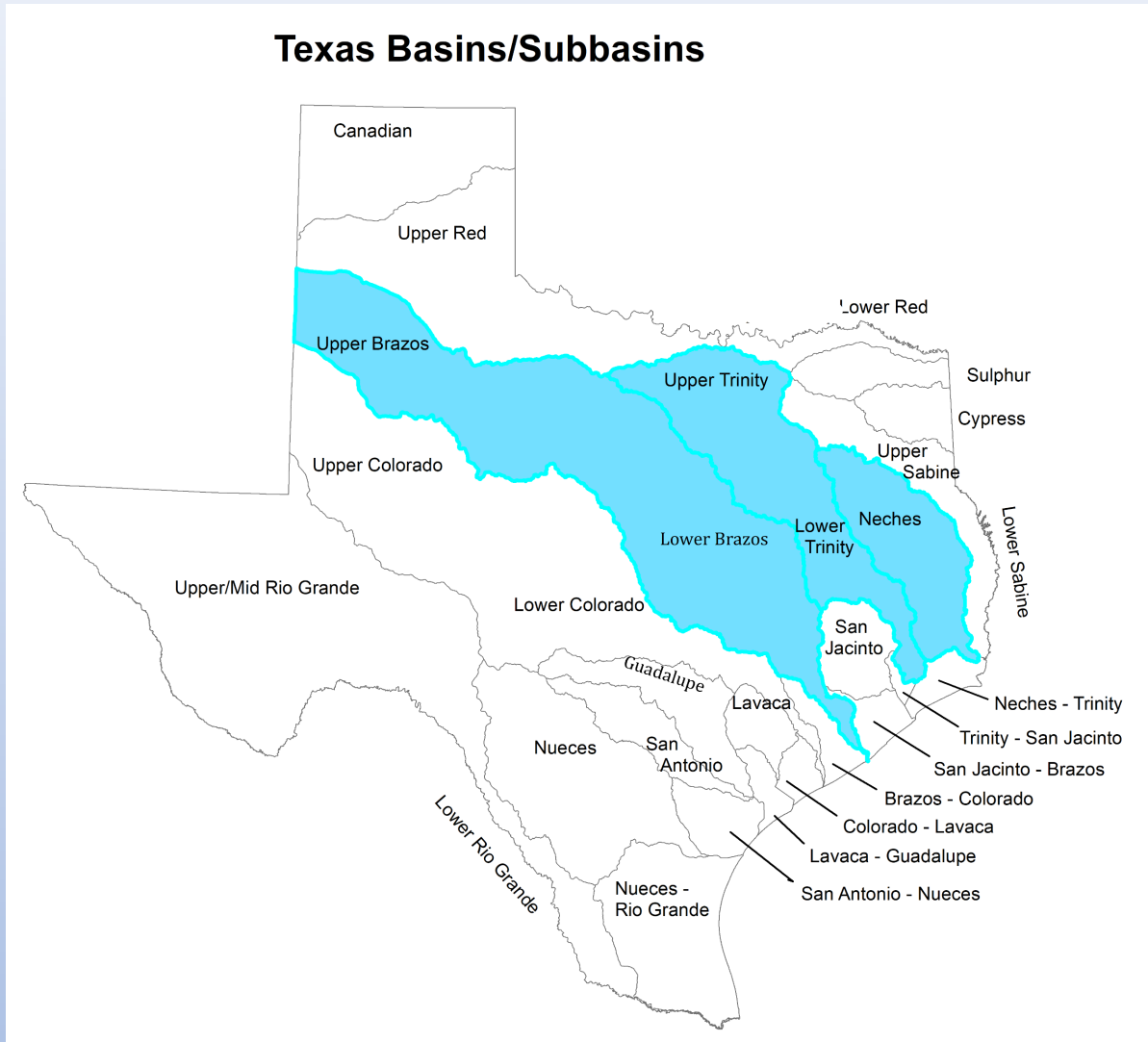


# Texas Water Conditions Report

June 2023

## Texas Basins/Subbasins



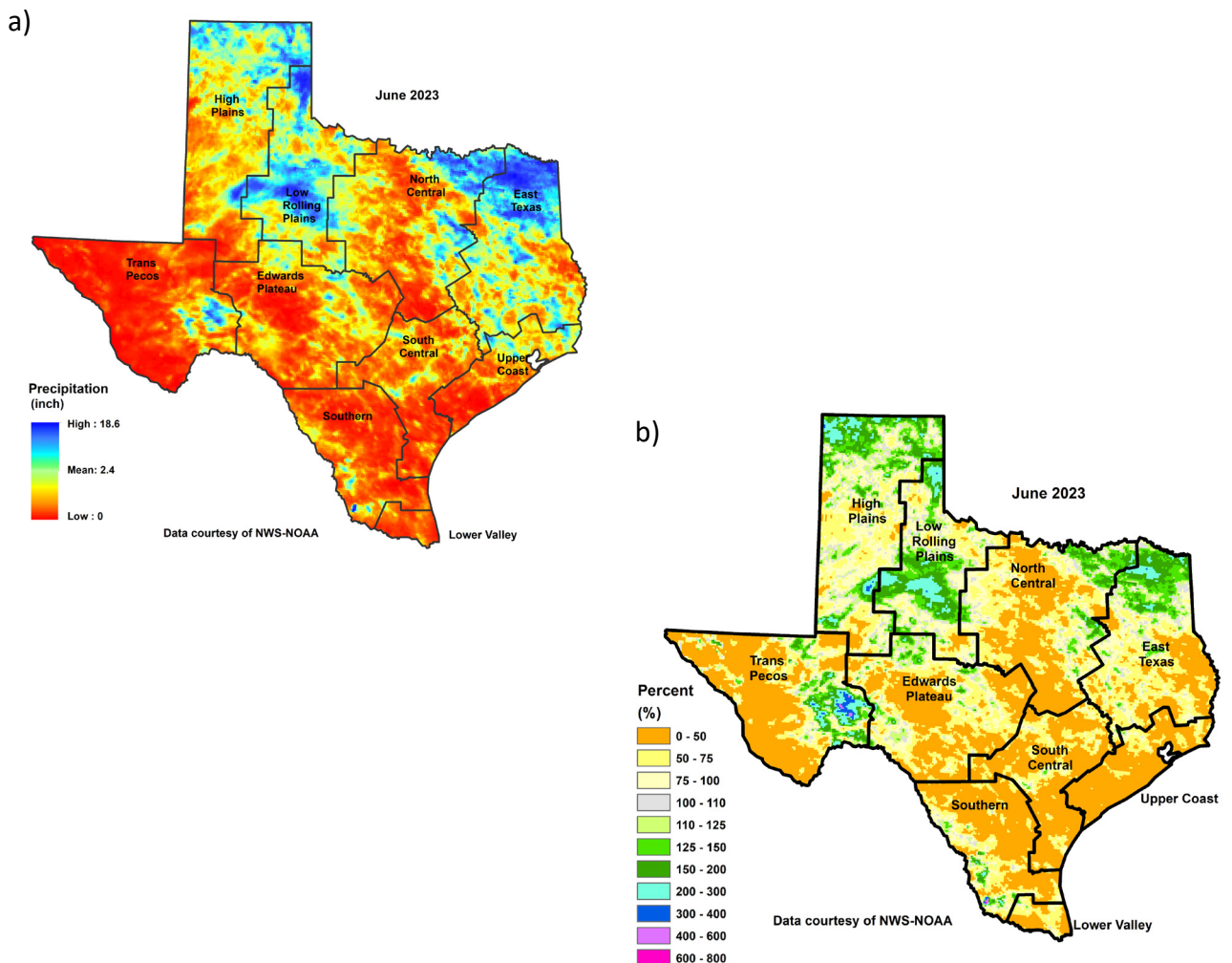
## Water News:

The TWDB's River Science and Hydrosurvey Team is participating in Sustainable Rivers Program (SRP) activities initiated by the Army Corps of Engineers and The Nature Conservancy for the Brazos, Neches, and Trinity River basins. SRP works with water managers, reservoir operators, scientists, and other stakeholders to increase the environmental benefits provided by pre-existing infrastructure. SRP only works in basins with Corps lakes since tweaks in the operation of those lakes is what is adjusted to provide environmental benefits without compromising flood protection and water supply missions of those lakes. For more information visit: [Sustainable Rivers Program](#).

# RAINFALL

In June, much of the state received below average amounts of rainfall [yellow, orange, and red shading, Figure 1(a)]. Above average rainfall [light and dark blue shading, Figure 1(a)] was seen in the High Plains, Low Rolling Plains, parts of western and eastern North Central, East Texas, eastern Trans Pecos, areas of northern and eastern Edwards Plateau, northern South Central, southwestern Southern, and northeastern Upper Coast climate divisions.

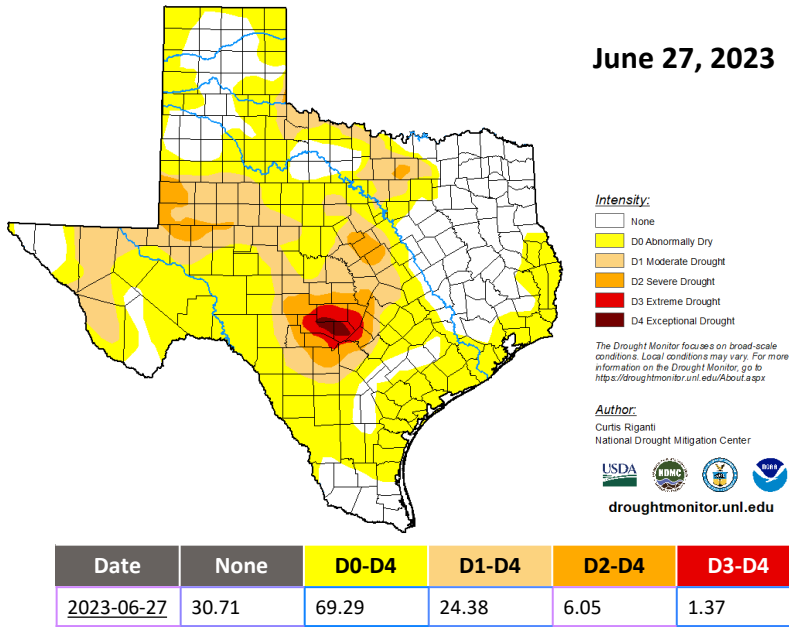
Compared to historical data from 1991–2020, much of the state received 0-75 percent of normal rainfall [yellow, orange shading, Figure 1(b)]. 125-300 percent of normal rainfall [green, light blue shading, Figure 1(b)] was received in the northern and southern High Plains, Low Rolling Plains, eastern North Central, northern East Texas, areas of the Edwards Plateau, eastern Trans Pecos, parts of central South Central, and western portions of the Southern climate divisions. 300-600 percent of normal rainfall [dark blue to light purple shading, Figure 1(b)] was received in southern High Plains, eastern Trans Pecos, and southwestern Southern climate divisions.



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

# DROUGHT

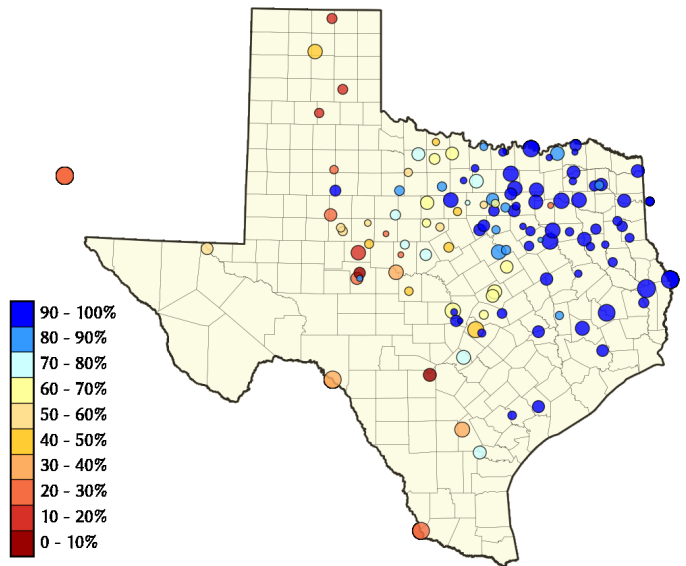
At the end of June, 69.29% of the state was in the D0 (abnormally dry) through D4 (exceptional drought) categories (**Figure 2**). That is an increase of 9.24 % from the end of May.



**Figure 2.** The percentage of drought in Texas according to the U.S. Drought Monitor map as of June 27, 2023.

## RESERVOIR STORAGE

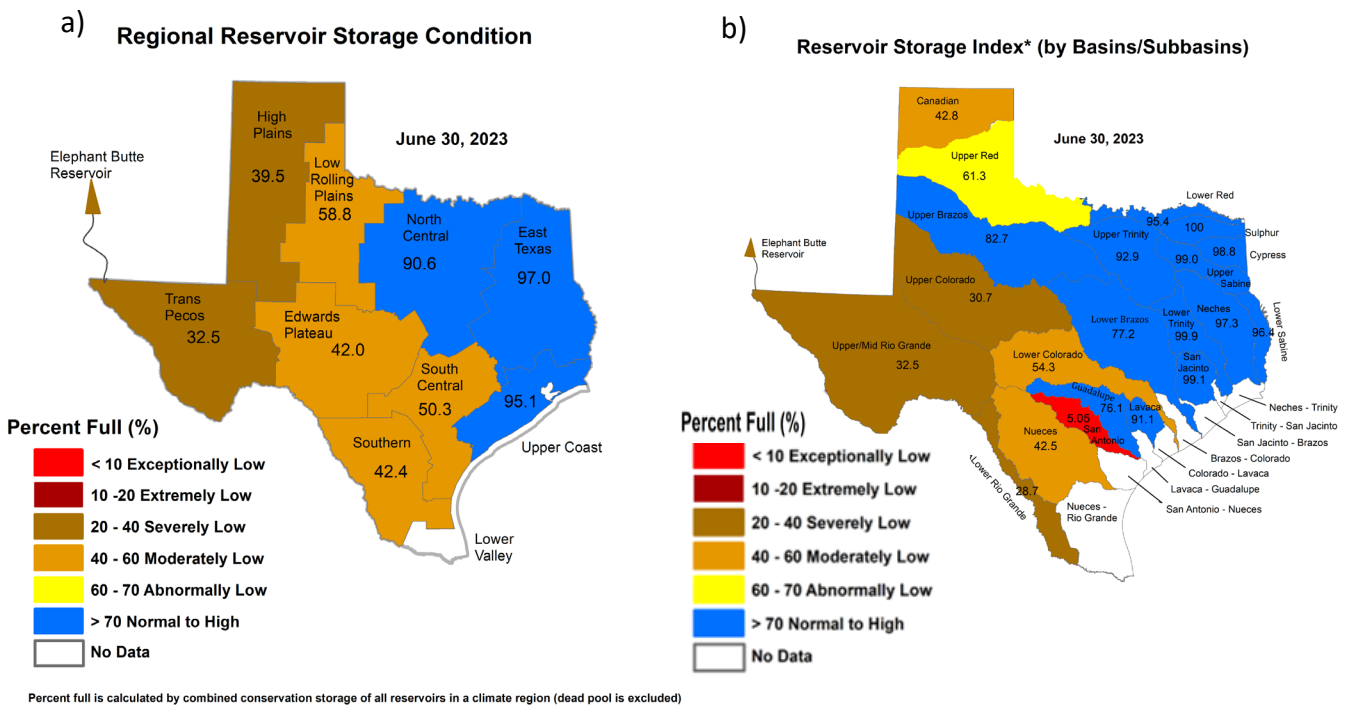
Out of 119 reservoirs in the state, 20 reservoirs held 100 percent conservation storage capacity (Figure 3). Additionally, 39 reservoirs were at or above 90 percent full. Thirteen reservoirs remained below 30 percent full: Abilene (24.3 percent full), Hords Creek (28.9 percent full), New Terrell City (24.9 percent full), E.V. Spence (17.5 percent full), O. C. Fisher (2.8 percent full), J.B. Thomas (21.7 percent full), Falcon (16.9 percent full), Greenbelt (12.9 percent full), Mackenzie (10.6 percent full), Medina Lake (5.1 percent full), Palo Duro Reservoir (10.4 percent full), Twin Buttes (25.2 percent full), and the White River Lake (21.9 percent full). Elephant Butte Reservoir (New Mexico) was 28.9 percent full (Figure 3).



**Figure 3.** Reservoir conservation storage at end-June 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 (97.0 percent full), North Central (90.6 percent full), and the Upper Coast (95.1 percent full) climate divisions. Conservation storage was moderately low (Figure 4(a)) for the Low Rolling Plains (58.8 percent full), Edwards Plateau (42.0 percent full), South Central (50.3 percent full), and Southern (42.4 percent full) climate divisions. The High Plains (39.5 percent full), and the Trans Pecos (32.5 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, and Upper Colorado river basins. The Canadian, Nueces, and Lower Colorado river basins had moderately low conservation storage (40–60 percent full, orange shading, Figure 4(b)). The Upper Red river basin had abnormally low conservation storage (60–70 percent full, yellow 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-June 2023		Storage change from end-May 2023		Storage change from end-Jun 2022	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
Abilene, Lake	7,900	1,918	24.3	-187	-2.4	-2,298	-29.1
Alan Henry Reservoir	96,207	86,762	90.2	9,055	9.4	9,658	10.0
*Amistad Reservoir (Texas & Mexico)	3,275,532	1,104,076	33.7	34,964	1.1	287,094	8.8
*Amistad Reservoir (Texas)	1,840,849	714,355	38.8	21,986	1.2	59,972	3.3
Amon G Carter, Lake	19,266	18,962	98.4	-314	-1.6	-290	-1.5
Aquilla Lake	43,243	38,348	88.7	682	1.6	4,839	11.2
Arlington, Lake	40,157	32,536	81.0	-5,104	-12.7	-2,200	-5.5
Arrowhead, Lake	230,359	151,697	65.9	-5,866	-2.5	-30,924	-13.4
Athens, Lake	29,503	29,503	100.0	0	0.0	768	2.6
*Austin, Lake	23,972	22,834	95.3	-92	0.0	-92	0.0
B A Steinhagen Lake	69,186	69,186	100.0	3,326	4.8	2,628	3.8
Bardwell Lake	43,856	43,856	100.0	0	0.0	3,417	7.8
Belton Lake	432,631	285,209	65.9	-8,638	-2.0	-81,379	-18.8
Benbrook Lake	85,648	84,841	99.1	-807	0.0	11,915	13.9
Bob Sandlin, Lake	192,417	190,997	99.3	88	0.0	5,366	2.8
Bois d'Arc Lake	367,609	295,396	80.4	6,112	1.7	148,794	40.5
Bonham, Lake	11,027	10,827	98.2	-147	-1.3	403	3.7
Brady Creek Reservoir	28,808	11,805	41.0	-436	-1.5	-2,289	-7.9
Bridgeport, Lake	372,183	275,388	74.0	-6,364	-1.7	-54,096	-14.5
*Brownwood, Lake	130,868	97,733	74.7	-514	0.0	-3,285	-2.5
Buchanan, Lake	822,207	503,131	61.2	-13,272	-1.6	-122,684	-14.9
Caddo, Lake	29,898	29,898	100.0	0	0.0	0	0.0
Canyon Lake	378,781	281,788	74.4	-6,473	-1.7	-69,577	-18.4
Cedar Creek Reservoir in Trinity	644,686	621,428	96.4	-19,663	-3.1	59,803	9.3
Champion Creek Reservoir	41,580	23,443	56.4	-221	0.0	-2,880	-6.9
Cherokee, Lake	40,094	40,094	100.0	0	0.0	1,975	4.9
Choke Canyon Reservoir	662,820	206,386	31.1	-9,809	-1.5	-36,371	-5.5
*Cisco, Lake	29,003	20,100	69.3	-8	0.0	-3,179	-11.0
Coleman, Lake	38,075	27,671	72.7	-769	-2.0	-4,078	-10.7
Colorado City, Lake	31,040	30,477	98.2	-563	-1.8	3,930	12.7
*Coletto Creek Reservoir	30,758	17,037	55.4	-396	-1.3	-2,434	-7.9
Conroe, Lake	417,577	413,016	98.9	-4,561	-1.1	10,597	2.5
Corpus Christi, Lake	256,062	184,559	72.1	-28,199	-11.0	47,447	18.5
Crook, Lake	9,195	8,955	97.4	-83	0.0	156	1.7
Cypress Springs, Lake	66,756	66,756	100.0	0	0.0	5,920	8.9
E. V. Spence Reservoir	517,272	90,776	17.5	-762	0.0	-21,450	-4.1
Eagle Mountain Lake	179,880	145,953	81.1	-8,770	-4.9	-11,047	-6.1
Elephant Butte Reservoir (Texas)	852,491	246,036	28.9	21,765	2.6	179,040	21.0
Elephant Butte Reservoir (Total Storage)	1,960,900	569,528	29.0	50,382	2.6	414,444	21.1
*Falcon Reservoir (Texas & Mexico)	2,646,817	537,133	20.3	-102,780	-3.9	154,997	5.9
*Falcon Reservoir (Texas)	1,551,007	261,657	16.9	-84,662	-5.5	30,285	2.0
Fork Reservoir, Lake	605,061	592,200	97.9	8,262	1.4	138,435	22.9
Fort Phantom Hill, Lake	70,030	54,059	77.2	5,724	8.2	-584	0.0
Georgetown, Lake	38,005	23,738	62.5	-1,512	-4.0	-1,696	-4.5
Gibbons Creek Reservoir	25,721	22,975	89.3	-469	-1.8	1,521	5.9
Graham, Lake	45,288	39,132	86.4	-692	-1.5	-2,427	-5.4
Granbury, Lake	132,949	123,251	92.7	1,615	1.2	0	0.0

## CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Storage capacity	Storage at end-June 2023		Storage change from end-May 2023		Storage change from end-Jun 2022	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
<i>Continued</i>							
Granger Lake	51,822	51,535	99.4	-287	0.0	2,136	4.1
Grapevine Lake	163,064	157,099	96.3	-5,965	-3.7	-5,965	-3.7
Greenbelt Lake	59,968	7,724	12.9	626	1.0	-1,056	-1.8
*Halbert, Lake	6,033	5,285	87.6	-5	0.0	212	3.5
Hords Creek Lake	8,109	2,342	28.9	-65	0.0	-547	-6.7
Houston County Lake	17,113	16,907	98.8	-206	-1.2	473	2.8
Houston, Lake	132,318	132,318	100.0	0	0.0	4,203	3.2
Hubbard Creek Reservoir	313,298	193,697	61.8	-4,133	-1.3	-53,708	-17.1
Hubert H Moss Lake	24,058	23,563	97.9	-258	-1.1	149	0.6
Inks, Lake	13,729	13,147	95.8	55	0.4	71	0.5
J. B. Thomas, Lake	199,931	43,302	21.7	384	0.2	-19,496	-9.8
Jacksonville, Lake	25,670	25,577	99.6	-93	0.0	529	2.1
Jim Chapman Lake (Cooper)	260,332	260,332	100.0	0	0.0	42,564	16.3
Joe Pool Lake	149,629	149,629	100.0	0	0.0	11,661	7.8
Kemp, Lake	245,307	195,165	79.6	12,750	5.2	17,240	7.0
Kickapoo, Lake	86,345	53,869	62.4	-1,654	-1.9	-7,618	-8.8
Lavon Lake	409,757	402,568	98.2	8,963	2.2	6,323	1.5
Leon, Lake	27,762	16,600	59.8	746	2.7	-3,784	-13.6
Lewisville Lake	563,228	541,842	96.2	-14,117	-2.5	-21,386	-3.8
Limestone, Lake	203,780	196,765	96.6	-5,899	-2.9	9,542	4.7
*Livingston, Lake	1,603,504	1,603,504	100.0	0	0.0	13,928	0.9
*Lost Creek Reservoir	11,950	11,551	96.7	-214	-1.8	205	1.7
Lyndon B Johnson, Lake	112,778	110,981	98.4	-512	0.0	-256	0.0
Mackenzie Reservoir	46,450	4,934	10.6	500	1.1	1,781	3.8
Marble Falls, Lake	7,597	7,203	94.8	-18	0.0	-24	0.0
Martin, Lake	75,726	73,515	97.1	-2,063	-2.7	2,938	3.9
Medina Lake	254,823	12,888	5.1	-456	0.0	-21,711	-8.5
Meredith, Lake	500,000	234,019	46.8	67,818	13.6	74,428	14.9
Millers Creek Reservoir	26,768	14,951	55.9	-854	-3.2	-6,036	-22.5
*Mineral Wells, Lake	5,273	4,139	78.5	-182	-3.5	-999	-18.9
Monticello, Lake	34,740	29,324	84.4	18	0.1	1,038	3.0
Mountain Creek, Lake	22,850	22,850	100.0	0	0.0	0	0.0
Murvaul, Lake	38,285	37,464	97.9	-821	-2.1	1,620	4.2
Nacogdoches, Lake	39,522	38,185	96.6	-685	-1.7	1,794	4.5
Nasworthy	9,615	8,171	85.0	12	0.1	-86	0.0
Navarro Mills Lake	49,827	49,827	100.0	0	0.0	4,471	9.0
New Terrell City Lake	8,583	2,133	24.9	-44	0.0	-5,284	-61.6
Nocona, Lake (Farmers Crk)	21,444	17,758	82.8	-148	0.0	-698	-3.3
North Fork Buffalo Creek Reservoir	15,400	6,253	40.6	-399	-2.6	-3,375	-21.9
O' the Pines, Lake	268,566	268,566	100.0	22,239	8.3	23,129	8.6
O. C. Fisher Lake	115,742	3,258	2.8	19	0.0	-1,945	-1.7
*O. H. Ivie Reservoir	554,340	198,761	35.9	-7,499	-1.4	-61,412	-11.1
Oak Creek Reservoir	39,210	16,417	41.9	-822	-2.1	-6,808	-17.4

## CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Storage capacity	Storage at end-June 2023		Storage change from end-May 2023		Storage change from end-Jun 2022	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
<i>Continued</i>							
Palestine, Lake	367,303	364,307	99.2	-2,996	0.0	14,085	3.8
Palo Duro Reservoir	61,066	6,363	10.4	3,072	5.0	6,087	10.0
Palo Pinto, Lake	26,766	13,165	49.2	-1,177	-4.4	-8,351	-31.2
Pat Cleburne, Lake	26,008	21,697	83.4	-417	-1.6	4,836	18.6
*Pat Mayse Lake	113,683	113,683	100.0	0	0.0	394	0.3
Possum Kingdom Lake	538,139	538,139	100.0	66,939	12.4	30,991	5.8
Proctor Lake	54,762	22,374	40.9	-2,369	-4.3	-14,476	-26.4
Ray Hubbard, Lake	439,559	424,948	96.7	-11,484	-2.6	-2,442	0.0
Ray Roberts, Lake	788,167	784,768	99.6	-3,399	0.0	-1,415	0.0
Red Bluff Reservoir	151,110	80,878	53.5	-4,328	-2.9	-19,566	-12.9
Richland-Chambers Reservoir	1,087,839	1,081,422	99.4	0	0.0	120,199	11.0
Sam Rayburn Reservoir	2,857,077	2,770,839	97.0	-86,238	-3.0	196,516	6.9
Somerville Lake	150,293	150,293	100.0	0	0.0	15,089	10.0
Squaw Creek, Lake	151,250	151,250	100.0	0	0.0	0	0.0
Stamford, Lake	51,570	44,344	86.0	5,052	9.8	5,219	10.1
Stillhouse Hollow Lake	229,796	152,902	66.5	-6,156	-2.7	-42,026	-18.3
Striker, Lake	16,934	16,934	100.0	0	0.0	801	4.7
Sweetwater, Lake	12,267	6,758	55.1	-208	-1.7	-1,865	-15.2
*Sulphur Springs, Lake	17,747	17,747	100.0	0	0.0	5,188	29.2
Tawakoni, Lake	871,685	871,685	100.0	370	0.0	76,177	8.7
Texana, Lake	158,975	144,891	91.1	-13,058	-8.2	17,716	11.1
Texoma, Lake (Texas & Oklahoma)	2,487,601	2,478,666	99.6	159,925	6.4	-154,324	-6.2
Texoma, Lake (Texas)	1,243,801	1,239,332	99.6	79,962	6.4	-4,469	0.0
Toledo Bend Reservoir (Texas & Louisiana)	4,472,900	4,316,343	96.5	-66,040	-1.5	201,671	4.5
Toledo Bend Reservoir (Texas)	2,236,450	2,156,122	96.4	-33,020	-1.5	100,836	4.5
Travis, Lake	1,098,044	476,045	43.4	-19,922	-1.8	-149,218	-13.6
Twin Buttes Reservoir	182,454	45,997	25.2	-4,422	-2.4	-28,432	-15.6
Tyler, Lake	72,073	71,978	99.9	-95	0.0	3,332	4.6
Waco, Lake	189,418	132,030	69.7	-3,397	-1.8	-7,406	-3.9
Waxahachie, Lake	11,060	10,151	91.8	-531	-4.8	980	8.9
Weatherford, Lake	17,812	10,452	58.7	-914	-5.1	-1,512	-8.5
White River Lake	29,880	6,536	21.9	919	3.1	1,849	6.2
Whitney, Lake	564,808	463,079	82.0	-3,389	0.0	-1,880	0.0
Worth, Lake	24,419	15,765	64.6	-712	-2.9	-1,879	-7.7
Wright Patman Lake	231,496	231,496	100.0	-63,456	-27.4	0	0.0
<b>STATEWIDE TOTAL</b>							
<b>STATEWIDE TOTAL</b>	<b>32,479,882</b>	<b>24,440,957</b>	<b>75.2</b>	<b>-169,067</b>	<b>0</b>	<b>585,208</b>	<b>1.8</b>

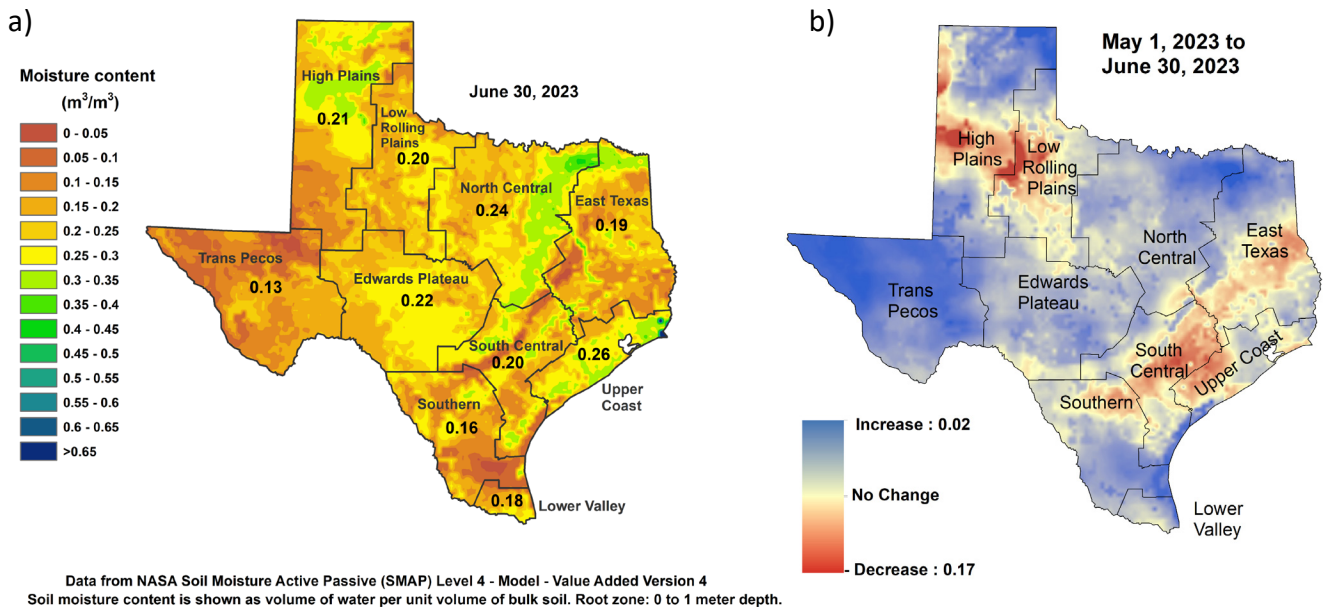
\*Total volume below elevation of conservation pool top is used as the conservation storage capacity, because the dead pool storage is unknown.

\*\*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 June 2023, root zone soil moisture was low [yellow, orange, Figure 5(a)] across much of the state. Areas of more severe dryness [brown shading, Figure 5(a)] were in the northeastern and southern High Plains, much of the Trans Pecos, northern Low Rolling Plains, Southern, areas of northern and southern South Central, northern Lower Valley, and East Texas climate divisions. Average to slightly above average soil moisture [green shading, Figure 5(a)] was seen in the northern High Plains, eastern North Central, northern and western East Texas, northern and southern portions of South Central, an area of northeastern Southern, and areas of the Upper Coast climate divisions. A small area of higher soil moisture [blue shading, Figure 5 (a)] was seen in the eastern Upper Coast climate division.

Compared to conditions at the end of May 2023, soil moisture increased [blue shading in Figure 5(b)] across much of the state. Soil moisture decreased [red shading in Figure 5(b)] most significantly in the central High Plains, central Low Rolling Plains, East Texas, northern South Central, northeastern Southern, and the western Upper Coast climate divisions.



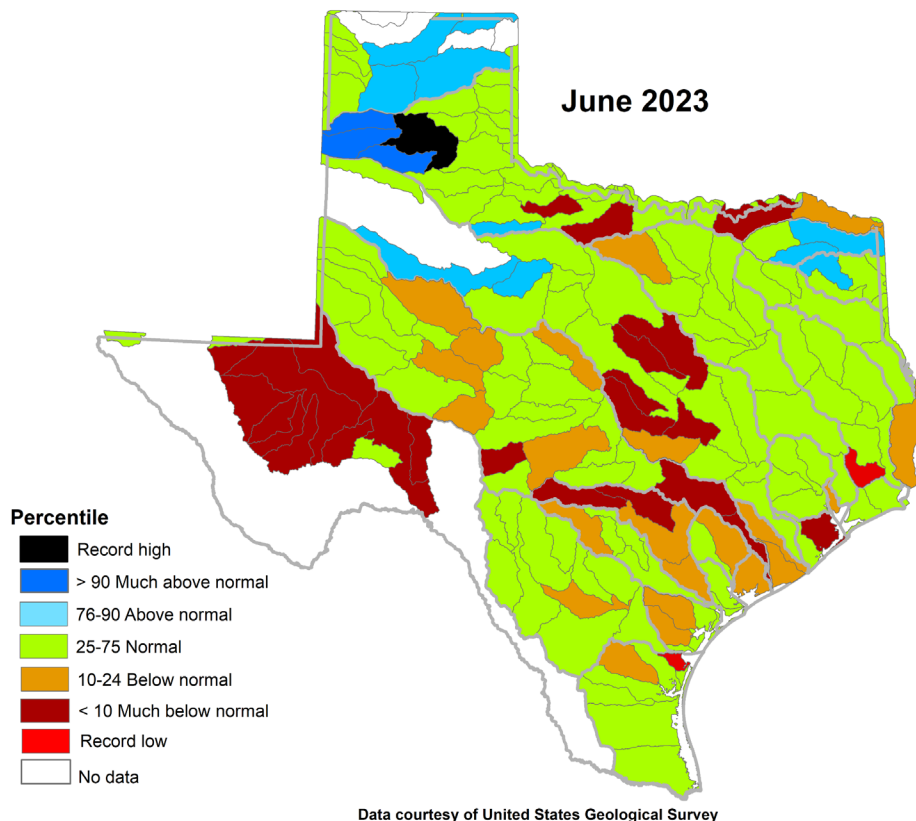
**Figure 5:** (a) Root zone soil moisture conditions in June 2023 and (b) the difference in root zone soil moisture between end-May 2023 and end-June 2023.



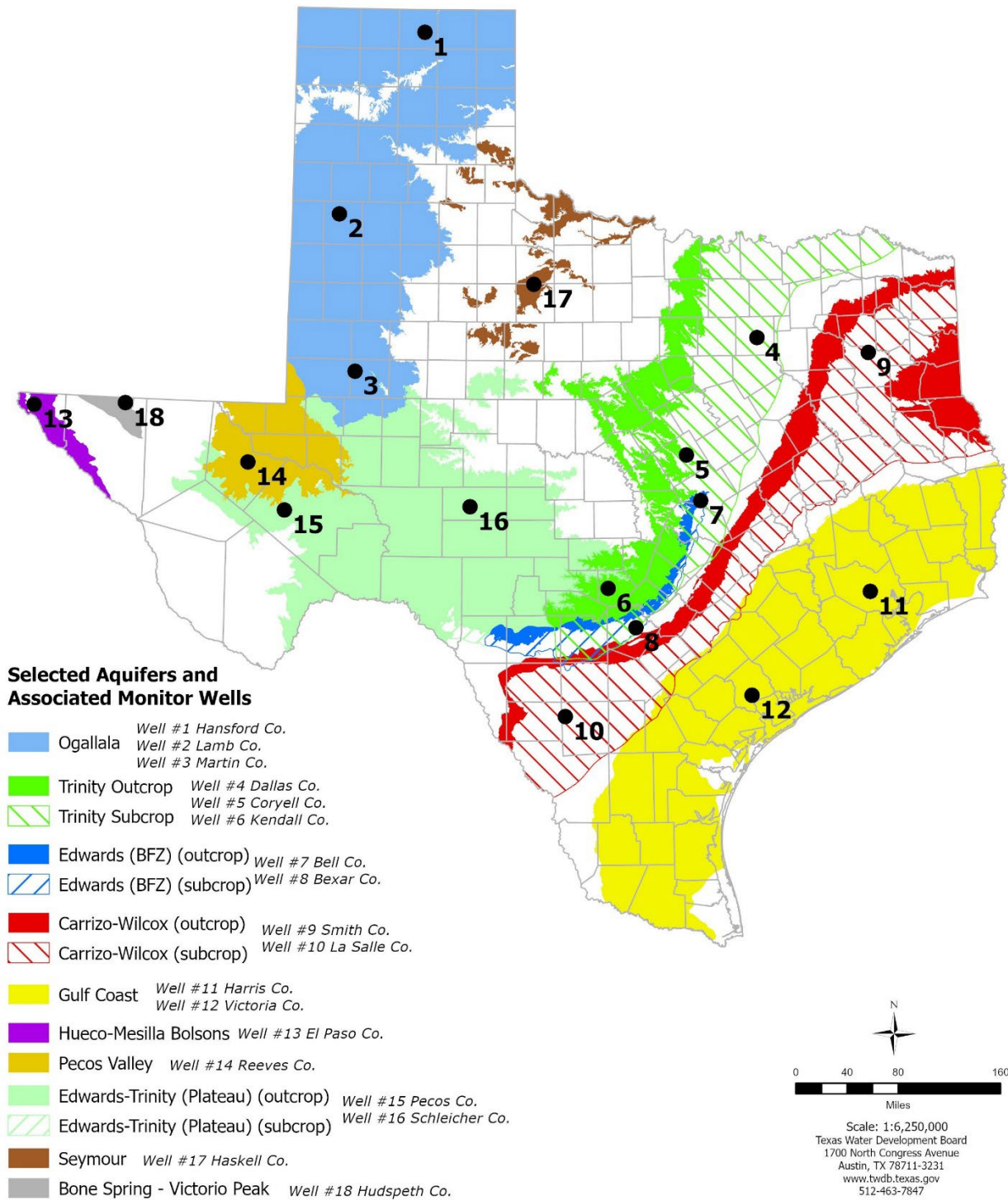
## STREAMFLOW CONDITIONS

Normal streamflow (25–75<sup>th</sup> percentile, green shading, Figure 6) was recorded in parts of the Panhandle, Central, Eastern, and Southern regions of Texas this month. Above normal streamflow (76–90<sup>th</sup> percentile, light blue shading, Figure 6) was seen in the Canadian, Upper Red (South Wichita watershed), Upper Brazos, Sulphur, and Cypress river basins. Much above normal streamflow (> 90<sup>th</sup> percentile, dark blue shading, Figure 6) was seen in the Upper Red river basin in the Palo Duro, Tierra Blanco, and Tule watersheds. Record highs were noted in the Upper Red river basin (Upper Prairie Dog Fork Red watershed).

Below normal streamflow (10–24<sup>th</sup> percentile, orange shading, Figure 6) was recorded in the Lower Red, Upper Trinity (Upper West Fork Trinity watershed), Lower Sabine, Trinity-San Jacinto, Brazos-Colorado, Lavaca (Navidad watershed), Colorado-Lavaca, Middle and Lower Guadalupe, San Antonio (Medina watershed), San Antonio-Nueces, Nueces (Lower Frio watershed), Nueces-Rio Grande (San Fernando watershed), Upper and Mid Colorado, and Lower Brazos river basins. Much below normal stream flow (< 10<sup>th</sup> percentile, dark red shading, Figure 6) was seen in the Upper Red (Southern Beaver and Little Wichita watersheds), Lower Red (Bois d’Arc Island watershed), Lower Brazos, San Jacinto-Brazos, Lower Colorado, Guadalupe (San Marcos watershed), and Pecos river basins. Record lows (bright red shading, Figure 6) was recorded in the Neches (Pine Island Bayou watershed) and Nueces-Rio Grande (South Corpus Christi Bay watershed) river basins.



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



## JUNE 2023 GROUNDWATER LEVELS IN MONITORING WELLS

Water-level measurements were available for 17 key monitoring wells in the state. The recorder in one well (#9 on map) was offline during the reporting period. Water levels rose in 7 monitoring wells since the beginning of June, ranging from an increase of 0.06 feet in the Martin County Ogallala Aquifer well (#3 on map) to 5.00 feet in the Hudspeth County Bone Spring-Victorio Peak Aquifer well (#18 on map). Water levels declined in 10 monitoring wells, ranging from a decline of -0.11 feet in the Lamb County Ogallala Aquifer well (#2 on map) to -14.80 feet in the Bexar County Edwards (Balcones Fault Zone) Aquifer well (#8 on map). The J-17 well (#8 on map) in San Antonio recorded a water level of 98.00 feet below land surface or 633.00 feet above mean sea level. Water levels are 7.00 feet below the Stage 3 critical management levels for the San Antonio portion of the Edwards (Balcones Fault Zone) Aquifer. The Edwards Aquifer Authority declared a return to Stage 3 water restrictions effective June 26, 2023, as a result of well J-17 water levels and 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	June (depth to water, feet)	May (depth to water, feet)	Month Change	Year Change	Historical Change*	First Measured (year)
(1) Hansford 0354301	164.49	164.27	-0.22	-2.32	-94.37	1951
(2) Lamb 1053602	154.08	153.97	-0.11	-1.17	-125.91	1951
(3) Martin 2739903	145.82	145.88	0.06	-1.01	-40.93	1964
(4) Dallas 3319101	503.10	503.24	0.14	-6.34	-281.10	1954
(5) Coryell 4035404	542.84	542.25	-0.59	0.78	-250.84	1955
(6) Kendall 6802609	154.83	149.87	-4.96	NA	-94.83	1975
(7) Bell 5804816	125.87	124.47	-1.40	0.23	-2.36	2008
(8) Bexar 6837203	98.00	83.20	-14.80	-3.50	-51.36	1932
(9) Smith 3430907	NA	NA	NA	NA	-140.39	1977
(10) La Salle 7738103	531.49	533.63	2.14	-13.36	-278.42	2003
(11) Harris 6514409	188.70	188.77	0.07	-4.58	-53.20	1947**
(12) Victoria 8017502	32.08	31.92	-0.16	1.31	1.92	1958
(13) El Paso 4913301	299.50	299.66	0.16	0.29	-67.60	1964
(14) Reeves 4644501	156.35	156.22	-0.13	8.25	-64.26	1952
(15) Pecos 5216802	217.68	208.28	-9.40	1.81	29.20	1976
(16) Schleicher 5512134	301.82	306.09	4.27	13.63	0.08	2003
(17) Haskell 2135748	47.13	46.50	-0.63	-0.26	-4.13	2002
(18) Hudspeth 4807516	150.99	155.99	5.00	2.85	-47.07	1966

\* Change since the original measurement taken on the date indicated in the last column. The historical change shown for recorder well #9 is based off the most recent water level record from April 2023.

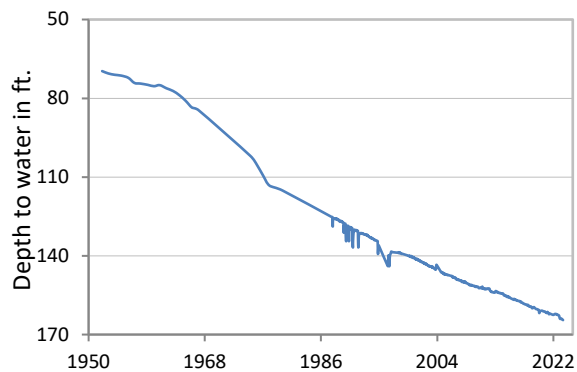
\*\* Measurement not shown on the hydrograph.

NA (not available)

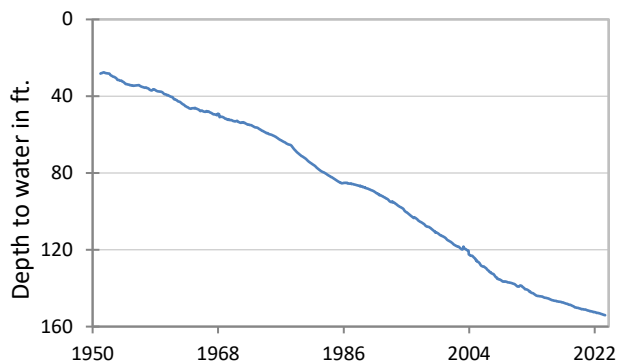
All data are provisional and subject to revision

## JUNE 2023 MONITORING WELL HYDROGRAPHS

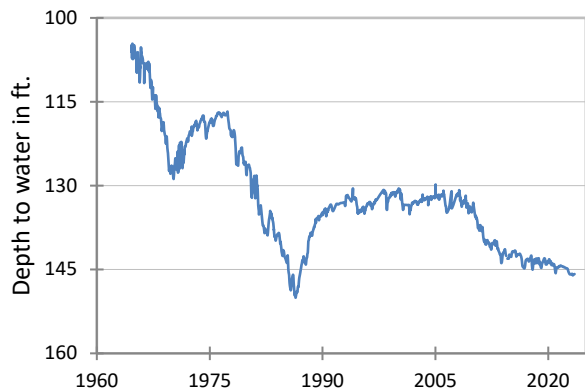
**(1) State Well #03-54-301**  
Near Spearman, Hansford County  
Ogallala Aquifer



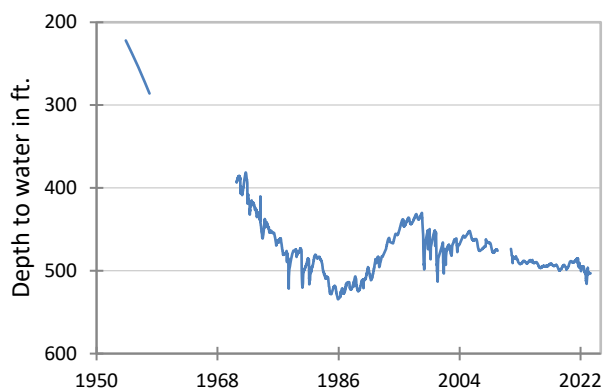
**(2) State Well #10-53-602**  
Near Earth, Lamb County  
Ogallala Aquifer



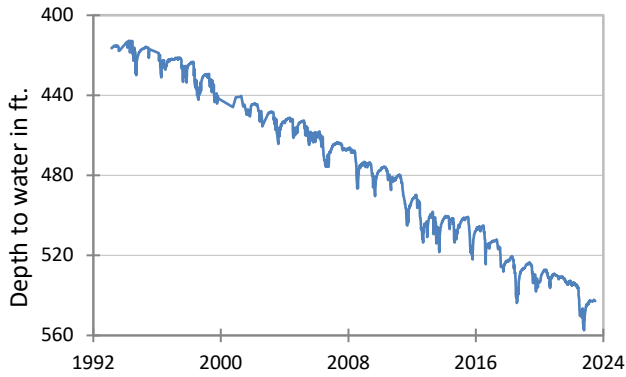
**(3) State Well #27-39-903**  
Northwest Martin County  
Ogallala Aquifer



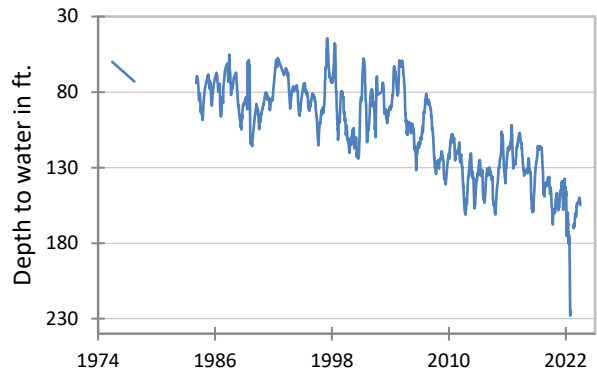
**(4) State Well #33-19-101**  
Southeast Dallas, Dallas County  
Twin Mountains Formation-Trinity Aquifer



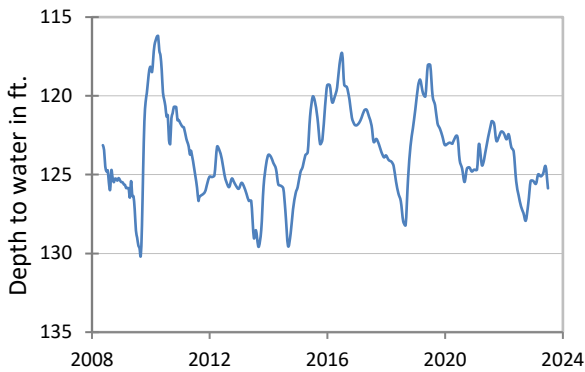
**(5) State Well #40-35-404  
Gatesville, Coryell County  
Hosston Formation-Trinity Aquifer**



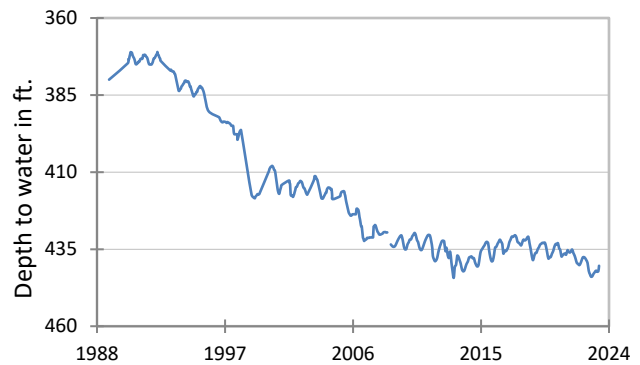
**(6) State Well #68-02-609  
Waring, Kendall County  
Travis Peak Formation-Trinity Aquifer**



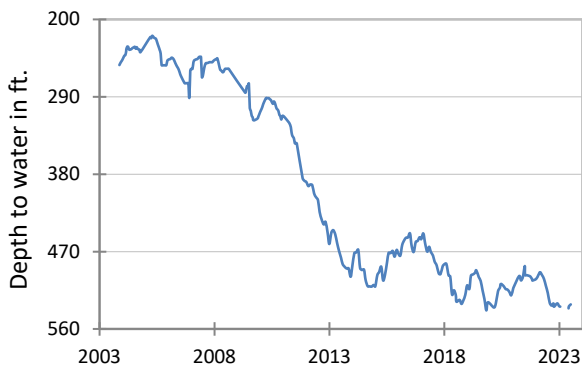
**(7) State Well #58-04-816  
Near Salado, Bell County  
Edwards (Balcones Fault Zone) Aquifer**



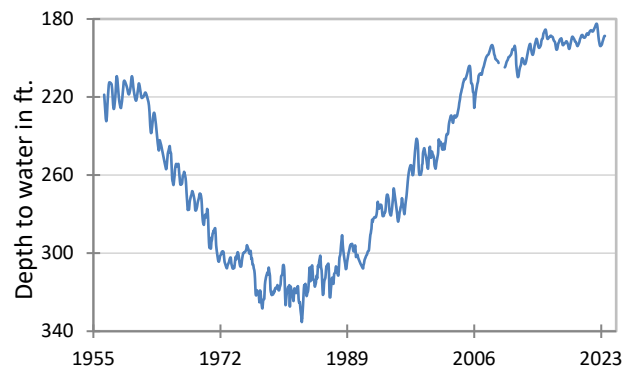
**\*(9) State Well #34-30-907  
Red Springs, Smith County  
Carrizo-Wilcox Aquifer**



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

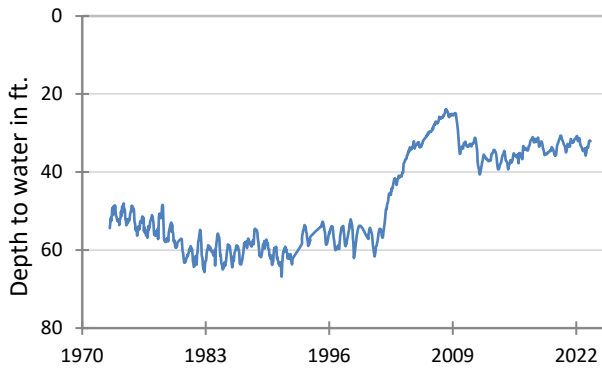


**(11) State Well #65-14-409  
North Houston, Harris County  
Evangeline Formation-Gulf Coast Aquifer**

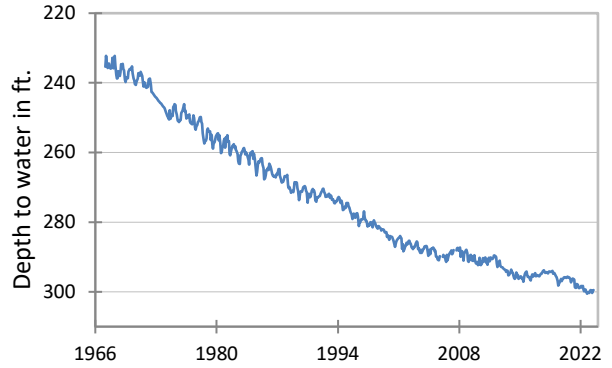


\*Recorder well #9 was offline in May and June 2023 and did not record data.

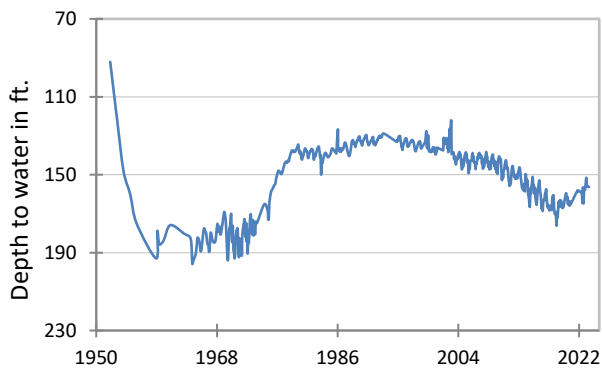
**(12) State Well #80-17-502**  
**Near Bloomington, Victoria County**  
**Lissie Formation-Gulf Coast Aquifer**



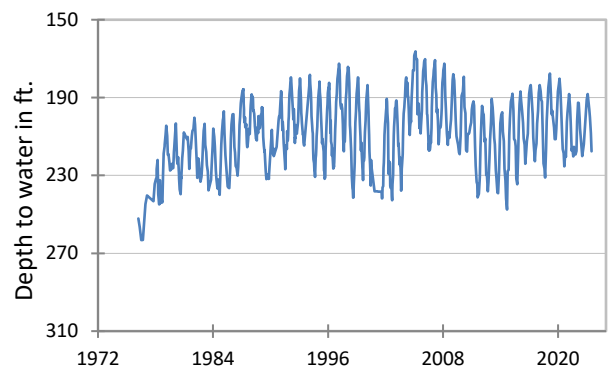
**(13) State Well #49-13-301**  
**El Paso, El Paso County**  
**Hueco-Mesilla Bolsons Aquifer**



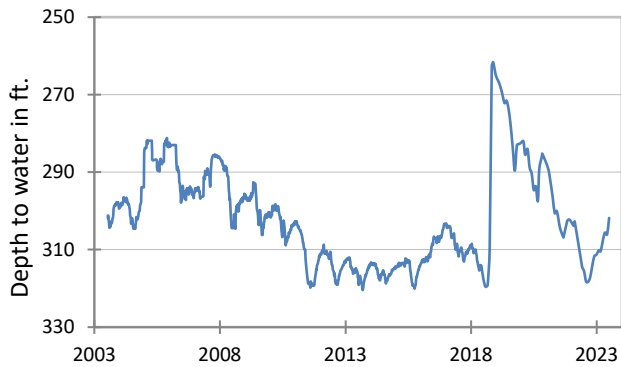
**(14) State Well #46-44-501**  
**Near Pecos, Reeves County**  
**Pecos Valley Aquifer**



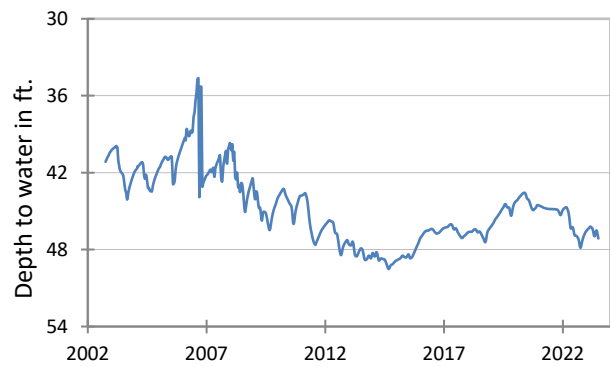
**(15) State Well #52-16-802**  
**Fort Stockton, Pecos County**  
**Edwards-Trinity (Plateau) Aquifer**



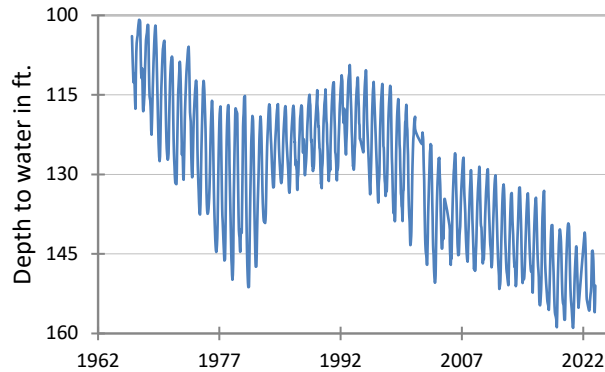
**(16) State Well #55-12-134**  
**Eldorado, Schleicher County**  
**Edwards-Trinity (Plateau) Aquifer**



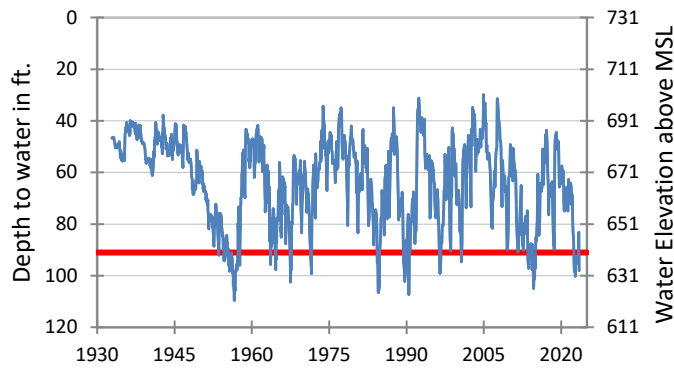
**(17) State Well #21-35-748**  
**Near O'Brien, Haskell County**  
**Seymour Aquifer**



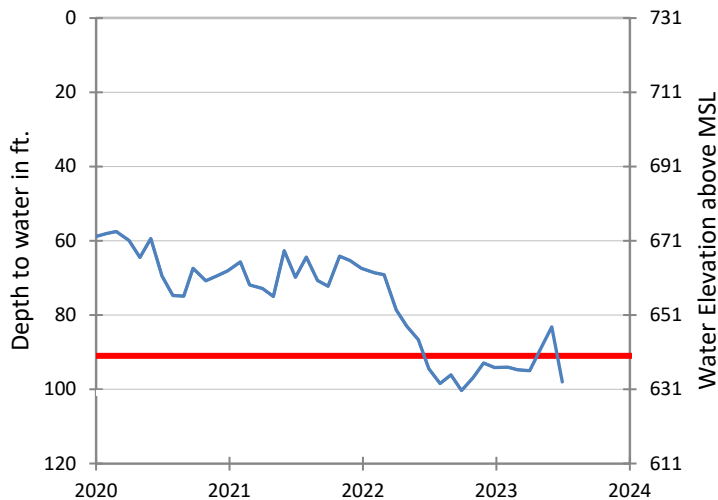
**(18) State Well #48-07-516  
Dell City, Hudspeth County  
Bone Spring-Victorio Peak Aquifer**



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

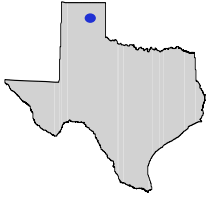


The late June water-level measurement in this Edwards (Balcones Fault Zone) Aquifer well, located at an elevation of 731 feet above mean sea level, was 98.00 feet below land surface, or 633.00 feet above mean sea level. This was 14.80 feet below last month's measurement, 3.50 feet below last year's measurement, and 51.36 feet below the initial measurement recorded in 1932.



**Water levels below the red colored lines indicate periods in which Edwards Aquifer Authority Stage 3 drought restrictions for the J-17 well are triggered. In June 2023, the aquifer fell below the Stage 3 critical management level and the Edwards Aquifer Authority declared a return to Stage 3 water restrictions effective June 26, 2023.**

## 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.

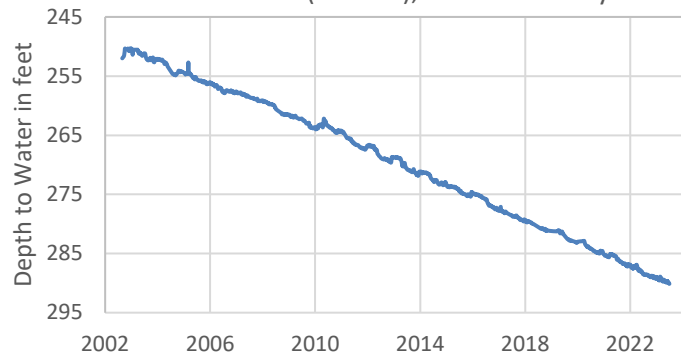
The Ogallala Aquifer is the largest aquifer in the United States and is a major aquifer of Texas underlying much of the High Plains region. The aquifer consists of sand, gravel, clay, and silt and has a maximum thickness of 800 feet. Freshwater saturated thickness averages 95 feet.

Water to the north of the Canadian River is generally fresh, with total dissolved solids typically less than 400 milligrams per liter. However, water quality diminishes to the south, where large areas contain total dissolved solids in excess of 1,000 milligrams per liter.

The Ogallala Aquifer provides significantly more water for users than any other aquifer in the state. The availability of this water is critical to the economy of the region, as a vast majority of groundwater pumped is used for irrigated agriculture. Throughout much of the aquifer, groundwater withdrawals exceed the amount of recharge, and water levels have declined consistently through time<sup>1</sup>.

### Ogallala Aquifer

Well #05-09-553, 580 feet deep  
Observation (unused), Roberts County



The initial water-level measurement of 252.00 feet below land surface was recorded by the local groundwater conservation district in August 2002. An automatic water-level recorder was installed in this well by the TWDB in December 2022. The recorder continues to collect hourly measurements ([available online](#)) and daily measurements (in the TWDB Groundwater Database). The hydrograph shows an overall steady decline in water levels over the period of record that is consistent with the general groundwater level trends in the Ogallala Aquifer.



Image of well #05-09-553

1. Peter G. George, Ph.D., P.G., Robert E. Mace, Ph.D., P.G., Rima Petrossian, P.G. *Aquifers of Texas: Report 380.*; 2011. <https://www.twdb.texas.gov/groundwater/aquifer/majors/ogallala.asp>