

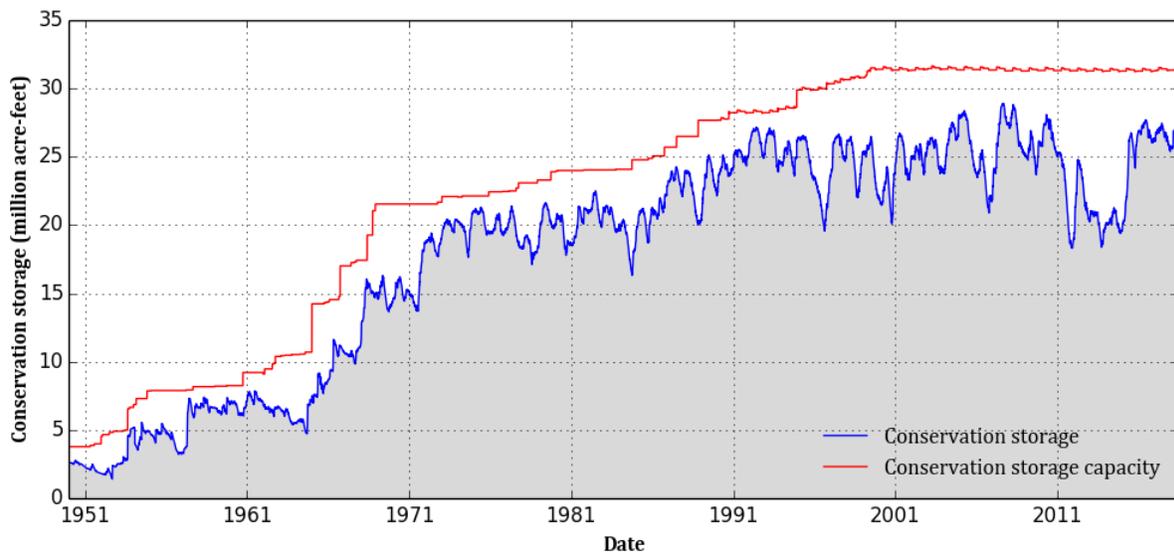
June 2018 RESERVOIR STORAGE*

At the end of June 2018, total conservation storage* in 118 of the state’s major water supply reservoirs plus Elephant Butte Reservoir in New Mexico was 25.29 million acre-feet or 78 percent of total conservation storage capacity. This is approximately 1.07 million acre-feet less than a month ago and 2.07 million acre-feet less than storage at this time last year.

Seven (7) reservoirs held 100 percent of conservation storage capacity, primarily in the North Central (3 reservoirs) and East (3 reservoirs) regions. Three reservoirs, Palo Duro (1 percent), Twin Buttes (5 percent), and O. C. Fisher (9 percent) remained below 10 percent full.

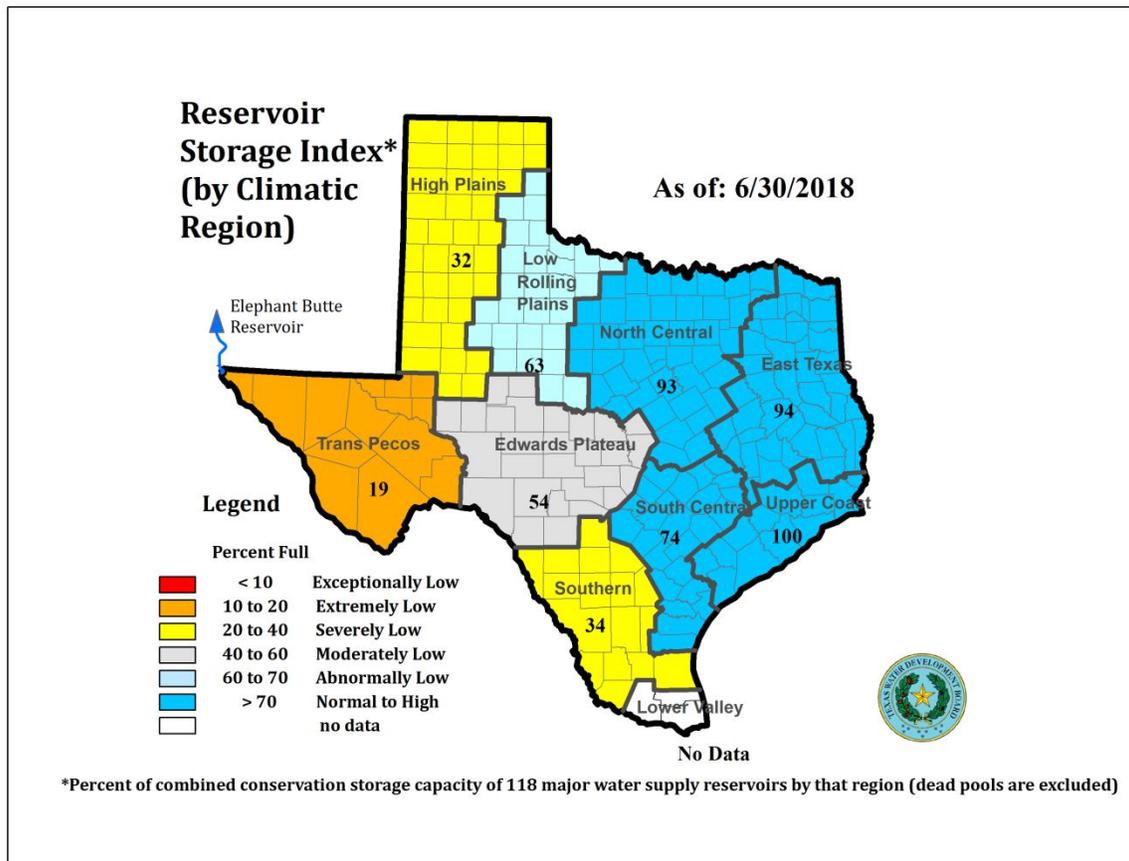
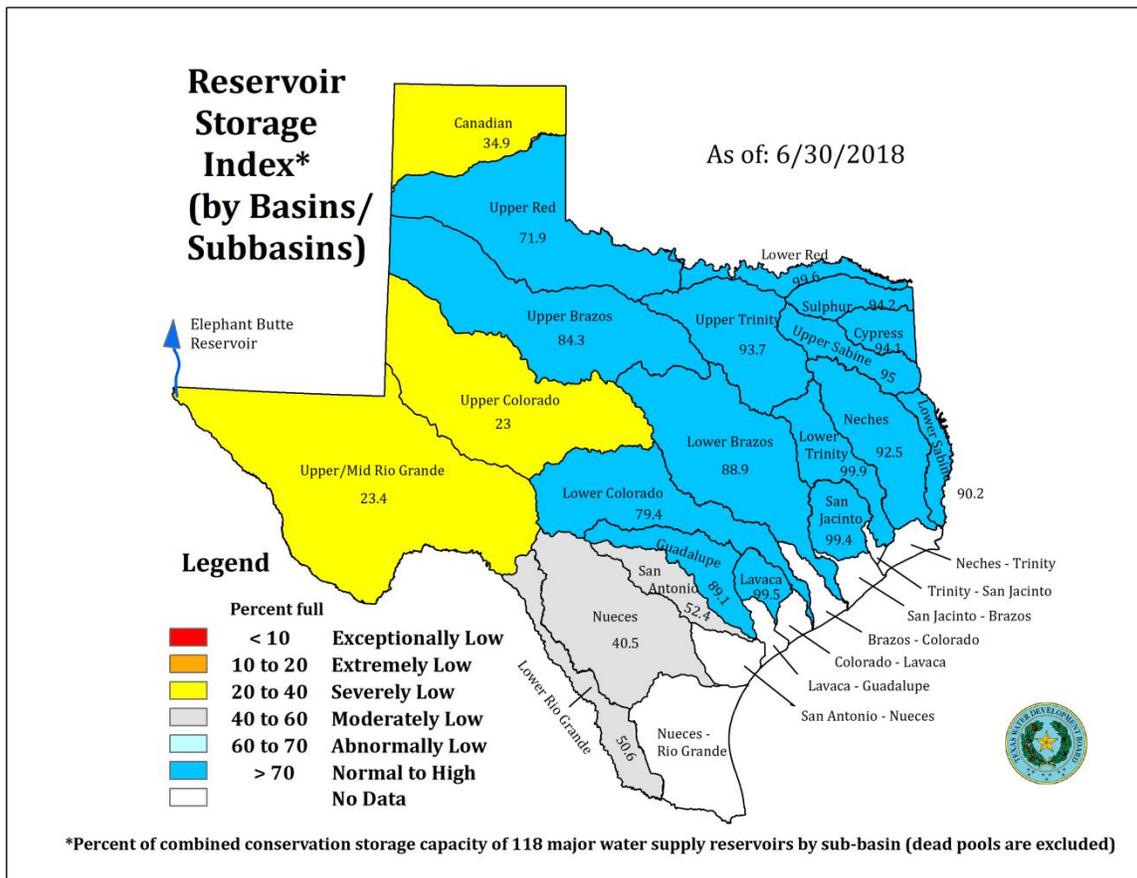
Total combined storage was at or above normal (storage ≥70 percent) in the Upper Coast (100 percent), East (94 percent), North Central (93 percent), and South Central (74 percent) regions. The High Plains (32 percent) and Trans-Pecos (19 percent) regions had the lowest percentage of storage. Overall, storage increased in one but decreased in eight regions over the past month.

Statewide monitored major water supply reservoir conservation storage



*Storage is based on end of the month data in 118 major reservoirs that represent 96 percent of the total conservation storage capacity of 188 major water supply reservoirs in Texas plus Elephant Butte Reservoir in New Mexico. Major reservoirs are defined as having a conservation storage capacity of 5,000 acre-feet or greater. Only the Texas share of storage in border reservoirs is counted.

JUNE 2018 RESERVOIR CONDITIONS



*Reservoir Storage Index is defined as the percent full of conservation storage capacity.

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Conservation storage capacity		Conservation storage end of June 2018		Change since end of May 2018		Change since end of June 2017	
	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)	(acre-feet)**	(%)
HIGH PLAINS								
MacKenzie Reservoir	46,450		6,300	14	-70	-0	-623	-1
Meredith, Lake	500,000		194,719	39	-3,233	-1	73,606	15
Palo Duro Reservoir	61,066		824	1	279	0	120	0
White River Lake	29,880		4,601	15	-299	-1	-1,751	-6
TOTAL	637,396		206,444	32	-3,323	-1	71,352	11
LOW ROLLING PLAINS								
Abilene, Lake	7,900		3,288	42	-435	-6	-4,058	-51
Alan Henry Reservoir	94,808		77,411	82	-2,141	-2	-8,020	-8
Champion Creek Reservoir	41,580		21,328	51	2,253	5	-375	-1
Coleman, Lake	38,075		31,145	82	-1,027	-3	-6,119	-16
Colorado City, Lake	30,758		10,307	34	-571	-2	-4,039	-13
Fort Phantom Hill, Lake	70,030		57,731	82	-237	-0	-12,299	-18
Greenbelt Lake	59,968		13,753	23	-510	-1	-2,525	-4
Hords Creek Lake	8,443		4,758	56	-172	-2	-1,902	-23
J. B. Thomas, Lake	199,931		78,607	39	-4,017	-2	-36,730	-18
Kemp, Lake	245,307		197,114	80	-9,388	-4	-48,193	-20
Millers Creek Reservoir	26,768		20,805	78	-1,255	-5	-5,963	-22
North Fork Buffalo Creek Reservoir	15,400		11,356	74	-1,200	-8	-1,080	-7
Stamford, Lake	51,570		39,417	76	-2,480	-5	-12,153	-24
Sweetwater, Lake	12,267		1,930	16	-168	-1	-942	-8
TOTAL	902,805		568,950	63	-21,348	-2	-144,398	-16
NORTH CENTRAL								
Amon G Carter, Lake	19,266		18,816	98	-450	-2	-103	-1
Aquilla Lake	43,243		40,186	93	-2167	-5	-3,057	-7
Arlington, Lake	40,188		36,749	91	0	0	-565	-1
Arrowhead, Lake	230,359		196,104	85	-9116	-4	-18,333	-8
Bardwell Lake	46,122		44,070	96	-1614	-3	-2,052	-4
Belton Lake	435,225		399,555	92	-12120	-3	-35,670	-8
Benbrook Lake	85,648		68,141	80	-12479	-15	-8,422	-10
Bonham, Lake	11,027		10,109	92	-802	-7	2,097	19
Bridgeport, Lake	366,236		338,896	93	-13344	-4	-27,223	-7
*Brownwood, Lake	128,839		95,658	74	-4519	-4	-32,538	-25
*Cisco, Lake	29,003		22,405	77	-595	-2	-4,114	-14
Crook, Lake	9,195		8,799	96	-271	-3	-125	-1
Eagle Mountain Lake	179,880		158,224	88	-14419	-8	-18,058	-10
Georgetown, Lake	36,823		24,025	65	-428	-1	-7,136	-19
Graham, Lake	45,288		40,056	88	-1930	-4	-5,232	-12
Granbury, Lake	132,949		123,870	93	-2501	-2	-9,079	-7
Granger Lake	51,822		51,699	100	-123	-0	-123	-0
Grapevine Lake	164,703		157,067	95	-4655	-3	-7,636	-5
*Halbert, Lake	6,033		5,057	84	-206	-3	-173	-3
Hubbard Creek Reservoir	318,067		251,558	79	-8104	-3	-59,752	-19
Hubert H Moss Lake	24,058		23,201	96	-480	-2	-630	-3
Jim Chapman Lake (Cooper)	260,332		233,219	90	-14871	-6	26,244	10
Joe Pool Lake	175,358		168,199	96	-5831	-3	-7,159	-4
Kickapoo, Lake	86,345		67,062	78	-4964	-6	-8,010	-9
Lavon Lake	406,388		374,472	92	-24125	-6	-22,082	-5
Leon, Lake	27,762		20,736	75	-1250	-5	-7,026	-25
Lewisville Lake	563,228		520,345	92	-24146	-4	-42,883	-8
Limestone, Lake	203,780		175,966	86	-10898	-5	-23,616	-12
*Lost Creek Reservoir	11,950		11,501	96	-323	-3	-147	-1
*Mineral Wells, Lake	5,273		4,628	88	-320	-6	-645	-12
Mountain Creek, Lake	22,850		22,370	98	-480	-2	-480	-2

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Conservation storage capacity		Conservation storage end of June 2018		Change since end of May 2018		Change since end of June 2017	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)**	(%)	(acre-feet)**	(%)	
<i>(North Central continued)</i>								
Navarro Mills Lake	49,827	46,994	94	-2833	-6	-2,833	-6	
New Terrell City Lake	8,583	8,112	95	-419	-5	-471	-5	
Nocona, Lake (Farmers Crk)	21,444	20,370	95	-1048	-5	-634	-3	
Palo Pinto, Lake	26,766	20,428	76	-2069	-8	-6,338	-24	
Pat Cleburne, Lake	26,008	23,877	92	-1834	-7	-1,089	-4	
*Pat Mayse Lake	113,683	111,829	98	-1854	-2	-1,854	-2	
Possum Kingdom Lake	538,139	501,870	93	-15450	-3	-36,269	-7	
Proctor Lake	54,762	36,257	66	-5955	-11	-18,505	-34	
Ray Hubbard, Lake	439,559	408,225	93	-19981	-5	-29,454	-7	
Ray Roberts, Lake	788,167	767,636	97	-17414	-2	-19,964	-3	
Richland-Chambers Reservoir	1,087,839	1,059,338	97	-28073		-28,501	-3	
Squaw Creek, Lake	151,250	151,250	100	0	0	0	0	
Stillhouse Hollow Lake	227,771	192,848	85	-6489	-3	-34,923	-15	
Tawakoni, Lake	871,685	835,958	96	-24312	-3	23,193	3	
Texoma, Lake (Texas)	1,258,113	1,258,113	100	0	0	0	0	
Texoma, Lake (Texas & Oklahoma)	2,525,281	2,598,562	100	-80132	-3	-48,364	-2	
Waco, Lake	189,418	175,136	92	-8977	-5	-14,282	-8	
Waxahachie, Lake	10,780	9,770	91	-888	-8	-991	-9	
Weatherford, Lake	17,812	15,618	88	-1346	-8	-2,010	-11	
Whitney, Lake	553,344	494,612	89	-21527	-4	-43,198	-8	
Worth, Lake	33,495	29,797	89	-33	-0	-2,269	-7	
TOTAL	10,635,685	9,880,781	93	-418165	-3	-544,120	-5	
EAST								
Athens, Lake	29,503	28,916	98	-513	-2	-587	-2	
B A Steinhagen Lake	66,961	60,367	90	-401	-1	-1,923	-3	
Bob Sandlin, Lake	190,822	187,379	98	-3,443	-2	-3,443	-2	
Caddo, Lake	29,898	29,898	100	0	0	0	0	
Cedar Creek Reservoir in Trinity	644,686	617,291	96	-19,574	-3	-27,395	-4	
Cherokee, Lake	40,094	37,081	92	-2,993	-7	-3,013	-8	
Conroe, Lake	410,988	407,541	99	-1,147	-0	191	0	
Cypress Springs, Lake	66,756	65,053	97	-1,315	-2	-1,703	-3	
Fork Reservoir, Lake	605,061	570,958	94	-13,750	-2	-33,043	-5	
Houston County Lake	17,113	16,523	97	-397	-2	-590	-3	
Jacksonville, Lake	25,670	25,014	97	-644	-3	-656	-3	
*Livingston, Lake	1,785,348	1,783,910	100	-1,438	-0	-1,438	-0	
Martin, Lake	75,726	69,157	91	-4,602	-6	-5,287	-7	
Monticello, Lake	34,740	28,933	83	-750	-2	-5,807	-17	
Murvaul, Lake	38,285	35,410	92	-1,782	-5	-2,840	-7	
Nacogdoches, Lake	39,522	36,023	91	-1,550	-4	-2,226	-6	
O' the Pines, Lake	268,566	239,252	89	-14,799	-6	-29,314	-11	
Palestine, Lake	367,303	347,535	95	-12,875	-4	-19,768	-5	
Sam Rayburn Reservoir	2,857,077	2,631,687	92	-131,368	-5	-225,390	-8	
Striker, Lake	16,934	15,982	94	-952	-6	-952	-6	
*Sulphur Springs, Lake	17,747	15,160	85	-460	-3	-2,295	-13	
Toledo Bend Reservoir (Texas)	2,236,450	2,016,744	90	-49,502	-2	-192,105	-9	
Toledo Bend Reservoir (Texas & Louisiana)	4,472,900	4,037,587	90	-99,005	-2	-384,211	-9	
Tyler, Lake	72,073	68,646	95	-2,816	-4	-3,427	-5	
Wright Patman Lake	231,496	231,496	100	-78,886	-34	0	0	
TOTAL	10,168,819	9,565,956	94	-345,957	-3	-563,011	-6	

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Conservation storage capacity (acre-feet)	Conservation storage end of June 2018		Change since end of May 2018		Change since end of June 2017	
		(acre-feet)	(%)	(acre-feet)**	(%)	(acre-feet)**	(%)
TRANS-PECOS							
Elephant Butte Reservoir (Texas)	852,491	99,120	12	-47,701	-6	-104,869	-12
Elephant Butte Reservoir (Texas & New Mexico)	1,973,358	229,444	12	-110,419	-6	-242,753	-12
Red Bluff Reservoir	151,110	90,563	60	-5,340	-4	-20,977	-14
TOTAL	1,003,601	189,683	19	-53,041	-5	-125,846	-13
EDWARDS PLATEAU							
*Amistad Reservoir (Texas)	1,840,849	1,238,254	67	-110,233	-6	-184,930	-10
*Amistad Reservoir (Texas & Mexico)	3,275,532	1,619,379	49	-114,622	-3	7,298	0
Brady Creek Reservoir	28,808	14,784	51	-511	-2	-3,564	-12
Buchanan, Lake	816,904	735,066	90	-19,916	-2	-70,356	-9
E. V. Spence Reservoir	517,272	56,969	11	-874	-0	-19,095	-4
Inks, Lake	13,962	12,900	92	-52	-0	-75	-1
Lyndon B Johnson, Lake	115,249	110,270	96	-366	-0	-611	-1
Marble Falls, Lake	6,901	6,771	98	-65	-1	-33	-0
Nasworthy	9,615	7,685	80	109	1	-205	-2
Oak Creek Reservoir	39,210	16,855	43	-871	-2	-5,540	-14
O. C. Fisher Lake	119,445	10,340	9	-353	-0	-4,955	-4
*O. H. Ivie Reservoir	554,340	86,538	16	-8,258	-1	-43,027	-8
Twin Buttes Reservoir	182,454	9,379	5	-3,407	-2	-11,962	-7
TOTAL	4,245,009	2,305,811	54	-144,797	-3	-344,353	-8
SOUTH CENTRAL							
*Austin, Lake	23,972	22,772	95	15	0	76	0
Canyon Lake	378,781	339,739	90	-7,720	-2	-33,631	-9
*Coletto Creek Reservoir	31,040	25,403	82	436	1	-2,755	-9
Medina Lake	254,823	133,489	52	-14,092	-6	-86,015	-34
Somerville Lake	147,104	140,025	95	-5,564	-4	-7,079	-5
Travis, Lake	1,113,348	778,452	70	-56,457	-5	-264,880	-24
TOTAL	1,949,068	1,439,880	74	-83,382	-4	-394,284	-20
UPPER COAST							
Houston, Lake	120,686	120,686	100	0	0	0	0
Texana, Lake	159,566	158,739	99	38,568	24	8,057	5
TOTAL	280,252	279,425	100	38,568	14	8,057	3
SOUTHERN							
Choke Canyon Reservoir	662,820	172,732	26	-8,105	-1	-65,837	-10
Corpus Christi, Lake	256,062	199,845	78	179	0	-9,793	-4
*Falcon Reservoir (Texas)	1,551,007	477,995	31	-35,065	-2	37,682	2
*Falcon Reservoir (Texas & Mexico)	2,646,817	599,622	23	-62,063	-2	-25,109	-1
TOTAL	2,469,889	850,572	34	-42,991	-2	-37,948	-2
STATEWIDE TOTAL							
STATEWIDE TOTAL	32,292,524	25,287,502	78	-1,074,436	-3	-2,074,551	-6

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

**Monthly and yearly changes do not include reservoirs that did not have data in last month or last year, respectively.

Note:

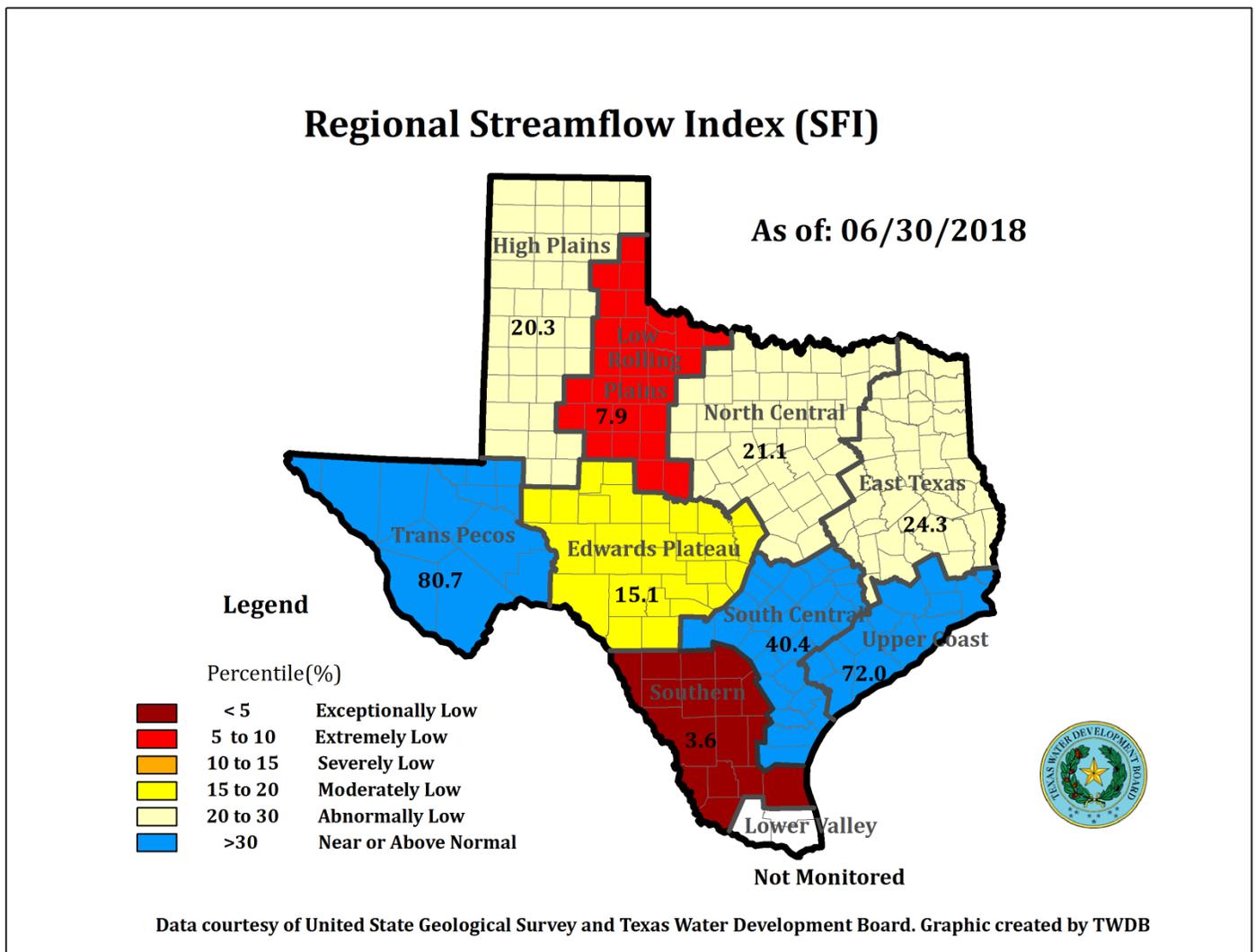
Conservation storage capacity is the space available to store water above the lowest outlet and below the top of conservation pool (some may have seasonal variations), or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not 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 pool 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 $100 * (\text{current conservation storage} - \text{past conservation storage}) / \text{conservation storage capacity}$.

JUNE 2018 STREAMFLOW CONDITIONS

The computed 30-day mean flow status for 29 reporting index stations monitored this month is presented below. Mean flow increased at nine index stations, decreased at 20 stations.

Streamflow Status	Number of Stations
Near or Above Normal (>30%)	11
Abnormally Low (20-30%)	1
Moderately Low (15-20%)	3
Severely Low (10-15%)	3
Extremely Low (5-10%)	6
Exceptionally Low (<5%)	5

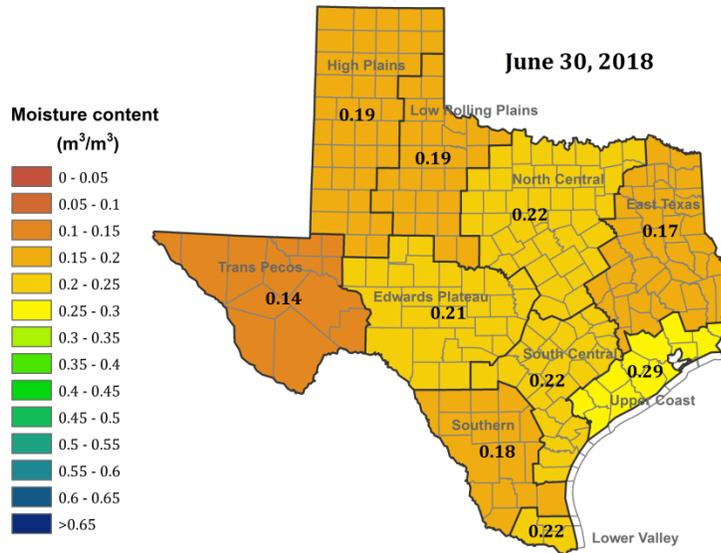
On a regional basis, as shown below, stream flows were abnormally low in High Plain, North Central and East regions, moderately low in the Edwards Plateau region, extremely low in the Low Rolling Plains, Exceptionally low in the Southern region, but near or above normal in the Trans-Pecos, South Central, and Upper Coast regions. Streamflow in the Lower Valley region is not monitored.



*Streamflow Index is defined as the percentile flow that exceeds a given percent of observed flows.

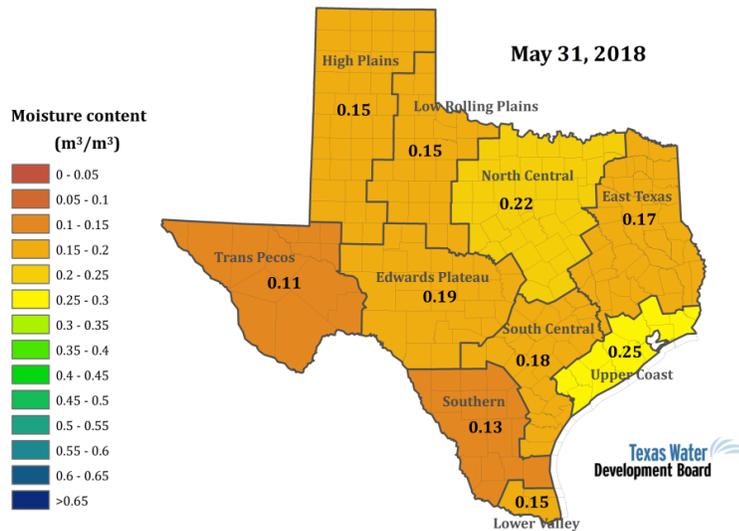
JUNE 2018 SOIL MOISTURE CONDITIONS

Soil Moisture Condition



Data from NASA Soil Moisture Active Passive (SMAP) Level 4 - Model - Value Added Version 4
Soil moisture content is shown as volume of water per unit volume of bulk soil. Root zone: 0 to 1 meter depth.

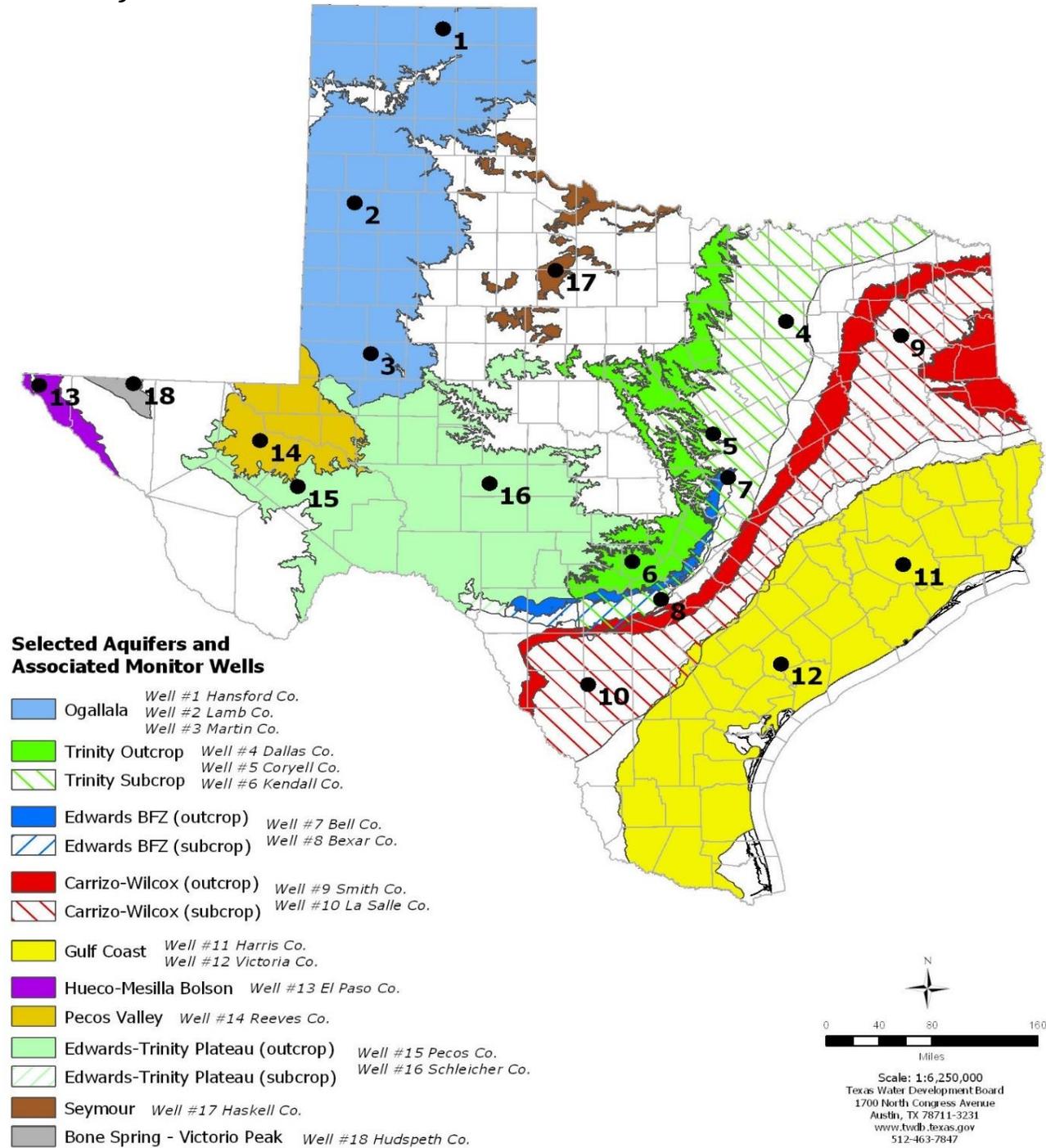
Soil Moisture Condition



Data from NASA Soil Moisture Active Passive (SMAP) Level 4 - Model - Value Added Version 2
Soil moisture content is shown as volume of water per unit volume of bulk soil. Root zone: 0 to 1 meter depth.

Soil moisture at the end of June 2018 (*top image*), as compared to that at the end of May 2018 (*bottom image*), increased in eight out of the ten regions, ranging from 11 to 47 percent, with greatest decreases in Lower Valley and Southern regions. Moisture condition remained unchanged in North Central and East regions.

June 2018 GROUNDWATER LEVELS IN OBSERVATION WELLS



Water-level measurements were available for all 18 key monitoring wells in the state. Water levels rose in 2 monitoring wells since the beginning of June, ranging from an increase of 0.02 feet in the Lamb County Ogallala Aquifer well (#2 on map) to 0.06 feet in the Haskell County Seymour Aquifer well (#17 on map). Water levels declined in 16 monitoring wells, ranging from a decline of 0.07 feet in the Hansford County Ogallala Aquifer well (#1 on map) to -16.18 feet in the Kendall County Trinity Aquifer well (#6 on map). The J-17 well (#8 on map) in San Antonio recorded a water level of 88.11 feet below land surface or 642.89 feet above mean sea level. Water levels declined 17.11 feet below the Stage I critical management level for the San Antonio portion of the Edwards (Balcones Fault Zone) Aquifer. Consequently, drought restrictions have been in effect since May 21st.

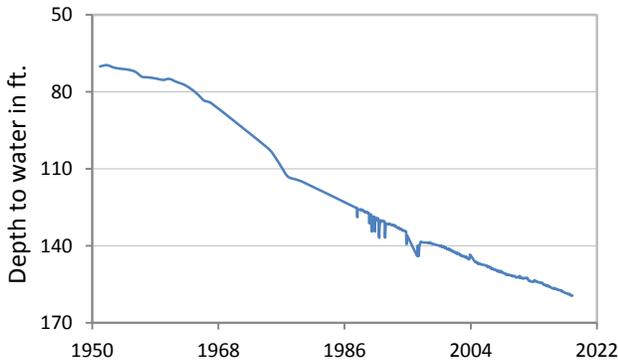
*Well numbers used in this publication on the aquifer map to indicate the monitoring well location (numbers 1 - 17) are different than the TWDB's seven-digit state well number.

Monitoring Well	June	May	Month Change	Year Change	Historical Change	First Measured
(1) Hansford 0354301	159.35	159.28	-0.07	-1.08	-89.23	1951
(2) Lamb 1053602	148.64	148.66	0.02	-1.18	-120.47	1951
(3) Martin 2739903	143.87	143.03	-0.84	-0.61	-38.98	1964
(4) Dallas 3319101	493.84	492.79	-1.05	-2.17	-271.84	1954
(5) Coryell 4035404	531.46	524.60	-6.86	-15.40	-239.46	1955
(6) Kendall 6802609	152.88	136.70	-16.18	-35.74	-92.88	1975
(7) Bell 5804816	126.69	126.19	-0.50	-4.80	-3.18	2008
(8) Bexar 6837203	88.11	76.81	-11.30	-21.20	-41.47	1932
(9) Smith 3430907	434.97	433.06	-1.91	-3.65	-134.97	1977
(10) La Salle 7738103	520.74	514.99	-5.75	-46.12	-267.67	2003
(11) Harris 6514409	192.55	191.78	-0.77	-2.18	-57.05*	1947**
(12) Victoria 8017502	33.88	32.62	-1.26	-1.83	0.12	1958
(13) El Paso 4913301	294.27	294.16	-0.11	0.53	-62.37	1964
(14) Reeves 4644501	170.51	170.35	-0.16	-2.76	-78.42	1952
(15) Pecos 5216802	223.92	210.42	-13.50	-6.13	22.96	1976
(16) Schleicher 5512134	317.74	314.33	-3.41	-6.60	-15.84	2003
(17) Haskell 2135748	46.59	46.65	0.06	-0.25	-3.59	2002
(18) Hudspeth 4807516	155.98	153.12	-2.86	-3.50	-52.06	1966

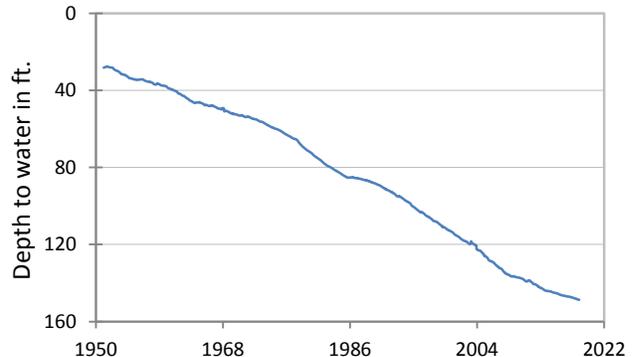
*Change since the original measurement of 135.5 feet below land surface in 1947 (**measurement not shown on the hydrograph)

June 2018 OBSERVATION WELL HYDROGRAPHS

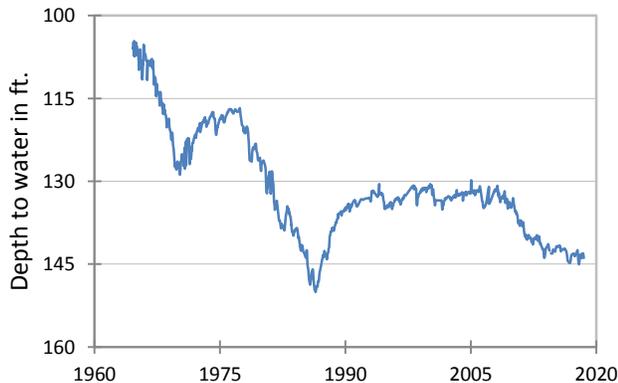
(1) State Well #03-54-301
Near Spearman, Hansford County
Ogallala Aquifer



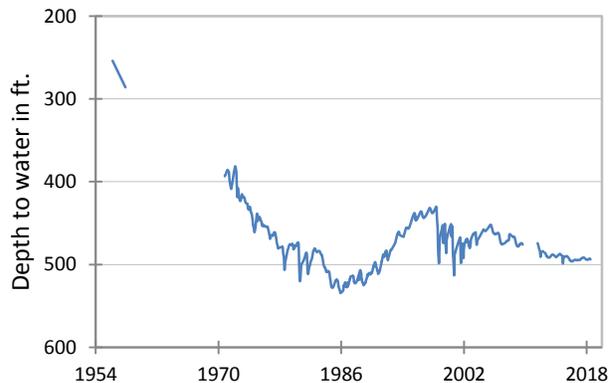
(2) State Well #10-53-602
Near Earth, Lamb County
Ogallala Aquifer



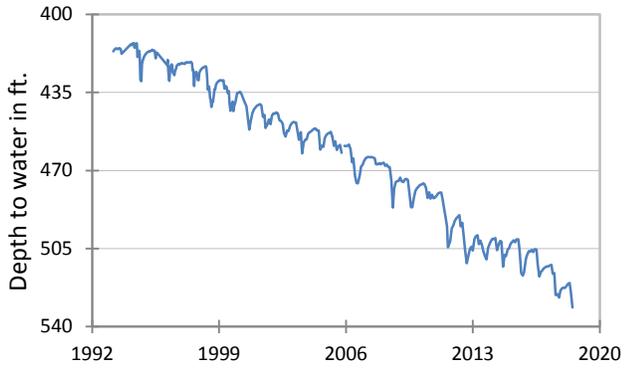
(3) State Well #27-39-903
Northwest Martin County
Ogallala Aquifer



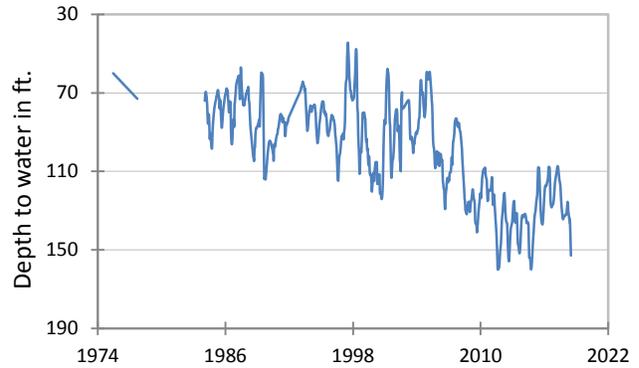
(4) State Well #33-19-101
Southeast Dallas, Dallas County
Twin Mountains Formation-Trinity Aquifer



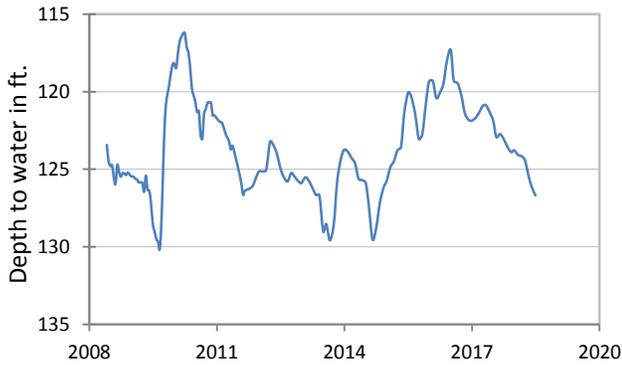
**(5) State Well #40-35-404
Gatesville, Coryell County
Hosston Formation-Trinity Aquifer**



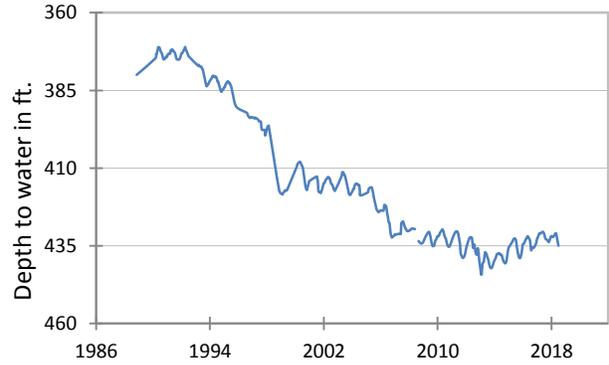
**(6) State Well #68-02-609
Waring, Kendall County
Cow Creek Formation-Trinity Aquifer**



**(7) State Well #58-04-816
Near Salado, Bell County
Edwards (Balcones Fault Zone) Aquifer**



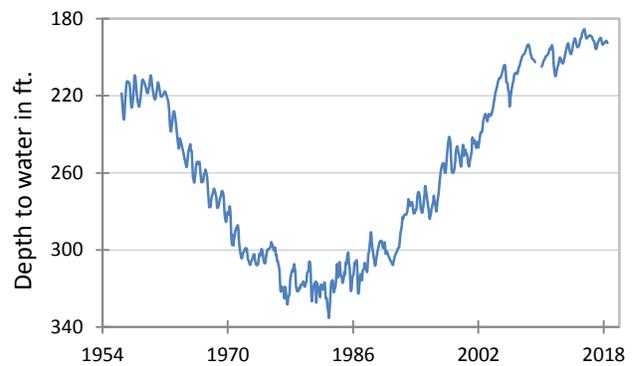
**(9) State Well #34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer**



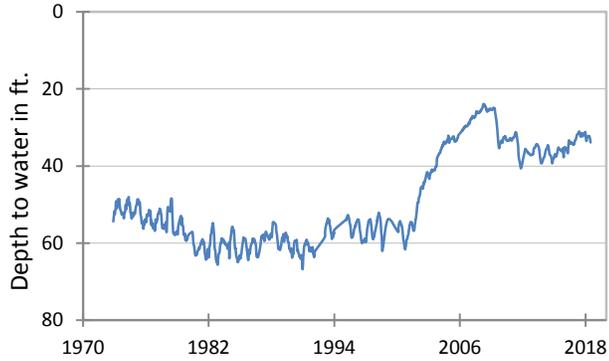
**(10) State Well #77-38-103
Near Cotulla, La Salle County
Carrizo-Wilcox Aquifer**



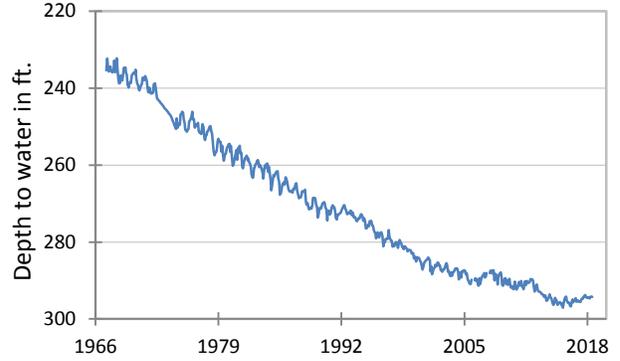
**(11) State Well #65-14-409
Alief, Harris County
Evangeline Formation-Gulf Coast Aquifer**



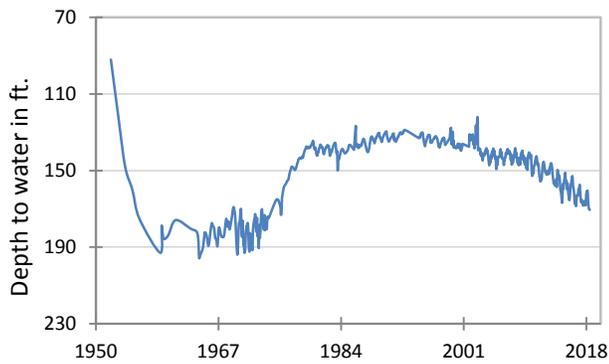
(12) State Well #80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer



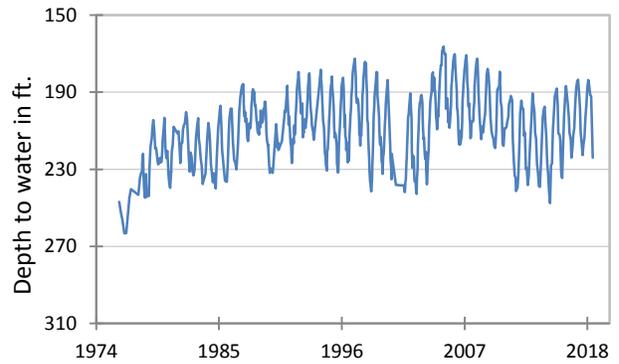
(13) State Well #49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolson Aquifer



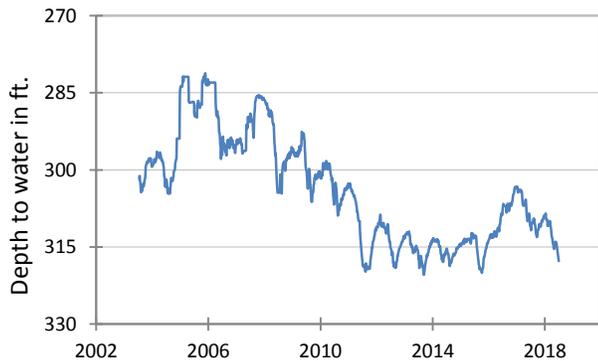
(14) State Well #46-44-501
Near Pecos, Reeves County
Pecos Valley Aquifer



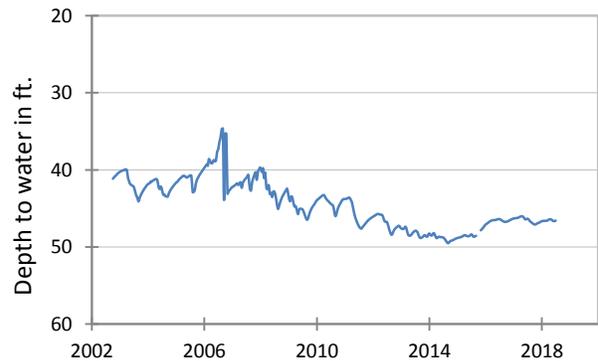
(15) State Well #52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer



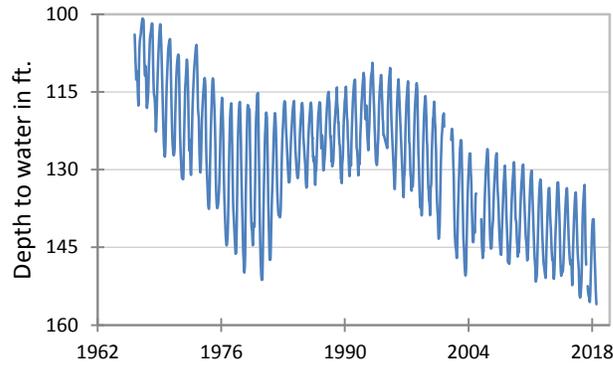
(16) State Well #55-12-134
Eldorado, Schleicher County
Trinity Aquifer



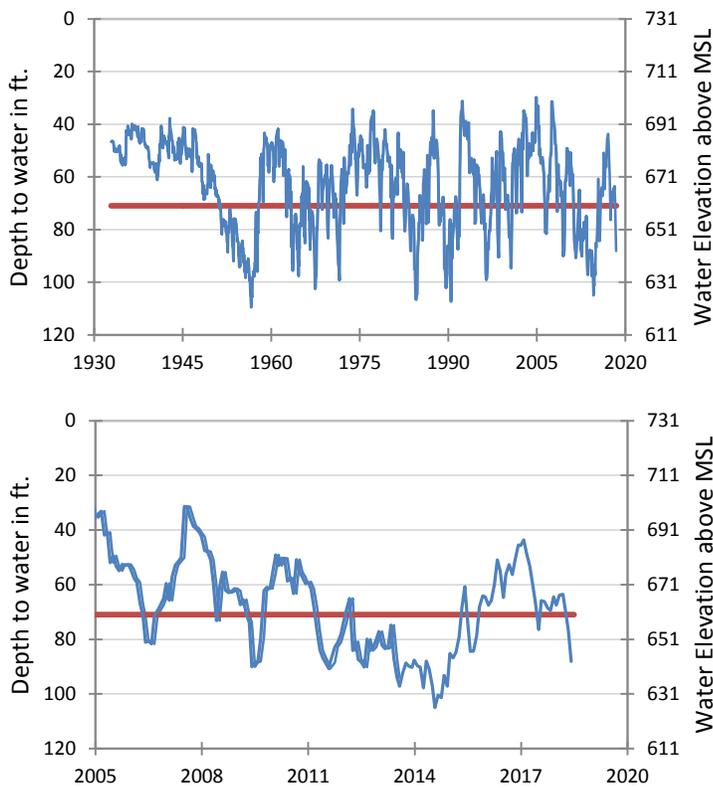
(17) State Well #21-35-748
Near O'Brien, Haskell County
Seymour Aquifer



**(18) State Well #48-07-516
Dell City, Hudspeth County
Bone Spring - Victorio Peak Aquifer**

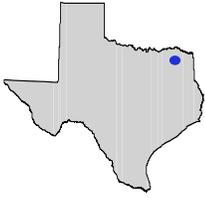


**(8) State Well #68-37-203 (J-17)
In San Antonio, Bexar County
Edwards (Balcones Fault Zone) Aquifer**



The late June water-level measurement in this Edwards (Balcones Fault Zone) Aquifer well, elevation 731 feet above mean sea level, was 88.11 feet below land surface, or 642.89 feet above mean sea level. This was 11.30 feet below last month's measurement, 21.20 feet below last year's measurement and 41.47 feet below the initial measurement recorded in 1932.

Water levels below the red line indicate periods in which Edwards Aquifer Authority Stage I drought restrictions are in effect.



HYDROGRAPH OF THE MONTH

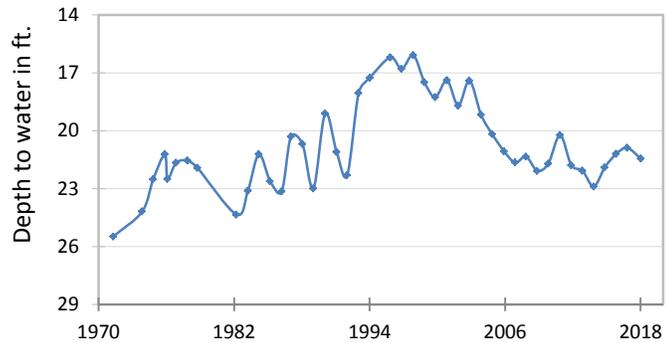
Each month this space features a new hydrograph (marked with the • symbol on the map) depicting different aquifers and their conditions in Texas.

The Nacatoch Aquifer is a minor aquifer occurring in a narrow band across northeast Texas. The aquifer consists of the Nacatoch Sand, composed of sequences of sandstone separated by impermeable layers of mudstone or clay. Freshwater saturated thickness averages about 50 feet. The groundwater in the aquifer is typically alkaline, high in sodium bicarbonate, and soft. Water from the aquifer is extensively used for domestic and livestock purposes.

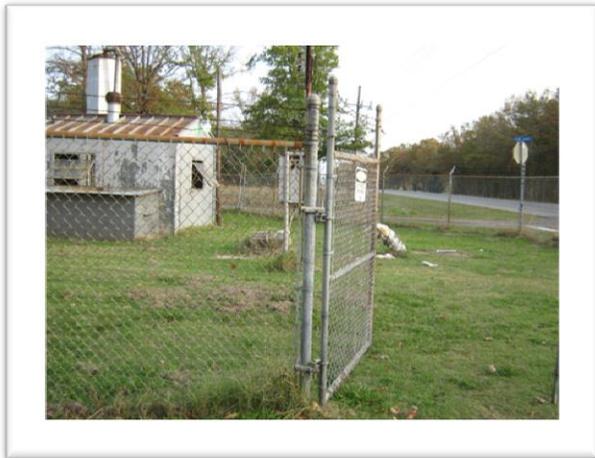
A few cities that have also historically pumped from the aquifer for public supply have converted to surface water. Because of reduced pumping in some systems, the declining water levels that had developed in their areas are stabilizing. However, systems maintaining standby wells to augment supplies during the recent drought may anticipate a resumption of declining water levels.

Nacatoch Aquifer

Well #17-39-204, 105 feet deep
unused, Red River County



The initial water-level measurement taken by the TWDB in this well was in April of 1971 at 25.48 feet below land surface. TWDB has collected a water-level measurement in this well nearly every year since. The period of record reveals a gradual increase of just over four feet in 47 years with the highest water level of 16.2 feet below land surface measured in November of 1995.



Far away (left) and close-up (right) images of well #17-39-204.