

Texas Water Conditions Report



Todd Wiseman, Texas Tribune

April 2022

Water News:

The Groundwater Advisory Unit of the Railroad Commission of Texas announced the identification of the Maverick Basin aquifer, which is located thousands of feet deep in the Glen Rose Formation and has been tentatively mapped in Maverick, Zavala, Dimmit, Kinney, and Uvalde counties. To learn more visit https://texaswaternewsroom.org/articles/ask_an_expert_a_newly_identified_aquifer_could_provide_water_supply_for_texas.html.

RAINFALL

This was a very dry month for several areas of the state. Very little to no rain [yellow, orange, and red shading, Figure 1(a)] fell over the High Plains, Low Rolling Plains, Trans Pecos, northern Edwards Plateau, southwestern North Central, portions of South Central, portions of Southern, Lower Valley, and the Upper Coast climate divisions. Some rainfall [light blue and dark blue shading, Figure 1(a)] was recorded in northern and a small area of southeastern High Plains, eastern Low Rolling Plains, North Central, northern South Central, Southern, East Texas, Lower Valley, and eastern portions of the Upper Coast climate divisions. Rainfall accumulations reached 8.58 inches in these portions of the state [dark blue shading, Figure 1(a)].

The High Plains, Low Rolling Plains, Trans Pecos, southwestern North Central, portions of the Edwards Plateau, South Central, southeastern East Texas, northern Southern, and the Upper Coast climate divisions received 0 to 50 percent of normal rainfall in April (orange shading, Figure 1(b)) compared to historical data from 1991–2020. Average rainfall [green shading, Figure 1(b)] was seen in the northern High Plains, eastern Low Rolling Plains, portions of the Trans Pecos, western and central Edwards Plateau, Southern, Lower Valley, northern North Central, northern South Central, and much of East Texas climate divisions. The northern Lower valley, northern High Plains, northern North Central, and East Texas climate divisions received 200–300 percent of normal rainfall [light blue shading, Figure 1(b)]. Eastern Trans Pecos, western Edwards Plateau, and Southern climate divisions received 200–600 percent of normal rainfall.

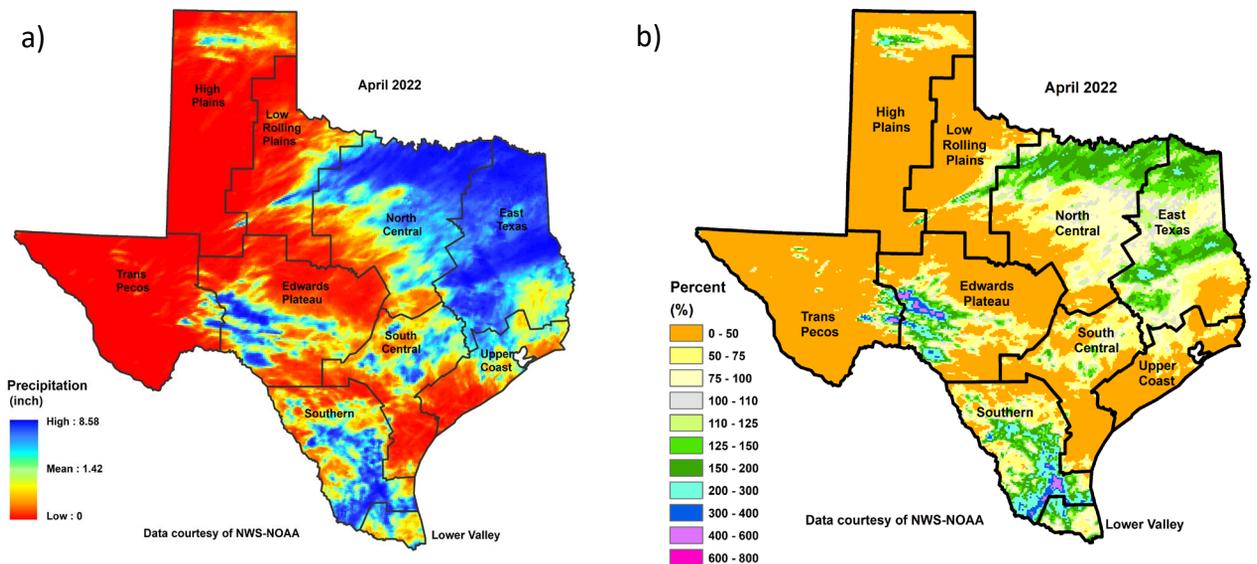


Figure 1: (a) Monthly accumulated rainfall and (b) Percent of normal rainfall

RESERVOIR STORAGE

At the end of April 2022, total conservation storage* in 123 of the state’s major water supply reservoirs was 25.3 million acre-feet or 77.3 percent of total conservation storage capacity (Figure 2). This is approximately 0.34 million-acre-feet more than a month ago and approximately 0.96 million acre-feet less than at the end of April 2021.

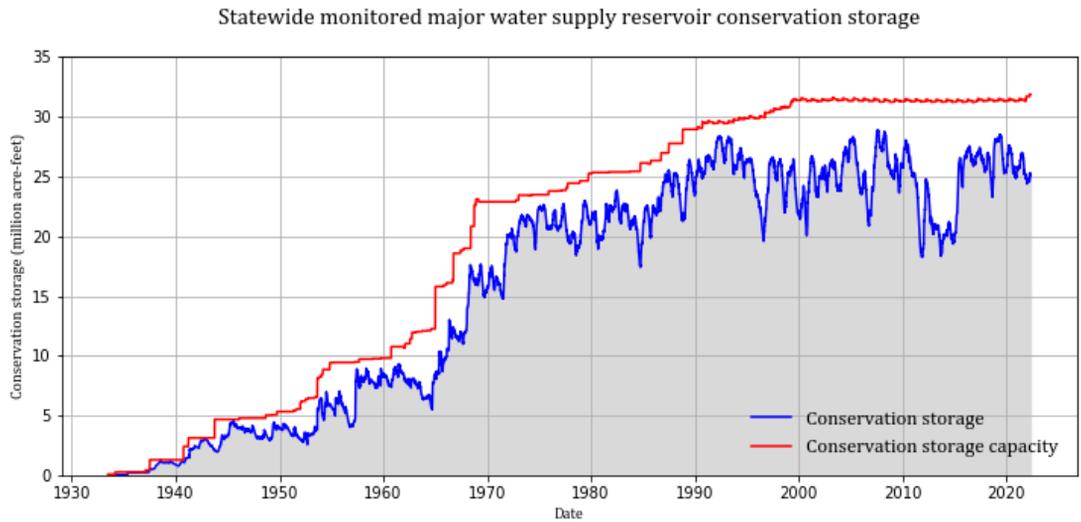


Figure 2: Statewide reservoir conservation storage

Out of 123 reservoirs in the state, 24 reservoirs held 100 percent of conservation storage capacity (Figure 3). Additionally, 33 were at or above 90 percent full. Eight reservoirs remained below 30 percent full: E.V. Spence (23.1 percent full), Falcon (19.9 percent full), Greenbelt (15.5 percent full), Mackenzie (7.2 percent full), Medina Lake (19.1 percent full), O. C. Fisher (5.3 percent full), Palo Duro Reservoir (0.5 percent full), and White River (15.4 percent full). Elephant Butte Reservoir (located in New Mexico) was 13.0 percent full.

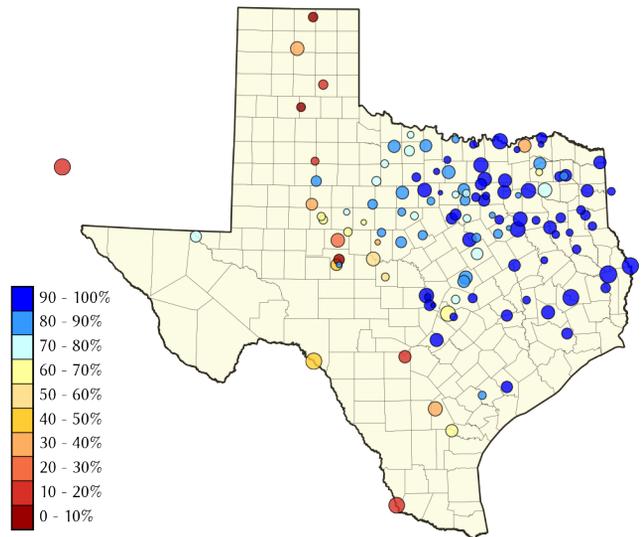


Figure 3: Reservoir conservation storage at end-April expressed as percent full (%)

*Storage is based on end of the month data in 123 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.

Total regionally combined conservation storage was at or above normal (storage ≥ 70 percent full) in East Texas (95.9 percent full), North Central (93.0 percent full), and the Upper Coast (96.0 percent full) climate divisions (Figure 4). Conservation storage for the Low Rolling Plains (67.5 percent full), and South Central (67.8 percent full) climate divisions were abnormally low (Figure 4). The Edwards Plateau climate division had moderately low conservation storage (51.3 percent full, Figure 4). The High Plains (27.5 percent full), Southern (29.9 percent full), and the Trans Pecos (21.8 percent full) climate divisions had severely low conservation storage (Figure 4).

Combined conservation storage by river basin or sub-basin was normal to high (>70 percent full, Figure 5) in the Lower Red, Upper and Lower Trinity, Sulphur, Cypress, Upper and Lower Sabine, Upper and Lower Brazos, San Jacinto, Neches, Lower Colorado, Lavaca, and Guadalupe river basins. The Upper Red river basin had abnormally low conservation storage (60–70 percent full, Figure 5). The Upper Colorado and Nueces river basins had moderately low conservation storage (40–60 percent full, Figure 5). The Canadian, Upper/Mid Rio Grande, and Lower Rio Grande, had severely low conservation storage (20–40 percent full, Figure 5), and the San Antonio river basin had extremely low conservation storage (10–20 percent full, Figure 5).

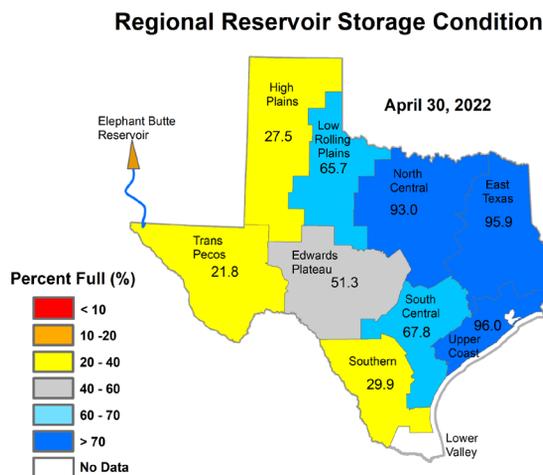


Figure 4: Reservoir Storage Index* by climate division at 4/30/2022

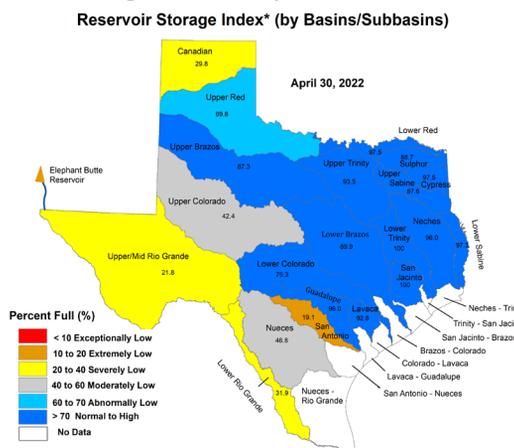


Figure 5: Reservoir Storage Index* by river basin/sub-basin at 4/30/2022

*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 2022		Storage change from end-Mar 2022		Storage change from end-Apr 2021	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
Abilene, Lake	7,900	4,992	63.2	-351	-4.4	-154	-1.9
Alan Henry Reservoir	96,207	81,178	84.4	-1,838	-1.9	0	0.0
*Amistad Reservoir (Texas & Mexico)	3,275,532	920,848	28.1	-96,558	-2.9	-168,072	-5.1
*Amistad Reservoir (Texas)	1,840,849	776,814	42.2	-96,513	-5.2	-216,587	-11.8
Amon G Carter, Lake	19,266	19,266	100.0	1,048	5.4	0	0.0
Aquilla Lake	43,243	36,498	84.4	-775	-1.8	-6,745	-15.6
Arlington, Lake	40,157	37,962	94.5	2,238	5.6	-1,868	-4.7
Arrowhead, Lake	230,359	190,722	82.8	-651	0.0	-39,637	-17.2
Athens, Lake	29,503	29,503	100.0	0	0.0	0	0.0
*Austin, Lake	23,972	22,911	95.6	77	0.3	123	0.5
B A Steinhagen Lake	69,186	67,158	97.1	1,496	2.2	6,716	9.7
Bardwell Lake	46,122	45,684	99.1	592	1.3	-438	0.0
Belton Lake	435,225	390,038	89.6	-4,800	-1.1	-35,537	-8.2
Benbrook Lake	85,648	71,480	83.5	4,846	5.7	-13,508	-15.8
Bob Sandlin, Lake	192,417	189,318	98.4	4,037	2.1	-3,099	-1.6
Bois d'Arc Lake	367,609	123,198	33.5	20,392	5.5	no data	
Bonham, Lake	11,027	10,363	94.0	735	6.7	-664	-6.0
Brady Creek Reservoir	28,808	15,112	52.5	-685	-2.4	-3,596	-12.5
Bridgeport, Lake	366,236	324,846	88.7	9,541	2.6	2,117	0.6
*Brownwood, Lake	130,868	111,536	85.2	-3,682	-2.8	-4,567	-3.5
Buchanan, Lake	860,607	750,138	87.2	-4,422	0.0	61,350	7.1
Caddo, Lake	29,898	29,898	100.0	0	0.0	no data	
Canyon Lake	378,781	366,395	96.7	-2,991	0.0	38,157	10.1
Cedar Creek Reservoir in Trinity	644,686	587,551	91.1	-8,678	-1.3	-57,135	-8.9
Champion Creek Reservoir	41,580	27,756	66.8	-436	-1.0	3,767	9.1
Cherokee, Lake	40,094	40,094	100.0	0	0.0	0	0.0
Choke Canyon Reservoir	662,820	263,670	39.8	-7,399	-1.1	49,822	7.5
*Cisco, Lake	29,003	24,278	83.7	-430	-1.5	938	3.2
Coleman, Lake	38,075	33,646	88.4	-765	-2.0	1,576	4.1
Colorado City, Lake	31,040	27,279	87.9	-1,318	-4.2	5,201	16.8
*Coleto Creek Reservoir	30,758	21,102	68.6	-649	-2.1	10,376	33.7
Conroe, Lake	410,988	410,988	100.0	0	0.0	0	0.0
Corpus Christi, Lake	256,062	167,126	65.3	-12,141	-4.7	57,766	22.6
Crook, Lake	9,195	9,195	100.0	0	0.0	0	0.0
Cypress Springs, Lake	66,756	61,458	92.1	2,288	3.4	-5,298	-7.9
E. V. Spence Reservoir	517,272	119,257	23.1	-2,701	0.0	8,820	1.7
Eagle Mountain Lake	179,880	156,430	87.0	2,437	1.4	-13,528	-7.5
Elephant Butte Reservoir (Texas)	852,491	110,399	13.0	7,071	0.8	13,245	1.6
Elephant Butte Reservoir (Total Storage)	1,960,900	255,554	13.0	16,369	0.8	30,659	1.6
*Falcon Reservoir (Texas & Mexico)	2,646,817	439,797	16.6	-14,804	0.0	63,357	2.4
*Falcon Reservoir (Texas)	1,551,007	308,244	19.9	-22,561	-1.5	-33,117	-2.1
Fork Reservoir, Lake	605,061	461,645	76.3	9,671	1.6	-143,416	-23.7
Fort Phantom Hill, Lake	70,030	60,076	85.8	-2,858	-4.1	-3,550	-5.1
Georgetown, Lake	36,823	27,453	74.6	-402	-1.1	2,558	6.9
Gibbons Creek Reservoir	25,721	25,238	98.1	1,228	4.8	-305	-1.2
Graham, Lake	45,288	40,313	89.0	2,750	6.1	-4,975	-11.0
Granbury, Lake	132,949	129,709	97.6	-1,694	-1.3	-2,343	-1.8

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Storage capacity	Storage at end-April 2002		Storage change from end-Mar 2022		Storage change from end-Apr 2021	
	(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	6,983	4.3	0	0.0
Greenbelt Lake	59,968	9,299	15.5	-372	0.0	-850	-1.4
*Halbert, Lake	6,033	5,323	88.2	-77	-1.3	330	5.5
Hords Creek Lake	8,109	3,144	38.8	-129	-1.6	-934	-11.5
Houston County Lake	17,113	17,113	100.0	0	0.0	0	0.0
Houston, Lake	130,147	130,147	100.0	0	0.0	5,244	4.0
Hubbard Creek Reservoir	313,298	260,422	83.1	-3,499	-1.1	-17,948	-5.7
Hubert H Moss Lake	24,058	24,058	100.0	151	0.6	0	0.0
Inks, Lake	13,962	13,718	98.3	-7	0.0	826	5.9
J. B. Thomas, Lake	199,931	69,964	35.0	-3,425	-1.7	47,193	23.6
Jacksonville, Lake	25,670	25,670	100.0	0	0.0	0	0.0
Jim Chapman Lake (Cooper)	260,332	223,312	85.8	29,626	11.4	-37,020	-14.2
Joe Pool Lake	175,800	162,012	92.2	648	0.4	-13,788	-7.8
Kemp, Lake	245,307	200,549	81.8	-2,489	-1.0	-20,903	-8.5
Kickapoo, Lake	86,345	62,647	72.6	-341	0.0	-8,537	-9.9
Lavon Lake	406,388	405,566	99.8	54,851	13.5	-822	0.0
Leon, Lake	27,762	22,192	79.9	-778	-2.8	-4,123	-14.9
Lewisville Lake	563,228	563,228	100.0	44,961	8.0	0	0.0
Limestone, Lake	203,780	203,780	100.0	0	0.0	0	0.0
*Livingston, Lake	1,741,867	1,741,867	100.0	0	0.0	0	0.0
*Lost Creek Reservoir	11,950	11,459	95.9	50	0.4	-486	-4.1
Lyndon B Johnson, Lake	115,249	110,392	95.8	-1,040	0.0	304	0.3
Mackenzie Reservoir	46,450	3,332	7.2	-96	0.0	-639	-1.4
Marble Falls, Lake	6,901	6,852	99.3	92	1.3	65	0.9
Martin, Lake	75,726	75,677	99.9	0	0.0	-49	0.0
Medina Lake	254,823	48,675	19.1	-7,219	-2.8	-36,327	-14.3
Meredith, Lake	500,000	167,278	33.5	-2,975	0.0	-10,023	-2.0
Millers Creek Reservoir	26,768	21,189	79.2	-678	-2.5	-5,579	-20.8
*Mineral Wells, Lake	5,273	4,849	92.0	-81	-1.5	-424	-8.0
Monticello, Lake	34,740	29,110	83.8	824	2.4	-1,283	-3.7
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	39,043	98.8	-260	0.0	-479	-1.2
Nasworthy	9,615	8,110	84.3	-610	-6.3	-61	0.0
Navarro Mills Lake	49,827	41,486	83.3	-1,188	-2.4	-8,341	-16.7
New Terrell City Lake	8,583	7,629	88.9	-74	0.0	-954	-11.1
Nocona, Lake (Farmers Crk)	21,444	17,807	83.0	577	2.7	-3,637	-17.0
North Fork Buffalo Creek Reservoir	15,400	10,936	71.0	-654	-4.2	-4,464	-29.0
O' the Pines, Lake	241,363	241,363	100.0	0	0.0	0	0.0
O. C. Fisher Lake	115,742	6,144	5.3	-402	0.0	-581	0.0
*O. H. Ivie Reservoir	554,340	279,022	50.3	-9,483	-1.7	-56,410	-10.2
Oak Creek Reservoir	39,210	24,984	63.7	-862	-2.2	-4,421	-11.3

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Storage capacity	Storage at end-April 2022		Storage change from end-Mar 2022		Storage change from end-Apr 2021	
	(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	277	0.5	-66	0.0	-397	0.0
Palo Pinto, Lake	26,766	23,824	89.0	-958	-3.6	-2,942	-11.0
Pat Cleburne, Lake	26,008	19,126	73.5	-196	0.0	-5,194	-20.0
*Pat Mayse Lake	113,683	113,683	100.0	10,333	9.1	0	0.0
Possum Kingdom Lake	538,139	505,099	93.9	-3,418	0.0	-31,251	-5.8
Proctor Lake	54,762	44,406	81.1	-2,052	-3.7	-10,356	-18.9
Ray Hubbard, Lake	439,559	434,981	99.0	21,545	4.9	-4,578	-1.0
Ray Roberts, Lake	788,167	788,167	100.0	20,252	2.6	0	0.0
Red Bluff Reservoir	151,110	109,296	72.3	-3,382	-2.2	37,165	24.6
Richland-Chambers Reservoir	1,087,839	992,684	91.3	-4,525	0.0	-91,730	-8.4
Sam Rayburn Reservoir	2,857,077	2,723,193	95.3	111,752	3.9	-133,884	-4.7
Somerville Lake	150,293	150,293	100.0	0	0.0	14,130	9.4
Squaw Creek, Lake	151,250	148,203	98.0	2,171	1.4	-3,047	-2.0
Stamford, Lake	51,570	40,771	79.1	-1,347	-2.6	-10,799	-20.9
Stillhouse Hollow Lake	227,771	202,592	88.9	-3,751	-1.6	-23,315	-10.2
Striker, Lake	16,934	16,934	100.0	0	0.0	0	0.0
Sweetwater, Lake	12,267	9,419	76.8	-225	-1.8	-482	-3.9
*Sulphur Springs, Lake	17,747	12,423	70.0	2,122	12.0	-5,324	-30.0
Tawakoni, Lake	871,685	813,827	93.4	21,469	2.5	-57,858	-6.6
Texana, Lake	159,566	148,189	92.9	-9,909	-6.2	3,002	1.9
Texoma, Lake (Texas & Oklahoma)	2,487,601	2,425,044	97.5	32,704	1.3	52,776	2.1
Texoma, Lake (Texas)	1,243,801	1,212,522	97.5	16,352	1.3	26,388	2.1
Toledo Bend Reservoir (Texas & Louisiana)	4,472,900	4,358,076	97.4	109,918	2.5	-118,030	-2.6
Toledo Bend Reservoir (Texas)	2,236,450	2,176,988	97.3	54,959	2.5	-59,015	-2.6
Travis, Lake	1,113,348	709,686	63.7	-46,055	-4.1	-14,375	-1.3
Twin Buttes Reservoir	182,454	89,212	48.9	-2,732	-1.5	-6,474	-3.5
Tyler, Lake	72,073	72,073	100.0	0	0.0	0	0.0
Waco, Lake	189,418	149,127	78.7	-3,212	-1.7	-36,024	-19.0
Waxahachie, Lake	10,780	9,178	85.1	636	5.9	-1,602	-14.9
Weatherford, Lake	17,812	13,820	77.6	-465	-2.6	-3,517	-19.7
White River Lake	29,880	4,588	15.4	-481	-1.6	922	3.1
Whitney, Lake	553,344	501,055	90.6	628	0.1	-19,621	-3.5
Worth, Lake	24,419	18,635	76.3	801	3.3	-1,560	-6.4
Wright Patman Lake	310,382	286,412	92.3	163,819	52.8	-10,196	-3.3
STATEWIDE TOTAL							
STATEWIDE TOTAL	32,724,235	25,291,272	77.3	337,796	1.0	-964,590	-2.9

*Total volume below elevation of conservation pool top is used as 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.

STREAMFLOW CONDITIONS

Below normal streamflow (10–24th percentile, orange shading in Figure 6) was recorded in the Canadian, Upper and Lower Red, Upper and Lower Brazos, Upper and Lower Colorado, Lower Trinity, Neches, Upper Sabine, Cypress, San Jacinto-Brazos, Brazos-Colorado, Lavaca, Colorado-Lavaca, Lavaca-Guadalupe, Nueces, San Antonio, Guadalupe, Nueces-Rio Grande, and Pecos river basins.

Much below normal stream flow (< 10th percentile, dark red shading in Figure 6) was seen in the Upper trinity, Upper and Lower Brazos, Upper and Lower Colorado, Guadalupe, San Antonio, Nueces, Nueces-Rio Grande, and Pecos river basins. Record lows (bright red shading in Figure 6) were seen in the Pecos, Upper Red, and Lower Brazos river basins.

Above normal (76–90th percentile, light blue shading in Figure 6) was observed in a few areas of the Sulphur, Neches, Upper Brazos, and Upper Colorado river basins.

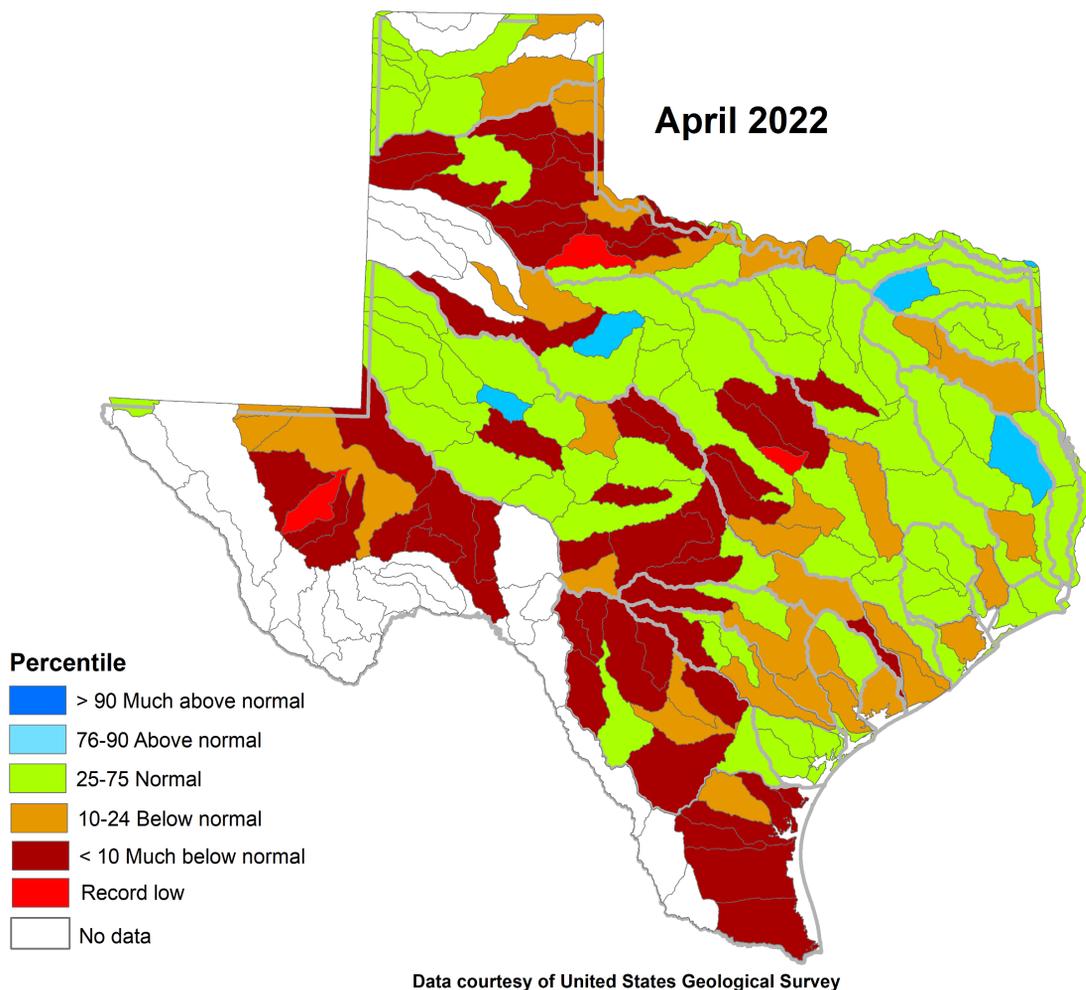
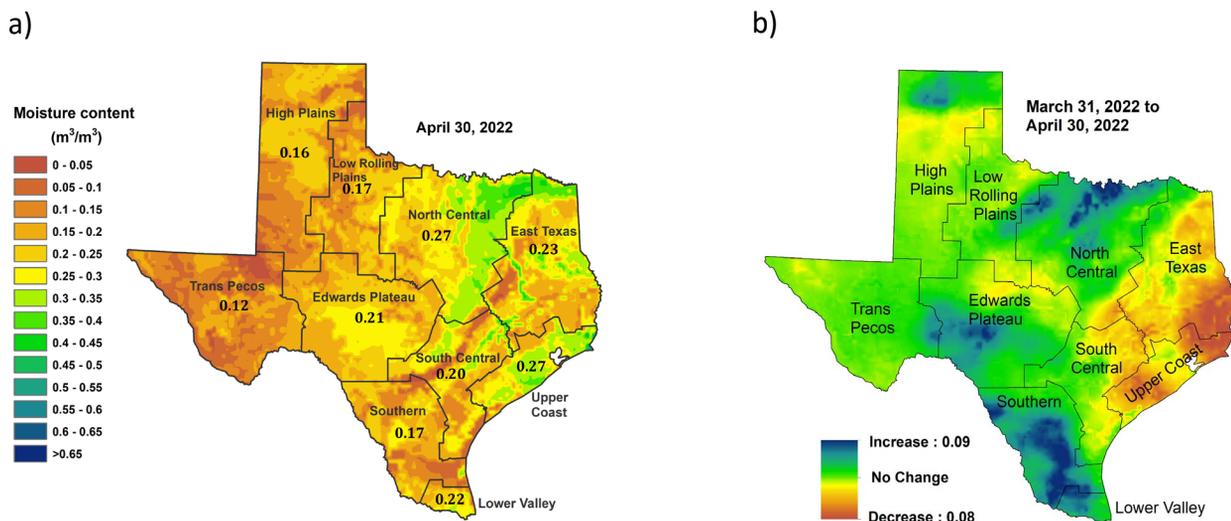


Figure 6: Runoff percentiles by the U.S. Geological Survey's Hydrologic Unit Code

SOIL MOISTURE

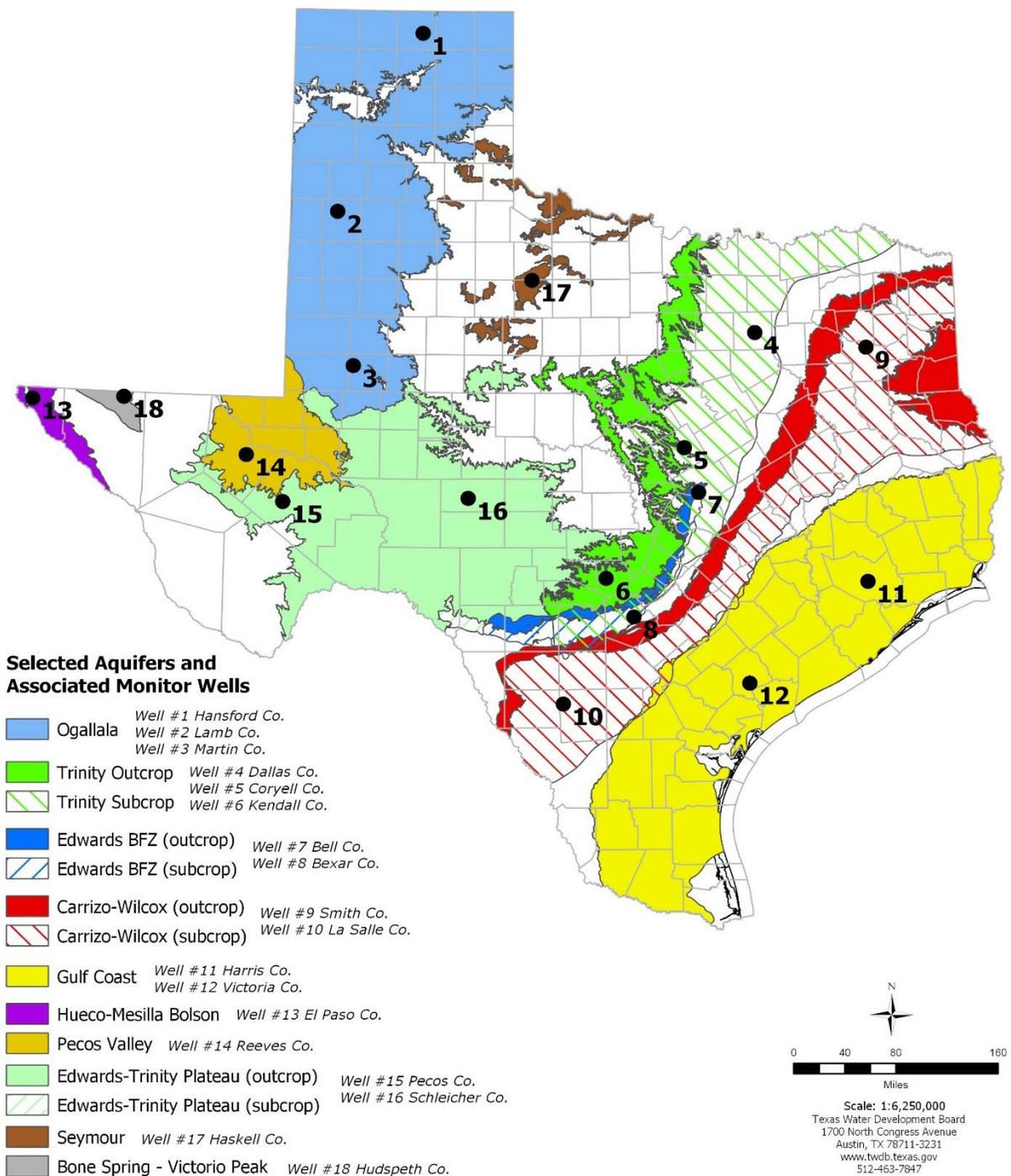
Root zone soil moisture at the end of April 2022 was below average [< 0.3 cubic meters of water per bulk cubic meter soil (m^3/m^3), Figure 7(a)] across most of the state. Low soil moisture [< 0.15 cubic meters of water per bulk cubic meter soil (m^3/m^3)] was seen in the High Plains, Low Rolling Plains, Trans Pecos, Edwards Plateau, Southern, Lower Valley, portions of East Texas, western North Central, portions of the Upper Coast, and South Central, particularly in the southern portions of the climate division and reaching across from the northwest to the northeast. Average soil moisture [0.3 cubic meters of water per bulk cubic meter soil (m^3/m^3)] was seen in eastern North Central, northern South Central, southeastern Southern, areas of East Texas, and most of the Upper Coast climate divisions.

Compared to conditions at the end of March 2022, soil moisture content increased [blue shading in Figure 7(b)] by a maximum of 0.09 , in the northern High Plains, eastern Low Rolling Plains, eastern Trans Pecos, southwestern Edwards Plateau, northern North Central, most of the Southern, and Lower Valley climate divisions. Soil moisture content decreased [yellow, and orange shading in Figure 7(b)] in northern High Plains, northwestern Trans Pecos, areas of the Low Rolling Plains, northern Edwards Plateau, southern North Central, eastern South Central, East Texas, and the Upper Coast 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 7: (a) Root zone soil moisture conditions in April 2022 and (b) the difference in root zone soil moisture between end-March 2022 and end-April 2022



APRIL 2022 GROUNDWATER LEVELS IN MONITORING WELLS

Water-level measurements were available for 17 key monitoring wells in the state. The recorder in 1 well (#16 on map) was offline during the reporting period. Water levels rose in 4 monitoring wells since the beginning of April, ranging from an increase of 0.27 feet in the Bell County Edwards (Balcones Fault Zone) Aquifer well (#7 on map) to 0.67 feet in the Harris County Gulf Coast Aquifer well (#11 on map). Water levels declined in 12 monitoring wells, ranging from a decline of -0.04 feet in the Hansford and Lamb County Ogallala Aquifer wells (#1 and #2 on map) to -9.80 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 83.00 feet below land surface or 648 feet above mean sea level. Water levels are 2 feet below the Stage 2 critical management level for the San Antonio portion of the Edwards (Balcones Fault Zone) Aquifer. Stage 2 water restrictions have been in effect since April 11, 2022.

* Well numbers used in this publication on the aquifer map to indicate the monitoring well location (numbers 1 - 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	162.18	162.14	-0.04	0.10	-92.06	1951
(2) Lamb 1053602	152.87	152.83	-0.04	-0.88	-124.70	1951
(3) Martin 2739903	144.76	144.67	-0.09	-0.09	-39.87	1964
(4) Dallas 3319101	494.98	495.39	0.41	-8.21	-272.98	1954
(5) Coryell 4035404	534.66	534.48	-0.18	-3.77	-242.66	1955**
(6) Kendall 6802609	178.72	168.92	-9.80	-22.69	-118.72	1975
(7) Bell 5804816	120.64	120.91	0.27	4.79	2.87	2008
(8) Bexar 6837203	83.00	78.60	-4.40	-8.00	-36.36	1932
(9) Smith 3430907	437.95	437.60	-0.35	-2.32	-137.95	1977**
(10) La Salle 7738103	501.94	497.70	-4.24	1.68	-248.87	2003
(11) Harris 6514409	182.55	183.22	0.67	5.04	-47.05*	1947**
(12) Victoria 8017502	31.37	31.75	0.38	2.09	2.63	1958**
(13) El Paso 4913301	299.42	298.32	-1.10	-0.75	-67.52	1964**
(14) Reeves 4644501	159.12	NA	NA	NA	-67.03	1952
(15) Pecos 5216802	205.78	201.29	-4.49	-2.74	41.10	1976
(16) Schleicher 5512134	NA	307.88	NA	NA	-5.98	2003
(17) Haskell 2135748	46.34	45.31	-1.03	-1.54	-3.34	2002
(18) Hudspeth 4807516	146.89	142.43	-4.46	5.13	-42.97	1966

* Change since the original measurement taken on the date indicated in the last column. The historical change shown for recorder well #16 is based off the most recent water level records from March 2022.

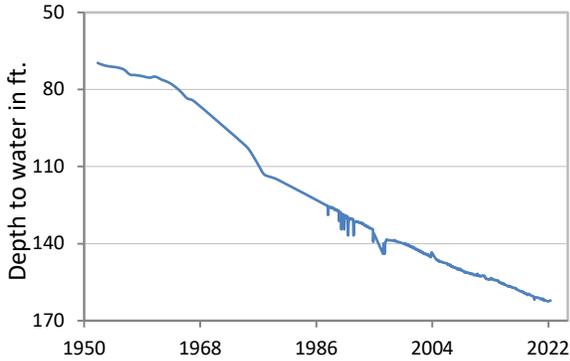
** Measurement not shown on the hydrograph.

NA (not available)

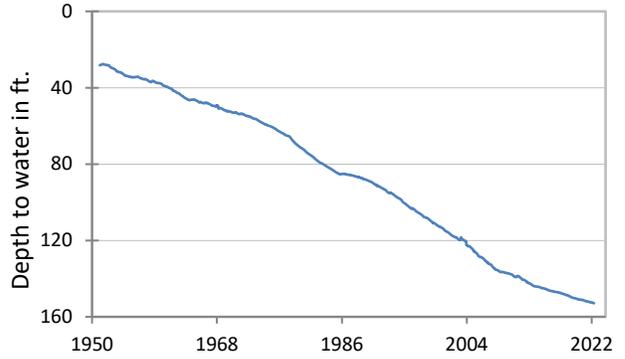
All data are provisional and subject to revision

APRIL 2022 MONITORING WELL HYDROGRAPHS

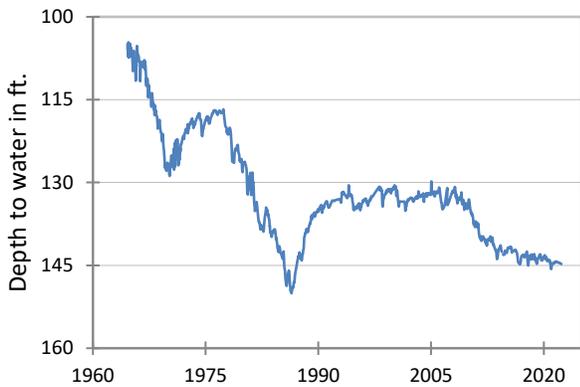
**(1) State Well #03-54-301
Near Spearman, Hansford County
Ogallala Aquifer**



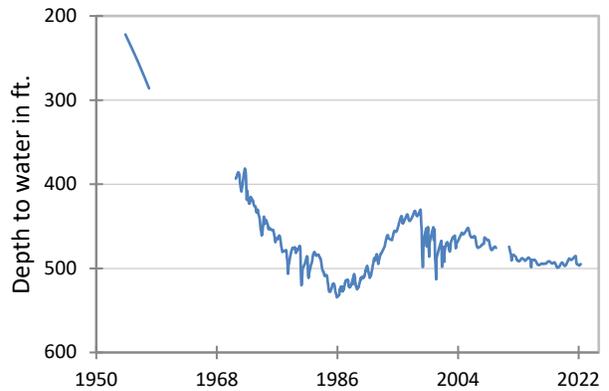
**(2) State Well #10-53-602
Near Earth, Lamb County
Ogallala Aquifer**



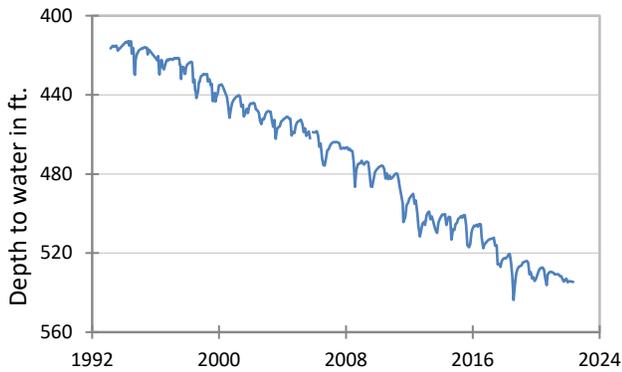
**(3) State Well #27-39-903
Northwest Martin County
Ogallala Aquifer**



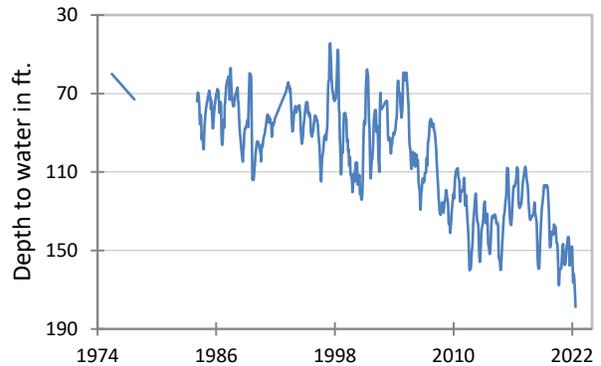
**(4) State Well #33-19-101
Southeast Dallas, Dallas County
Twin Mountains Formation-Trinity Aquifer**



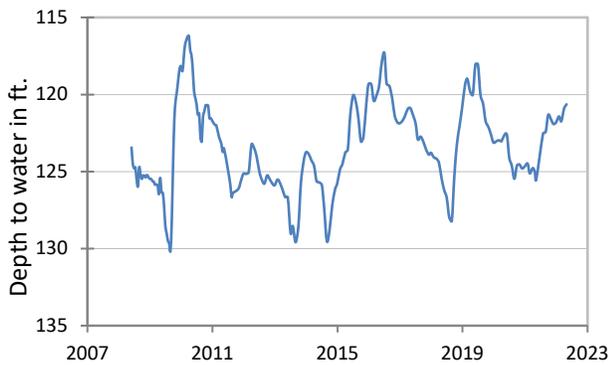
(5) State Well #40-35-404
Gatesville, Coryell County
Hosston Formation-Trinity Aquifer



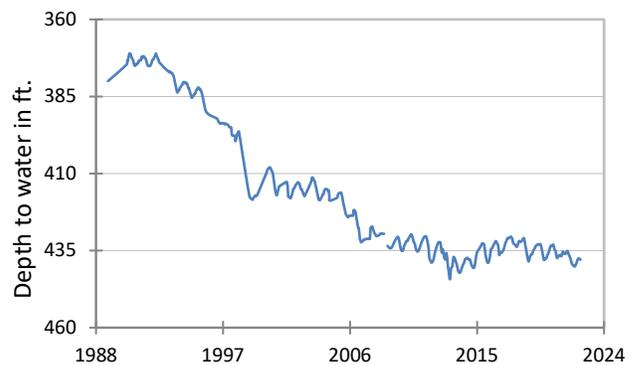
(6) State Well #68-02-609
Waring, Kendall County
Travis Peak Formation-Trinity Aquifer



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



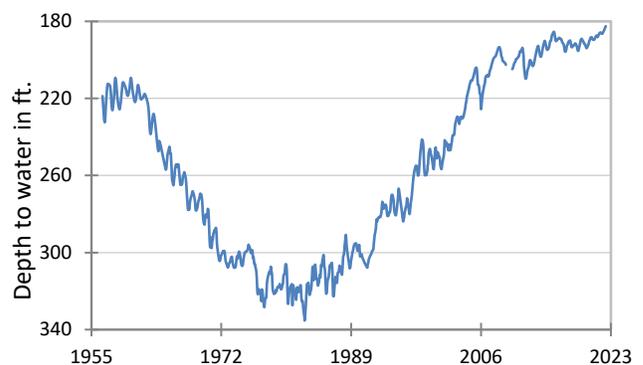
(9) State Well #34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer



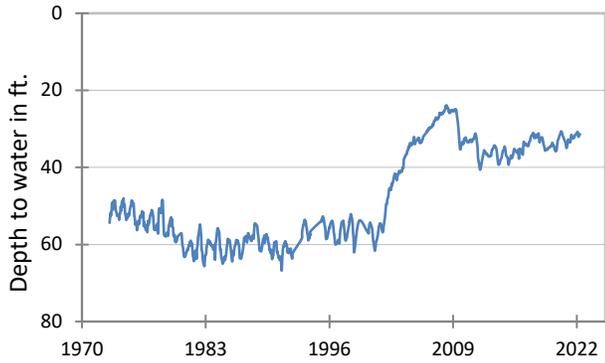
(10) State Well #77-38-103
Near Cotulla, La Salle County
Carrizo-Wilcox Aquifer



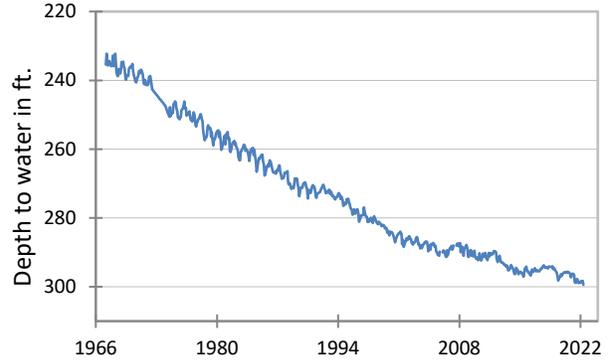
(11) State Well #65-14-409
North Houston, Harris County
Evangeline Formation-Gulf Coast Aquifer



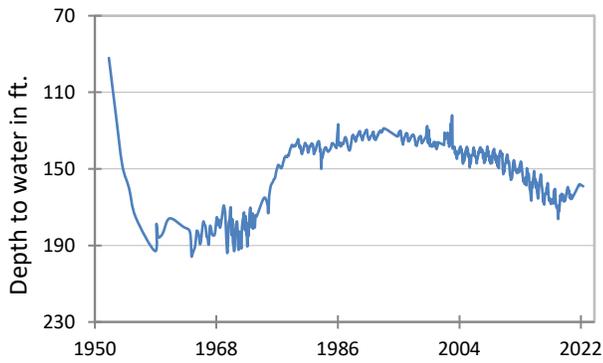
(12) State Well #80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer



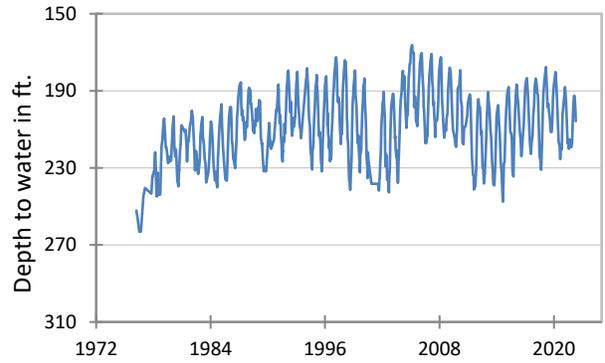
(13) State Well #49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolsons Aquifer



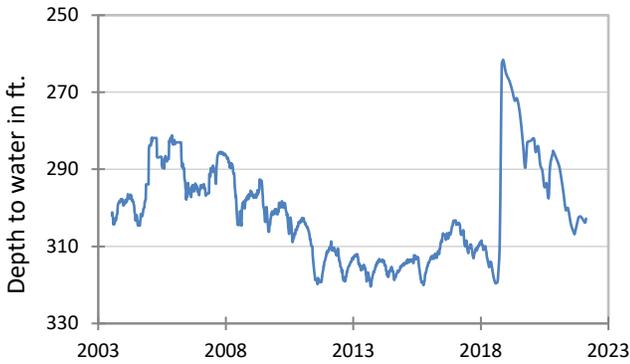
(14) State Well #46-44-501
Near Pecos, Reeves County
Pecos Valley Aquifer



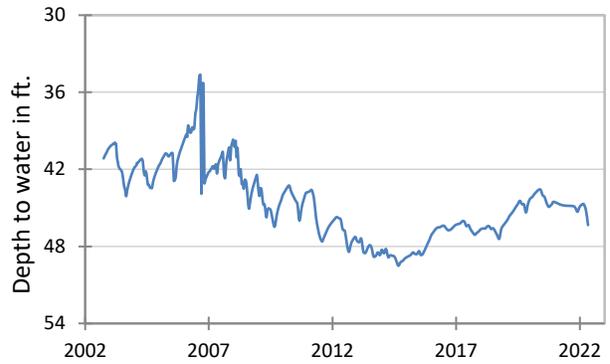
(15) State Well #52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer



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

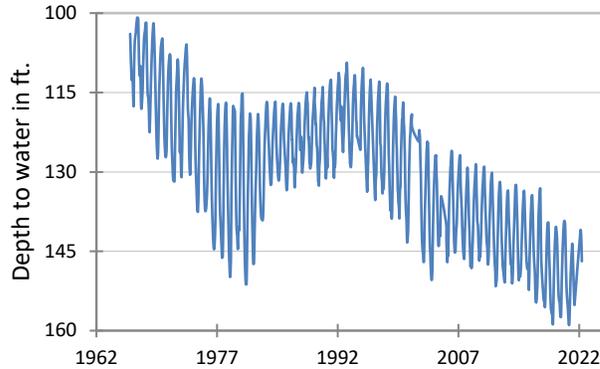


(17) State Well #21-35-748
Near O'Brien, Haskell County
Seymour Aquifer

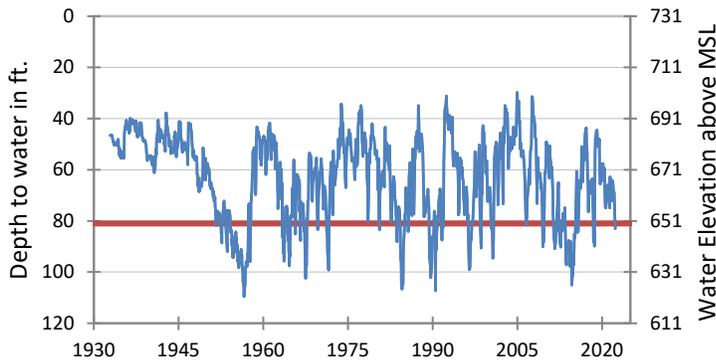


*Water level data was corrected for
 measurements between February 2021 and 2022*

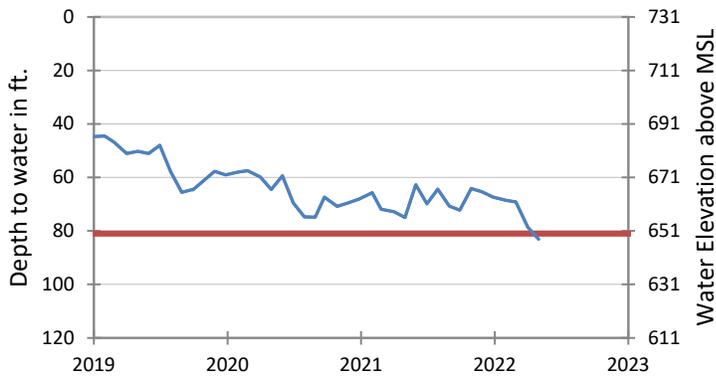
**(18) State Well #48-07-516
Dell City, Hudspeth County
Bone Spring - Victorio Peak Aquifer**



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



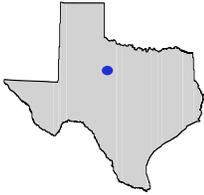
The late April water-level measurement in this Edwards (Balcones Fault Zone) Aquifer well, located at an elevation of 731 feet above mean sea level, was 83.00 feet below land surface, or 648.00 feet above mean sea level. This was 4.40 feet below last month's measurement, 8.00 feet below last year's measurement, and 36.36 feet below the initial measurement recorded in 1932.



Water levels below the red line indicate periods in which Edwards Aquifer Authority Stage 2 drought restrictions are in effect. In April 2022, Stage 2 drought restrictions were in effect because the aquifer dropped below the Stage 2 critical management level.

*Recorder well #16 was offline in April 2022 and did not record data.

HYDROGRAPH OF THE MONTH

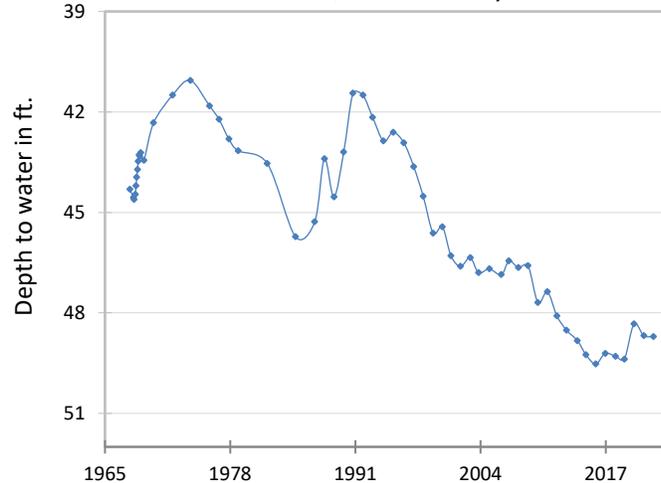


Each month this space features a new hydrograph (marked with the ● symbol on the map) depicting different aquifers and their conditions in Texas.

The Seymour Aquifer is a major aquifer extending across north central Texas. Water is contained in isolated pods of alluvial sediments as much as 360 feet thick composed of discontinuous beds of poorly sorted gravel, conglomerate, sand, and silty clay. The Seymour aquifer is unconfined and has an average recharge rate of 2 inches per year. Water ranges from fresh to slightly saline, containing from approximately 100 to 3,000 milligrams per liter of total dissolved solids. However, moderately to very saline water exists in localized areas, with total dissolved solids ranging from 3,000 to more than 10,000 milligrams per liter. High nitrate concentrations are attributed to oxidation of soil organic nitrogen during initial cultivation followed by leaching of fertilizers on cultivated land. Excessive chloride and sulfate also occur throughout the aquifer. The Haskell-Knox counties pod of the aquifer has the highest probability for exceeding any primary drinking water standard. Almost all of the groundwater pumped from the aquifer – 90 percent – is used for irrigation, with the remainder used primarily for municipal supply. It is reported that prior to significant land clearing and farming, the Seymour Aquifer was not a productive aquifer; the saturated thickness was inadequate to support pumping. Evapotranspiration losses decreased after the land was cleared, resulting in greater recharge and a gradual increase in the saturated thickness of the aquifer.

Seymour Aquifer

Well #30-19-405, 65 feet deep
unused, Jones County



The initial measurement of 44.31 below land surface was measured by the Texas Water Development Board in August 1967. Since then, the TWDB has continued to take near-annual measurements in this unused well. The period of record shows two periods of water level increase (1967–1973 and 1984–1990) and decline (1973–1984 and 1990–present). Annual fluctuations in water level are relatively small and often do not exceed one foot. The most recent measurement of 48.71 feet below land surface, taken in December 2021, is 4.40 feet lower than the initial measurement in 1967.



Far away (left), and close-up (right) images of well #30-19-405.