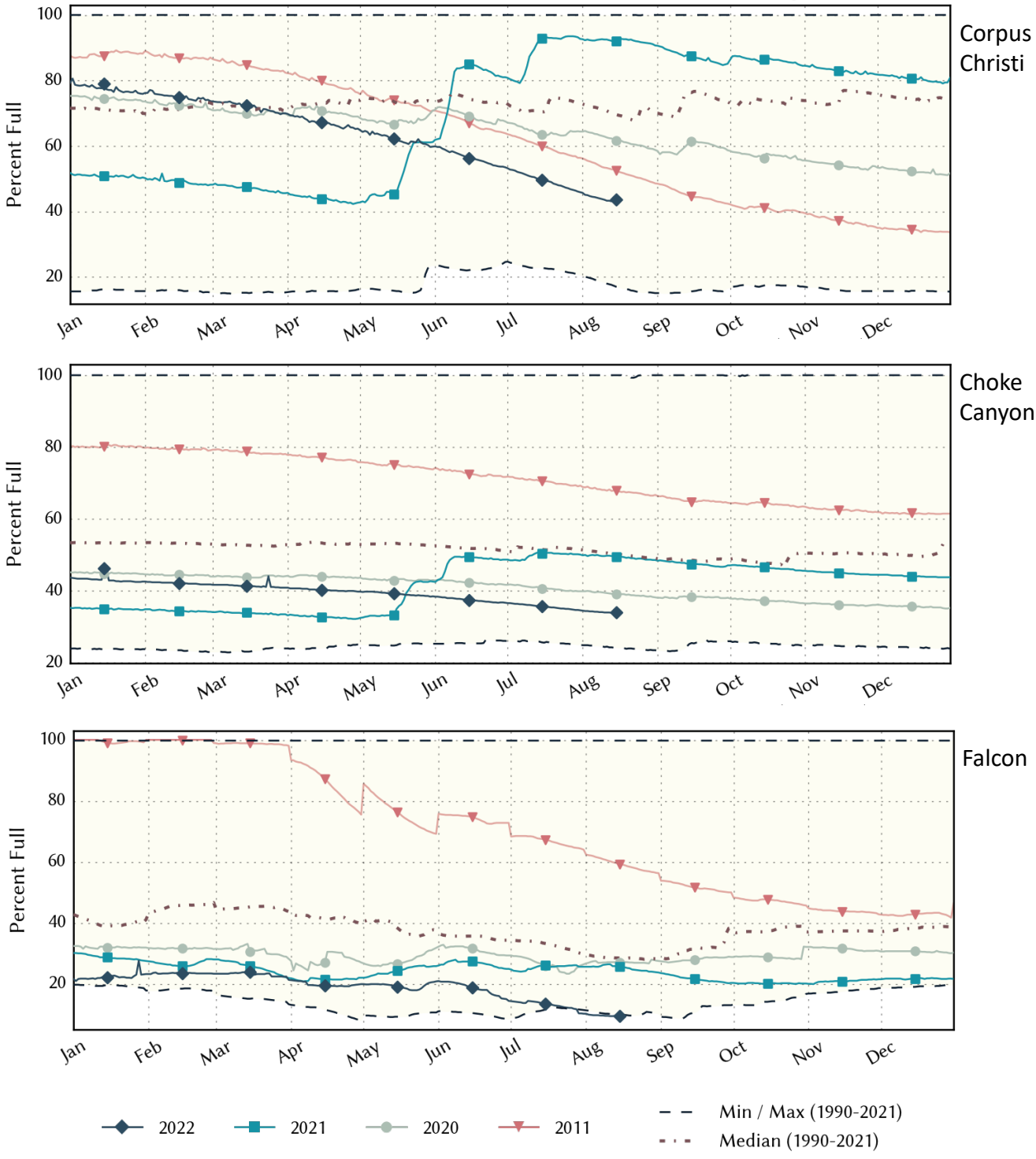
Texas Water Conditions Report



July 2022 Water News:

Statewide reservoir storage in July was at 71% of conservation storage capacity, which is 13% lower than what is expected this time of year. Reservoirs in the Southern climate division have been particularly affected (July conservation storage pictured above from top to bottom Corpus Christi 45.7%, Choke Canyon 34.6%, Falcon 10.2% full).

Please visit https://waterdatafortexas.org/reservoirs/climate/south for more details.

RAINFALL

Rainfall accumulations ranged from 0 to 12.31 inches across the state. Little to no rain [yellow, orange, and red shading, Figure 1(a)] fell over most of the state this month. Some rainfall [light blue and dark blue shading, Figure 1(a)] was recorded in the northern High Plains, northern and central Trans Pecos, central Edwards Plateau, areas of northern North Central, northwestern Southern, southern South Central, the Upper Coast, and East Texas climate divisions.

Compared to historical data from 1991–2020, much of the state received 0 to 50 percent of normal rainfall (orange shading, Figure 1(b)) in July. Slightly above average rainfall [green shading, Figure 1(b)] was seen in portions of the northern High Plains, Trans Pecos, northern Low Rolling Plains, eastern North Central, Edwards Plateau, northwestern Southern, portions of the Lower Valley, East Texas, and the Upper Coast climate divisions. Areas of central and northern Trans Pecos, northern High Plains, central East Texas, and northwestern Southern climate divisions received 200–400 percent of normal rainfall [light blue, dark blue shading, Figure 1(b)]. A portion of far West Texas and northwestern Southern climate division received 400–600 percent of normal rainfall [(light pink shading, circled in red, Figure 1 (b)]

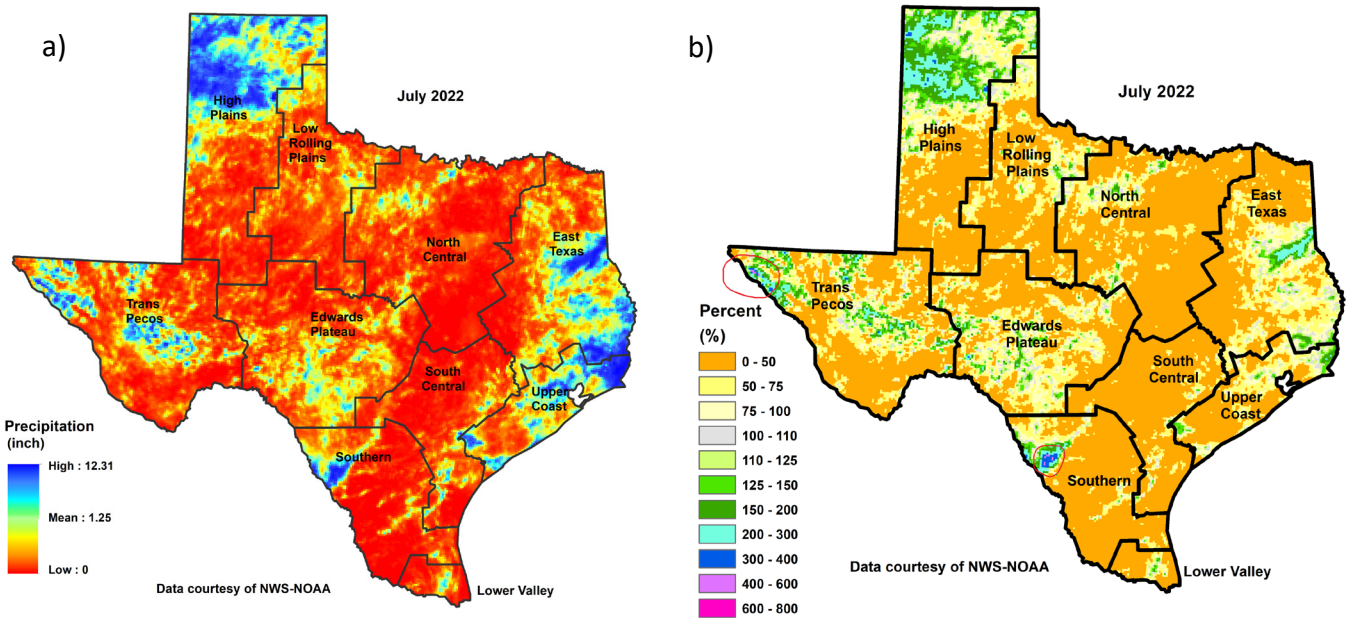


Figure 1: (a) Monthly accumulated rainfall and (b) Percent of normal rainfall

99.2% of the state was in drought leading into August, with 83.2% of the state in the extreme to exceptional drought categories (D3 & D4- red and dark red shading in Figure 2 & Table 1).

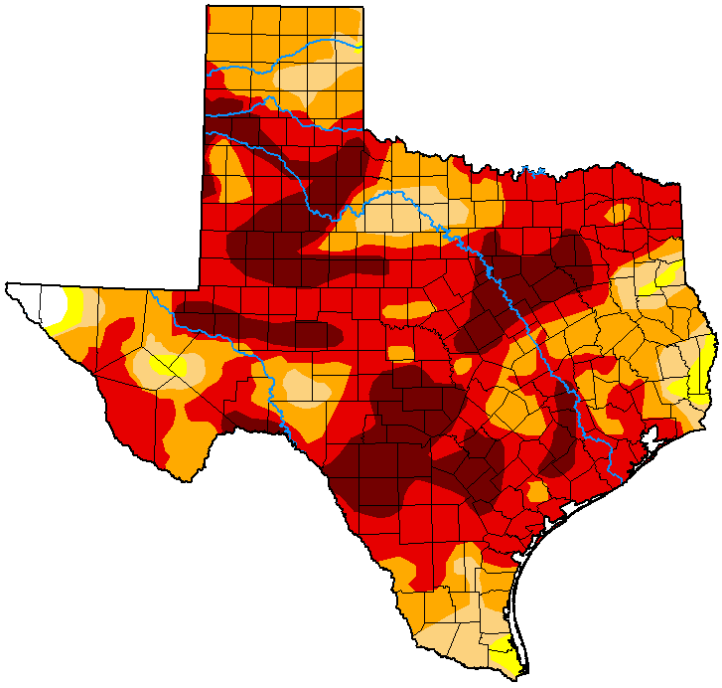


Figure 2. The extent of drought in Texas according to the U.S. Drought Monitor map as of August 2.

Category	Historically observed impacts
D3	Soil has large cracks; soil moisture is very low; dust and sandstorms occur
	Row and forage crops fail to germinate; decreased yields for irrigated crops and very large yield reduction for dryland crops are reported
	Need for supplemental feed, nutrients, protein, and water for livestock increases; herds are sold
	Increased risk of large wildfires is noted
	Many sectors experience financial burden
	Severe fish, plant, and wildlife loss reported
	Water sanitation is a concern; reservoir levels drop significantly; surface water is nearly dry; river flow is very low; salinity increases in bays and estuaries
D4	Exceptional and widespread crop loss is reported; rangeland is dead; producers are not planting fields
	Culling continues; producers wean calves early and liquidate herds due to importation of hay and water expenses
	Seafood, forestry, tourism, and agriculture sectors report significant financial loss
	Extreme sensitivity to fire danger; firework restrictions are implemented
	Widespread tree mortality is reported; most wildlife species' health and population are suffering
	Devastating algae blooms occur; water quality is very poor
	Exceptional water shortages are noted across surface water sources; water table is declining
	Boat ramps are closed; obstacles are exposed in water bodies; water levels are at or near historic lows

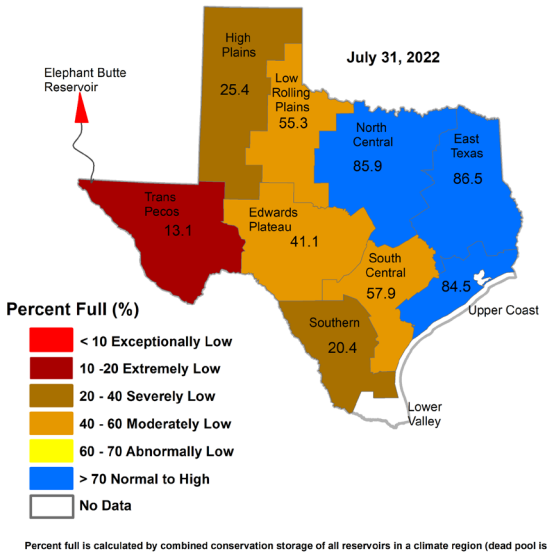
Table 1. Description of D3 (extreme) & D4 (exceptional) drought categories and associated impacts.

RESERVOIR STORAGE

In July of 2022, the total regionally combined conservation storage dropped an average of 4% statewide compared to the previous month. East Texas (86.5 percent full), North Central (85.9 percent full), and the Upper Coast (84.5 percent full) climate divisions were at or above normal (storage ≥70 percent full) in Figure 3(a). Conservation storage for the Low Rolling Plains (55.3 percent full), and South Central (57.9 percent full) climate divisions went from abnormally low to the moderately low conservation storage category (Figure 3(a)). The Edwards Plateau climate division remained in the moderately low conservation storage category (41.1 percent full, Figure 3(a)). The High Plains (25.4 percent full) and Southern (20.4 percent full) climate divisions had severely low conservation storage (Figure 3(a)). The Trans Pecos (13.1 percent full) climate division had extremely low conservation storage (Figure 3(a)).

Combined conservation storage by river basin or sub-basin was normal to high (>70 percent full, Figure 3(b)) in the Lower Red, Sulphur, Cypress, Upper and Lower Sabine, Upper and Lower Trinity, Upper and Lower Brazos, Neches, San Jacinto, Guadalupe, and Lavaca river basins. The Lower Colorado river basin had abnormally low conservation storage (60–70 percent full, Figure 3 (b)). The Upper Red river basin had moderately low conservation storage (40–60 percent full, Figure 3(b)). The Canadian, Upper Colorado, Nueces, and Lower Rio Grande river basins had severely low conservation storage (20–40 percent full, Figure 3(b)), and the San Antonio and Upper/Mid Rio Grande river basins had extremely low conservation storage (10–20 percent full, Figure 3(b)).

a)



b)

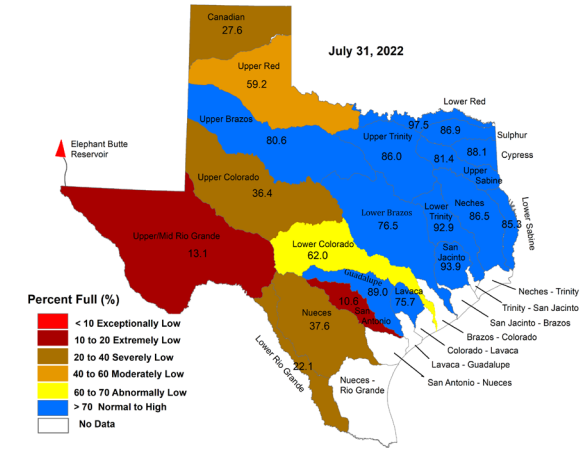


Figure 3: (a) Reservoir Storage Index* by climate, and (b) Reservoir Storage Index* by river basin/sub-basin

*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-July 2022		Storage change from end-Jun 2022		Storage change from end-Jul 2021	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
Abilene, Lake	7,900	3,772	47.7	-444	-5.6	-3,967	-50.2
Alan Henry Reservoir	96,207	74,277	77.2	-2,781	-2.9	-21,930	-22.8
*Amistad Reservoir (Texas & Mexico)	3,275,532	755,307	23.1	-63,840	-1.9	-367,856	-11.2
*Amistad Reservoir (Texas)	1,840,849	593,062	32.2	-63,055	-3.4	-370,575	-20.1
Amon G Carter, Lake	19,266	18,059	93.7	-1,207	-6.3	-1,193	-6.2
Aquilla Lake	43,243	29,997	69.4	-15,450	-80.2	-25,184	-130.7
Arlington, Lake	40,157	31,601	78.7	-3,135	-7.8	-6,570	-16.4
Arrowhead, Lake	230,359	172,507	74.9	-10,114	-4.4	-50,095	-21.7
Athens, Lake	29,503	27,411	92.9	-1,324	-4.5	-2,092	-7.1
*Austin, Lake	23,972	22,757	94.9	-169	0.0	-77	0.0
B A Steinhagen Lake	69,186	64,871	93.8	-1,687	-2.4	-493	0.0
Bardwell Lake	46,122	38,953	84.5	-3,892	-8.4	-7,169	-15.5
Belton Lake	435,225	350,022	80.4	-20,055	-4.6	-85,203	-19.6
Benbrook Lake	85,648	62,288	72.7	-10,804	-12.6	-18,613	-21.7
Bob Sandlin, Lake	192,417	179,476	93.3	-6,155	-3.2	-12,319	-6.4
Bois d'Arc Lake	367,609	140,683	38.3	-5,919	-1.6	no data	
Bonham, Lake	11,027	9,304	84.4	-1,120	-10.2	-815	-7.4
Brady Creek Reservoir	28,808	13,195	45.8	-899	-3.1	-4,935	-17.1
Bridgeport, Lake	366,236	303,814	83.0	-21,367	-5.8	-52,570	-14.4
*Brownwood, Lake	130,868	93,514	71.5	-7,504	-5.7	-33,983	-26.0
Buchanan, Lake	816,904	555,692	68.0	-68,164	-8.3	-239,156	-29.3
Caddo, Lake	29,898	27,961	93.5	-1,937	-6.5	-1,937	-6.5
Canyon Lake	378,781	339,739	89.7	-11,626	-3.1	-18,175	-4.8
Cedar Creek Reservoir in Trinity	644,686	521,140	80.8	-40,485	-6.3	-121,257	-18.8
Champion Creek Reservoir	41,580	25,394	61.1	-918	-2.2	-6,259	-15.1
Cherokee, Lake	40,094	34,812	86.8	-3,272	-8.2	-5,282	-13.2
Choke Canyon Reservoir	662,820	229,245	34.6	-14,073	-2.1	-102,776	-15.5
*Cisco, Lake	29,003	22,501	77.6	-813	-2.8	-5,242	-18.1
Coleman, Lake	38,075	30,462	80.0	-1,287	-3.4	-3,097	-8.1
Colorado City, Lake	31,040	25,013	80.6	-1,534	-4.9	-6,027	-19.4
*Coleto Creek Reservoir	30,758	18,485	60.1	-986	-3.2	-7,096	-23.1
Conroe, Lake	410,988	384,424	93.5	-11,933	-2.9	-23,499	-5.7
Corpus Christi, Lake	256,062	117,069	45.7	-20,043	-7.8	-120,307	-47.0
Crook, Lake	9,195	8,244	89.7	-597	-6.5	-420	-4.6
Cypress Springs, Lake	66,756	58,436	87.5	-2,400	-3.6	-7,964	-11.9
E. V. Spence Reservoir	517,272	106,251	20.5	-5,975	-1.2	-41,175	-8.0
Eagle Mountain Lake	179,880	143,883	80.0	-13,117	-7.3	-25,824	-14.4
Elephant Butte Reservoir (Texas)	852,491	36,110	4.2	-30,886	-3.6	-18,362	-2.1
Elephant Butte Reservoir (Total Storage)	1,960,900	83,589	4.3	-71,495	-3.6	-41,708	-2.1
*Falcon Reservoir (Texas & Mexico)	2,646,817	301,145	11.4	-68,266	-2.6	-196,857	-7.4
*Falcon Reservoir (Texas)	1,551,007	158,676	10.2	-64,990	-4.2	-238,055	-15.3
Fork Reservoir, Lake	605,061	435,579	72.0	-18,186	-3.0	-154,028	-25.5
Fort Phantom Hill, Lake	70,030	50,918	72.7	-3,725	-5.3	-19,112	-27.3
Georgetown, Lake	36,823	21,581	58.6	-2,852	-7.7	-11,443	-31.1
Gibbons Creek Reservoir	25,721	19,724	76.7	-1,730	-6.7	-1,220	-4.7
Graham, Lake	45,288	39,431	87.1	-2,128	-4.7	-5,118	-11.3
Granbury, Lake	132,949	117,483	88.4	-5,768	-4.3	-13,920	-10.5

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS							
Name of lake or reservoir	Storage capacity	Storage at end-July 2022		Storage change from end-Jun 2022		Storage change from end-Jul 2021	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
Continued							
Granger Lake	51,822	44,320	85.5	-4,801	-9.3	-7,502	-14.5
Grapevine Lake	163,064	156,399	95.9	-6,665	-4.1	-5,612	-3.4
Greenbelt Lake	59,968	8,459	14.1	-345	0.0	-3,121	-5.2
*Halbert, Lake	6,033	4,692	77.8	-381	-6.3	-659	-10.9
Hords Creek Lake	8,109	2,711	33.4	-178	-2.2	-1,209	-14.9
Houston County Lake	17,113	15,409	90.0	-1,025	-6.0	-1,704	-10.0
Houston, Lake	130,147	124,131	95.4	-1,878	-1.4	-6,016	-4.6
Hubbard Creek Reservoir	313,298	236,651	75.5	-10,484	-3.3	-71,652	-22.9
Hubert H Moss Lake	24,058	22,622	94.0	-792	-3.3	-1,188	-4.9
Inks, Lake	13,962	12,952	92.8	15	0.1	105	0.8
J. B. Thomas, Lake	199,931	58,357	29.2	-4,441	-2.2	-37,728	-18.9
Jacksonville, Lake	25,670	24,300	94.7	-748	-2.9	-1,370	-5.3
Jim Chapman Lake (Cooper)	260,332	199,980	76.8	-17,788	-6.8	-59,462	-22.8
Joe Pool Lake	175,800	154,766	88.0	-7,822	-4.4	-21,034	-12.0
Kemp, Lake	245,307	154,859	63.1	-23,066	-9.4	-90,448	-36.9
Kickapoo, Lake	86,345	57,347	66.4	-4,140	-4.8	-18,920	-21.9
Lavon Lake	406,388	344,507	84.8	-48,377	-11.9	-54,090	-13.3
Leon, Lake	27,762	18,987	68.4	-1,397	-5.0	-7,787	-28.0
Lewisville Lake	563,228	512,061	90.9	-51,167	-9.1	-51,167	-9.1
Limestone, Lake	203,780	167,045	82.0	-20,178	-9.9	-36,735	-18.0
*Livingston, Lake	1,741,867	1,618,693	92.9	-108,438	-6.2	-123,174	-7.1
*Lost Creek Reservoir	11,950	11,057	92.5	-289	-2.4	-691	-5.8
Lyndon B Johnson, Lake	115,249	111,248	96.5	0	0.0	61	0.1
Mackenzie Reservoir	46,450	3,029	6.5	-124	0.0	-963	-2.1
Marble Falls, Lake	6,901	6,804	98.6	-37	0.0	-10	0.0
Martin, Lake	75,726	65,815	86.9	-4,762	-6.3	-8,531	-11.3
Medina Lake	254,823	27,122	10.6	-7,477	-2.9	-60,499	-23.7
Meredith, Lake	500,000	155,041	31.0	-4,550	0.0	-38,677	-7.7
Millers Creek Reservoir	26,768	19,567	73.1	-1,420	-5.3	-7,201	-26.9
*Mineral Wells, Lake	5,273	4,712	89.4	-426	-8.1	-399	-7.6
Monticello, Lake	34,740	27,096	78.0	-1,190	-3.4	-2,317	-6.7
Mountain Creek, Lake	22,850	21,991	96.2	-859	-3.8	-859	-3.8
Murvaul, Lake	38,285	35,443	92.6	-401	-1.0	-2,705	-7.1
Nacogdoches, Lake	39,522	34,501	87.3	-1,890	-4.8	-3,918	-9.9
Nasworthy	9,615	8,245	85.8	-12	0.0	319	3.3
Navarro Mills Lake	49,827	40,787	81.9	-4,569	-9.2	-9,040	-18.1
New Terrell City Lake	8,583	6,791	79.1	-626	-7.3	-1,792	-20.9
Nocona, Lake (Farmers Crk)	21,444	17,474	81.5	-1,020	-4.8	-3,823	-17.8
North Fork Buffalo Creek Reservoir	15,400	8,630	56.0	-1,033	-6.7	-6,481	-42.1
O' the Pines, Lake	268,566	229,358	85.4	-16,079	-6.0	-39,208	-14.6
O. C. Fisher Lake	115,742	4,630	4.0	-573	0.0	-1,385	-1.2
*O. H. Ivie Reservoir	554,340	245,764	44.3	-13,947	-2.5	-77,547	-14.0
Oak Creek Reservoir	39,210	21,892	55.8	-1,302	-3.3	-9,086	-23.2

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS							
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	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
Continued							
Palestine, Lake	367,303	331,036	90.1	-18,961	-5.2	-36,267	-9.9
Palo Duro Reservoir	61,066	275	0.5	-1	0.0	-716	-1.2
Palo Pinto, Lake	26,766	19,037	71.1	-2,500	-9.3	-7,187	-26.9
Pat Cleburne, Lake	26,008	15,135	58.2	-1,726	-6.6	-10,296	-39.6
*Pat Mayse Lake	113,683	107,437	94.5	-5,852	-5.1	-5,965	-5.2
Possum Kingdom Lake	538,139	481,054	89.4	-26,094	-4.8	-57,085	-10.6
Proctor Lake	54,762	31,473	57.5	-5,377	-9.8	-23,289	-42.5
Ray Hubbard, Lake	439,559	397,673	90.5	-29,717	-6.8	-38,136	-8.7
Ray Roberts, Lake	788,167	762,902	96.8	-23,281	-3.0	-25,265	-3.2
Red Bluff Reservoir	151,110	95,397	63.1	-5,047	-3.3	1,405	0.9
Richland-Chambers Reservoir	1,087,839	922,919	84.8	-39,117	-3.6	-164,920	-15.2
Sam Rayburn Reservoir	2,857,077	2,446,838	85.6	-127,485	-4.5	-410,239	-14.4
Somerville Lake	150,293	124,320	82.7	-10,884	-7.2	-25,973	-17.3
Squaw Creek, Lake	151,250	150,934	99.8	-316	0.0	-316	0.0
Stamford, Lake	51,570	36,243	70.3	-2,882	-5.6	-15,327	-29.7
Stillhouse Hollow Lake	227,771	183,356	80.5	-9,437	-4.1	-44,415	-19.5
Striker, Lake	16,934	15,286	90.3	-847	-5.0	-1,648	-9.7
Sweetwater, Lake	12,267	8,196	66.8	-438	-3.6	-2,616	-21.3
*Sulphur Springs, Lake	17,747	11,556	65.1	-1,057	-6.0	-3,883	-21.9
Tawakoni, Lake	871,685	756,036	86.7	-39,472	-4.5	-113,061	-13.0
Texana, Lake	159,566	120,900	75.8	-9,505	-6.0	-38,574	-24.2
Texoma, Lake (Texas & Oklahoma)	2,487,601	2,445,152	98.3	-187,838	-7.6	-399,804	-16.1
Texoma, Lake (Texas)	1,243,801	1,222,576	98.3	-21,225	-1.7	-21,225	-1.7
Toledo Bend Reservoir (Texas & Louisiana)	4,472,900	3,822,546	85.5	-292,126	-6.5	-348,648	-7.8
Toledo Bend Reservoir (Texas)	2,236,450	1,909,223	85.4	-146,063	-6.5	-174,324	-7.8
Travis, Lake	1,113,348	592,967	53.3	-45,253	-4.1	-266,044	-23.9
Twin Buttes Reservoir	182,454	65,267	35.8	-9,162	-5.0	-26,002	-14.3
Tyler, Lake	72,073	64,411	89.4	-4,235	-5.9	-7,662	-10.6
Waco, Lake	189,418	127,389	67.3	-10,494	-5.5	-62,029	-32.7
Waxahachie, Lake	10,780	8,281	76.8	-649	-6.0	-2,218	-20.6
Weatherford, Lake	17,812	10,374	58.2	-1,590	-8.9	-6,622	-37.2
White River Lake	29,880	4,116	13.8	-558	-1.9	-3,777	-12.6
Whitney, Lake	553,344	413,919	74.8	-40,507	-7.3	-119,897	-21.7
Worth, Lake	24,419	16,634	68.1	-1,041	-4.3	-4,649	-19.0
Wright Patman Lake	231,496	231,496	100.0	0	0.0	0	0.0
STATEWIDE TOTAL							
STATEWIDE TOTAL	**32,585,606**	**22,458,720**	**68.9**	**-1,523,961**	**-4.7**	**-4,527,752**	**-13.9**

*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.

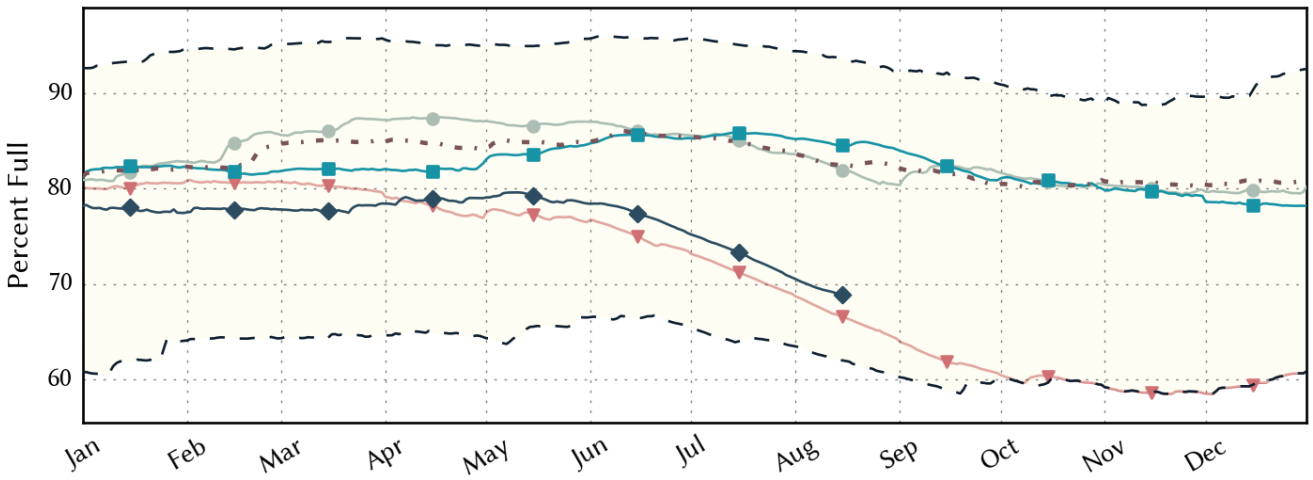


Figure 4. Statewide reservoir conservation storage.

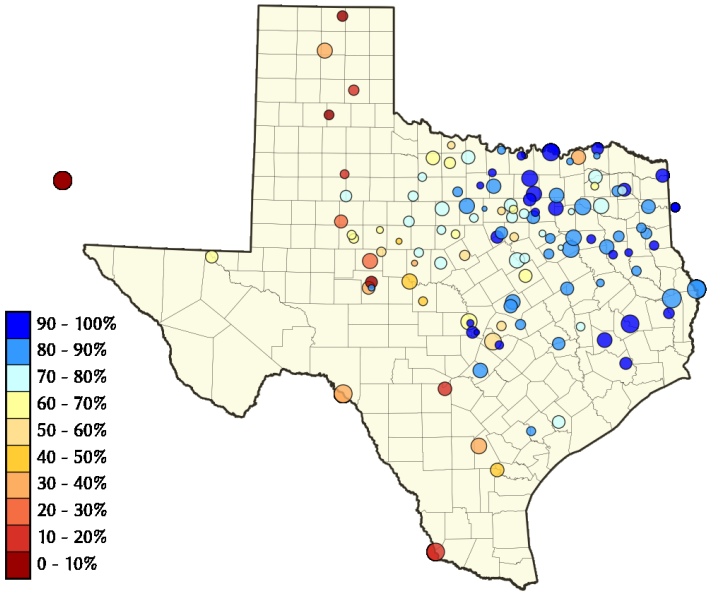


Figure 5. *Reservoir conservation storage at end-July expressed as percent full (%)

Over the last month, out of 119 reservoirs in the state, and Elephant Butte (New Mexico), 108 reservoirs decreased in conservation storage, 1 reservoir increased in conservation storage, and 11 reservoirs remained at the same conservation storage.

Eight reservoirs were below 30 percent full: E.V. Spence (20.5 percent full), Falcon (10.2 percent full), Greenbelt (14.1 percent full), Mackenzie (6.5 percent full), Medina Lake (10.6 percent full), O. C. Fisher (4.0 percent full), Palo Duro Reservoir (0.5 percent full), and White River (13.8 percent full). Elephant Butte Reservoir (New Mexico) was 4.2 percent full.

*Storage is based on end of the month data in 120 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.

STREAMFLOW CONDITIONS

Normal streamflow (25–75th percentile, green shading, Figure 6) was recorded in northern, central, eastern, and some southeastern areas of Texas this month. Above normal (76–90th percentile, light blue shading, Figure 6) and much above normal (>90th percentile dark blue shading, Figure 6) streamflow was seen in the Upper Red river basin.

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

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

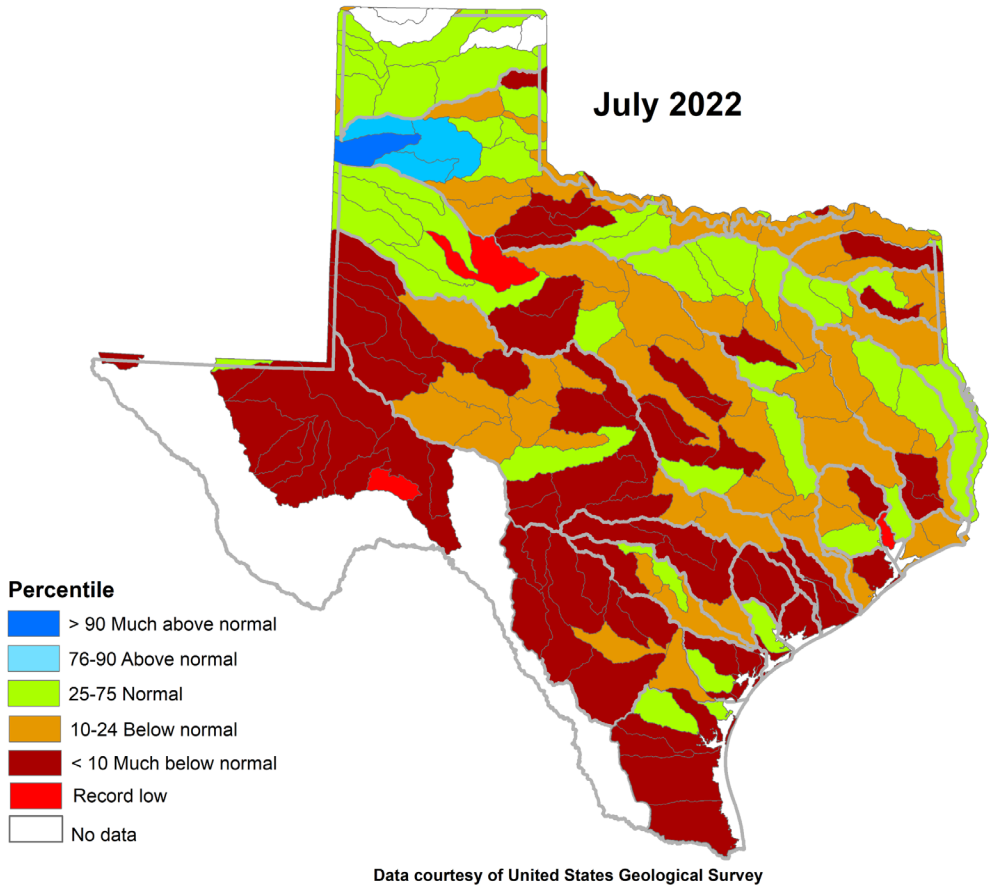


Figure 6: Runoff percentiles by the U.S. Geological Survey's Hydrologic Unit Code

SOIL MOISTURE

At the end of July 2022, root zone soil moisture 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. Average soil moisture [0.3 cubic meters of water per bulk cubic meter soil (m^3/m^3), Figure 7(a)] was seen in the northern High Plains, and portions of the Upper Coast climate divisions. Low soil moisture [< 0.15 cubic meters of water per bulk cubic meter soil (m^3/m^3), Figure 7(a)] was seen across all climate divisions, particularly in the High Plains, Trans Pecos, Low Rolling Plains, Southern, South Central, Lower Valley, and East Texas climate divisions.

Compared to conditions at the end of June 2022, soil moisture content increased [blue shading in Figure 7(b)] with a maximum of 0.18 m^3/m^3, in northwestern High Plains climate division. Soil moisture content decreased [red shading in Figure 7(b)] across the state in all climate divisions.

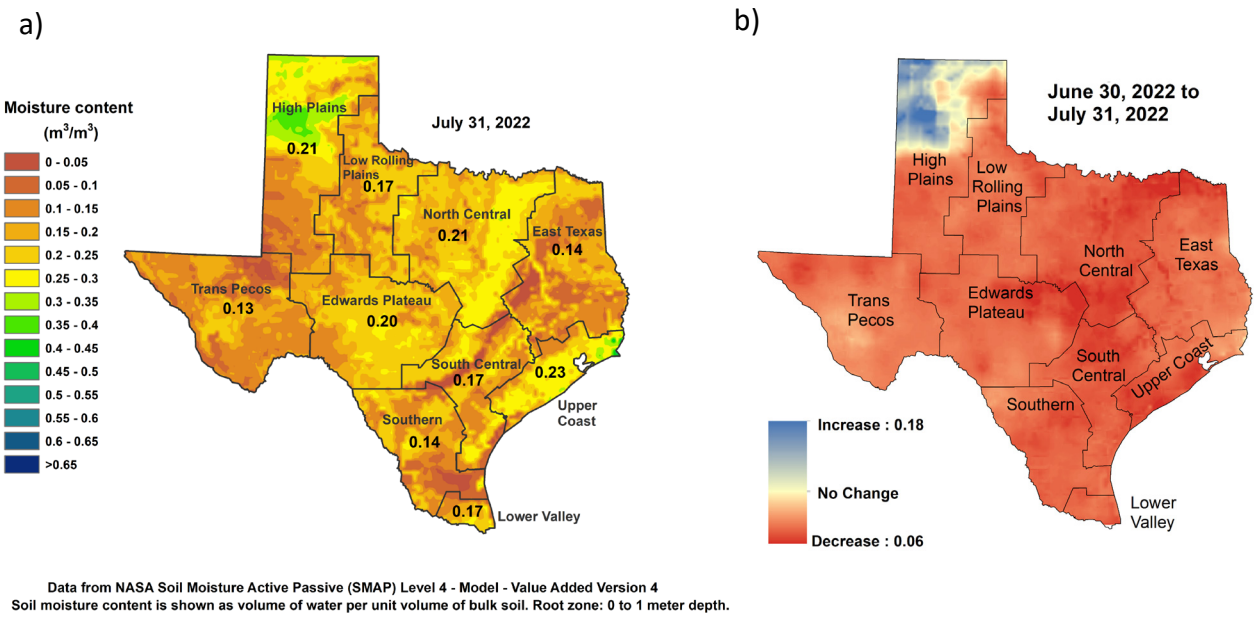
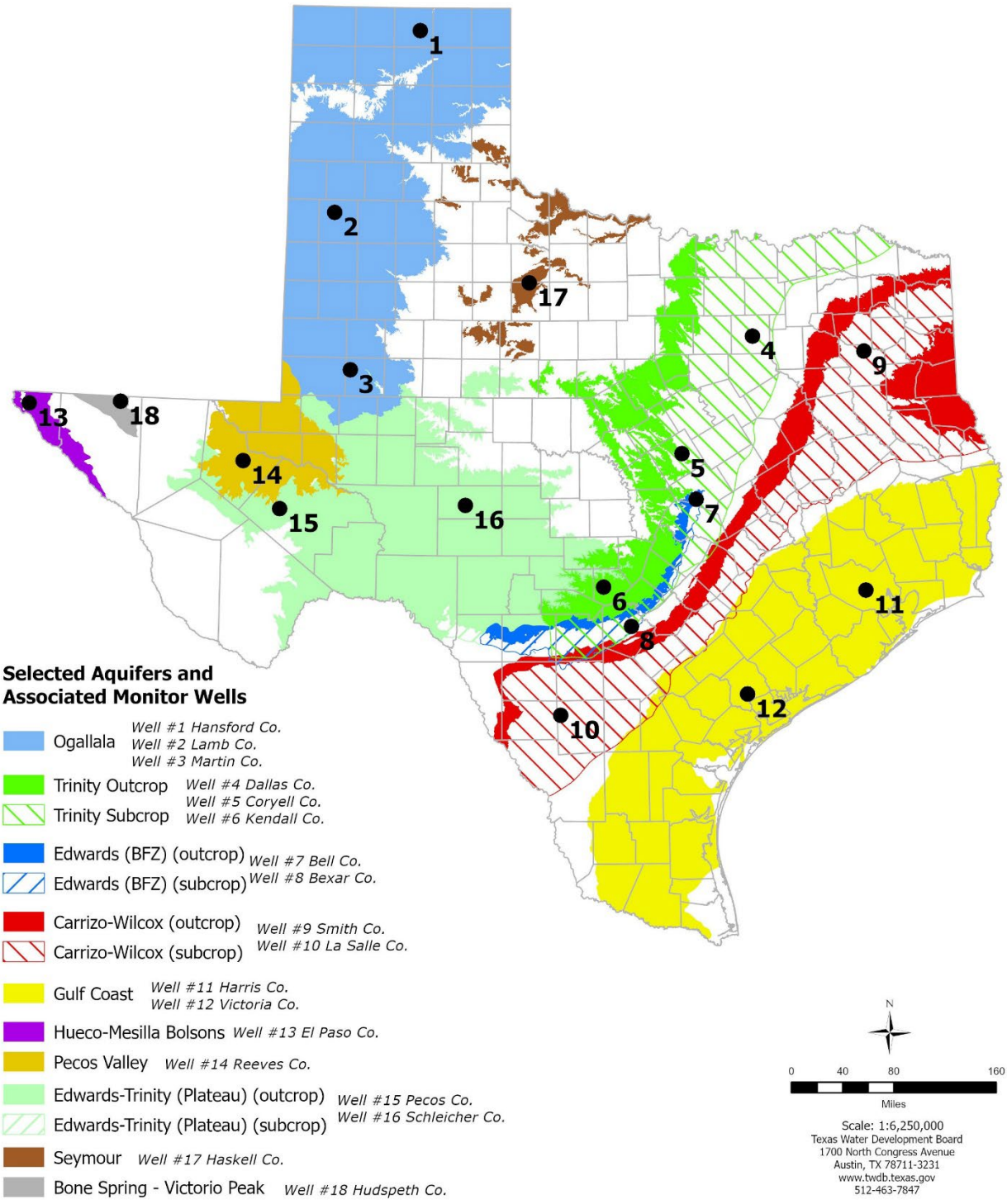


Figure 7: (a) Root zone soil moisture conditions in July 2022 and (b) the difference in root zone soil moisture between end-June 2022 and end-July 2022



JULY 2022 GROUNDWATER LEVELS IN MONITORING WELLS

Water-level measurements were available for 16 key monitoring wells in the state. The recorders in two wells (#5 and #18 on map) were offline during the reporting period. Water levels rose in three monitoring wells since the beginning of July, ranging from an increase of 0.47 feet in the El Paso County Hueco-Mesilla Bolsons Aquifer well (#13 on map) to 8.14 feet in the Reeves County Pecos Valley Aquifer well (#14 on map). Water levels declined in 13 monitoring wells, ranging from a decline of -0.07 feet in the Haskell County Seymour Aquifer well (#17 on map) to -11.54 feet in the La Salle County Carrizo-Wilcox Aquifer well (#10 on map). The J-17 well (#8 on map) in San Antonio recorded a water level of 98.40 feet below land surface or 632.60 feet above mean sea level. Water levels are 7.40 feet below the Stage 3 critical management level for the San Antonio portion of the Edwards (Balcones Fault Zone) Aquifer. Stage 3 water restrictions have been in effect since June 13, 2022.

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

Monitoring Well	July (depth to water, feet)	June (depth to water, feet)	Month Change	Year Change	Historical Change*	First Measured (year)
(1) Hansford 0354301	162.41	162.17	-0.24	NA	-92.29	1951
(2) Lamb 1053602	153.01	152.91	-0.10	-0.91	-124.84	1951
(3) Martin 2739903	144.92	144.81	-0.11	-0.58	-40.03	1964
(4) Dallas 3319101	499.96	496.76	-3.20	-14.51	-277.96	1954
(5) Coryell 4035404	NA	543.62	NA	NA	-251.62*	1955**
(6) Kendall 6802609	219.41	216.17	-3.24	-76.34	-159.41	1975
(7) Bell 5804816	117.16	117.89	0.73	5.39	6.35	2008
(8) Bexar 6837203	98.40	94.50	-3.90	-33.70	-51.76	1932
(9) Smith 3430907	442.05	439.49	-2.56	-5.03	-142.05	1977**
(10) La Salle 7738103	529.67	518.13	-11.54	-32.43	-276.60	2003
(11) Harris 6514409	187.29	184.12	-3.17	-1.40	-51.79	1947**
(12) Victoria 8017502	33.68	33.39	-0.29	-1.22	0.32	1958**
(13) El Paso 4913301	299.32	299.79	0.47	-1.58	-67.42	1964**
(14) Reeves 4644501	156.46	164.60	8.14	2.76	-64.37	1952
(15) Pecos 5216802	220.15	219.49	-0.66	0.03	26.73	1976
(16) Schleicher 5512134	318.29	315.45	-2.84	-13.24	-16.39	2003
(17) Haskell 2135748	46.94	46.87	-0.07	NA	-3.94	2002
(18) Hudspeth 4807516	NA	153.84	NA	NA	-49.92*	1966

*** Change since the original measurement taken on the date indicated in the last column. The historical changes shown for recorder wells #5 and #18 are based off the most recent water level records from June 2022.**

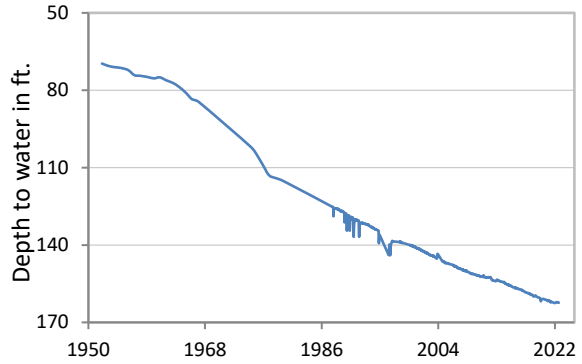
**** Measurement not shown on the hydrograph.**

NA (not available)

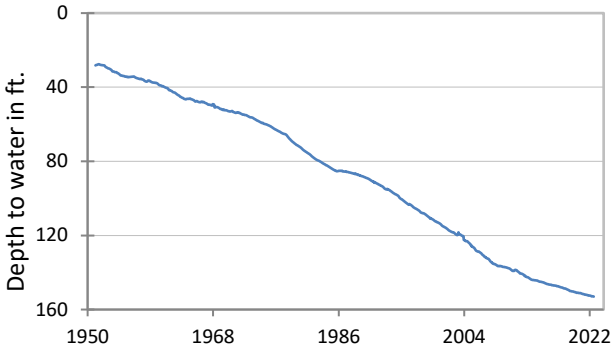
All data are provisional and subject to revision

JULY 2022 MONITORING WELL HYDROGRAPHS

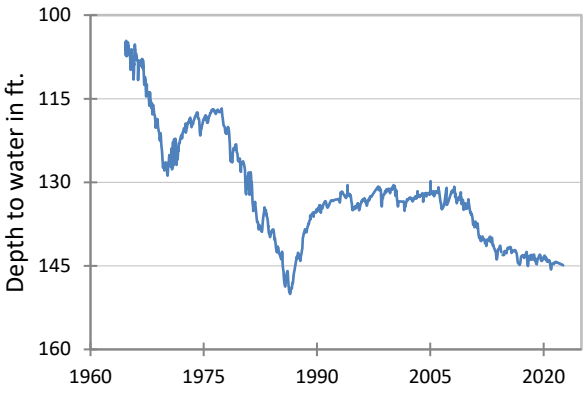
(1) State Well #03-54-301
Near Spearman, Hansford County
Ogallala Aquifer



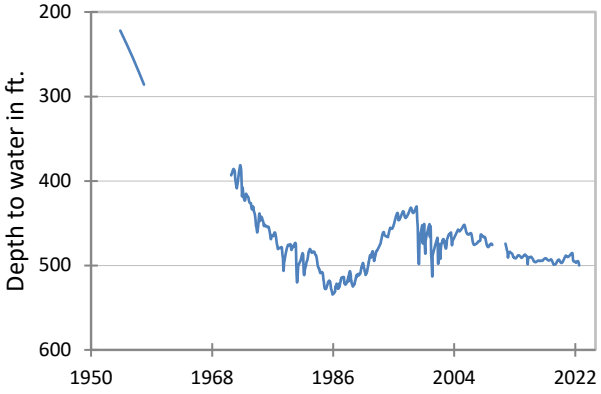
(2) State Well #10-53-602
Near Earth, Lamb County
Ogallala Aquifer



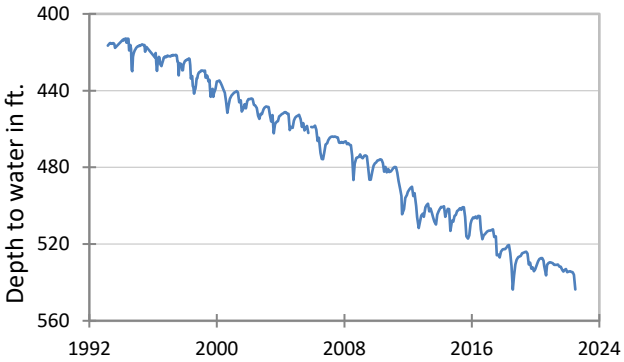
(3) State Well #27-39-903
Northwest Martin County
Ogallala Aquifer



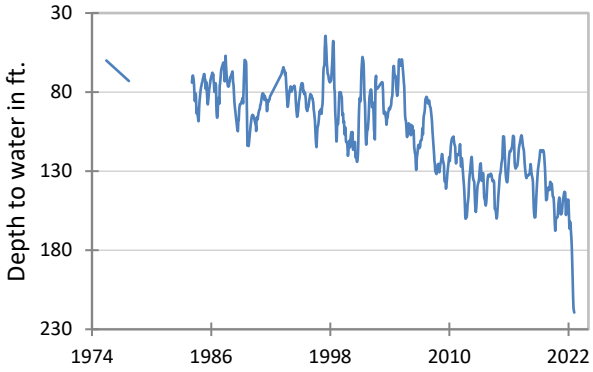
(4) State Well #33-19-101
Southeast Dallas, Dallas County
Twin Mountains Formation-Trinity Aquifer



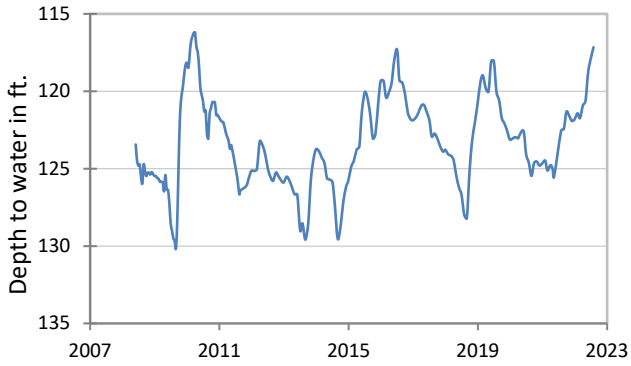
***(5) State Well #40-35-404**
Gatesville, Coryell County
Hosston Formation-Trinity Aquifer



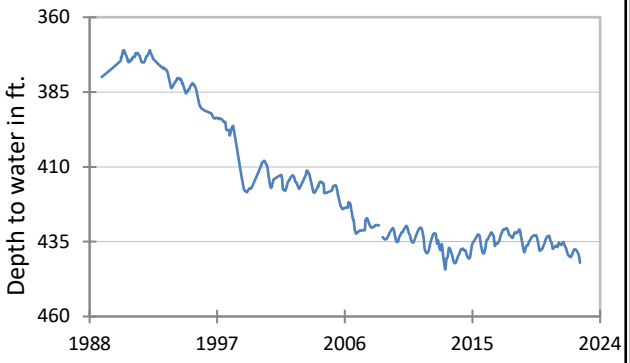
(6) State Well #68-02-609
Waring, Kendall County
Travis Peak Formation-Trinity Aquifer



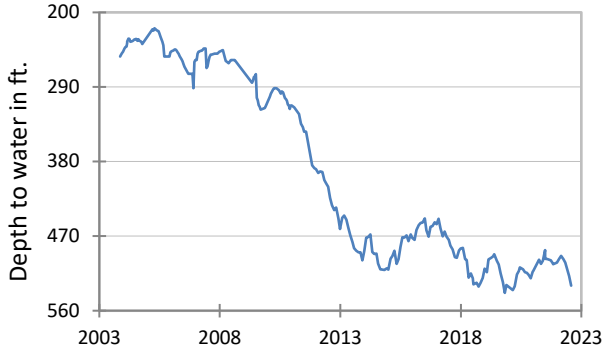
(7) State Well #58-04-816
Near Salado, Bell County
Edwards (Balcones Fault Zone) Aquifer



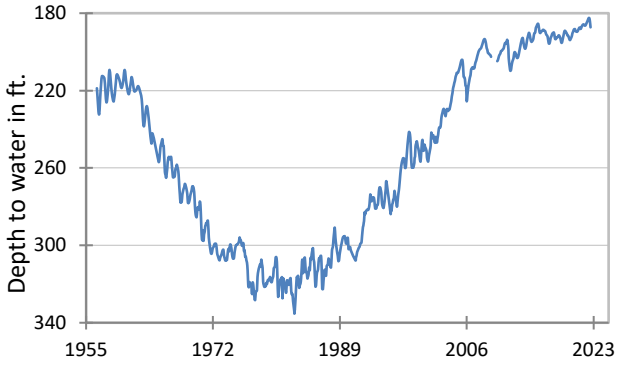
(9) State Well #34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer



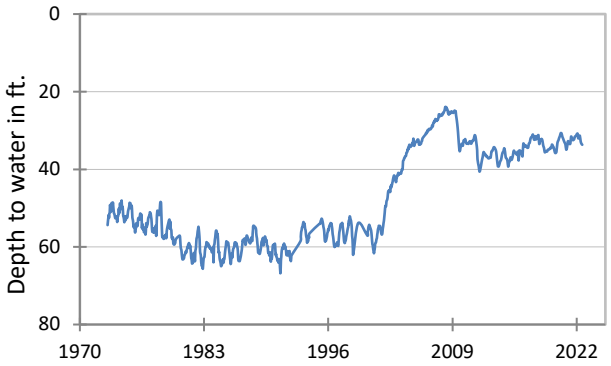
(10) State Well #77-38-103
Near Cotulla, La Salle County
Carrizo-Wilcox Aquifer



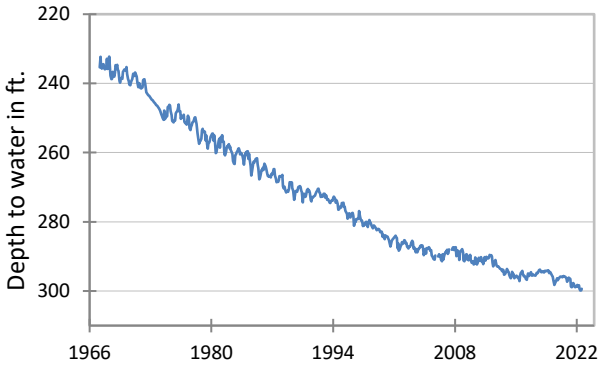
(11) State Well #65-14-409
North Houston, Harris County
Evangeline Formation-Gulf Coast Aquifer



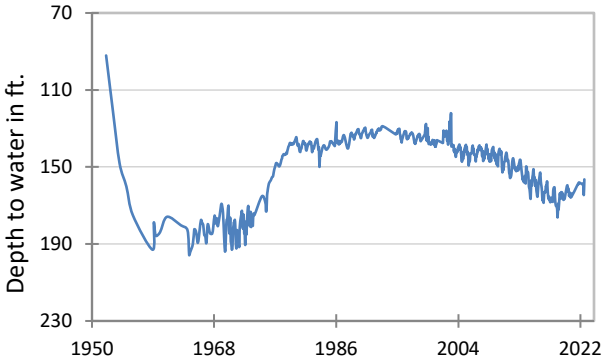
(12) State Well #80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer



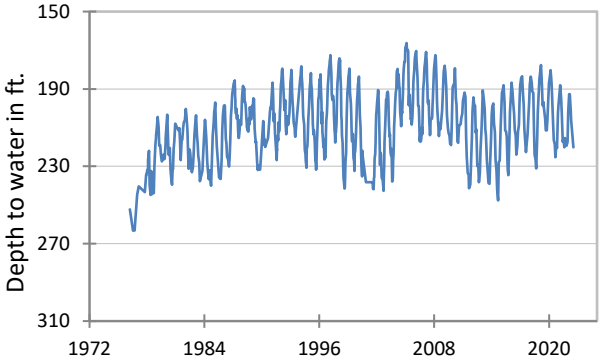
(13) State Well #49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolsons Aquifer



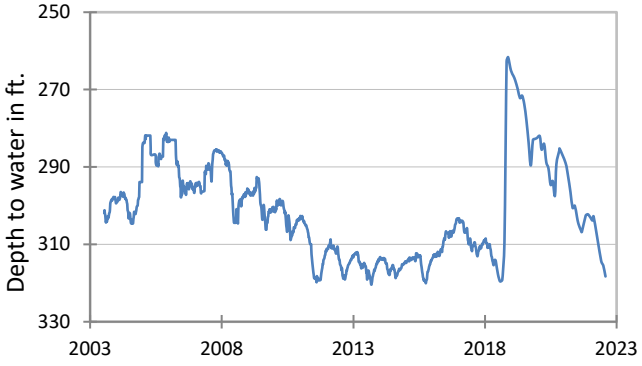
(14) State Well #46-44-501
Near Pecos, Reeves County
Pecos Valley Aquifer



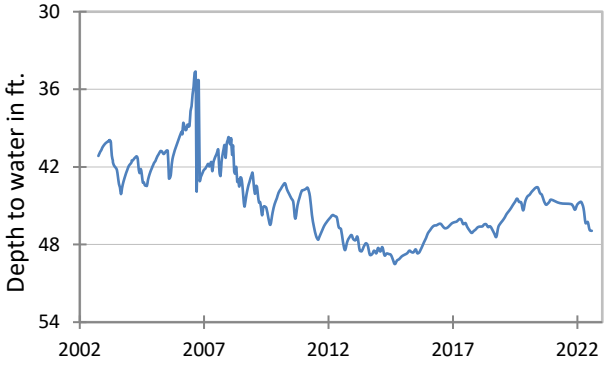
(15) State Well #52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer



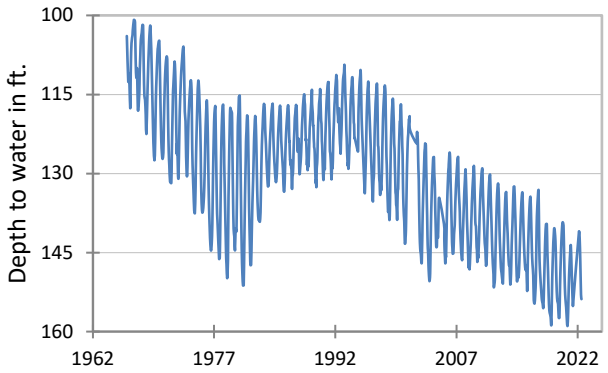
(16) State Well #55-12-134
Eldorado, Schleicher County
Edwards-Trinity (Plateau) Aquifer



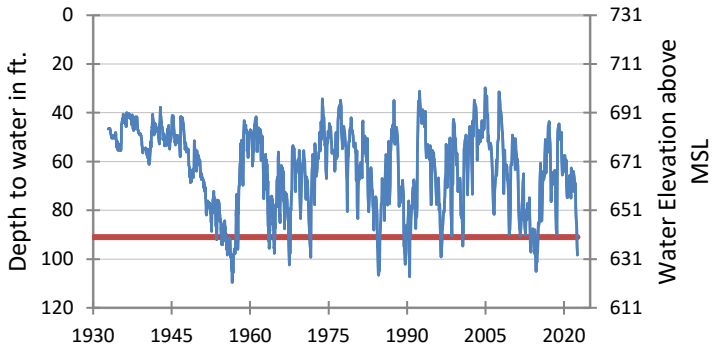
(17) State Well #21-35-748
Near O'Brien, Haskell County
Seymour Aquifer

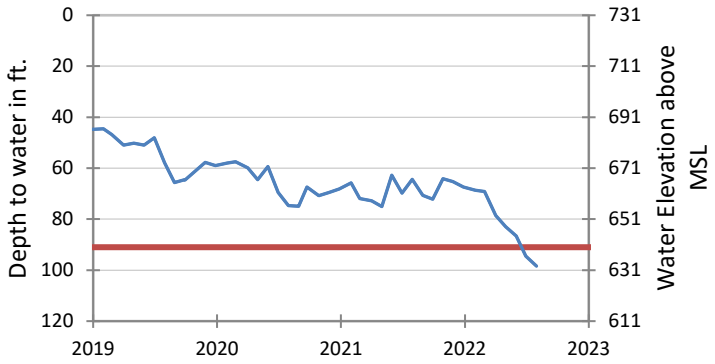


***(18) State Well #48-07-516**
Dell City, Hudspeth County
Bone Spring-Victorio Peak Aquifer



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



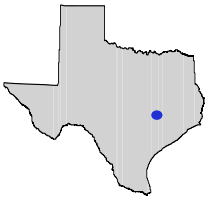


The late July water-level measurement in this Edwards (Balcones Fault Zone) Aquifer well, located at an elevation of 731 feet above mean sea level, was 98.40 feet below land surface, or 632.60 feet above mean sea level. This was 3.90 feet below last month's measurement, 33.70 feet below last year's measurement, and 51.76 feet below the initial measurement recorded in 1932.

Water levels below the red line indicate periods in which Edwards Aquifer Authority Stage 3 drought restrictions are in effect. In July 2022, Stage 3 drought restrictions were in effect because the aquifer remained below the Stage 3 critical management level.

***Recorder wells #5 and #18 were offline in July 2022 and did not record data.**

HYDROGRAPH OF THE MONTH

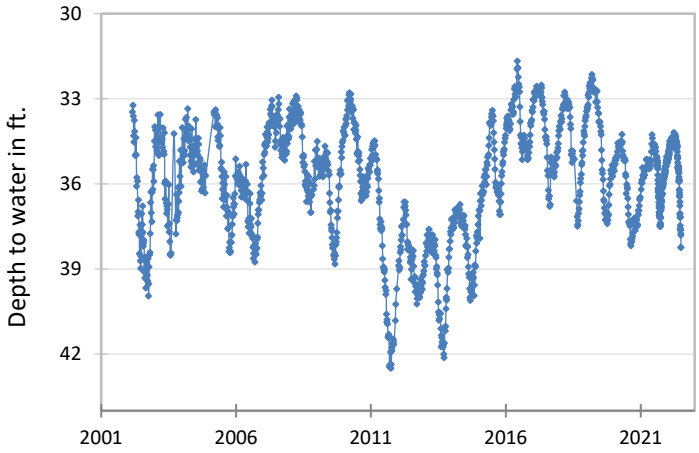


Each month this space features a new hydrograph (marked with the • symbol on the map) depicting different aquifers and their conditions in Texas.

The Gulf Coast Aquifer is a major aquifer paralleling the Gulf of Mexico coastline from the Louisiana border to the border of Mexico. It consists of several aquifers, including the Jasper, Evangeline, and Chicot aquifers, which are composed of discontinuous sand, silt, clay, and gravel beds. The maximum total sand thickness of the Gulf Coast Aquifer ranges from 700 feet in the south to 1,300 feet in the north. Freshwater saturated thickness averages about 1,000 feet. Water quality varies with depth and locality. It is generally good in the central and northeastern parts of the aquifer, where total dissolved so lids concentrations are less than 500 milligrams per liter, but is more saline to the south, where total dissolved solids are typically 1,000 to more than 10,000 milligrams per liter and where the productivity of the aquifer decreases. Areas of increased salinity along the central and eastern Gulf Coast may be associated with saltwater intrusion in response to groundwater pumping, or to brine migration in response to oil field operations and natural flows from salt domes intruding into the aquifer. The aquifer is used for municipal, industrial, and irrigation purposes. The large volume of groundwater pumped from the Gulf Coast Aquifer in the Houston area has caused land subsidence, but groundwater levels have rebounded in areas where groundwater management strategies were implemented.

Gulf Coast Aquifer

Well #59-53-915, 820 feet deep
unused, Washington County



The initial measurement of 33.46 feet below land surface was recorded by a TWDB automatic water-level recorder in February 2002. The recorder continues to take hourly measurements (available online) and daily measurements (in the groundwater database). The period of record reveals seasonal fluctuations in water level that are likely attributed to nearby pumping. Water levels typically remain between 33 and 39 feet below land surface. During the last drought of record, between 2010 – 2014, water levels declined approximately three feet on average and fluctuated between 37 and 42 feet below land surface.

Far away (left), and close-up (right) images of well #59-53-915.