

# Texas Water Conditions Report



Sunset on Lake Travis

March 2022

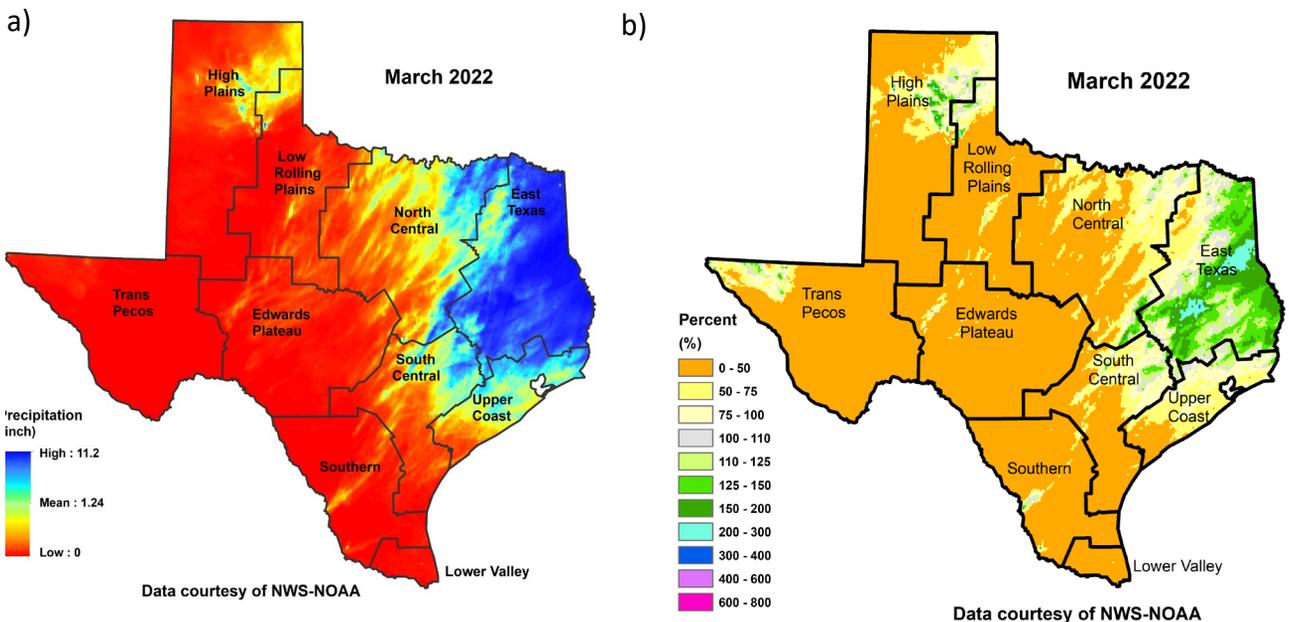
## Water News:

- Every ten years state agencies undergo a review by the Texas Legislature that assesses the effectiveness and performance of a program or agency. The 2022–23 TWDB Sunset Staff Report has been posted: <https://www.sunset.texas.gov/reviews-and-reports/agencies/texas-water-development-board>
- Lake evaporation datasets were updated on 03/08/2022 adding 2021 data to our Water Data for Texas site. <https://www.waterdatafortexas.org/lake-evaporation-rainfall>

## RAINFALL

This was a very dry month for most 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, the Edwards Plateau, much of North Central, South Central, Southern, Lower Valley, and the southern and western Upper Coast climate divisions. Some rainfall [light blue and dark blue shading, Figure 1(a)] was recorded in northeastern High Plains, northwestern Low Rolling Plains, eastern North Central, northeastern South Central, East Texas, and the northern and eastern portions of the Upper Coast climate divisions. Rainfall accumulations reached 11.2 inches in the eastern portions of the state [dark blue shading, Figure 1(a)].

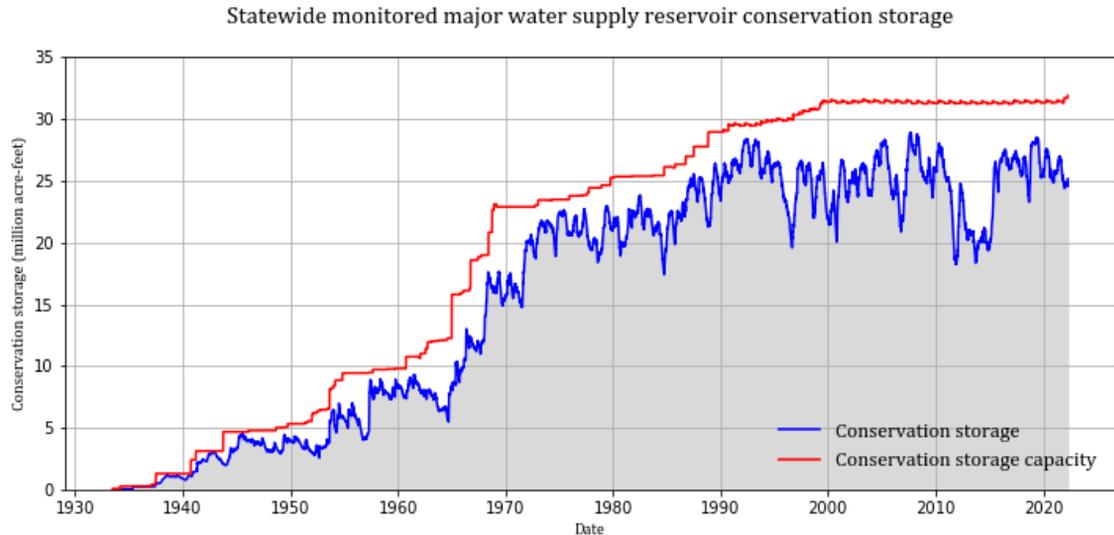
About two thirds of the state received 0 to 50 percent of normal rainfall in March (orange shading, Figure 1(b)). That is just under half of what is typically expected compared to historical data from 1991–2020. Average rainfall [green shading, Figure 1(b)] was seen in northeastern High Plains, northwestern Low Rolling Plains, northwestern Trans Pecos, portions of eastern North Central, northeastern South Central, and much of East Texas climate divisions. The East Texas climate division received 200–300 percent of normal rainfall [light blue shading, Figure 1(b)].



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

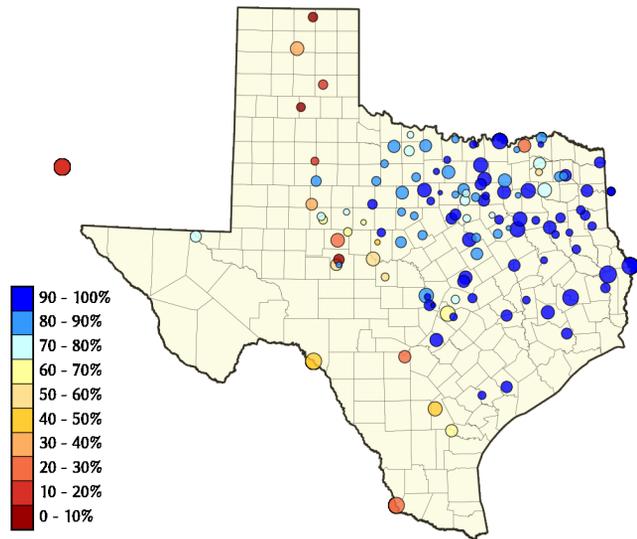
## **RESERVOIR STORAGE**

At the end of March 2022, total conservation storage\* in 123 of the state’s major water supply reservoirs was 24.9 million acre-feet or 77 percent of total conservation storage capacity (Figure 2). This is approximately 0.20 million-acre-feet more than a month ago and approximately 0.93 million acre-feet less than at the end of March 2021.



**Figure 2:** Statewide reservoir conservation storage

Out of 123 reservoirs in the state, 21 reservoirs held 100 percent of conservation storage capacity (Figure 3). Additionally, 40 were at or above 90 percent full. Nine reservoirs remained below 30 percent full: Bois d’Arc (28 percent full), E.V. Spence (24 percent full), Falcon (21 percent full), Greenbelt (16 percent full), Mackenzie (7 percent full), Medina Lake (22 percent full), O. C. Fisher (6 percent full), Palo Duro Reservoir (1 percent full), and White River (17 percent full). Elephant Butte Reservoir (located in New Mexico) was 12 percent full.



**Figure 3:** Reservoir conservation storage at end-March 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.



## CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Storage capacity	Storage at end-March 2022		Storage change from end-Feb 2022		Storage change from end-Mar 2021	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
Abilene, Lake	7,900	5,343	68	-288	-4	192	2
Alan Henry Reservoir	96,207	83,016	86	-810	0	1,237	1
*Amistad Reservoir (Texas & Mexico)	3,275,532	1,017,406	31	-83,578	-3	-171,643	-5
*Amistad Reservoir (Texas)	1,840,849	873,327	47	-12,000	0	-228,150	-12
Amon G Carter, Lake	19,266	18,218	95	-147	0	414	2
Aquilla Lake	43,243	37,273	86	-789	-2	-4,170	-10
Arlington, Lake	40,157	35,724	89	2,138	5	-3,074	-8
Arrowhead, Lake	230,359	191,895	83	-2,888	-1	-32,703	-14
Athens, Lake	29,503	29,503	100	0	0	0	0
*Austin, Lake	23,972	22,834	95	0	0	-138	0
B A Steinhagen Lake	69,186	65,761	95	2,550	4	298	0
Bardwell Lake	46,122	45,092	98	744	2	-1,030	-2
Belton Lake	435,225	394,838	91	-4,486	-1	-31,577	-7
Benbrook Lake	85,648	66,634	78	2,163	3	-13,916	-16
Bob Sandlin, Lake	192,417	185,281	96	3,995	2	-7,136	-4
Bois d'Arc Lake	367,609	102,806	28	6,069	2	na	
Bonham, Lake	11,027	9,549	87	1,637	15	-1,372	-12
Brady Creek Reservoir	28,808	15,797	55	-395	-1	-3,143	-11
Bridgeport, Lake	366,236	315,305	86	-3,427	0	-3,870	-1
*Brownwood, Lake	130,868	115,218	88	-2,219	-2	4,730	4
Buchanan, Lake	860,607	754,560	88	-632	0	41,808	5
Caddo, Lake	29,898	29,898	100	0	0	no data	
Canyon Lake	378,781	369,386	98	-2,436	0	38,073	10
Cedar Creek Reservoir in Trinity	644,686	596,229	92	1,865	0	-48,457	-8
Champion Creek Reservoir	41,580	28,192	68	-368	0	4,246	10
Cherokee, Lake	40,094	40,094	100	0	0	0	0
Choke Canyon Reservoir	662,820	271,069	41	-5,824	0	49,337	7
*Cisco, Lake	29,003	24,690	85	-233	0	2,019	7
Coleman, Lake	38,075	34,411	90	-473	-1	2,256	6
Colorado City, Lake	31,040	28,549	92	-826	-3	6,557	21
*Coleto Creek Reservoir	30,758	21,751	71	-460	-1	no data	
Conroe, Lake	410,988	410,988	100	9,914	2	0	0
Corpus Christi, Lake	256,062	179,267	70	-9,445	-4	62,469	24
Crook, Lake	9,195	9,195	100	962	10	0	0
Cypress Springs, Lake	66,756	59,170	89	-831	-1	-7,586	-11
E. V. Spence Reservoir	517,272	121,958	24	-2,921	0	9,185	2
Eagle Mountain Lake	179,880	153,993	86	-3,252	-2	-10,394	-6
Elephant Butte Reservoir (Texas)	852,491	103,328	12	9,414	1	12,620	1
Elephant Butte Reservoir (Total Storage)	1,985,900	239,185	12	21,791	1	29,212	1
*Falcon Reservoir (Texas & Mexico)	2,646,817	454,601	17	24,740	1	53,477	2
*Falcon Reservoir (Texas)	1,551,007	330,805	21	-31,271	-2	-8,095	0
Fork Reservoir, Lake	605,061	451,974	75	0	0	-148,330	-25
Fort Phantom Hill, Lake	70,030	62,934	90	-1,722	-2	2,294	3
Georgetown, Lake	36,823	27,822	76	-1,282	-3	3,008	8
Gibbons Creek Reservoir	25,721	24,010	93	2,977	12	2,911	11
Graham, Lake	45,288	37,563	83	-564	-1	-4,328	-10
Granbury, Lake	132,949	131,403	99	-244	0	-1,546	-1

## CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Storage capacity	Storage at end-March 2022		Storage change from end-Feb 2022		Storage change from end-Mar 2021	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
<i>Continued</i>							
Granger Lake	51,822	51,822	100	0	0	0	0
Grapevine Lake	163,064	156,081	96	823	1	-6,983	-4
Greenbelt Lake	59,968	9,671	16	41	0	-705	-1
*Halbert, Lake	6,033	5,400	90	181	3	262	4
Hords Creek Lake	8,109	3,278	40	-77	0	-846	-10
Houston County Lake	17,113	17,113	100	0	0	0	0
Houston, Lake	130,147	130,147	100	1,350	1	1,013	1
Hubbard Creek Reservoir	313,298	263,921	84	-4,808	-2	-6,376	-2
Hubert H Moss Lake	24,058	23,939	100	525	2	0	0
Inks, Lake	13,962	13,725	98	498	4	855	6
J. B. Thomas, Lake	199,931	73,389	37	-2,737	-1	48,913	24
Jacksonville, Lake	25,670	25,670	100	0	0	0	0
Jim Chapman Lake (Cooper)	260,332	193,686	74	2,032	1	-66,646	-26
Joe Pool Lake	175,800	161,364	92	-936	0	-8,532	-5
Kemp, Lake	245,307	203,038	83	-2,185	0	-4,401	-2
Kickapoo, Lake	86,345	62,988	73	-586	0	-4,429	-5
Lavon Lake	406,388	350,715	86	20,358	5	-55,673	-14
Leon, Lake	27,762	22,970	83	-539	-2	-2,198	-8
Lewisville Lake	563,228	518,267	92	1,035	0	-44,961	-8
Limestone, Lake	203,780	203,780	100	7,747	4	0	0
*Livingston, Lake	1,741,867	1,741,867	100	0	0	0	0
*Lost Creek Reservoir	11,950	11,409	95	-46	0	-256	-2
Lyndon B Johnson, Lake	115,249	111,432	97	184	0	245	0
Mackenzie Reservoir	46,450	3,428	7	-45	0	-621	-1
Marble Falls, Lake	6,901	6,760	98	-17	0	-98	-1
Martin, Lake	75,726	75,677	100	11,000	15	643	1
Medina Lake	254,823	55,894	22	-6,710	-3	-37,741	-15
Meredith, Lake	500,000	170,253	34	-748	0	-9,396	-2
Millers Creek Reservoir	26,768	21,867	82	-620	-2	-4,048	-15
*Mineral Wells, Lake	5,273	4,930	93	-99	-2	-343	-7
Monticello, Lake	34,740	28,286	81	770	2	-1,814	-5
Mountain Creek, Lake	22,850	22,850	100	0	0	0	0
Murvaul, Lake	38,285	38,285	100	0	0	0	0
Nacogdoches, Lake	39,522	39,303	99	4,920	12	670	2
Nasworthy	9,615	8,720	91	13	0	647	7
Navarro Mills Lake	49,827	42,674	86	-620	-1	-7,153	-14
New Terrell City Lake	8,583	7,703	90	98	1	-880	-10
Nocona, Lake (Farmers Crk)	21,444	17,230	80	-85	0	-2,944	-14
North Fork Buffalo Creek Reservoir	15,400	11,590	75	-378	-2	-2,942	-19
O' the Pines, Lake	241,363	241,363	100	8,559	4	0	0
O. C. Fisher Lake	115,742	6,566	6	-252	0	-431	0
*O. H. Ivie Reservoir	554,340	288,259	52	-5,161	0	-48,829	-9
Oak Creek Reservoir	39,210	25,846	66	-544	-1	-3,930	-10

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	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
<i>Continued</i>							
Palentine, Lake	367,303	367,303	100	0	0	0	0
Palo Duro Reservoir	61,066	343	1	-33	0	-440	0
Palo Pinto, Lake	26,766	24,782	93	-643	-2	2,516	9
Pat Cleburne, Lake	26,008	19,322	74	-254	0	-2,956	-11
*Pat Mayse Lake	113,683	103,350	91	3,449	3	-10,333	-9
Possum Kingdom Lake	538,139	508,517	94	-4,645	0	-19,841	-4
Proctor Lake	54,762	46,155	84	-1,042	-2	-6,368	-12
Ray Hubbard, Lake	439,559	413,436	94	12,984	3	-26,123	-6
Ray Roberts, Lake	788,167	767,915	97	279	0	-20,252	-3
Red Bluff Reservoir	151,110	112,678	75	195	0	38,712	26
Richland-Chambers Reservoir	1,087,839	997,209	92	1,236	0	-86,349	-8
Sam Rayburn Reservoir	2,857,077	2,609,316	91	134,530	5	-183,829	-6
Somerville Lake	150,293	150,293	100	0	0	20,996	14
Squaw Creek, Lake	151,250	146,032	97	-3,172	-2	-5,218	-3
Stamford, Lake	51,570	42,118	82	-1,399	-3	-9,452	-18
Stillhouse Hollow Lake	227,771	206,343	91	-2,355	-1	-21,428	-9
Striker, Lake	16,934	16,934	100	21	0	0	0
Sweetwater, Lake	12,267	9,627	78	-122	0	-295	-2
*Sulphur Springs, Lake	17,747	10,301	58	255	1	-6,152	-35
Tawakoni, Lake	871,685	792,358	91	4,887	1	-79,327	-9
Texana, Lake	159,566	158,464	99	274	0	8,674	5
Texoma, Lake (Texas & Oklahoma)	2,487,601	2,392,340	96	-21,533	0	54,336	2
Texoma, Lake (Texas)	1,243,801	1,196,170	96	-10,766	0	27,168	2
Toledo Bend Reservoir (Texas & Louisiana)	4,472,900	4,246,423	95	221,939	5	114,864	3
Toledo Bend Reservoir (Texas)	2,236,450	2,121,162	95	110,970	5	57,432	3
Travis, Lake	1,113,348	755,741	68	-16,662	-1	13,189	1
Twin Buttes Reservoir	182,454	92,152	51	-1,559	0	-5,984	-3
Tyler, Lake	72,073	72,073	100	0	0	0	0
Waco, Lake	189,418	152,339	80	-4,053	-2	-33,693	-18
Waxahachie, Lake	10,780	8,559	79	-17	0	-2,221	-21
Weatherford, Lake	17,812	14,285	80	-235	-1	-2,206	-12
White River Lake	29,880	5,069	17	-327	-1	1,249	4
Whitney, Lake	553,344	500,427	90	-2,516	0	4,367	1
Worth, Lake	24,419	17,834	73	-1,221	-5	-64	0
Wright Patman Lake	122,593	122,593	100	0	0	0	0
<b>STATEWIDE TOTAL</b>							
<b>STATEWIDE TOTAL</b>	<b>32,536,446</b>	<b>24,951,009</b>	<b>77</b>	<b>205,195</b>	<b>1</b>	<b>-933,517</b>	<b>-3</b>

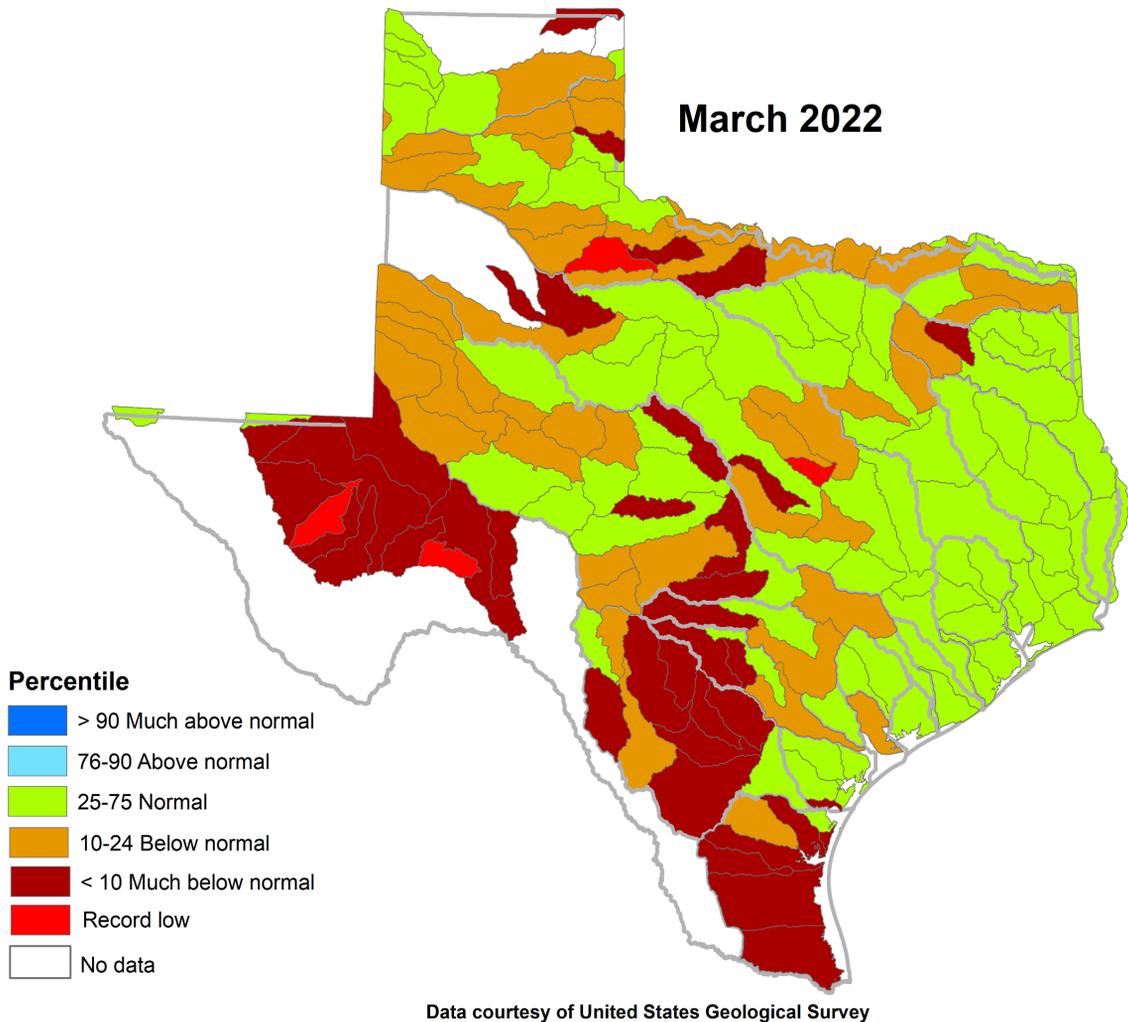
\*Total volume below elevation of conservation pool top is used as conservation storage capacity, because the dead pool storage is unknown.

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

## STREAMFLOW CONDITIONS

Most eastern and north central areas of the state had near normal streamflow in March 2022 (25–75th percentile, green shading, Figure 6). 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, Upper Trinity, Sulphur, Upper Sabine, Lavaca-Guadalupe, San Antonio, Guadalupe, Nueces, and Nueces-Rio Grande river basins.

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

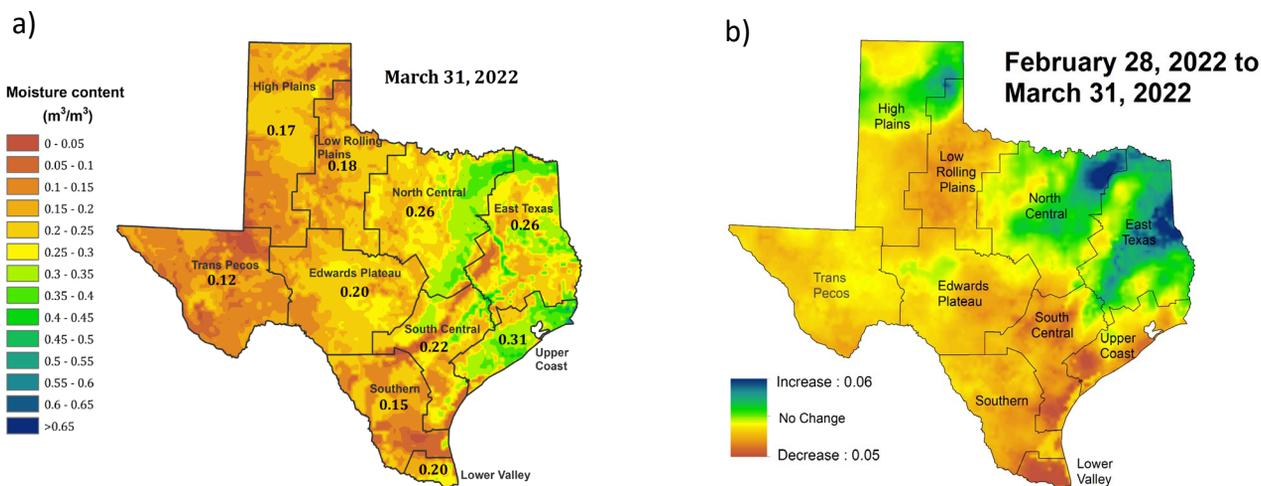


**Figure 6:** Runoff percentiles by the U.S. Geological Survey’s Hydrologic Unit Code

## SOIL MOISTURE

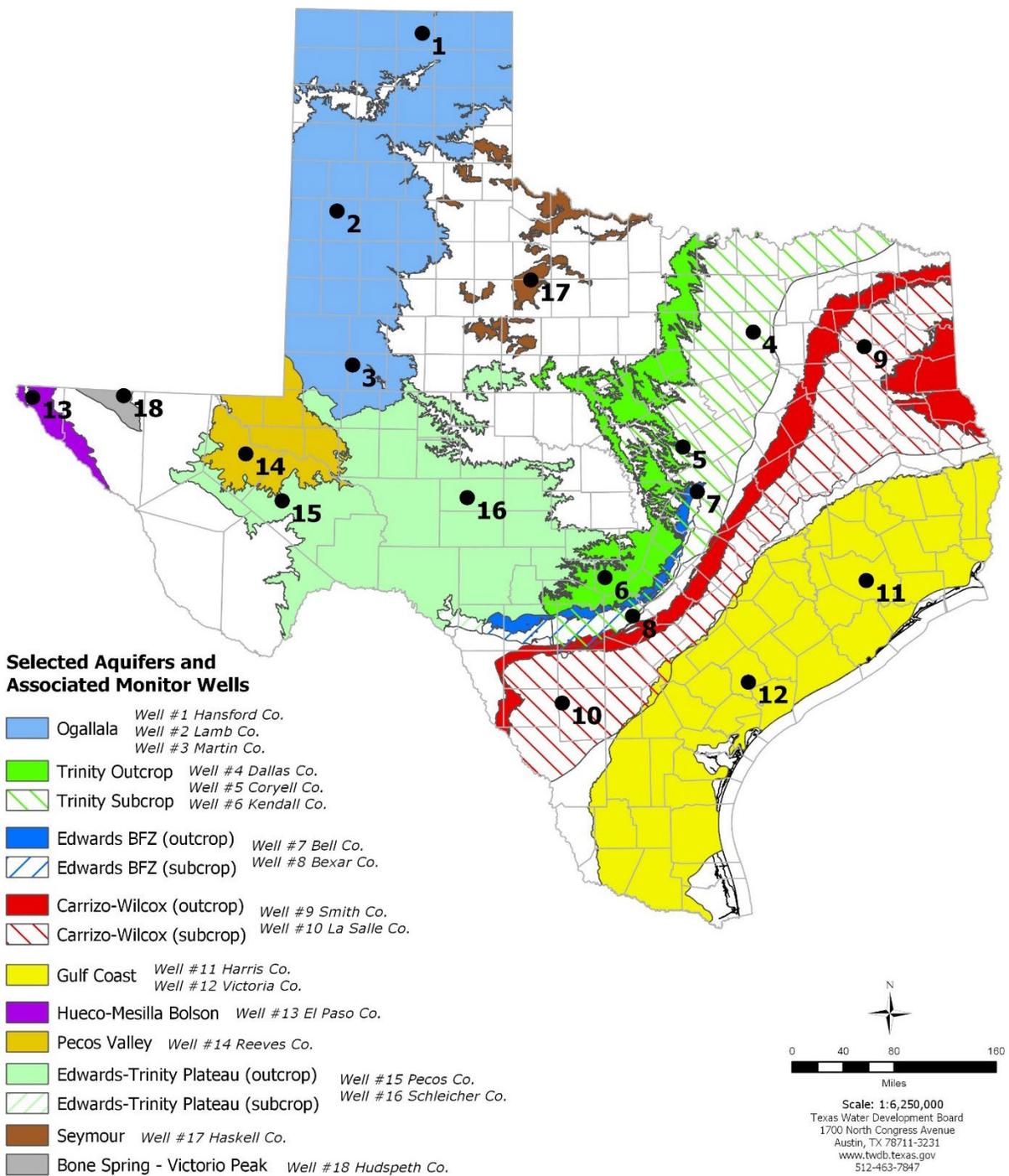
Root zone soil moisture at the end of March 2022 was below average [ $< 0.3$  cubic meters of water per bulk cubic meter soil ( $\text{m}^3/\text{m}^3$ ), Figure 7(a)] across most of the state. Low soil moisture [ $< 0.15$  cubic meters of water per bulk cubic meter soil ( $\text{m}^3/\text{m}^3$ )]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

Compared to conditions at the end of February 2022, soil moisture content increased [green to blue shading in Figure 7(b)] in portions of the northern High Plains, northern Low Rolling Plains, northwestern Edwards Plateau, North Central, northeastern South Central, portions of northeastern Upper Coast, and East Texas climate divisions. Soil moisture content decreased [yellow, orange, and brown shading in Figure 7(b)] in areas of the High Plains, Trans Pecos, Low Rolling Plains, the Edwards Plateau, portions of North Central, Southern, South Central, portions of East Texas, the Lower Valley 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 March 2022 and (b) the difference in root zone soil moisture between end-February 2022 and end-March 2022



## MARCH 2022 GROUNDWATER LEVELS IN MONITORING WELLS

Water-level measurements were available for 17 key monitoring wells in the state. The recorder in 1 well (#14 on map) was offline during the reporting period. Water levels rose in 7 monitoring wells since the beginning of March, ranging from an increase of 0.07 feet in the Smith County Carrizo-Wilcox Aquifer well (#9 on map) to 0.95 feet in the Harris County Gulf Coast Aquifer well (#11 on map). Water levels declined in 10 monitoring wells, ranging from a decline of -0.06 feet in the Martin County Ogallala Aquifer well (#3 on map) to -9.50 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 78.60 feet below land surface or 652.40 feet above mean sea level. Water levels are 7.60 feet below the Stage I critical management level for the San Antonio portion of the Edwards (Balcones Fault Zone) Aquifer. Stage 1 water restrictions have been in effect since March 9, 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	March (depth to water, feet)	February (depth to water, feet)	Month Change	Year Change	Historical Change*	First Measured (year)
(1) Hansford 0354301	162.14	162.59	0.45	-0.33	-92.02	1951
(2) Lamb 1053602	152.83	152.60	-0.23	-0.98	-124.66	1951
(3) Martin 2739903	144.67	144.61	-0.06	-0.03	-39.78	1964
(4) Dallas 3319101	495.39	496.22	0.83	-8.00	-273.39	1954
(5) Coryell 4035404	534.48	534.22	-0.26	-3.70	-242.48	1955**
(6) Kendall 6802609	168.92	161.94	-6.98	-11.55	-108.92	1975
(7) Bell 5804816	120.91	121.74	0.83	3.86	2.60	2008
(8) Bexar 6837203	78.60	69.10	-9.50	-5.80	-31.96	1932
(9) Smith 3430907	437.60	437.67	0.07	-1.50	-137.60	1977**
(10) La Salle 7738103	497.70	494.01	-3.69	0.78	-244.63	2003
(11) Harris 6514409	183.22	184.17	0.95	4.93	-47.72*	1947**
(12) Victoria 8017502	31.75	32.01	0.26	1.70	2.25	1958**
(13) El Paso 4913301	298.32	298.76	0.44	-1.86	-66.42	1964**
(14) Reeves 4644501	NA	NA	NA	NA	NA	1952
(15) Pecos 5216802	201.29	192.77	-8.52	-6.27	45.59	1976
(16) Schleicher 5512134	307.88	305.53	-2.35	-22.22	-5.98	2003
(17) Haskell 2135748	45.20	44.72	-0.48	NA	-2.20	2002
(18) Hudspeth 4807516	142.43	141.13	-1.30	5.62	-38.51	1966

\* Change since the original measurement taken on the date indicated in the last column. The historical change shown for recorder well #14 is based off the most recent water level records from October 2021.

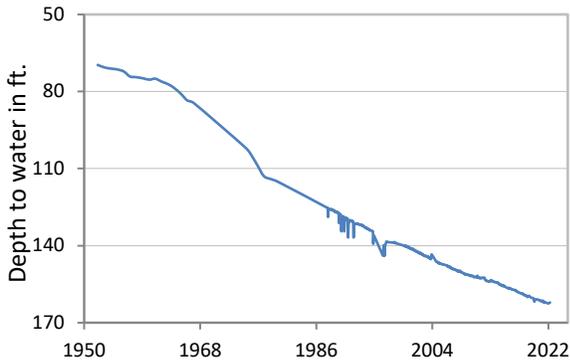
\*\* Measurement not shown on the hydrograph.

NA (not available)

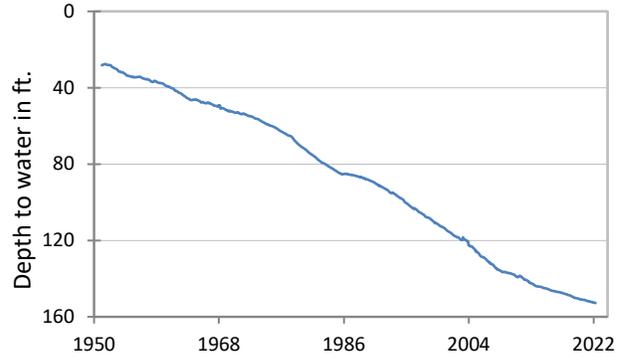
All data are provisional and subject to revision

# MARCH 2022 MONITORING WELL HYDROGRAPHS

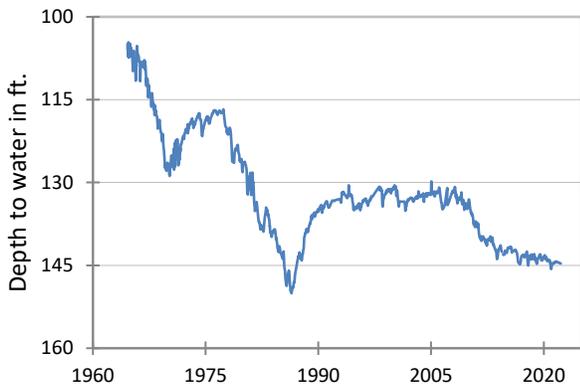
**(1) State Well #03-54-301**  
Near Spearman, Hansford County  
Ogallala Aquifer



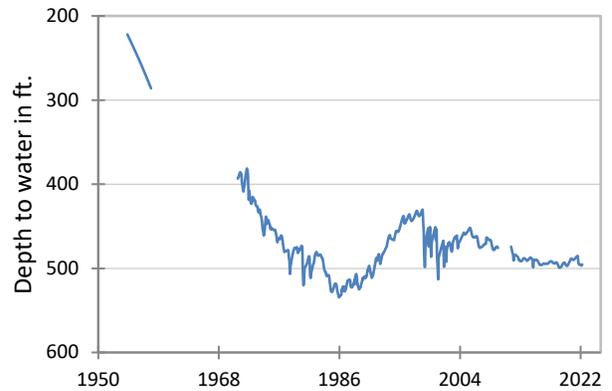
**(2) State Well #10-53-602**  
Near Earth, Lamb County  
Ogallala Aquifer



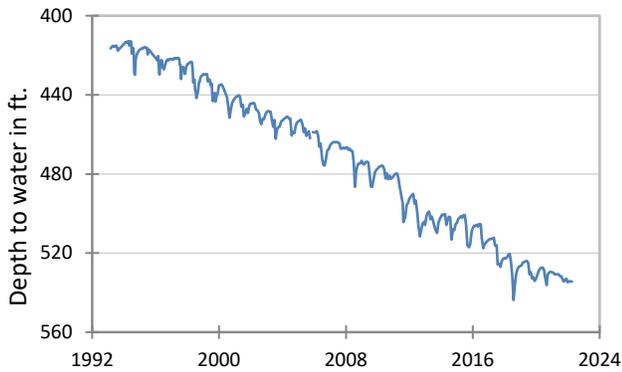
**(3) State Well #27-39-903**  
Northwest Martin County  
Ogallala Aquifer



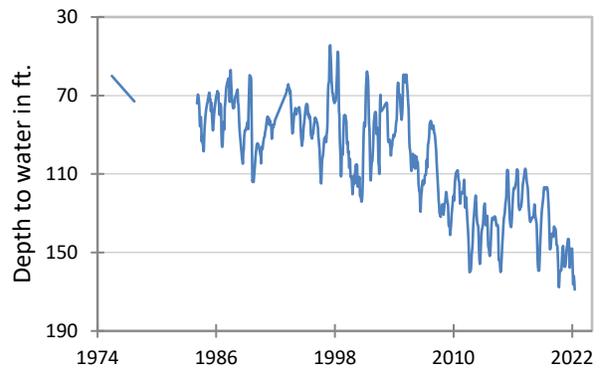
**(4) State Well #33-19-101**  
Southeast Dallas, Dallas County  
Twin Mountains Formation-Trinity Aquifer



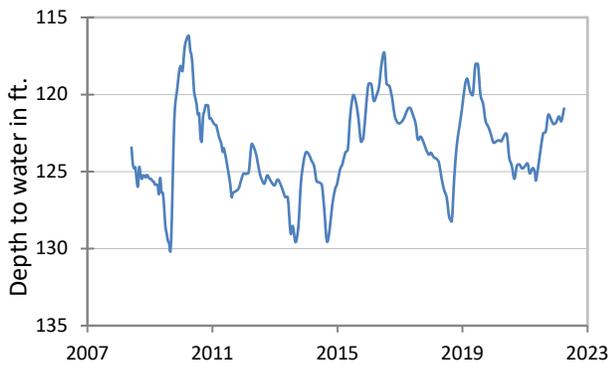
**(5) State Well #40-35-404**  
**Gatesville, Coryell County**  
**Hosston Formation-Trinity Aquifer**



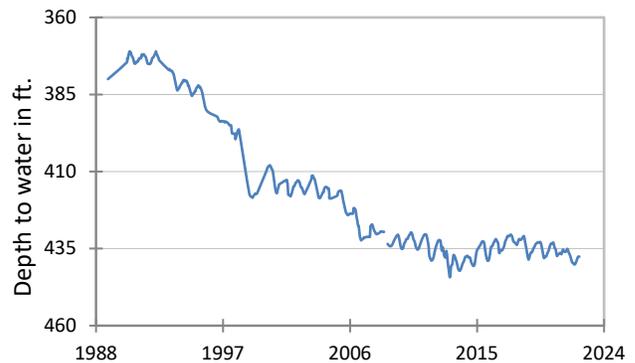
**(6) State Well #68-02-609**  
**Waring, Kendall County**  
**Travis Peak Formation-Trinity Aquifer**



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



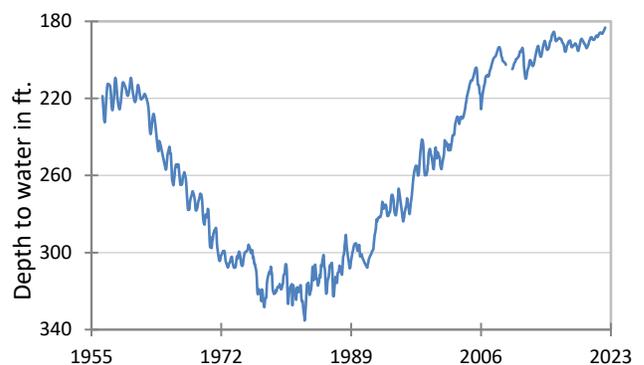
**(9) State Well #34-30-907**  
**Red Springs, Smith County**  
**Carrizo-Wilcox Aquifer**



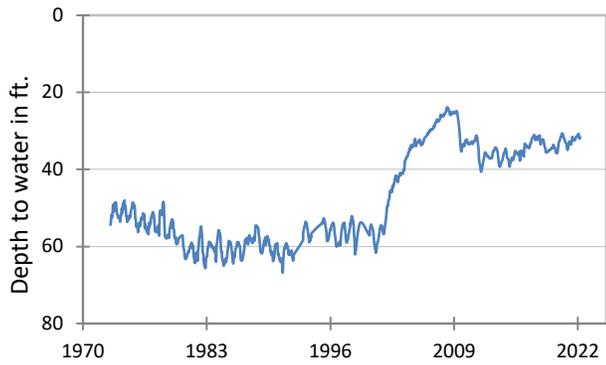
**(10) State Well #77-38-103**  
**Near Cotulla, La Salle County**  
**Carrizo-Wilcox Aquifer**



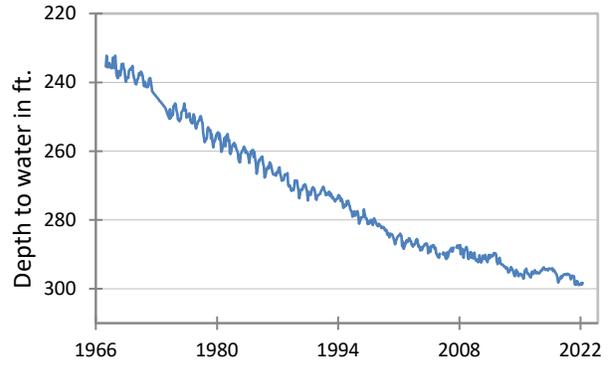
**(11) State Well #65-14-409**  
**North Houston, Harris County**  
**Evangeline Formation-Gulf Coast Aquifer**



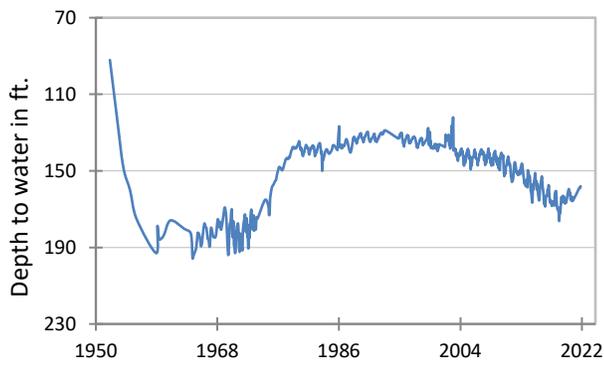
**(12) State Well #80-17-502**  
**Near Bloomington, Victoria County**  
**Lissie Formation-Gulf Coast Aquifer**



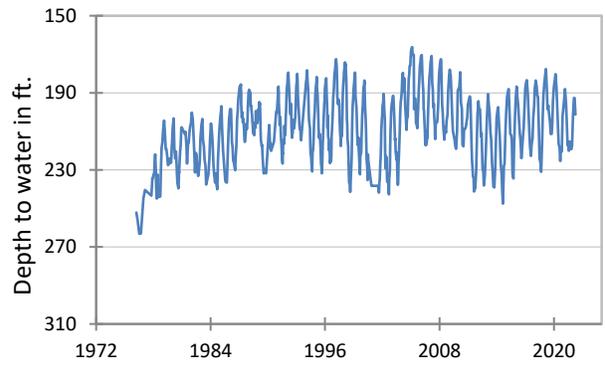
**(13) State Well #49-13-301**  
**El Paso, El Paso County**  
**Hueco-Mesilla Bolsons Aquifer**



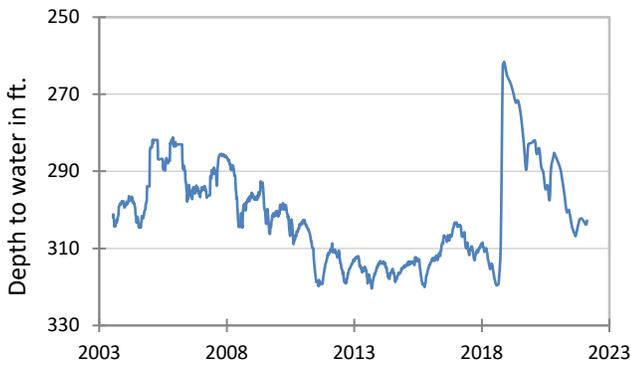
**\*(14) State Well #46-44-501**  
**Near Pecos, Reeves County**  
**Pecos Valley Aquifer**



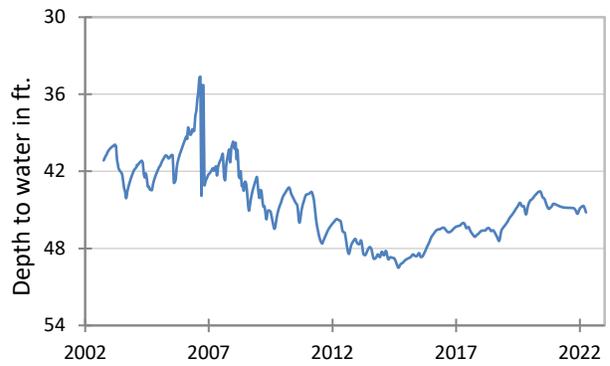
**(15) State Well #52-16-802**  
**Fort Stockton, Pecos County**  
**Edwards-Trinity (Plateau) Aquifer**



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

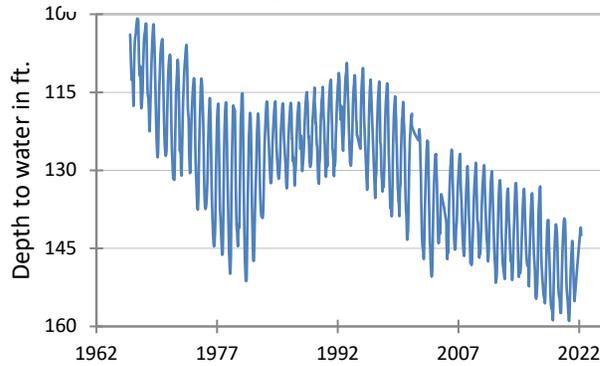


**(17) State Well #21-35-748**  
**Near O'Brien, Haskell County**  
**Seymour Aquifer**

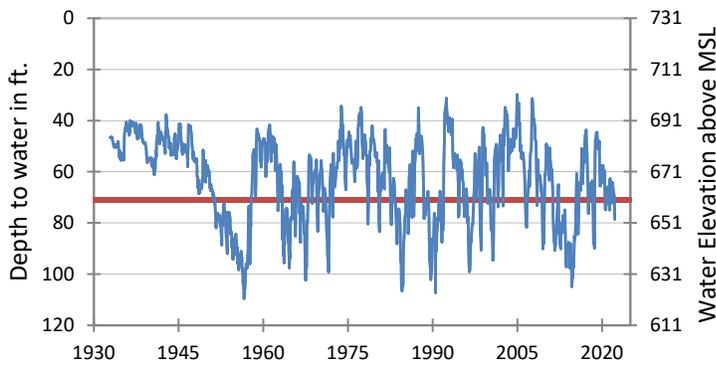


*Water level data was corrected for  
 measurements between February 2021 and 2022*

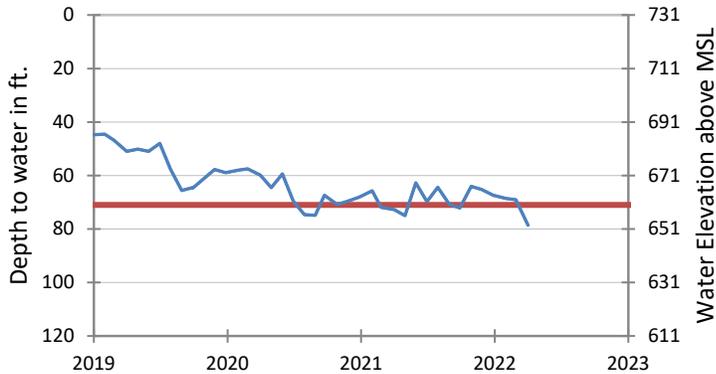
**(18) State Well #48-07-516  
Dell City, Hudspeth County  
Bone Spring - Victorio Peak Aquifer**



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



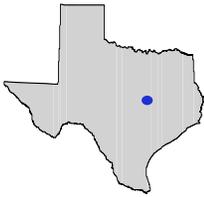
The late March water-level measurement in this Edwards (Balcones Fault Zone) Aquifer well, located at an elevation of 731 feet above mean sea level, was 78.60 feet below land surface, or 652.40 feet above mean sea level. This was 9.50 feet below last month's measurement, 5.80 feet below last year's measurement, and 31.96 feet below the initial measurement recorded in 1932.



**Water levels below the red line indicate periods in which Edwards Aquifer Authority Stage 1 drought restrictions are in effect. In March 2022, Stage 1 drought restrictions were in effect because the aquifer dropped below the Stage 1 critical management level.**

\*Recorder well #14 was offline in March 2022 and did not record data.

## HYDROGRAPH OF THE MONTH

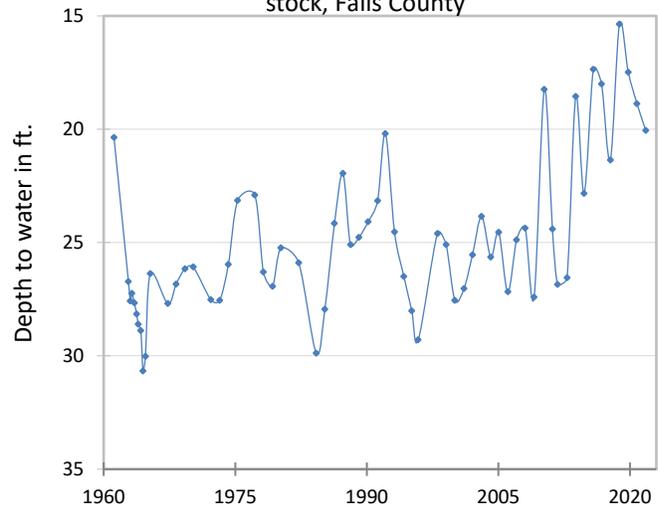


Each month this space features a new hydrograph (marked with the ● symbol on the map) depicting different aquifers and their conditions in Texas.

The Brazos River Alluvium Aquifer is a minor aquifer found along the Brazos River in east-central Texas. The aquifer is as much as 7 miles in width and extends along 350 river miles from southern Bosque County to eastern Fort Bend County. Groundwater is contained in alluvial floodplain and terrace deposits. The floodplain alluvium consists of fine to coarse sand, gravel, silt, and clay. In general, finer sediments occur in the upper part of the aquifer, and coarser material is in the lower part. The thickness of the aquifer ranges from negligible to 168 feet, with an overall average of about 50 feet. The water table generally slopes toward the Brazos River, this direction indicating that the river is a gaining stream in most places. Recharge to the aquifer occurs from rainfall on the aquifer and subsequent downward leakage to the saturated zone. Discharge from the aquifer occurs through evapotranspiration, discharge to the river, and withdrawals from wells. Some wells can yield as much as 1,000 gallons per minute, but the majority of wells yield 250 to 500 gallons per minute. Water in the aquifer is very hard and fresh to slightly saline, generally containing less than 1,000 milligrams per liter of total dissolved solids but ranging to as much as 3,000 milligrams per liter in some wells. The aquifer is under water table conditions in most places and is used mainly for irrigation.

### Brazos River Alluvium Aquifer

Well #39-41-701, 38 feet deep  
stock, Falls County



The initial measurement of 20.36 feet below land surface was recorded by the USGS in March of 1961. The USGS measured water levels in the well until October of 1964 when the Texas Water Development Board took over measurements on a near-annual basis. The period of record reveals fluctuations in water level that typically lie between 20 and 30 feet below land surface. Water levels over the past decade have been higher on average, with the highest level of 15.37 feet below land surface being recorded in October of 2018. This rise in water level may be attributed to a decrease in pumping for irrigation in the local area, increased recharge, or a combination of the two.



Far away (left), and close-up (right) images of well #39-41-701.