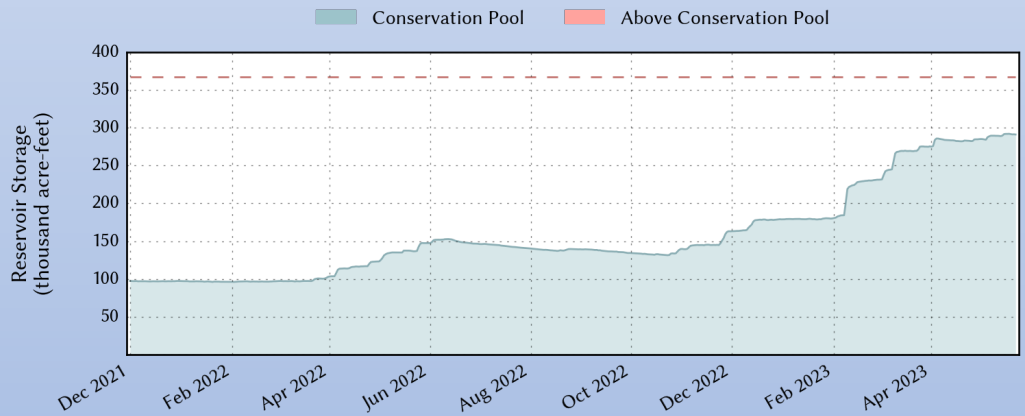


# Texas Water Conditions Report

April 2023



## Water News:

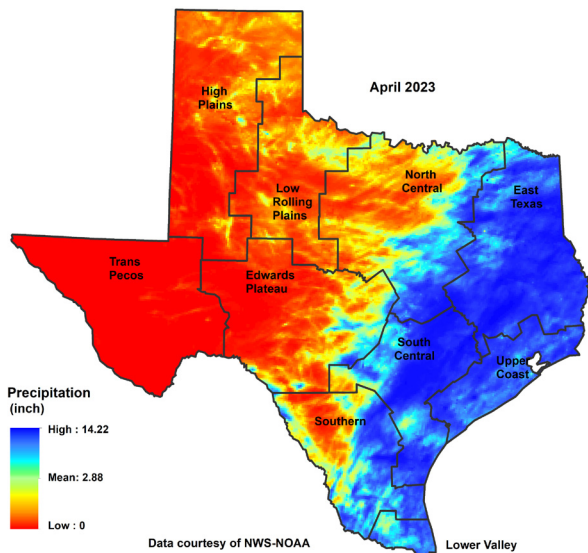
The newest Texas lake, Bois d'Arc Reservoir in the Red River basin, was 28.1% full at the beginning of April 2022. As of April 30, 2023, the reservoir sits at 77.5% full and rising.

# RAINFALL

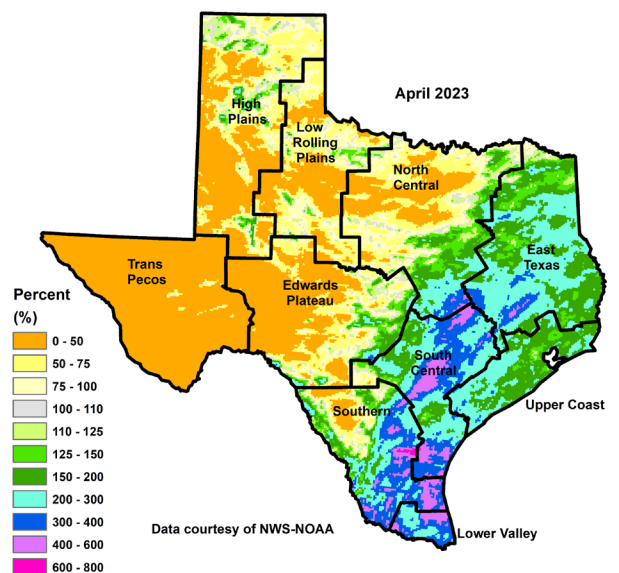
Little to no rain [yellow, orange, and red shading, Figure 1(a)] fell in the High Plains, much of the Low Rolling Plains, Trans Pecos, central and western Edwards Plateau, central and western North Central, and northern portions of the Southern climate divisions. Some rainfall [light blue and dark blue shading, Figure 1(a)] was seen in northeastern Low Rolling Plains, southern and eastern Edwards Plateau, northern and eastern North Central, East Texas, South Central, Lower Valley, much of Southern, and Upper Coast climate divisions. In eastern portions of the state accumulations reached 14.22 inches.

Compared to historical data from 1991–2020, much of the state received below average rainfall [yellow and orange shading, Figure 1(b)]. Areas of the state that received 125–200 percent of normal rainfall [light green, dark green shading, Figure 1(b)] were in portions of the High Plains, portions of the Low Rolling Plains, southern and eastern North Central, parts of East Texas, areas of southern and eastern Edwards Plateau, central and northern Southern, northern and central South Central, and much of the Upper Coast climate divisions. 200–300 percent of normal rainfall [light blue shading, Figure 1(b)] was seen in southern and eastern North Central, eastern and southern Southern, portions of the Lower Valley, across South central, southern and eastern Edwards Plateau, across East Texas, and portions of the Upper Coast climate divisions. The southern and eastern Southern, portions of the Lower Valley, southern, central, and northeastern South Central, southern North Central, and southwestern East Texas climate division received 300–600 percent of normal rainfall [(dark blue, and light pink shading, Figure 1 (b))].

a)



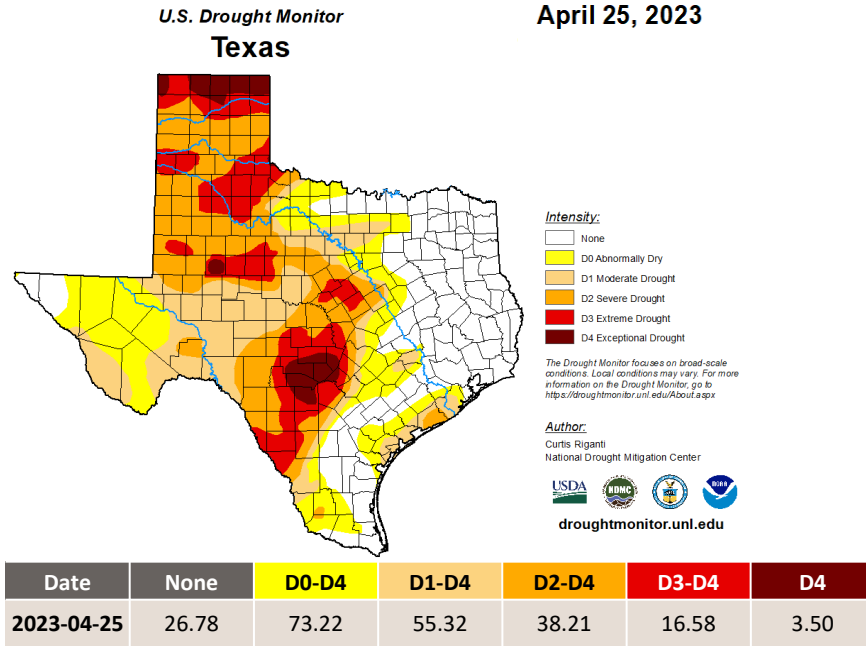
b)



**Figure 1:** (a) Monthly accumulated rainfall, and (b) Percent of normal rainfall

# DROUGHT

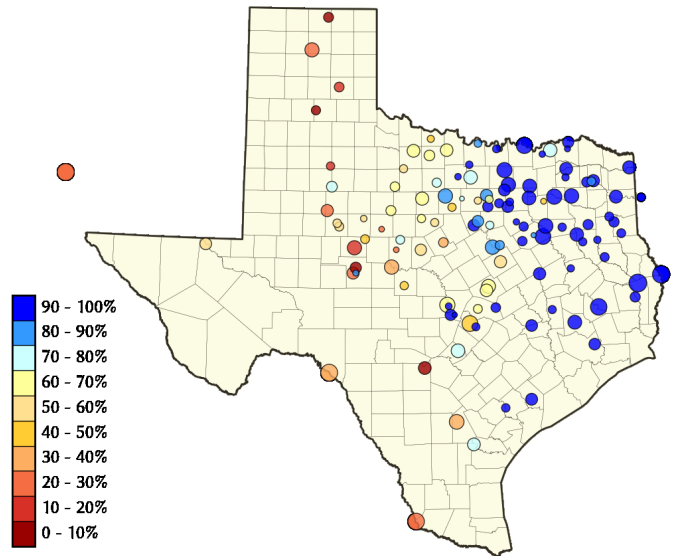
At the end of April, 73.22% of the state was in the D0 (abnormally dry) through D4 (exceptional drought) categories (**Figure 2**). That is a decrease of 7.66 % from the end of March.



**Figure 2.** The percentage of drought in Texas according to the U.S. Drought Monitor map as of April 25, 2023.

## RESERVOIR STORAGE

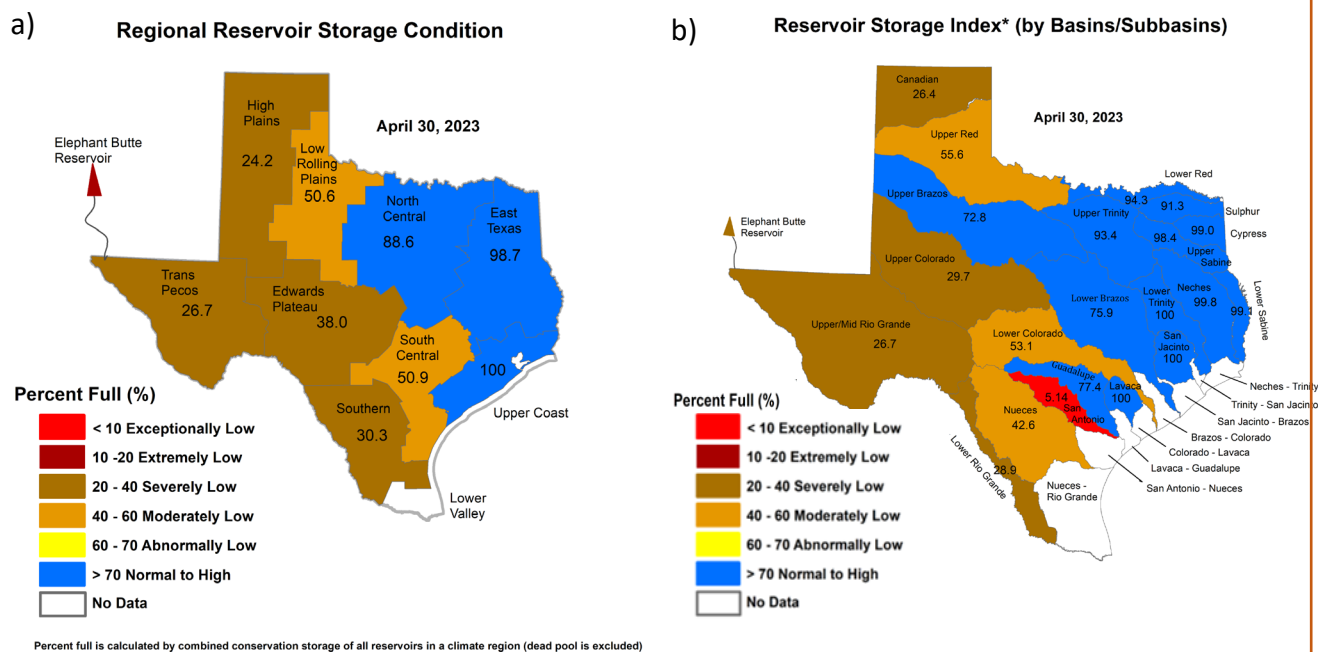
Out of 119 reservoirs in the state, 36 reservoirs held 100 percent conservation storage capacity (Figure 3). Additionally, 20 reservoirs were at or above 90 percent full. Thirteen reservoirs remained below 30 percent full: Abilene (27.0 percent full), Hords Creek (29.2 percent full), E.V. Spence (17.1 percent full), O. C. Fisher (2.7 percent full), J.B. Thomas (21.2 percent full), Falcon (23.1 percent full), Greenbelt (11.3 percent full), Mackenzie (5.8 percent full), Medina Lake (5.1 percent full), Meredith (29.7 percent full), Palo Duro Reservoir (0.3 percent full), Twin Buttes (26.7 percent full), and the White River Lake (11.6 percent full). Elephant Butte Reservoir (New Mexico) was 21.3 percent full (Figure 3).



**Figure 3.** Reservoir conservation storage at end-April expressed as percent full (%)

Reservoir conservation storage by climate division was at or above normal [storage  $\geq 70$  percent full, Figure 4(a)] for East Texas (98.7 percent full), North Central (88.6 percent full), and the Upper Coast (100 percent full) climate divisions. Conservation storage was moderately low (Figure 4(a)) for the Low Rolling Plains (50.6 percent full), and South Central (50.9 percent full) climate divisions. The High Plains (24.2 percent full), Southern (30.3 percent full), Edwards Plateau (38.0 percent full), and the Trans Pecos (26.7 percent full) climate divisions had severely low conservation storage (Figure 4(a)).

Combined conservation storage by river basin or sub-basin was exceptionally low ( $< 10$  percent full, red shading, Figure 4(b)) in the San Antonio river basin and severely low (20–40 percent full, brown shading, Figure 4(b)) in the Upper/Mid Rio Grande, Lower Rio Grande, Upper Colorado, and Canadian river basins. The Nueces, Lower Colorado, and Upper Red river basins had moderately low conservation storage (40–60 percent full, orange shading, Figure 4(b)). Normal to high conservation storage ( $> 70$  percent full, blue shading, Figure 4(b)) was observed in the Lower Red, Sulphur, Cypress, Upper and Lower Sabine, Upper and Lower Trinity, Upper and Lower Brazos, Neches, San Jacinto, Lavaca, and Guadalupe river basins.



**Figure 4:** (a) Reservoir Storage Index\* by climate division, and (b) Reservoir Storage Index\* by basin/sub-basin.

\*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	Storage capacity	Storage at end-April 2023		Storage change from end-Mar 2023		Storage change from end-Apr 2022	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
Abilene, Lake	7,900	2,130	27.0	-220	-2.8	-2,876	-36.4
Alan Henry Reservoir	96,207	68,105	70.8	-1,236	-1.3	-13,073	-13.6
*Amistad Reservoir (Texas & Mexico)	3,275,532	1,003,562	30.6	-339,235	-10.4	84,110	2.6
*Amistad Reservoir (Texas)	1,840,849	624,561	33.9	-104,917	-5.7	-151,075	-8.2
Amon G Carter, Lake	19,266	18,787	97.5	-394	-2.0	-479	-2.5
Aquilla Lake	43,243	35,222	81.5	4,266	9.9	-1,029	-2.4
Arlington, Lake	40,157	38,893	96.9	-1,129	-2.8	931	2.3
Arrowhead, Lake	230,359	151,811	65.9	-2,974	-1.3	-39,041	-16.9
Athens, Lake	29,503	29,503	100.0	0	0.0	0	0.0
*Austin, Lake	23,972	23,019	96.0	124	0.5	108	0.5
B A Steinhagen Lake	69,186	64,282	92.9	682	1.0	-2,876	-4.2
Bardwell Lake	43,856	43,856	100.0	0	0.0	361	0.8
Belton Lake	432,631	282,463	65.3	5,239	1.2	-104,046	-24.0
Benbrook Lake	85,648	85,648	100.0	0	0.0	14,037	16.4
Bob Sandlin, Lake	192,417	192,061	99.8	266	0.1	2,743	1.4
Bois d'Arc Lake	367,609	285,032	77.5	9,568	2.6	161,834	44.0
Bonham, Lake	11,027	10,911	98.9	-10	0.0	548	5.0
Brady Creek Reservoir	28,808	11,935	41.4	-394	-1.4	-3,177	-11.0
Bridgeport, Lake	372,183	275,906	74.1	-2,183	0.0	-53,235	-14.3
*Brownwood, Lake	130,868	75,885	58.0	-2,551	-1.9	-35,651	-27
Buchanan, Lake	866,694	495,478	57.2	-3,895	0.0	-258,889	-29.9
Caddo, Lake	29,898	29,898	100.0	0	0.0	0	0
Canyon Lake	378,781	288,741	76.2	-619	0.0	-77,654	-20.5
Cedar Creek Reservoir in Trinity	644,686	644,686	100.0	1,962	0.3	57,135	8.9
Champion Creek Reservoir	41,580	23,800	57.2	-494	-1.2	-3,956	-9.5
Cherokee, Lake	40,094	40,094	100.0	0	0.0	0	0.0
Choke Canyon Reservoir	662,820	205,623	31.0	7,783	1.2	-58,497	-8.8
*Cisco, Lake	29,003	20,021	69.0	-328	-1.1	-4,276	-14.7
Coleman, Lake	38,075	27,952	73.4	-583	-1.5	-5,694	-15.0
Colorado City, Lake	31,040	28,836	92.9	1,874	6.0	1,557	5.0
*Coletto Creek Reservoir	30,758	15,875	51.6	-498	-1.6	-5,227	-17.0
Conroe, Lake	417,577	417,577	100.0	1,192	0.3	0	0.0
Corpus Christi, Lake	256,062	186,111	72.7	18,004	7.0	18,985	7.4
Crook, Lake	9,195	9,195	100.0	0	0.0	0	0.0
Cypress Springs, Lake	66,756	66,756	100.0	0	0.0	5,298	7.9
E. V. Spence Reservoir	517,272	88,369	17.1	-2,312	0.0	-31,116	-6.0
Eagle Mountain Lake	179,880	150,118	83.5	-6,638	-3.7	-6,312	-3.5
Elephant Butte Reservoir (Texas)	852,491	181,345	21.3	38,835	4.6	70,946	8.3
Elephant Butte Reservoir (Total Storage)	1,960,900	419,780	21.4	89,895	4.6	164,226	8.4
*Falcon Reservoir (Texas & Mexico)	2,646,817	604,499	22.8	301,594	11.4	164,006	6.2
*Falcon Reservoir (Texas)	1,551,007	358,265	23.1	198,641	12.8	49,533	3.2
Fork Reservoir, Lake	605,061	579,587	95.8	14,916	2.5	117,942	19.5
Fort Phantom Hill, Lake	70,030	44,395	63.4	-1,579	-2.3	-15,822	-22.6
Georgetown, Lake	38,005	24,173	63.6	1,099	2.9	-4,359	-11.5
Gibbons Creek Reservoir	25,721	24,834	96.6	997	3.9	-429	-1.7
Graham, Lake	45,288	33,969	75.0	-1,039	-2.3	-6,344	-14.0
Granbury, Lake	132,949	117,633	88.5	-4,386	-3.3	-12,076	-9.1

## CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Storage capacity	Storage at end-April 2023		Storage change from end-Mar 2023		Storage change from end-Apr 2022	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
<i>Continued</i>							
Granger Lake	51,822	51,822	100.0	0	0.0	0	0.0
Grapevine Lake	163,064	163,064	100.0	0	0.0	0	0.0
Greenbelt Lake	59,968	6,763	11.3	-91	0.0	-2,556	-4.3
*Halbert, Lake	6,033	5,307	88.0	88	1.5	-16	0.0
Hords Creek Lake	8,109	2,366	29.2	-76	0.0	-776	-9.6
Houston County Lake	17,113	17,113	100.0	0	0.0	0	0.0
Houston, Lake	132,318	132,318	100.0	0	0.0	0	0.0
Hubbard Creek Reservoir	313,298	199,800	63.8	-5,983	-1.9	-60,622	-19.3
Hubert H Moss Lake	24,058	23,874	99.2	-184	0.0	-184	0.0
Inks, Lake	13,729	12,966	94.4	-94	0.0	-763	-5.6
J. B. Thomas, Lake	199,931	42,473	21.2	-1,856	0.0	-27,491	-13.8
Jacksonville, Lake	25,670	25,670	100.0	0	0.0	0	0.0
Jim Chapman Lake (Cooper)	260,332	260,332	100.0	0	0.0	37,020	14.2
Joe Pool Lake	149,629	149,629	100.0	0	0.0	-12,383	-8.3
Kemp, Lake	245,307	159,928	65.2	7,752	3.2	-40,621	-16.6
Kickapoo, Lake	86,345	52,725	61.1	-1,011	-1.2	-9,728	-11.3
Lavon Lake	409,757	406,463	99.2	-3,294	0.0	-2,881	0.0
Leon, Lake	27,762	16,011	57.7	-428	-1.5	-6,181	-22.3
Lewisville Lake	563,228	561,608	99.7	-1,620	0.0	-1,620	0.0
Limestone, Lake	203,780	203,780	100.0	34,499	16.9	0	0.0
*Livingston, Lake	1,603,504	1,603,504	100.0	0	0.0	0	0.0
*Lost Creek Reservoir	11,950	11,782	98.6	-25	0.0	323	2.7
Lyndon B Johnson, Lake	112,778	111,493	98.9	448	0.4	1,152	1.0
Mackenzie Reservoir	46,450	2,703	5.8	-62	0.0	-629	-1.4
Marble Falls, Lake	7,597	7,185	94.6	-48	0.0	-54	0.0
Martin, Lake	75,726	75,726	100.0	247	0.3	49	0.1
Medina Lake	254,823	13,119	5.1	-562	0.0	-34,999	-13.7
Meredith, Lake	500,000	148,341	29.7	-2,589	0.0	-19,004	-3.8
Millers Creek Reservoir	26,768	15,889	59.4	-819	-3.1	-5,300	-19.8
*Mineral Wells, Lake	5,273	4,080	77.4	-139	-2.6	-769	-14.6
Monticello, Lake	34,740	29,557	85.1	54	0.2	536	1.5
Mountain Creek, Lake	22,850	22,850	100.0	0	0.0	0	0.0
Murvaul, Lake	38,285	38,285	100.0	0	0.0	0	0.0
Nacogdoches, Lake	39,522	39,522	100.0	609	1.5	479	1.2
Nasworthy	9,615	8,073	84.0	-98	-1.0	-37	0.0
Navarro Mills Lake	49,827	49,827	100.0	377	0.8	8,341	16.7
New Terrell City Lake	8,583	3,538	41.2	-147	-1.7	-4,091	-47.7
Nocona, Lake (Farmers Crk)	21,444	17,450	81.4	-197	0.0	-1,563	-7.3
North Fork Buffalo Creek Reservoir	15,400	6,616	43.0	-376	-2.4	-4,307	-28.0
O' the Pines, Lake	241,363	241,363	100.0	0	0.0	0	0.0
O. C. Fisher Lake	115,742	3,077	2.7	-247	0.0	-3,067	-2.6
*O. H. Ivie Reservoir	554,340	201,989	36.4	-7,515	-1.4	-77,390	-14.0
Oak Creek Reservoir	39,210	17,420	44.4	-678	-1.7	-7,564	-19.3

## CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Storage capacity	Storage at end-April 2023		Storage change from end-Mar 2023		Storage change from end-Apr 2022	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
<i>Continued</i>							
Palestine, Lake	367,303	367,303	100.0	0	0.0	0	0.0
Palo Duro Reservoir	61,066	205	0.3	-3	0.0	-72	0.0
Palo Pinto, Lake	26,766	13,259	49.5	-1,034	-3.9	-10,587	-39.6
Pat Cleburne, Lake	26,008	20,581	79.1	-306	-1.2	1,636	6.3
*Pat Mayse Lake	113,683	113,683	100.0	0	0.0	0	0.0
Possum Kingdom Lake	538,139	444,836	82.7	-4,637	0.0	-60,263	-11.2
Proctor Lake	54,762	20,898	38.2	-1,405	-2.6	-23,424	-42.8
Ray Hubbard, Lake	439,559	439,559	100.0	1,044	0.2	4,578	1.0
Ray Roberts, Lake	788,167	788,167	100.0	0	0.0	0	0.0
Red Bluff Reservoir	151,110	87,291	57.8	-1,754	-1.2	-21,702	-14.4
Richland-Chambers Reservoir	1,087,839	1,026,201	94.3	14,951	1.4	33,517	3.1
Sam Rayburn Reservoir	2,857,077	2,857,077	100.0	0	0.0	134,988	4.7
Somerville Lake	150,293	150,293	100.0	27,101	18.0	0	0.0
Squaw Creek, Lake	151,250	151,250	100.0	0	0.0	3,047	2.0
Stamford, Lake	51,570	34,488	66.9	-1,874	-3.6	-6,326	-12.3
Stillhouse Hollow Lake	229,796	159,058	69.2	334	0.1	-45,659	-19.9
Striker, Lake	16,934	16,894	99.8	58	0.3	-40	0.0
Sweetwater, Lake	12,267	6,974	56.9	-173	-1.4	-2,445	-19.9
*Sulphur Springs, Lake	17,747	17,747	100.0	0	0.0	5,324	30.0
Tawakoni, Lake	871,685	871,685	100.0	0	0.0	57,858	6.6
Texana, Lake	158,975	158,975	100.0	9,874	6.2	12,624	7.9
Texoma, Lake (Texas & Oklahoma)	2,487,601	2,334,564	93.8	-94,949	-3.8	-90,480	-3.6
Texoma, Lake (Texas)	1,243,801	1,167,282	93.8	-47,474	-3.8	-45,240	-3.6
Toledo Bend Reservoir (Texas & Louisiana)	4,472,900	4,438,536	99.2	397,662	8.9	80,460	1.8
Toledo Bend Reservoir (Texas)	2,236,450	2,217,218	99.1	198,831	8.9	40,230	1.8
Travis, Lake	1,098,044	482,521	43.9	-6,535	0.0	-213,973	-19.5
Twin Buttes Reservoir	182,454	48,746	26.7	-2,669	-1.5	-40,515	-22.2
Tyler, Lake	72,073	72,073	100.0	0	0.0	0	0.0
Waco, Lake	189,418	112,165	59.2	2,693	1.4	-38,564	-20.4
Waxahachie, Lake	11,060	11,060	100.0	0	0.0	1,632	14.8
Weatherford, Lake	17,812	10,113	56.8	-174	0.0	-3,707	-20.8
White River Lake	29,880	3,465	11.6	-238	0.0	-1,123	-3.8
Whitney, Lake	564,808	452,858	80.2	7,675	1.4	-59,046	-10.5
Worth, Lake	24,419	16,446	67.3	558	2.3	-2,157	-8.8
Wright Patman Lake	310,382	310,381	100.0	187,788	60.5	23,969	7.7
<b>STATEWIDE TOTAL</b>							
<b>STATEWIDE TOTAL</b>	<b>32,576,052</b>	<b>24,241,494</b>	<b>74.4</b>	<b>565,635</b>	<b>1.7</b>	<b>-891,736</b>	<b>-2.7</b>

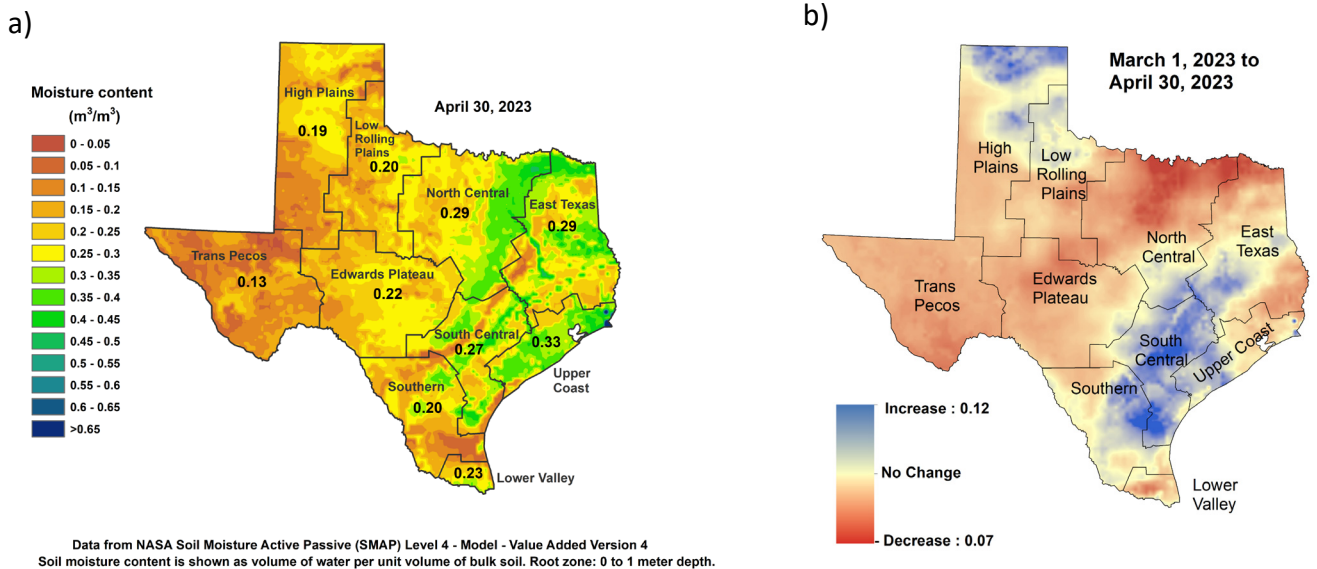
\*Total volume below elevation of conservation pool top is used as the conservation storage capacity, because the dead pool storage is unknown.

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

## SOIL MOISTURE

At the end of April 2023, root zone soil moisture was low [yellow, orange, Figure 5(a)] in some portion of each of the climate divisions. Areas of more severe dryness [brown shading, Figure 5(a)] were in the High Plains, Trans Pecos, Low Rolling Plains, Southern, and areas of northern and southern South Central, northern Lower Valley, southwestern Upper Coast, and western East Texas climate divisions. Average to slightly above average soil moisture [green shading, Figure 5(a)] was seen in the eastern North Central, northern and southern South Central, the Upper Coast, south central Lower Valley, and areas of East Texas climate divisions. An area of higher soil moisture [blue shading, Figure 5 (a)] was seen in a small area of eastern Upper Coast climate division.

Compared to conditions at the end of March 2023, soil moisture decreased [red shading in Figure 5(b)] across much of the state, particularly in central and northern North Central, north central Edwards Plateau, southern Trans Pecos, and northern East Texas climate divisions. Soil moisture increased [blue shading in Figure 5(b)] in the northern High Plains, northern Low Rolling Plains, southwestern East Texas, South Central, western Upper Coast, and northeastern Southern climate divisions.



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.

**Figure 5:** (a) Root zone soil moisture conditions in April 2023 and (b) the difference in root zone soil moisture between end-March 2023 and end-April 2023.



## STREAMFLOW CONDITIONS

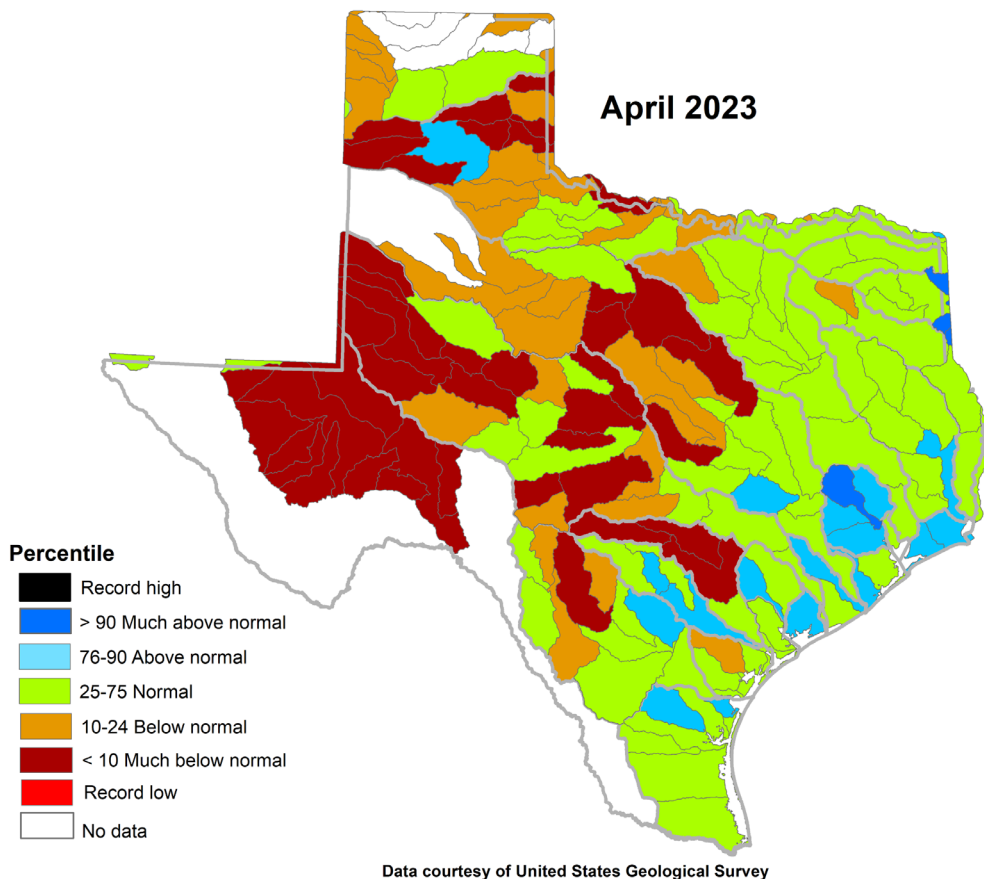
Normal streamflow (25–75<sup>th</sup> percentile, green shading, Figure 6) was recorded in parts of the Panhandle, Central, East, and coastal regions of Texas this month.

Above normal (76–90<sup>th</sup> percentile, light blue shading, Figure 6) streamflow was seen in Upper Red (Upper Prairie Dog Town Fork Red watershed), Lower Neches, Neches-Trinity, San Jacinto, San-Jacinto-Brazos (Austin-Oyster watershed), Lower Brazos (Yegua and San Bernard watersheds), Lavaca, Colorado-Lavaca, San Antonio, Nueces-Rio Grande (San Fernando, South Corpus Christi Bay watersheds) river basins.

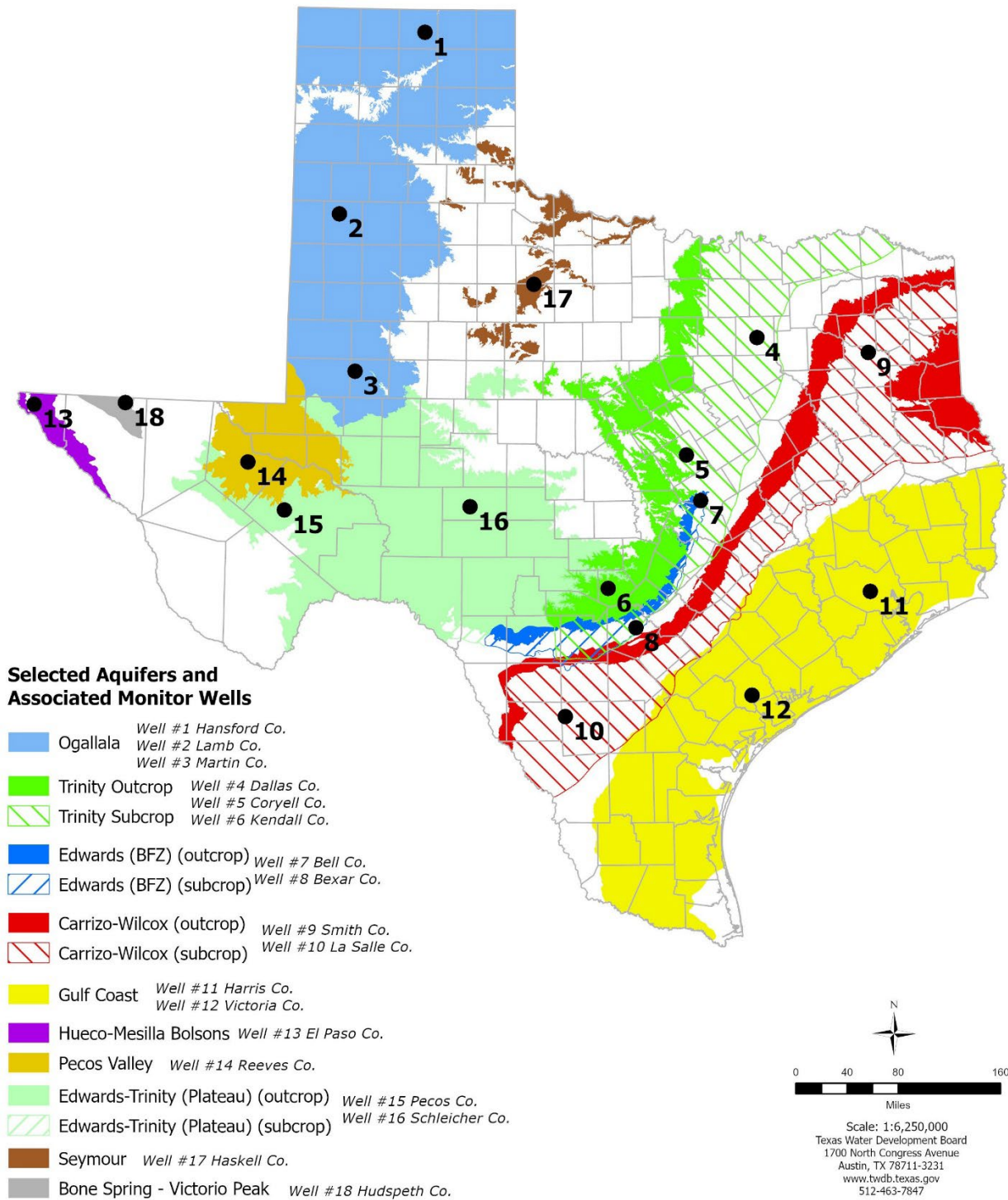
Much above normal (> 90<sup>th</sup> percentile, dark blue shading, Figure 6) streamflow was seen in the Cypress, (Cross Bayou watershed), and San Jacinto (West Fork watershed) river basins.

Below normal streamflow (10–24<sup>th</sup> percentile, orange shading, Figure 6) was recorded in the Canadian, Upper Red, Upper Trinity (Upper West Fork Trinity watershed), Upper Sabine (Lake Fork watershed), Upper and Mid Brazos, Upper and Lower Colorado, Nueces (Nueces Headwaters, Upper Nueces, and Hondo watersheds), and San Antonio-Nueces river basins.

Much below normal stream flow (< 10<sup>th</sup> percentile, dark red shading, Figure 6) was seen in the Upper Red, Pecos, Upper and Lower Colorado, Mid Brazos, and Nueces (Upper Frio watershed) river basins.



**Figure 6:** Runoff percentiles by the U.S. Geological Survey’s Hydrologic Unit Code



## APRIL 2023 GROUNDWATER LEVELS IN MONITORING WELLS

Water-level measurements were available for 16 key monitoring wells in the state. The recorders in two wells (#10 and #11 on map) were offline during the reporting period. Water levels rose in 7 monitoring wells since the beginning of April, ranging from an increase of 0.09 feet in the Martin County Ogallala Aquifer well (#3 on map) to 5.70 feet in the Bexar County Edwards (Balcones Fault Zone) Aquifer well (#8 on map). Water levels declined in 9 monitoring wells, ranging from a decline of -0.06 feet in the Lamb County Ogallala Aquifer well (#2 on map) to -3.91 feet in the Pecos County Edwards-Trinity (Plateau) Aquifer well (#15 on map). The J-17 well (#8 on map) in San Antonio recorded a water level of 89.30 feet below land surface or 641.70 feet above mean sea level. Water levels are 8.30 feet below the Stage 2 and 1.70 feet above the Stage 3 critical management levels for the San Antonio portion of the Edwards (Balcones Fault Zone) Aquifer. Stage 3 water restrictions have been in effect since June 13, 2022, and remain in effect as a result of area spring flow levels.

\* Well numbers used in this publication on the aquifer map to indicate the monitoring well locations (numbers 1 to 18) are different than the TWDB's seven-digit state well number.

Monitoring Well	April (depth to water, feet)	March (depth to water, feet)	Month Change	Year Change	Historical Change*	First Measured (year)
(1) Hansford 0354301	164.24	163.90	-0.34	-2.06	-94.12	1951
(2) Lamb 1053602	153.90	153.84	-0.06	-1.03	-125.73	1951
(3) Martin 2739903	145.96	146.05	0.09	-1.20	-41.07	1964
(4) Dallas 3319101	503.72	501.69	-2.03	-8.74	-281.72	1954
(5) Coryell 4035404	543.24	542.64	-0.60	-8.58	-251.24	1955**
(6) Kendall 6802609	151.85	153.39	1.54	21.27	-91.85	1975
(7) Bell 5804816	124.94	125.11	0.17	-1.35	-1.43	2008
(8) Bexar 6837203	89.30	95.00	5.70	-6.30	-42.66	1932
(9) Smith 3430907	440.39	442.14	1.75	-2.44	-140.39	1977**
(10) La Salle 7738103	NA	NA	NA	NA	-281.00	2003
(11) Harris 6514409	NA	190.78	NA	NA	-55.28	1947**
(12) Victoria 8017502	32.28	33.69	1.41	-0.91	1.72	1958**
(13) El Paso 4913301	300.28	299.59	-0.69	-0.86	-68.38	1964**
(14) Reeves 4644501	156.03	155.94	-0.09	3.09	-63.94	1952
(15) Pecos 5216802	199.99	196.08	-3.91	11.95	46.89	1976
(16) Schleicher 5512134	305.58	307.46	1.88	NA	-3.68	2003
(17) Haskell 2135748	46.96	46.40	-0.56	-0.62	-3.96	2002
(18) Hudspeth 4807516	147.85	146.31	-1.54	-0.96	-43.93	1966

\* Change since the original measurement taken on the date indicated in the last column. The historical changes shown for recorder wells #10 and #11 are based off the most recent water level records from January and March 2023, respectively.

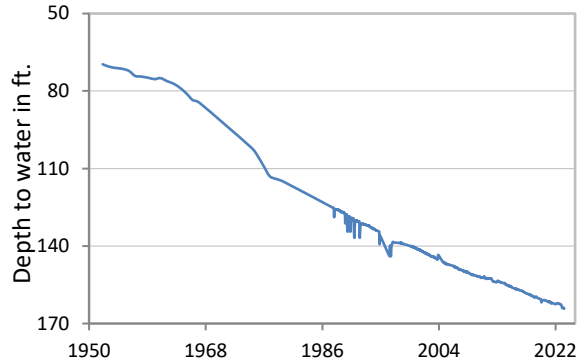
\*\* Measurement not shown on the hydrograph.

NA (not available)

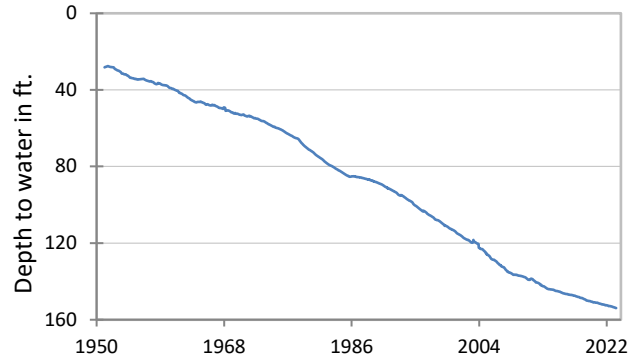
All data are provisional and subject to revision

## APRIL 2023 MONITORING WELL HYDROGRAPHS

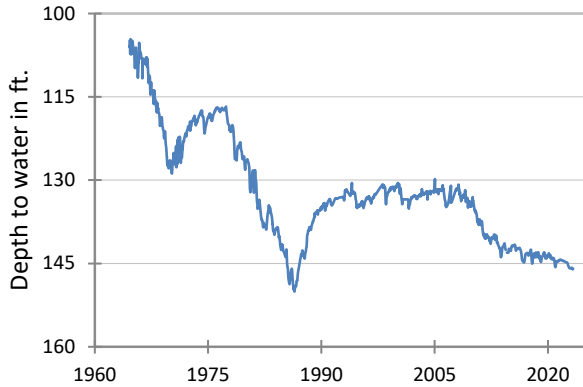
**(1) State Well #03-54-301  
Near Spearman, Hansford County  
Ogallala Aquifer**



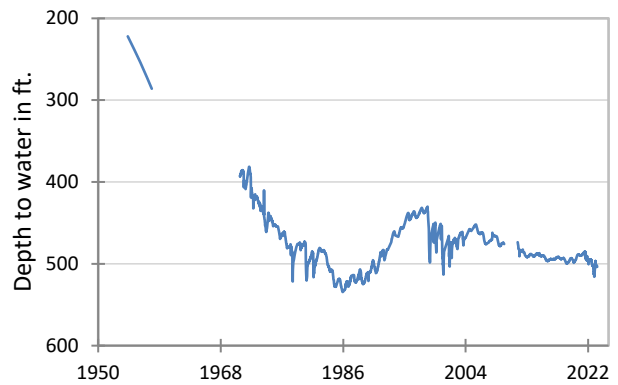
**(2) State Well #10-53-602  
Near Earth, Lamb County  
Ogallala Aquifer**



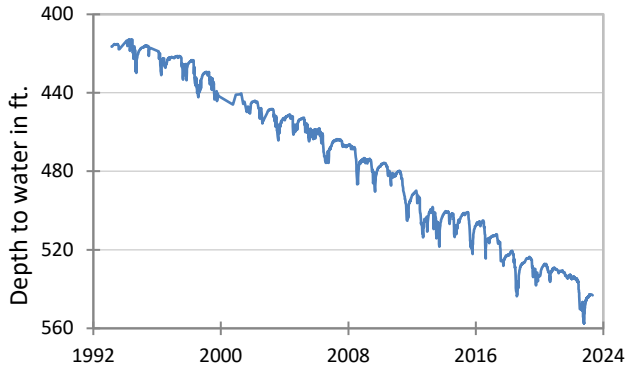
**(3) State Well #27-39-903  
Northwest Martin County  
Ogallala Aquifer**



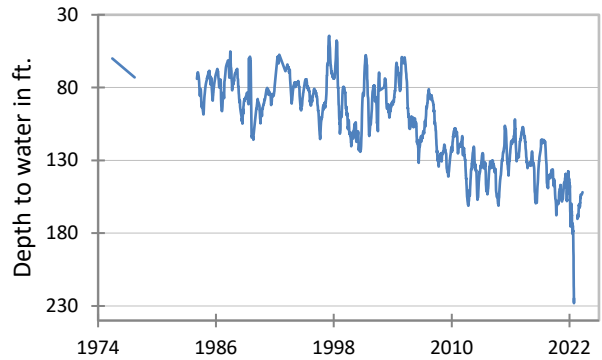
**(4) State Well #33-19-101  
Southeast Dallas, Dallas County  
Twin Mountains Formation-Trinity Aquifer**



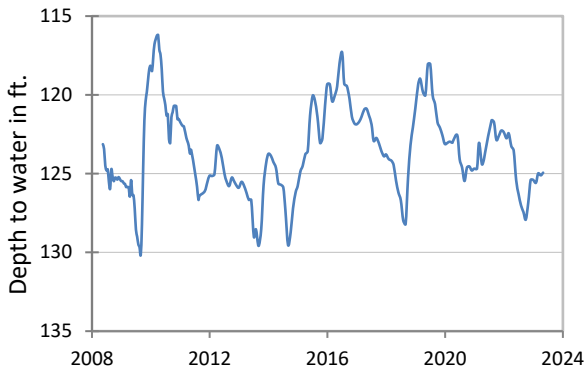
**(5) State Well #40-35-404  
Gatesville, Coryell County  
Hosston Formation-Trinity Aquifer**



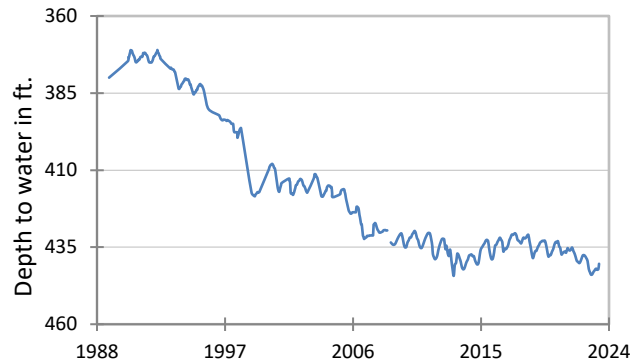
**(6) State Well #68-02-609  
Waring, Kendall County  
Travis Peak Formation-Trinity Aquifer**



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



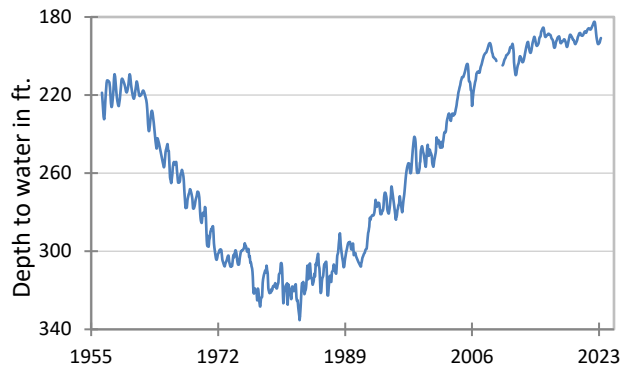
**(9) State Well #34-30-907  
Red Springs, Smith County  
Carrizo-Wilcox Aquifer**



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

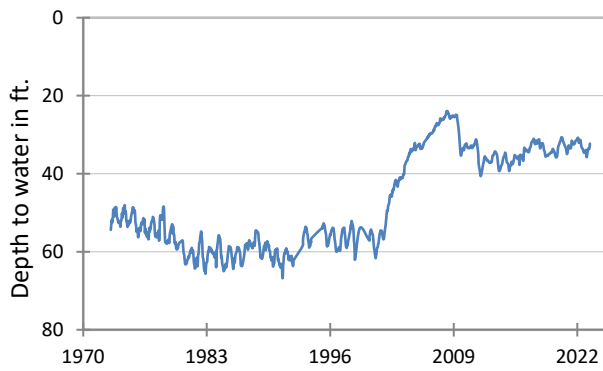


**\*(11) State Well #65-14-409  
North Houston, Harris County  
Evangeline Formation-Gulf Coast Aquifer**

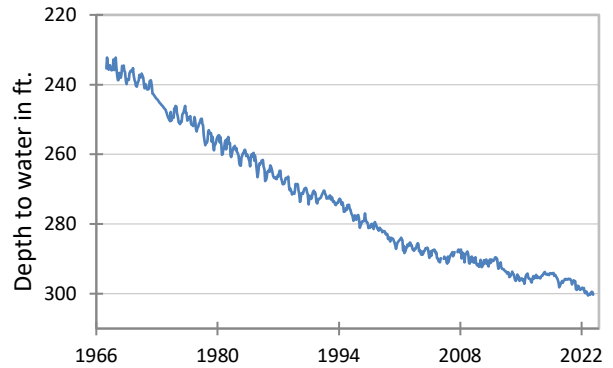


\*Recorder wells #10 and #11 were offline in April 2023 and did not record data.

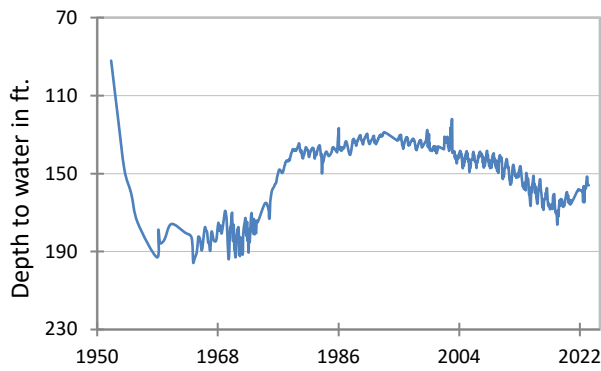
**(12) State Well #80-17-502**  
**Near Bloomington, Victoria County**  
**Lissie Formation-Gulf Coast Aquifer**



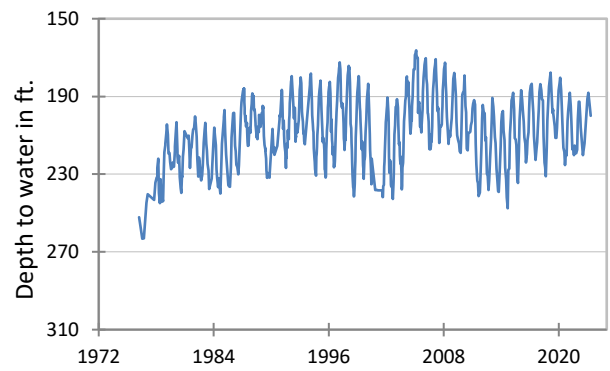
**(13) State Well #49-13-301**  
**El Paso, El Paso County**  
**Hueco-Mesilla Bolsons Aquifer**



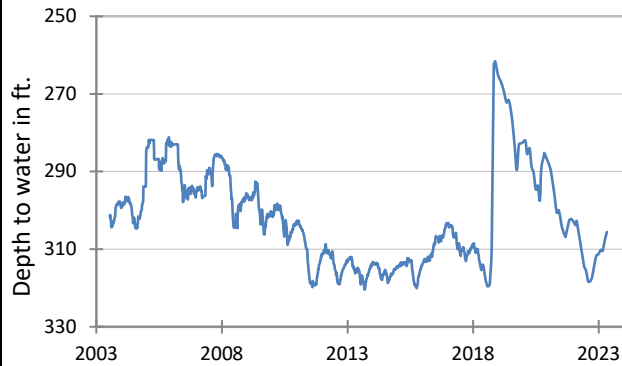
**(14) State Well #46-44-501**  
**Near Pecos, Reeves County**  
**Pecos Valley Aquifer**



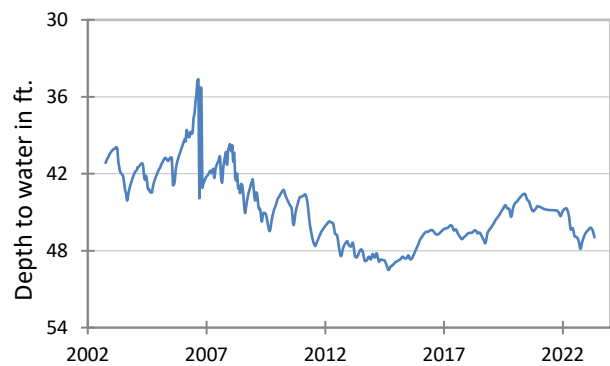
**(15) State Well #52-16-802**  
**Fort Stockton, Pecos County**  
**Edwards-Trinity (Plateau) Aquifer**



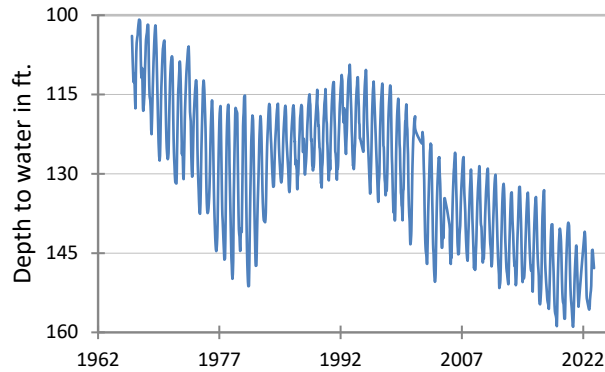
**(16) State Well #55-12-134**  
**Eldorado, Schleicher County**  
**Edwards-Trinity (Plateau) Aquifer**



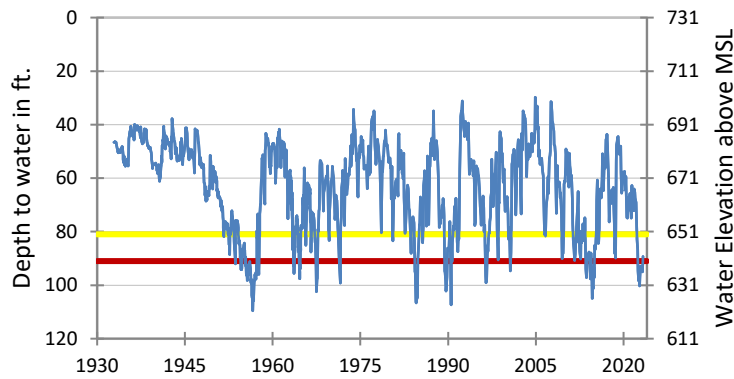
**(17) State Well #21-35-748**  
**Near O'Brien, Haskell County**  
**Seymour Aquifer**



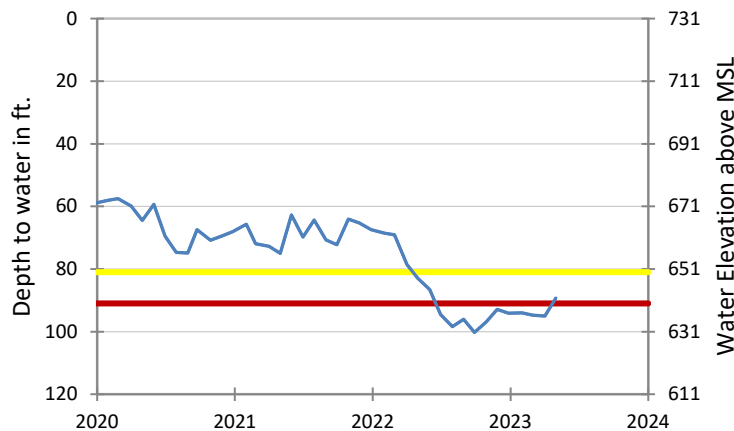
**(18) State Well #48-07-516  
Dell City, Hudspeth County  
Bone Spring-Victorio Peak Aquifer**



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

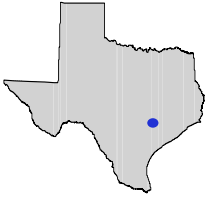


The late April water-level measurement in this Edwards (Balcones Fault Zone) Aquifer well, located at an elevation of 731 feet above mean sea level, was 89.30 feet below land surface, or 641.70 feet above mean sea level. This was 5.70 feet above last month's measurement, 6.30 feet below last year's measurement, and 42.66 feet below the initial measurement recorded in 1932.



**Water levels below the yellow and red colored lines indicate periods in which Edwards Aquifer Authority Stage 2 and 3 drought restrictions for the J-17 well are triggered, respectively. In April 2023, the aquifer rose above the Stage 3 critical management level, but Stage 3 drought restrictions remained in effect due to area spring flow levels.**

## 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.

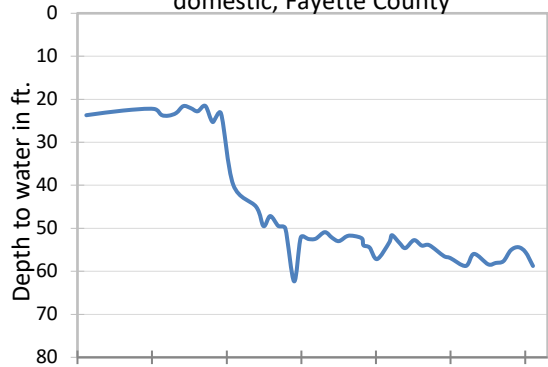
The Sparta Aquifer is a minor aquifer extending across east and south Texas, parallel to the Gulf of Mexico coastline and about 100 miles inland. Water is contained within a part of the Claiborne Group known as the Sparta Formation, a sand-rich unit interbedded with silt and clay layers and with massive sand beds in the bottom section. The thickness of the formation changes gradually from more than 700 feet at the Sabine River to about 200 feet in South Texas. Freshwater saturated thickness averages about 120 feet.

In outcrop areas and for a few miles down-dip in the subsurface, the water is usually fresh, with an average total dissolved solids concentration of 300 milligrams per liter. Water quality deteriorates with depth (below about 2,000 feet), where groundwater has an average total dissolved solids concentration of 800 milligrams per liter. Excessive iron concentrations are common throughout the aquifer.

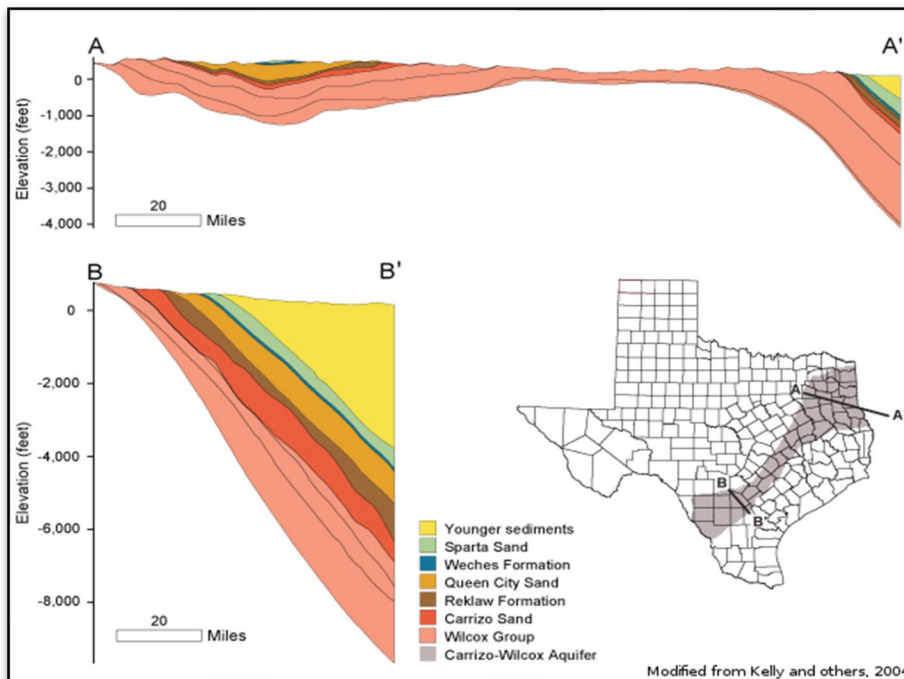
Water from the aquifer is predominantly used for domestic and livestock purposes. In some areas, such as in Houston and Brazos counties, the aquifer is used for municipal, industrial, and irrigation purposes.

### Sparta Aquifer

Well #67-08-402, 678 feet deep  
domestic, Fayette County



The initial water-level measurement of 23.70 feet below land surface was recorded by the TWDB in 1961. The hydrograph shows relatively stable water levels from the initial measurement in 1961 through 1980. Water levels sharply declined through the 1980s at a rate of approximately 3.02 feet per year, with the lowest level reaching 62.33 feet below land surface in 1989. The water levels have remained comparatively stable since then.



Cross section of the Sparta Aquifer modified from [Groundwater Availability Models for the Queen City and Sparta Aquifers](#) Report. Well #67-08-402 is drilled into the Sparta Sand.