RESERVOIR STORAGE

June 2013

At the end of the month, total storage in 115 of the state's major water supply reservoirs was at 20.65 million acre-feet*, or 66% of their total conservation storage capacity. This is 314,778 acre-feet less than a month ago and 2.98 million acre-feet less than the storage at this time last year.

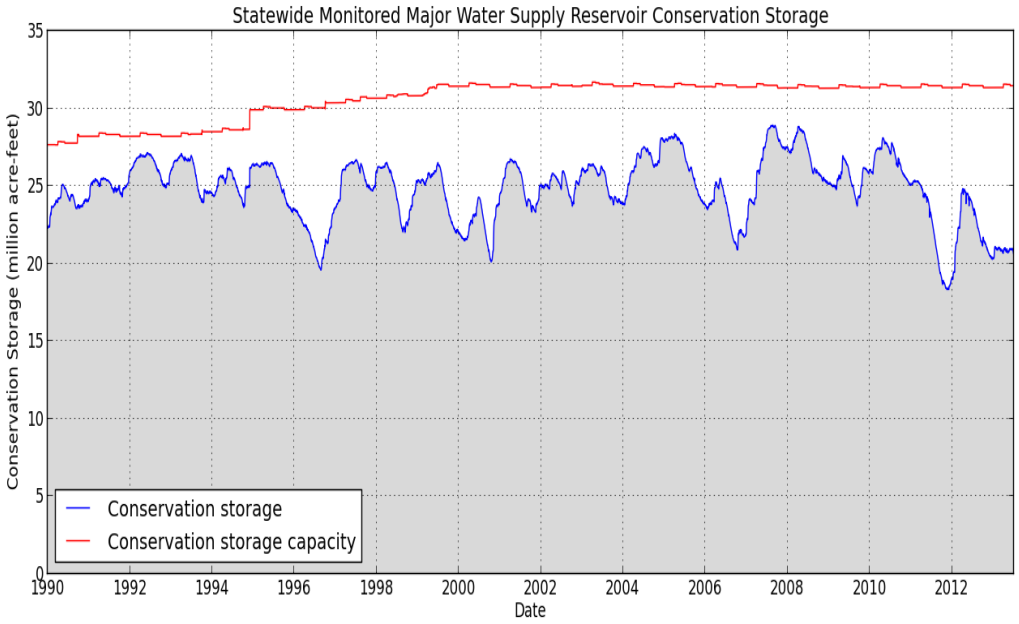
Seven reservoirs, most in the North Central and East regions, held 100% of conservation storage capacity. Thirteen (13) reservoirs were below 10% full: Electra, and Meredith were effectively empty, Twin Buttes, White River and O. C. Fisher were at 1%, J. B. Thomas was at 2%, North Fork Buffalo Creek was at 3%, Palo Duro was at 4%, Medina was at 5%, E.V. Spence and Mackenzie were at 6%, and Champion Creek Reservoir was at 8%, and Abilene was at 9% full.

Total combined storage was greater than 70% in the North Central (75%), Upper Coast (94%), and East (91%) regions. The regions with the lowest percentage storage were the High Plains (1%) and Trans-Pecos regions (13%). Storage over the last month declined in 7 regions and increased in 2 regions.

Elephant Butte reservoir held 72,471 acre-feet, or 4% of storage capacity. This is 123,085 acre-feet less 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 115 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 June 2013 (acre-feet)	(%)	Change since end of May 2013 (acre-feet)	(%)	Change since end of June 2012 (acre-feet)	(%)
HIGH PLAINS							
Palo Duro Reservoir	61,066	2,326	4	1,244	2	-711	-1
Meredith, Lake (Texas)	500,000	0	0	0	0	0	0
Meredith, Lake (Texas & Oklahoma)	779,556	0	0	0	0	0	0
MacKenzie Reservoir	46,450	2,625	6	-144	-0	-1,044	-2
White River Lake	29,880	384	1	89	0	-3,184	-11
TOTAL	637,396	5,335	1	1,189	0	-4,939	-1
LOW ROLLING PLAINS							
Greenbelt Lake	59,968	8,882	15	1,752	3	-1,547	-3
*Electra, Lake	5,626	0	0	0	0	-42	-1
N. Fork Buffalo Crk Reservoir	15,400	427	3	-62	-0	-1,352	-9
Kemp, Lake	268,811	63,312	24	9,040	3	-27,528	-10
Millers Creek Reservoir	26,768	6,054	23	311	1	-2,083	-8
Alan Henry Reservoir	94,808	63,887	67	-490	-1	-12,283	-13
Stamford, Lake	51,570	10,772	21	-623	-1	-9,762	-19
J B Thomas, Lake	199,931	3,522	2	3,087	2	2,834	1
Fort Phantom Hill, Lake	70,030	32,702	47	883	1	-1,383	-2
Sweetwater, Lake	12,267	3,004	24	-191	-2	-1,419	-12
Colorado City, Lake	30,758	9,622	31	47	0	640	2
Champion Creek Reservoir	41,580	3,526	8	447	1	-708	-2
Abilene, Lake	7,900	737	9	-129	-2	-1,459	-18
Coleman, Lake	38,075	15,326	40	-721	-2	547	1
Hords Creek Lake	8,443	2,486	29	-160	-2	59	1
TOTAL	931,935	224,259	24	13,191	1	-55,486	-6
NORTH CENTRAL							
Nocona, Lake (Farmers Crk)	21,444	10,537	49	-184	-1	-2,828	-13
Hubert H Moss Lake	24,058	21,782	91	-10	-0	-1,963	-8
Texoma, Lake (Texas)	1,258,113	1,258,113	100	72,075	6	0	0
Texoma, Lake (Texas & Oklahoma)	2,525,281	1,258,113	50	72,075	3	0	0
*Pat Mayse Lake	113,683	98,066	86	-522	-0	-11,920	-10
Kickapoo, Lake	85,825	31,946	37	-376	-0	-8,931	-10
Arrowhead, Lake	235,997	80,708	34	-9,912	-4	-40,115	-17
Bonham, Lake	11,027	10,558	96	-384	-3	510	5
Crook, Lake	9,195	8,893	97	-240	-3	680	7
Amon G Carter, Lake	19,266	11,171	58	-187	-1	-4,348	-23
Ray Roberts, Lake	788,167	668,340	85	-6,475	-1	-105,446	-13
Jim Chapman Lake (Cooper)	260,332	126,500	49	-5,917	-2	-107,053	-41
Graham, Lake	45,288	29,928	66	-505	-1	-12,034	-27
*Lost Creek Reservoir	11,950	9,641	81	-148	-1	-1,743	-15
Bridgeport, Lake	366,236	182,429	50	-8,073	-2	-115,237	-31
Lewisville Lake	563,228	437,076	78	-1,889	-0	-93,967	-17
Lavon Lake	406,388	266,422	66	-6,363	-2	-106,041	-26
Hubbard Creek Reservoir	326,559	77,014	24	-4,598	-1	-51,418	-16
Possum Kingdom Lake	540,340	383,784	71	1,492	0	-59,388	-11
*Mineral Wells, Lake	6,760	4,614	68	-209	-3	-1,643	-24
Weatherford, Lake	17,812	11,918	67	245	1	-3,649	-20
Eagle Mountain Lake	179,880	148,352	82	4,072	2	-5,317	-3
Worth, Lake	33,495	23,099	69	-117	-0	-3,811	-11
Grapevine Lake	164,703	125,642	76	-3,915	-2	-26,183	-16
Ray Hubbard, Lake	452,040	388,225	86	-6,560	-1	-53,483	-12
New Terrell City Lake	8,583	6,575	77	-278	-3	-1,741	-20
Daniel, Lake	9,515	3,246	34	-303	-3	-1,213	-13

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	Conservation Storage Capacity	Conservation Storage end of June		Change since end of May 2013		Change since end of June 2012	
(**NORTH CENTRAL CONTINUE**)	(acre-feet)	2013 (acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)	(%)
Palo Pinto, Lake	26,827	13,829	52	-2,431	-9	-12,090	-45
Benbrook Lake	85,648	75,033	88	-2,836	-3	-2,526	-3
Arlington, Lake	40,188	36,975	92	-1,626	-4	1,574	4
Joe Pool Lake	175,358	169,233	97	-1,402	-1	-2,140	-1
*Cisco, Lake	25,895	8,974	35	-316	-1	-2,430	-9
Leon, Lake	26,476	17,533	66	-938	-4	-4,460	-17
Granbury, Lake	128,046	80,863	63	-1,297	-1	-38,890	-30
Pat Cleburne, Lake	26,008	18,614	72	-1,062	-4	-5,431	-21
Waxahachie, Lake	10,780	9,220	86	-373	-3	-501	-5
Bardwell Lake	46,122	36,744	80	-1,446	-3	-8,037	-17
Proctor Lake	55,457	35,120	63	-3,944	-7	-14,760	-27
Whitney, Lake	553,344	368,203	67	-14,533	-3	-161,424	-29
Aquilla Lake	44,460	30,222	68	-1,781	-4	-12,446	-28
Navarro Mills Lake	49,827	43,472	87	-3,064	-6	-6,355	-13
*Halbert, Lake	6,033	4,137	69	-441	-7	-829	-14
Richland-Chambers Reservoir	1,087,839	805,110	74	-40,032	-4	-251,274	-23
*Brownwood, Lake	128,839	61,485	48	-3,273	-3	-8,214	-6
Waco, Lake	189,567	153,123	81	-3,566	-2	-34,283	-18
Limestone, Lake	208,014	152,199	73	-9,726	-5	-37,161	-18
Belton Lake	435,225	351,088	81	-9,470	-2	-78,815	-18
Stillhouse Hollow Lake	227,771	181,983	80	-4,632	-2	-34,514	-15
Georgetown, Lake	36,823	20,869	57	-1,505	-4	-10,245	-28
Granger Lake	50,779	48,758	96	-2,021	-4	-239	-0
Tawakoni, Lake	871,685	669,179	77	-15,537	-2	-168,939	-19
Mountain Creek, Lake	22,850	22,850	100	0	0	0	0
Squaw Creek, Lake	151,250	151,250	100	0	0	0	0
TOTAL	10,670,995	7,990,645	75	-106,533	-1	-1,712,711	-16
EAST							
Wright Patman Lake	231,496	231,496	100	-36,341	-16	0	0
*Sulphur Springs, Lake	17,747	14,650	83	-707	-4	-2,477	-14
Cypress Springs, Lake	66,756	61,115	92	-904	-1	-4,417	-7
Bob Sandlin, Lake	190,822	147,724	77	-2,860	-1	-18,023	-9
Caddo, Lake	29,898	27,548	92	-2,350	-8	-2,350	-8
Martin, Lake	75,116	64,439	86	-2,642	-4	9,038	12
Monticello, Lake	34,740	34,740	100	0	0	508	1
Fork Reservoir, Lake	605,061	487,325	81	-7,698	-1	-60,467	-10
O the Pines, Lake	268,566	203,897	76	-6,666	-2	-4,214	-2
Cedar Creek Reservoir in Trinity	644,686	517,385	80	-16,574	-3	-95,152	-15
Athens, Lake	29,435	24,489	83	-978	-3	-1,742	-6
Palestine, Lake	373,199	359,885	96	-11,119	-3	-7,837	-2
Tyler, Lake	73,161	56,548	77	-2,482	-3	-4,669	-6
Murvaul, Lake	38,285	37,091	97	-373	-1	-1,091	-3
Jacksonville, Lake	25,670	25,151	98	-380	-1	46	0
Nacogdoches, Lake	39,522	36,268	92	-1,200	-3	3,718	9
Houston County Lake	17,113	16,244	95	-509	-3	-254	-1
Sam Rayburn Reservoir	2,857,077	2,562,701	90	-45,552	-2	-142,838	-5
Toledo Bend Reservoir (Texas)	2,245,752	2,074,945	92	-24,523	-1	70,882	3
Toledo Bend Reservoir (TX & LA)	4,472,900	2,074,945	46	-24,523	-1	70,882	2
*Livingston, Lake	1,785,348	1,785,348	100	0	0	7,910	0
B A Steinhagen Lake	66,961	60,267	90	-906	-1	-3,047	-5
Conroe, Lake	416,177	367,689	88	-1,631	-0	1,988	0
TOTAL	10,132,588	9,196,945	91	-166,395	-2	-254,488	-3

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

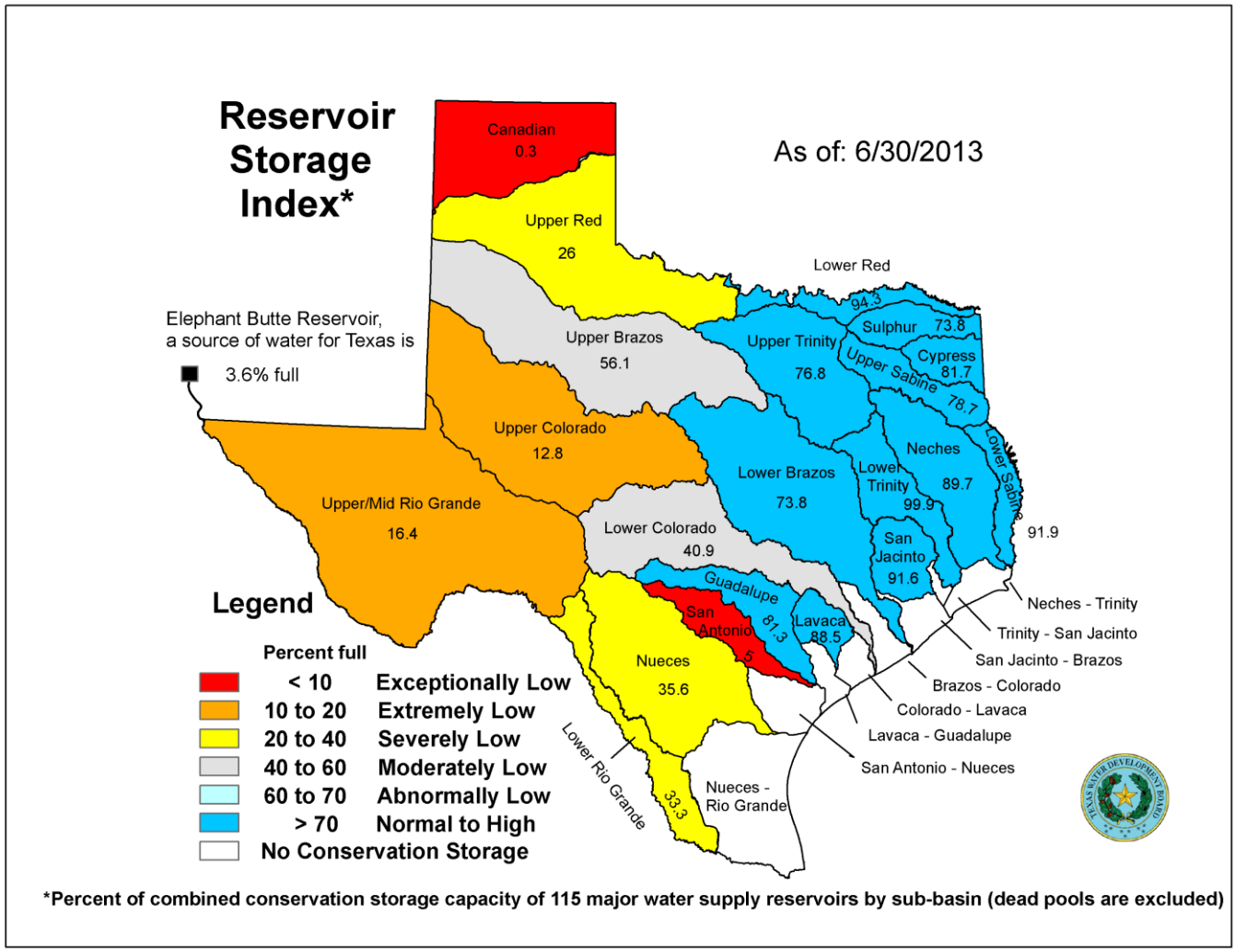
Name of Lake or Reservoir	Conservation Storage Capacity (acre-feet)	Conservation Storage end of June 2013 (acre-feet)	(%)	Change since end of May 2013 (acre-feet)	(%)	Change since end of June 2012 (acre-feet)	(%)
TRANS-PECOS							
Red Bluff Reservoir	127,599	17,198	13	-8,921	-7	-5,221	-4
TOTAL	127,599	17,198	13	-8,921	-7	-5,221	-4
EDWARDS PLATEAU							
Oak Creek Reservoir	39,210	9,609	25	-452	-1	-2,923	-7
E V Spence Reservoir	517,272	31,371	6	4,201	1	29,806	6
O C Fisher Lake	119,445	1,198	1	-609	-1	286	0
*O H Ivie Reservoir	554,340	99,780	18	-5,743	-1	15,590	3
Twin Buttes Reservoir	182,454	2,137	1	-458	-0	no data	no data
Brady Creek Reservoir	28,808	6,553	23	-477	-2	-1,537	-5
Buchanan, Lake	816,904	322,476	39	-21,456	-3	-113,808	-14
Inks, Lake	13,962	13,013	93	46	0	-30	-0
Lyndon B Johnson, Lake	115,056	110,209	96	-671	-1	-365	-0
*Amistad Reservoir (Texas)	1,840,849	685,116	37	3,579	0	-643,539	-35
*Amistad Reservoir (TX & Mexico)	3,275,532	829,950	25	34,006	1	-1,094,559	-33
TOTAL	4,228,300	1,281,462	30	-22,040	-1	-716,520	-17
SOUTH CENTRAL							
Travis, Lake	1,113,348	388,451	35	-21,253	-2	-131,297	-12
*Austin, Lake	23,972	22,834	95	-635	-3	-200	-1
Somerville Lake	147,107	124,973	85	0	0	-22,134	-15
Canyon Lake	378,781	306,748	81	-2,939	-1	-31,615	-8
Medina Lake	254,823	13,394	5	-509	-0	-34,832	-14
*Coleto Creek Reservoir	31,040	22,963	74	-5,659	-18	-3,535	-11
TOTAL	1,949,071	879,363	45	-30,995	-2	-223,613	-11
UPPER COAST							
Houston, Lake	128,054	128,054	100	0	0	0	0
Texana, Lake	159,566	142,124	89	-10,082	-6	435	0
TOTAL	287,620	270,178	94	-10,082	-4	435	0
SOUTHERN							
Choke Canyon Reservoir	695,262	274,702	40	-7,396	-1	-120,785	-17
Corpus Christi, Lake	256,961	62,646	24	2,234	1	-1,267	-0
*Falcon Reservoir (Texas)	1,551,007	445,455	29	-17,468	-1	-15,440	-1
*Falcon Reservoir (TX & Mexico)	2,646,770	645,406	24	-217,419	-8	-19,608	-1
TOTAL	2,503,230	782,803	31	-22,630	-1	-137,492	-5
STATE TOTAL	31,468,731	20,648,188	66	-314,788	-1	-2,983,561	-9

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

Elephant Butte Reservoir	1,973,358	72,471	4	-123,085	-6	-195,832	-10

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.

JUNE RESERVOIR CONDITIONS

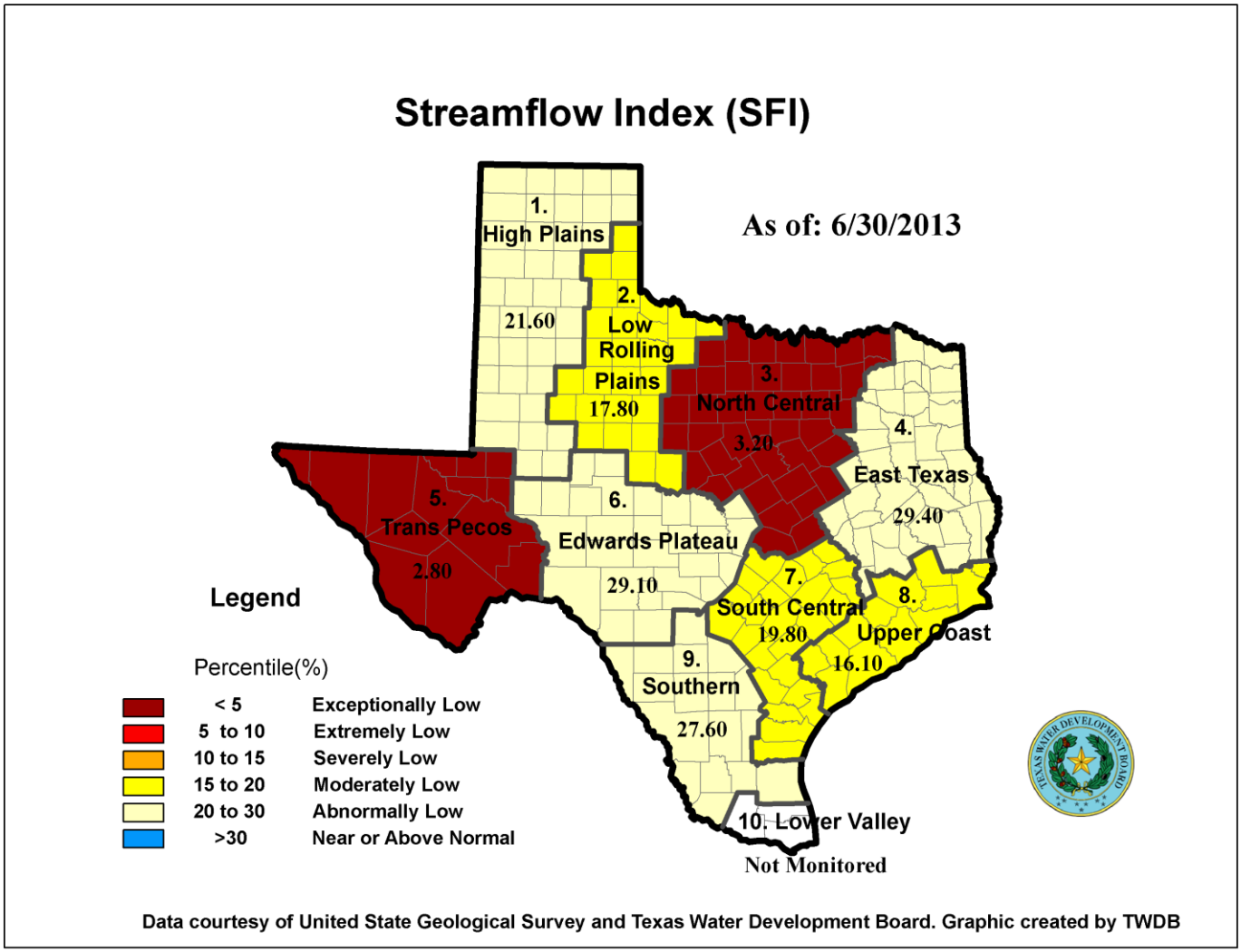


*Percent of combined conservation storage capacity of 115 major water supply reservoirs by sub-basin (dead pools are excluded)

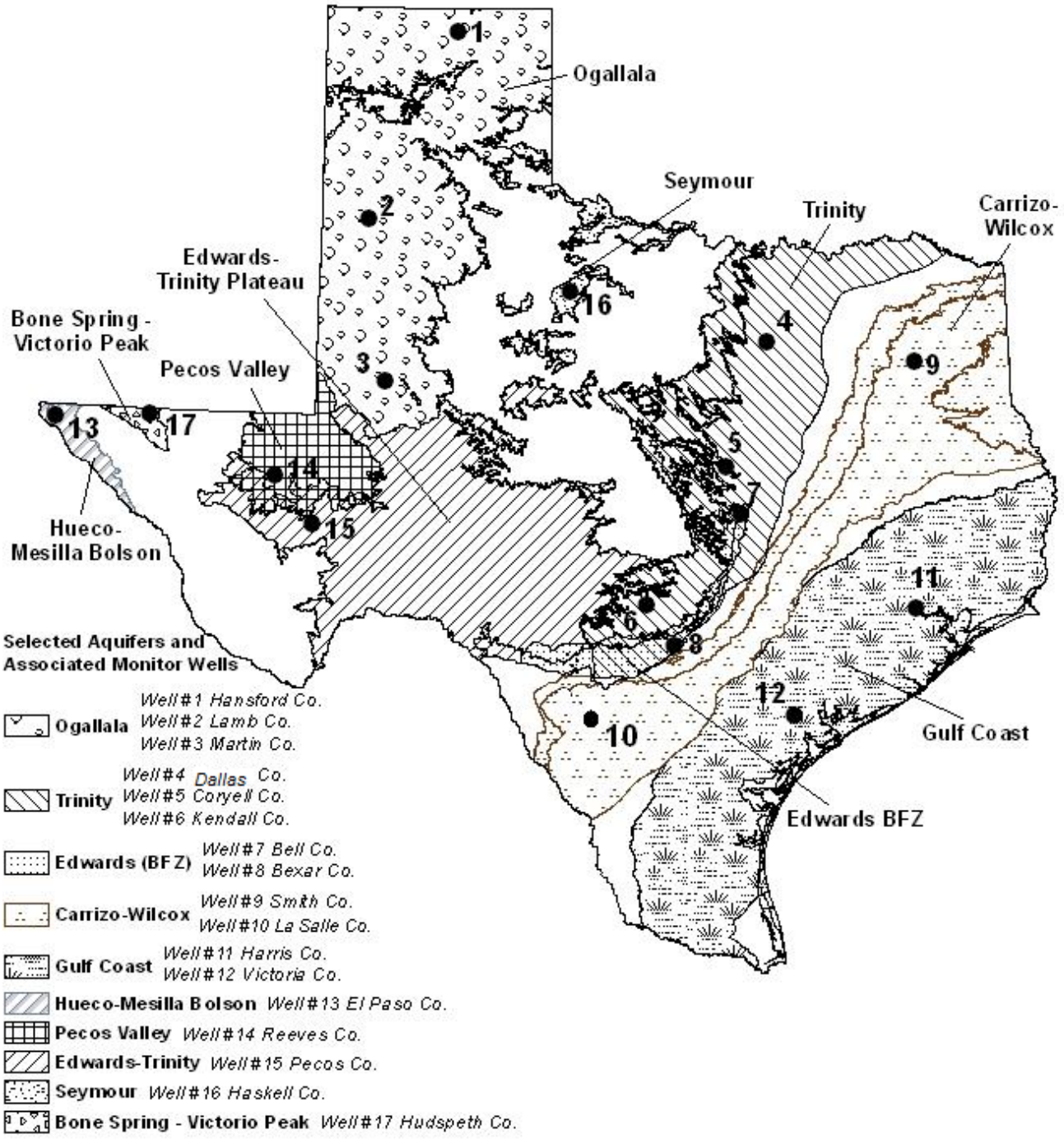
JUNE STREAMFLOW CONDITIONS

Of 29 reporting index stations monitored this month, computed 30-day mean flows were exceptionally low (<5%) at 8 stations, extremely low (5-10%) at 4 stations, severely low (10-15%) at 3 stations, moderately low (15-20%) at 4 stations, abnormally low (20% - 30%) at 1 station, and near normal (30% - 70%) at the remaining 9 stations. Compared to last month, flows have increased at 8 index stations and decreased at 19 stations.

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



JUNE 2013 GROUNDWATER LEVELS IN OBSERVATION WELLS



June, 2013

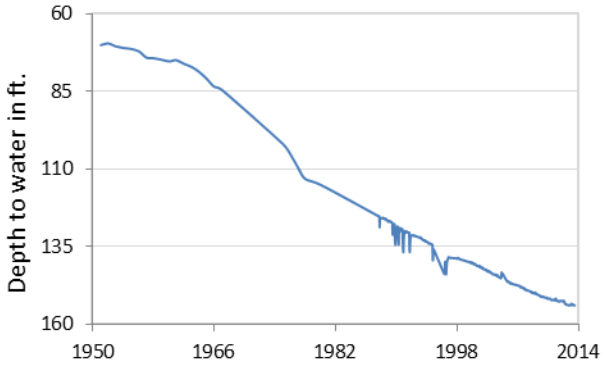
Water level measurements were available for all seventeen key monitoring wells in the state. Water levels rose in four of the monitoring wells since the beginning of June, ranging from 0.27 feet in the Haskell County Seymour Aquifer well to 0.78 feet in the Dallas County Trinity Aquifer well. Water levels declined in thirteen monitoring wells, ranging from 0.02 feet in the Hansford County Ogallala Aquifer well to 15.09 feet in the Kendall County Trinity Aquifer well. The J-17 well in San Antonio recorded a water level of 86.86 feet below land surface or 644.14 feet above mean sea level. This water level is 5.86 feet below the Stage II critical management level in that segment of the Edwards Aquifer. Stage II restrictions were declared by the EAA when the ten-day average fell below the 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.**

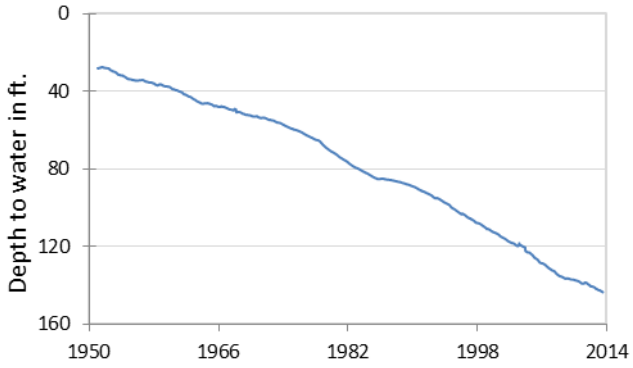
Monitoring Well	June	May	month change	year change	historical change	first measured
(1) Hansford 0354301	154	153.98	-0.02	-0.28	-83.88	1951
(2) Lamb 1053602	143.5	143.31	-0.19	-2.33	-115.35	1951
(3) Martin 2739903	141.95	141.73	-0.22	-1.43	-37.06	1964
(4) Dallas 3319101	488.05	488.83	0.78	-2.39	-266.05	1954
(5) Coryell 4035404	503.6	501.42	-2.18	-3.39	-211.6	1955
(6) Kendall 6802609	146.51	131.42	-15.09	-9.61	-86.51	1975
(7) Bell 5804816	129.01	126.67	-2.34	-4.01	-5.88	2008
(8) Bexar 6837203	86.86	74.8	-12.06	0.5	-40.22	1932
(9) Smith 3430907	438.66	437.41	-1.25	-3.03	-72.66	1987
(10) La Salle 7738103	477.1	468.82	-8.28	-66.78	-224.03	2003
(11) Harris 6514409	192.83	193.11	0.28	7.66	-57.33	1956
(12) Victoria 8017502	34.89	34.45	-0.44	1.75	-0.89	1958
(13) El Paso 4913301	293.85	294.25	0.4	-1.61	-61.95	1967
(14) Reeves 4644501	156.79	154.52	-2.27	-4.67	-64.7	1952
(15) Pecos 5216802	227.27	214.02	-13.25	2.59	19.61	1976
(16) Haskell 2135748	47.9	48.17	0.27	-1.08	-6.57	2002
(17) Hudspeth 4807516	147.45	145.04	-2.41	0.37	-43.53	1964

JUNE GROUNDWATER LEVELS IN OBSERVATION WELLS

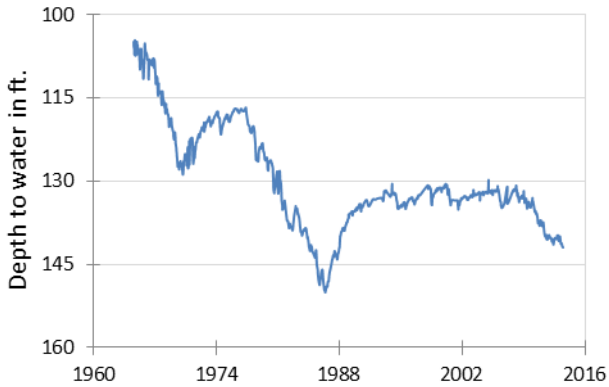
(1) State Well ID 03-54-301
Near Spearman, Hansford County
Ogallala Aquifer



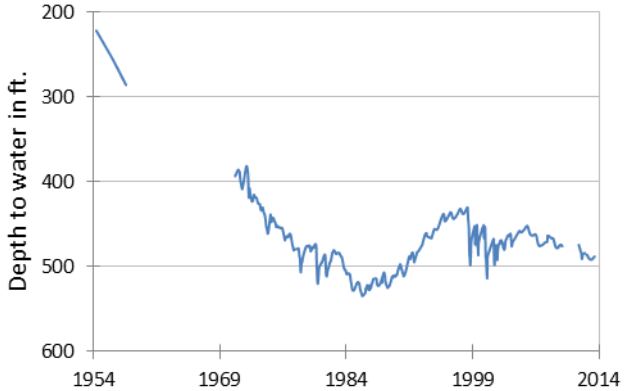
(2) State Well ID 10-53-602
Near Earth, Lamb County
Ogallala Aquifer



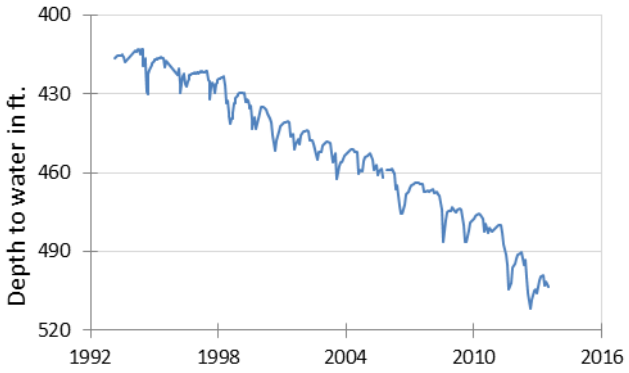
(3) State Well ID 27-39-903
Northwest Martin County
Ogallala Aquifer



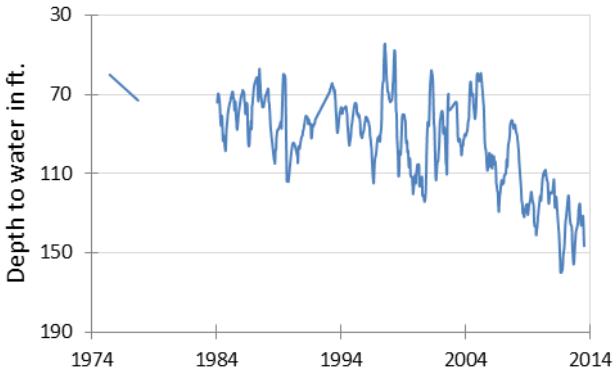
(4) State Well ID 33-19-101
Southeast Dallas, Dallas County
Twin Mountains Formation-Trinity Aquifer



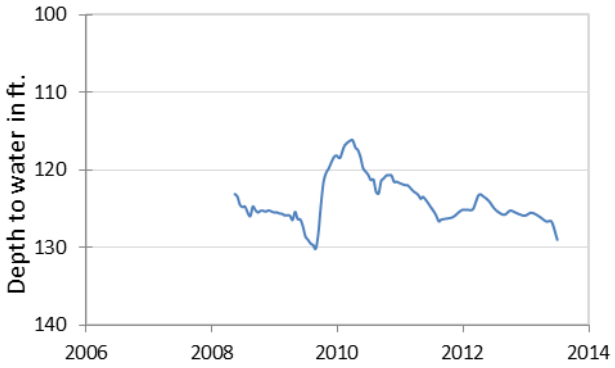
(5) State Well ID 40-35-404
Gatesville, Coryell County
Hosston Formation-Trinity Aquifer



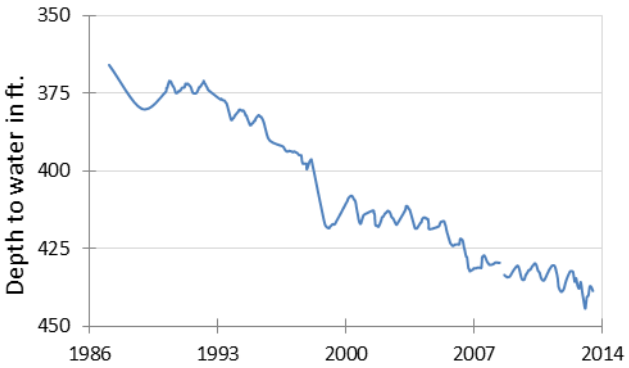
(6) State Well ID 68-02-609
Waring, Kendall County
Cow Creek Formation-Trinity Aquifer



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

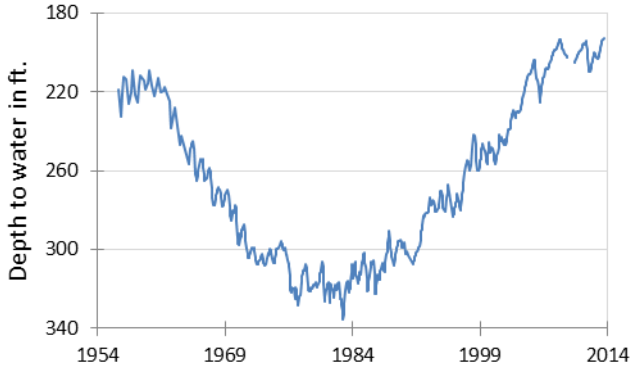


(9) State Well ID 34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer

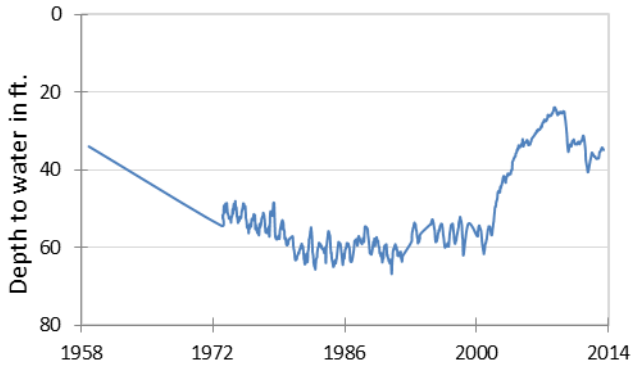


(10) State Well ID 77-38-103
Near Cotulla, La Salle County
Carrizo-Wilcox Aquifer

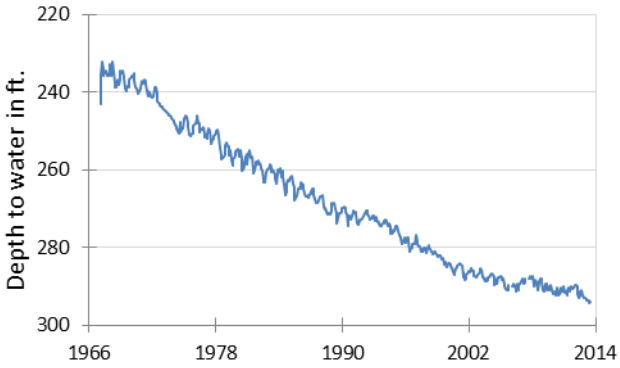
(11) State Well ID 65-14-409
Alief, Harris County
Evangeline Formation-Gulf Coast Aquifer



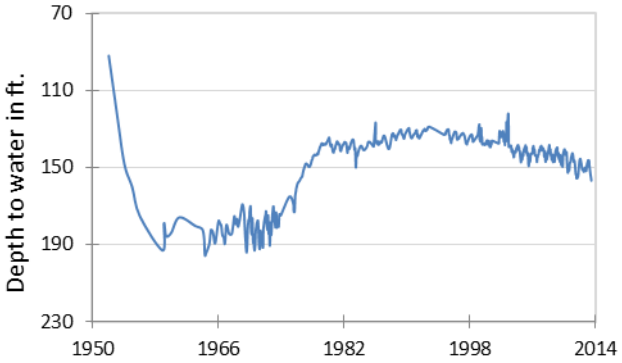
(12) State Well ID 80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer



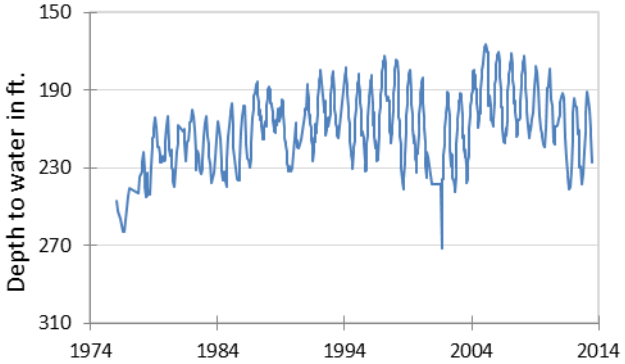
(13) State Well ID 49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolson Aquifer



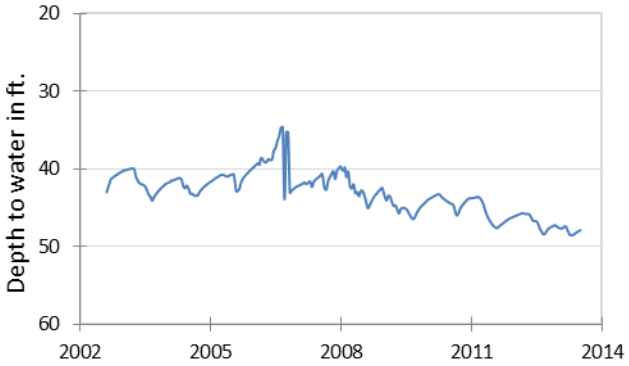
(14) State Well ID 46-44-501
Near Pecos, Reeves County
Pecos Valley Aquifer



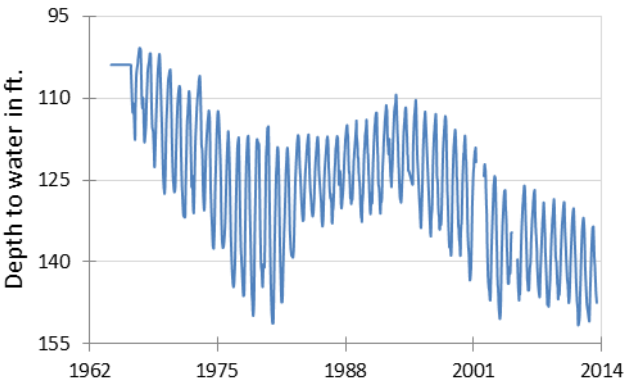
(15) State Well ID 52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer



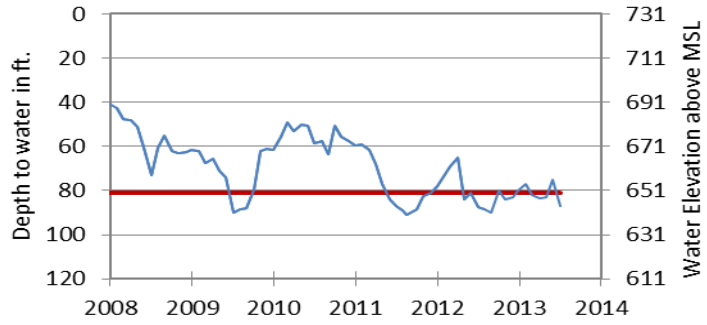
(16) State Well ID 21-35-748
Near O'Brien, Haskell County
Seymour Aquifer

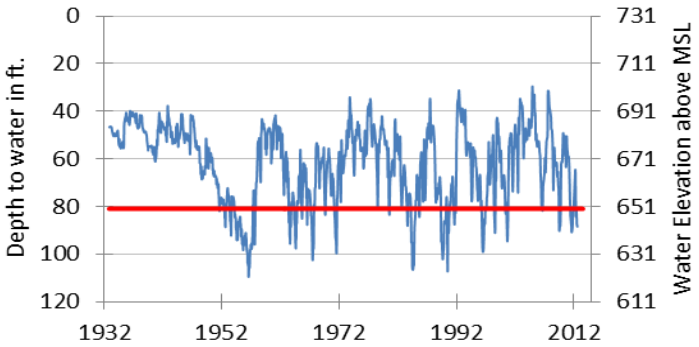


(17) State Well ID 48-07-516
Dell City, Hudspeth County
Bone Spring - Victorio Peak Aquifer



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

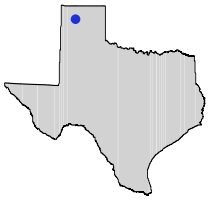




The late June water level measurement in this Edwards (BFZ) Aquifer well, elevation 731 feet above mean sea level, was 86.86 feet below land surface, or 644.14 feet above mean sea level. This was 12.06 feet below last month's measurement, 0.5 feet above last year's measurement, and 40.22 feet below the initial measurement recorded in 1932.

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

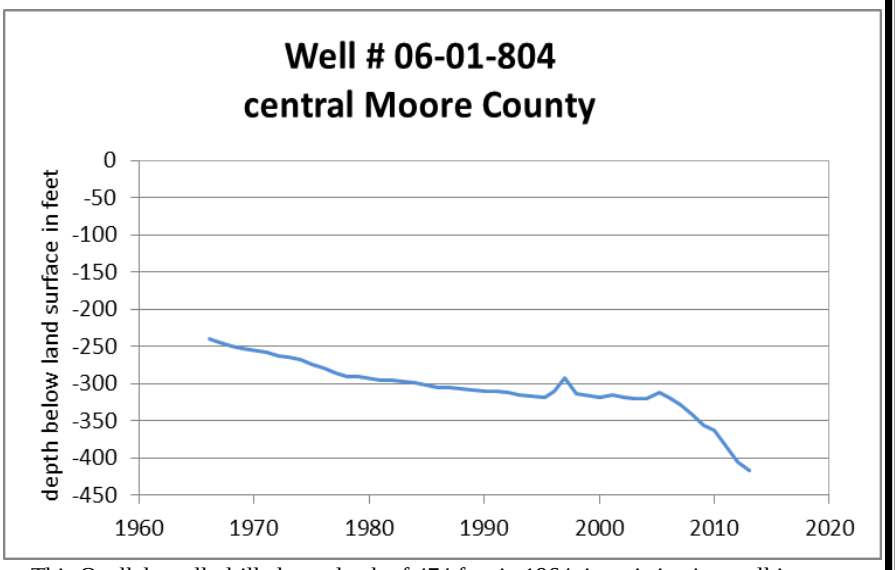
HYDROGRAPH OF THE MONTH



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

Ogallala Aquifer

The Ogallala Aquifer is the largest aquifer in the United States and is a major aquifer of Texas underlying much of the High Plains. The aquifer consists of sand, silt, gravel, clay, and loess deposited in alluvial and eolian systems in Miocene to Pliocene time 12 to 4 million years ago. The sediments forming the Ogallala came from the rising Rocky Mountains to the west in New Mexico and Colorado. As the mountains rose during the Laramide Orogeny, sediments were shed and carried by streams and later by wind. They accumulated in low spots in the preexisting landscape, first filling valleys and eventually transforming the landscape into a gently sloping plain with very little relief. After deposition, pedogenic calcrete deposits formed the "caprock" formation through repeated wetting and drying of the soil horizon in the upper layer of the Ogallala. This resistant calcrete now forms the protective cap on iconic bluffs and ridges known as the "Caprock Escarpment." Water in the northern Ogallala (north of the Canadian River) is fresh, with total dissolved solids typically less than 400 milligrams per liter. Water level declines in excess of 300 feet have occurred in several areas over the last 50 to 60 years, although in a few places, the rate of decline has slowed and/or water levels have risen incrementally, although not to pre-development levels.



This Ogallala well, drilled to a depth of 474 feet in 1964, is an irrigation well in central Moore County, north of the Canadian River. The water quality is good with total dissolved solids at less than 350 milligrams per liter. The measured yield in 1966 was at 1150 gallons per minute with 38 feet of drawdown, presumably after 36 hours. Water levels have declined 176 feet since the initial measurement in 1966, and the rate of decline has increased since 2005.

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