & Mexico)	(109)	2,646,817	648,000	24	-3,000	0	-463,000	-17	
TOTAL		2,503,257	859,499	34	-8,488	0	-349,772	-14	
STATE TOTAL		30,978,303	20,021,336	65	-186,277	-1	1,280,059	4	

* Conservation volume is used as conservation storage capacity because the dead storage is unknown.

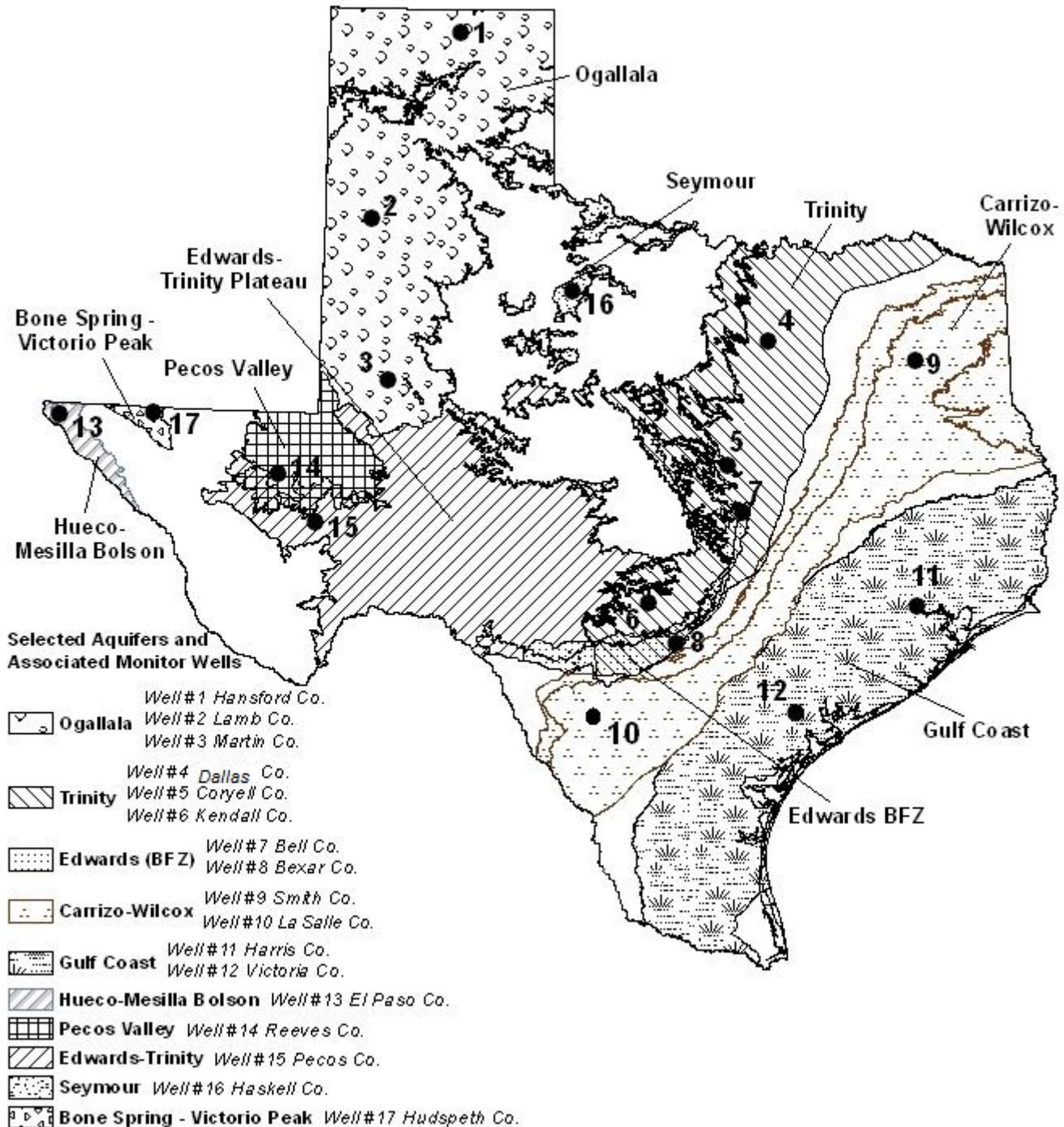
In Addition

Elephant Butte Reservoir	1,975,000	155,656	8	33,239	2	-135,388	-7
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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 $100 \times (\text{current conservation storage} - \text{past conservation storage}) / \text{conservation storage capacity}$. Figures shown are for the Texas share of conservation storage in all reservoirs.

DECEMBER 2012 GROUNDWATER LEVELS IN OBSERVATION WELLS



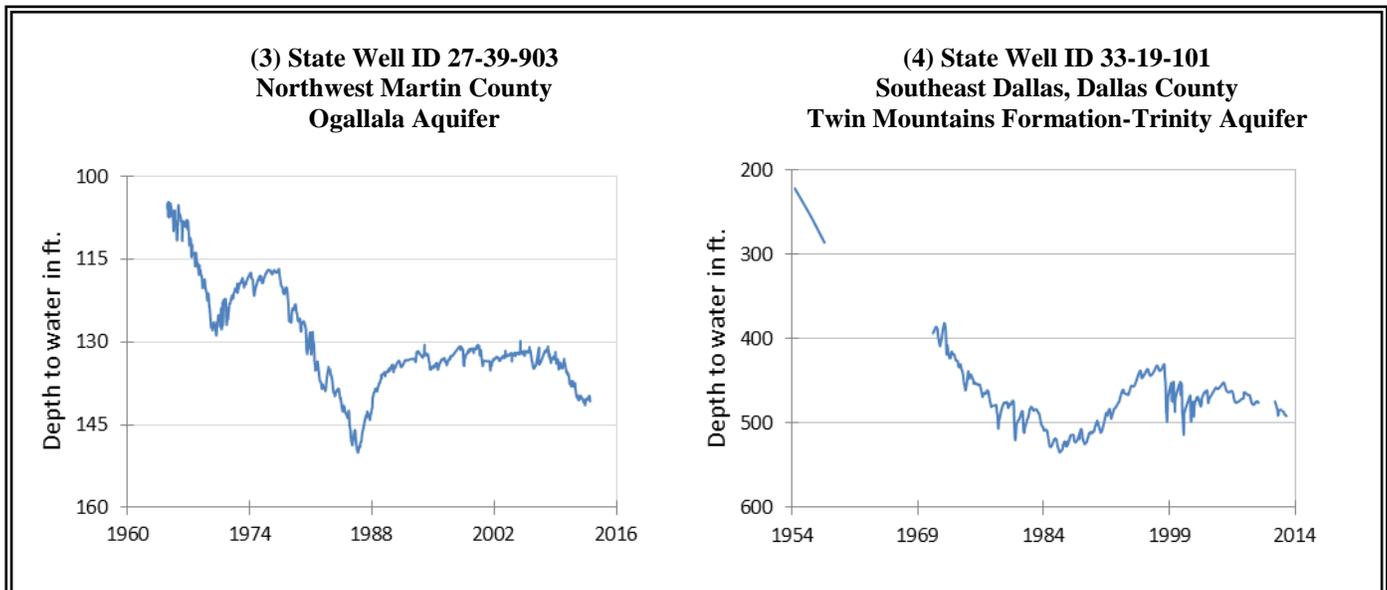
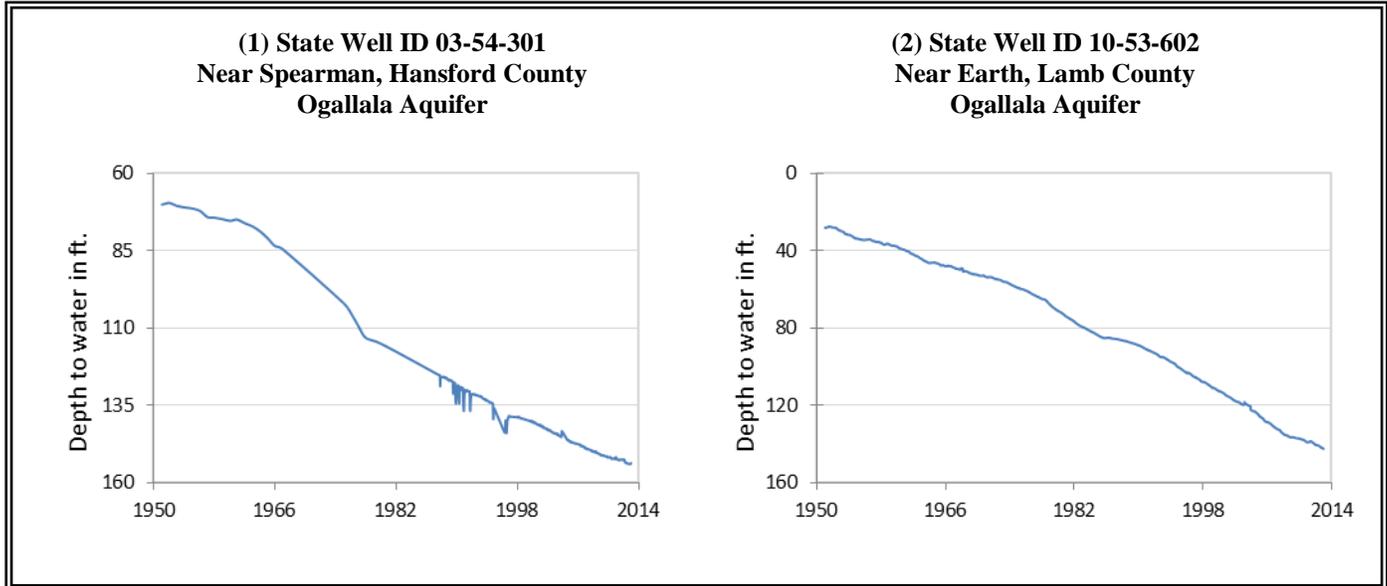
December, 2012

Water level measurements were available for all seventeen key monitoring wells in the state. Water levels rose in six of the monitoring wells since the beginning of December, ranging from 0.33 feet in the Hansford County Ogallala Aquifer well to 9.23 foot in the Pecos County Edwards Trinity Aquifer well. Water levels declined in ten monitoring wells, ranging from 0.08 feet in the Victoria County Gulf Coast Aquifer well to 12.74 feet in the La Salle County Carrizo-Wilcox Aquifer well. The J-17 well in San Antonio recorded a water level of 80.00 feet below land surface or 651 feet above mean sea level. This water level is 1.00 foot above the Stage II critical management level in that segment of the Edwards Aquifer. Stage II restrictions were declared by the EAA on September 18th when the ten-day average fell below 650-foot elevation or 81 feet below land surface.

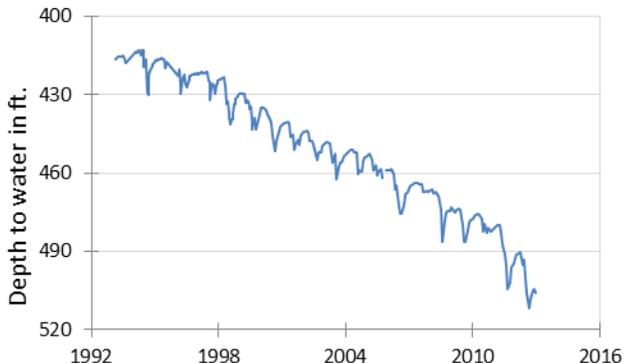
* ID is used in this publication to differentiate between the monitoring well number (1 - 17) as displayed on the aquifer map and the TWDB's six- or seven-digit state well "identification" number.

Monitoring Well	Dec	Nov	Month Change	Year Change	Historical Change
(1) Hansford 0354301	153.67	154	0.33	-1.14	-83.55
(2) Lamb 1053602	142.49	142.35	-0.14	-2.01	-114.34
(3) Martin 2739903	140.75	139.79	-0.96	-0.49	-35.86
(4) Dallas 3319101	491.41	491.26	-0.15	-0.62	-269.41
(5) Coryell 4035404	505.84	504.2	-1.64	-13.07	-213.84
(6) Kendall 6802609	134.73	137.2	2.47	1.28	-74.73
(7) Bell 5804816	125.89	125.79	-0.10	-0.75	-2.76
(8) Bexar 6837203	80.00	82.79	2.79	-1.94	-33.36
(9) Smith 3430907	441.75	439.3	-2.45	-5.57	-75.75
(10) La Salle 7738103	461.24	448.5	-12.74	-72.21	-208.17
(11) Harris 6514409	203.71	202.56	-1.15	3.72	-68.21
(12) Victoria 8017502	37.02	36.94	-0.08	1.93	-3.02
(13) El Paso 4913301	292.93	NA	NA	-3.33	-61.03
(14) Reeves 4644501	147.79	148.63	0.84	-1.31	-55.70
(15) Pecos 5216802	202.26	211.49	9.23	-0.91	44.62
(16) Haskell 2135748	47.57	47.26	-0.31	-1.48	-6.24
(17) Hudspeth 4807516	136.91	140.52	3.61	-1.38	-32.99

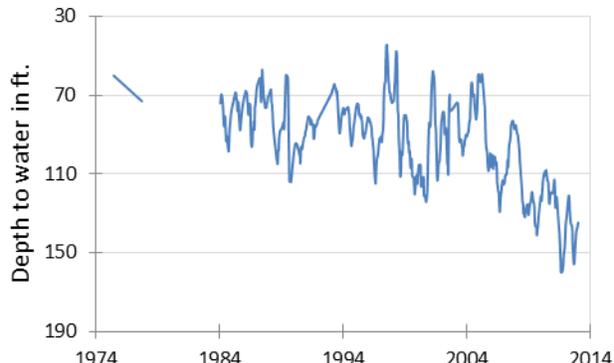
DECEMBER GROUNDWATER LEVELS IN OBSERVATION WELLS



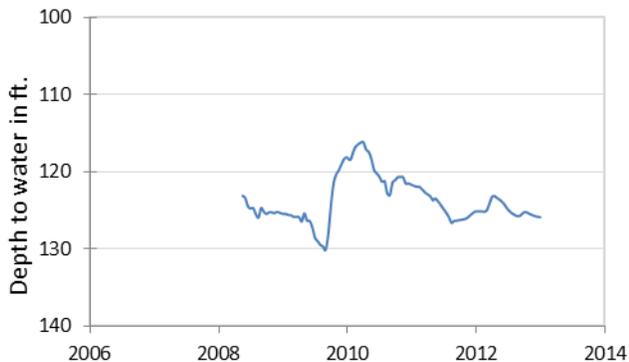
**(5) State Well ID 40-35-404
Gatesville, Coryell County
Hosston Formation-Trinity Aquifer**



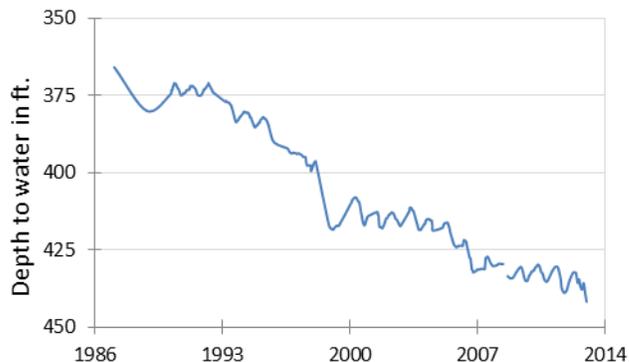
**(6) State Well ID 68-02-609
Waring, Kendall County
Cow Creek Formation-Trinity Aquifer**



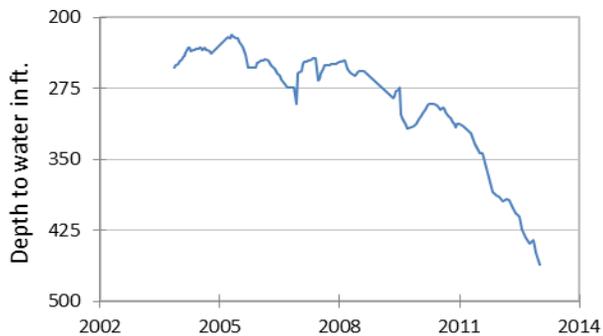
**(7) State Well ID 58-04-816
Near Salado, Bell County
Edwards (BFZ) Aquifer**



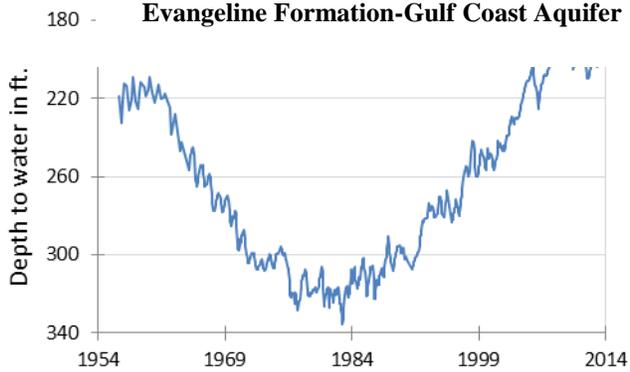
**(9) State Well ID 34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer**



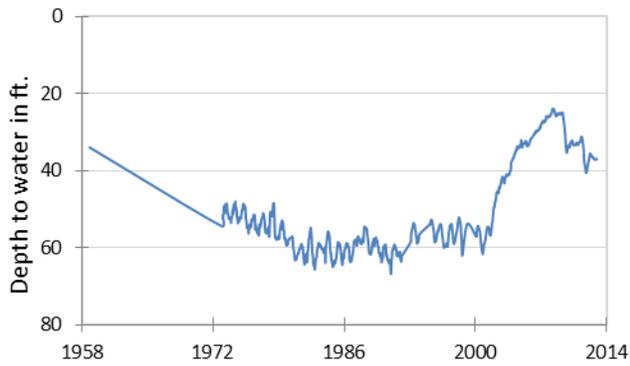
**(10) State Well ID 77-38-103
Near Cotulla, La Salle County
Carrizo-Wilcox Aquifer**



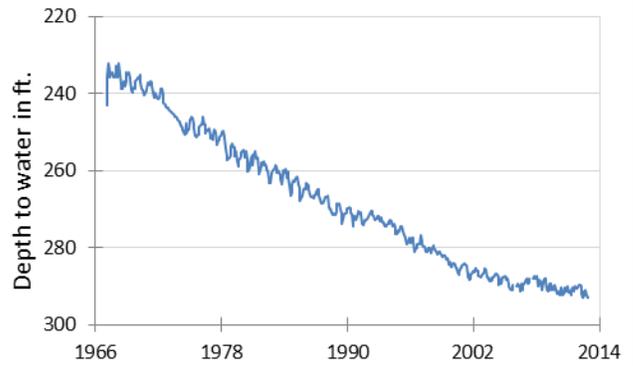
**(11) State Well ID 65-14-409
Alief, Harris County
Evangeline Formation-Gulf Coast Aquifer**



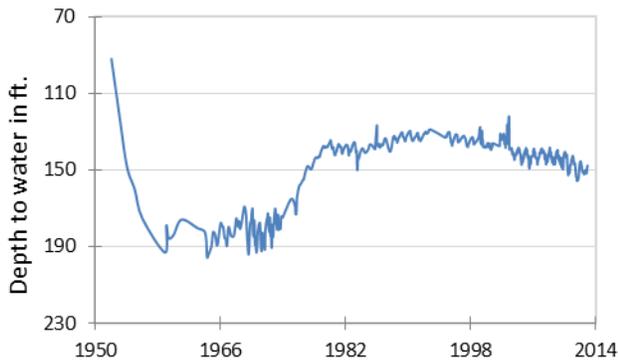
(12) State Well ID 80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer



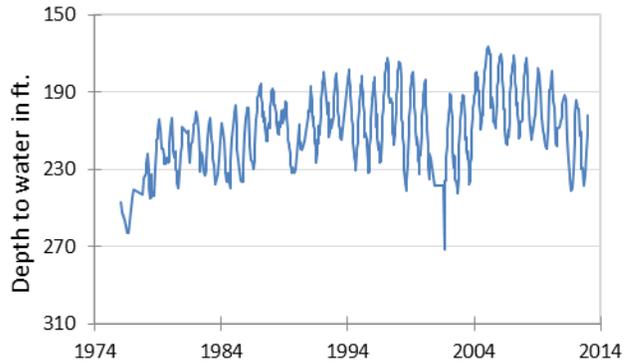
(13) State Well ID 49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolson Aquifer



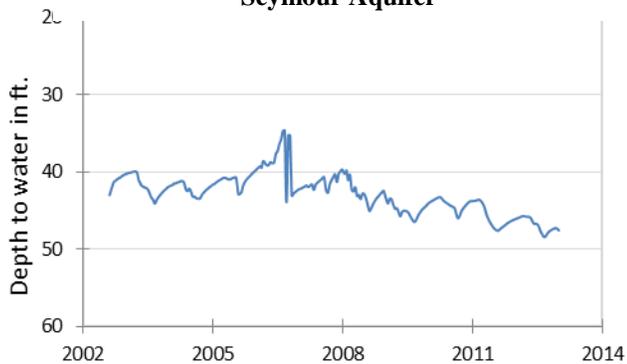
(14) State Well ID 46-44-501
Near Pecos, Reeves County
Pecos Valley Aquifer



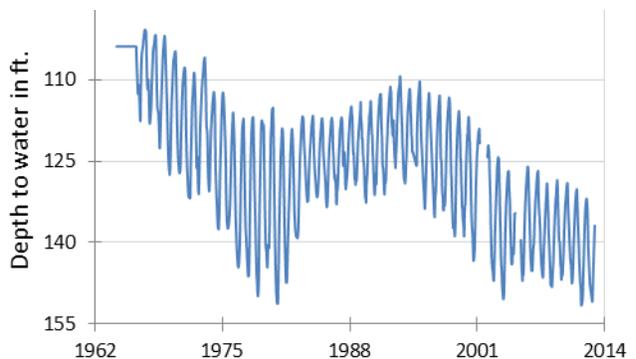
(15) State Well ID 52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer



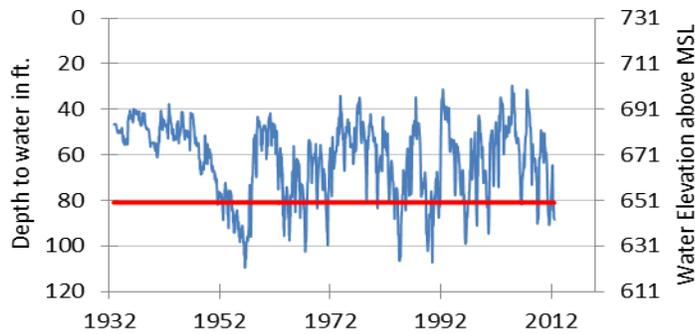
(16) State Well ID 21-35-748
Near O'Brien, Haskell County
Seymour Aquifer



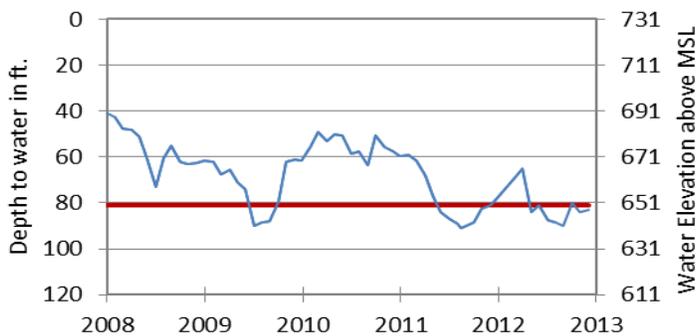
(17) State Well ID 48-07-516
Dell City, Hudspeth County
Bone Spring - Victorio Peak Aquifer



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

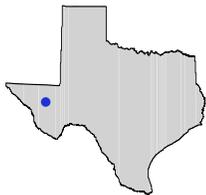


The late December water level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above sea level, was 80.00 feet below land surface, or 651 feet above mean sea level. This was 2.79 feet above last month's measurement, 1.94 feet below last year's measurement, and 33.36 feet below the initial measurement recorded in 1932.



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

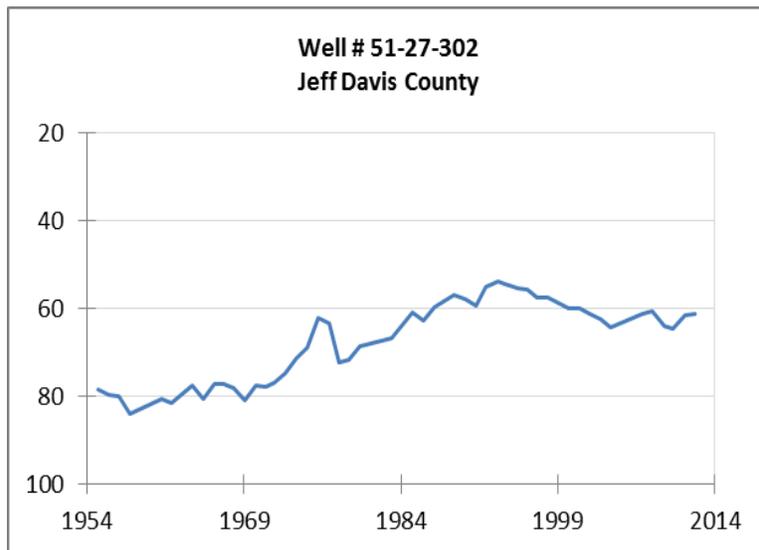
HYDROGRAPH OF THE MONTH



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

Igneous Aquifer

Located in Far West Texas, the Igneous Aquifer is a minor aquifer consisting of volcanic rocks in a complex series of welded pyroclastic tuff, lava, and volcanoclastic sediments. These units were deposited during a period of magmatism in the region that occurred from 48-17 million years ago, beginning near El Paso and progressing southeast into the Big Bend and on into northern Mexico. The best water-bearing zones are found in igneous rocks with primary porosity and permeability, such as vesicular basalts, interflow zones in lava successions, sandstone, conglomerate, and breccia. Faulting and fracturing enhances aquifer productivity in less permeable rock units. Although water in the aquifer is fresh and contains less than 1,000 milligrams per liter of total dissolved solids, elevated levels of silica and fluoride have been found in water from some wells, reflecting the igneous origin of the rock.



This 425-foot deep stock well, in western Davis County, is 4,254 feet above sea level. While water levels in surrounding wells have remained flat or have declined slightly, the water level rise of nearly 20 feet in this well can be attributed, in part, due to the cessation of nearby irrigation.

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