

# Texas Water Conditions Report

February 2021

## Surface Water News:

A Collision Floating Evaporation Pan station was deployed in Twin Buttes Reservoir. This pan station is the first of its kind in Texas. Funding for this station, and for four other on-water evaporation estimation stations to be deployed later this year, comes from a U.S. Bureau of Reclamation/Drought Response Program – Drought Resiliency Funding grant to the TWDB. Data collected from this station and from other on-water evaporation estimation stations will enhance the accuracy of reservoir evaporative loss estimates in Texas.

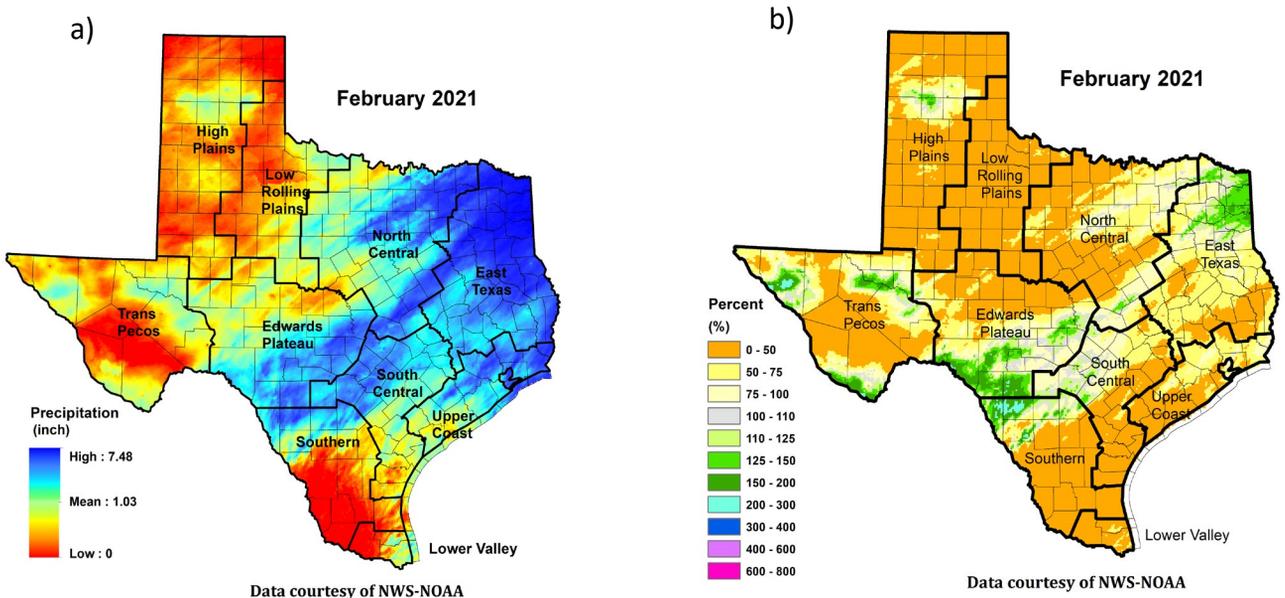
## RAINFALL

Little to no rain [yellow, orange, and red shading, Figure 1(a)], fell over much of the Trans Pecos, High Plains, Low Rolling Plains, northern Edwards Plateau, central and southern Southern, western North central, southern South Central, much of the Lower Valley, and western Upper Coast climate divisions.

Some rainfall [light blue and dark blue shading, Figure 1(a)], was recorded over portions of northwestern, eastern, and southern Trans Pecos, northern High Plains, northeastern and southern Low Rolling Plains, much of North Central, portions of northwestern and southern Edwards Plateau, northern South Central, central and eastern Upper Coast, portions of eastern Lower Valley, and much of East Texas climate divisions, reaching 7.48 inches in eastern portions of the state [dark blue shading, Figure 1(a)].

Monthly rainfall for February was below average [yellow and orange shading, Figure 1(b)], compared to historical data from 1981–2010, in much of Trans Pecos, High Plains, Low Rolling Plains, North Central, Lower Valley, Upper Coast, South Central, central and southern Southern, central and northern Edwards Plateau, and northwestern and southern East Texas climate divisions.

Above average rainfall [green and light blue shading, Figure 1(b)] occurred in portions of northern High Plains, northwestern, northeastern, and southern Trans Pecos, southern Edwards Plateau, northwestern South Central, northern Southern, southern North Central, northeastern East Texas climate divisions.

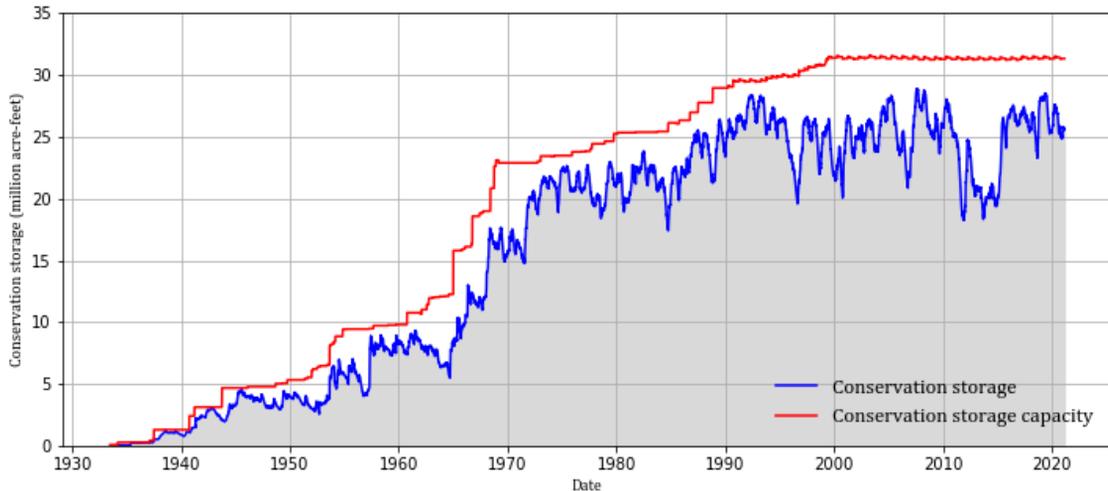


**Figure 1:** (a) Monthly accumulated rainfall and (b) Percent of normal rainfall

## RESERVOIR STORAGE

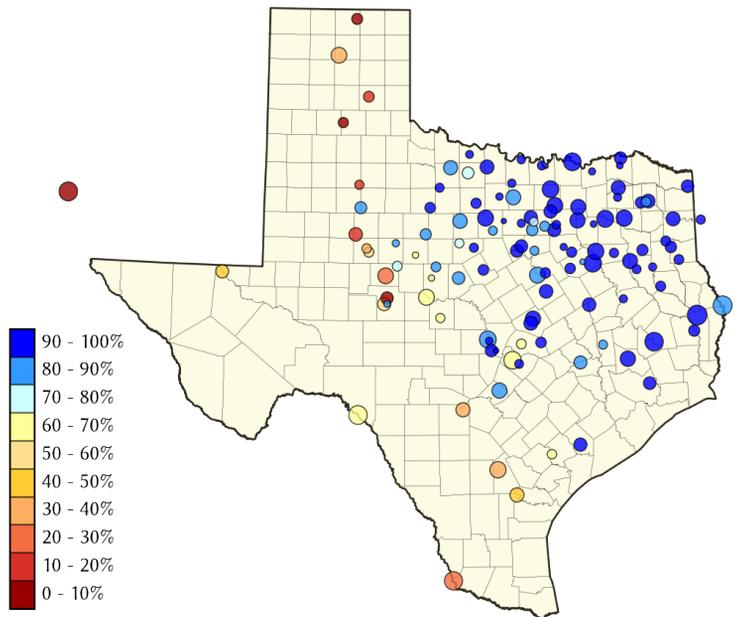
At the end of February 2021, total conservation storage\* in 118 of the state’s major water supply reservoirs plus Elephant Butte Reservoir in New Mexico was 25.7 million acre-feet or 79.9 percent of total conservation storage capacity (Figure 2). This is approximately 0.15 million acre-feet less than a month ago and approximately 1.4 million acre-feet less than at the end of February 2020.

Statewide monitored major water supply reservoir conservation storage



**Figure 2:** Statewide reservoir conservation storage

Out of 118 reservoirs in the state, 37 reservoirs held 100 percent of conservation storage capacity (Figure 3). Additionally, 33 were at or above 90 percent full. Eight reservoirs, E.V. Spence (22 percent full), Greenbelt (16.5 percent full), J.B. Thomas (13 percent full), Mackenzie (8.8 percent full), O. C. Fisher (6.2 percent full), Palo Duro Reservoir (1.4 percent full), Falcon (28 percent full), and White River (12.1 percent full) remained below 30 percent full. Elephant Butte Reservoir (located in New Mexico) was at 9.2 percent full.

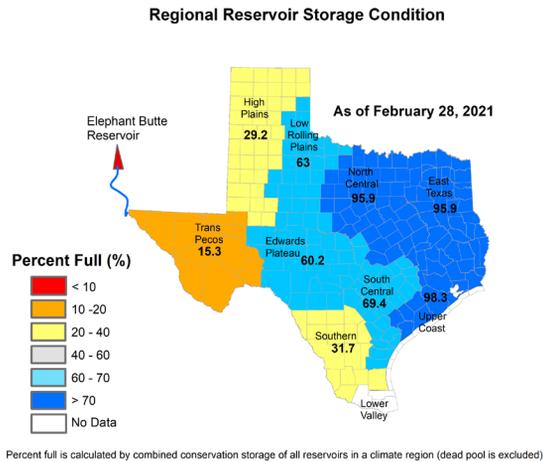


**Figure 3:** Reservoir conservation storage at end-February expressed as percent full (%)

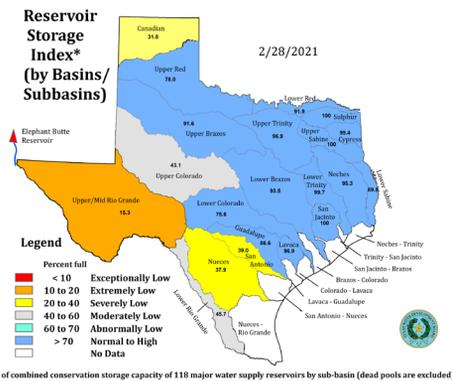
\*Storage is based on end of the month data in 118 major reservoirs that represent 96 percent of the total conservation storage capacity of 188 major water supply reservoirs in Texas plus Elephant Butte Reservoir in New Mexico. Major reservoirs are defined as having a conservation storage capacity of 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  $\geq 70$  percent full) in the North Central (95.9 percent full), East Texas (95.9 percent full), and Upper Coast (98.3 percent full) climate divisions (Figure 4). Conservation storage in the Edwards Plateau (60.2 percent full), Low Rolling Plains (63.0), and South Central (69.4 percent full) climate divisions was abnormally low (Figure 4). The High Plains (29.2 percent full), and Southern (31.7 percent full) climate divisions had severely low storage, and the Trans Pecos (15.3 percent full) climate division had extremely low conservation storage (Figure 4).

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



**Figure 4: Reservoir Storage Index\* by climate division at 2/28/2021**



**Figure 5: Reservoir Storage Index\* by river basin/sub-basin at 2/28/2021**

## CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Storage capacity	Storage at end-February		Storage change from end-Jan 2021		Storage change from end-Feb 2020	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
Abilene, Lake	7,900	5,343	67.6	-108	-1.4	-223	-2.8
Alan Henry Reservoir	96,207	83,334	86.6	-963	-1.0	-5,779	-6.0
*Amistad Reservoir (Texas & Mexico)	3,275,532	1,198,887	36.6	-43,681	-1.3	-431,490	-13.2
*Amistad Reservoir (Texas)	1,840,849	1,116,849	60.7	-51,959	-2.8	-182,959	-9.9
Amon G Carter, Lake	19,266	17,874	92.8	-214	-1.1	-681	-3.5
Aquilla Lake	43,243	40,038	92.6	-356	0.0	-3,205	-7.4
Arlington, Lake	40,157	34,791	86.6	1,241	3.1	-4,828	-12.0
Arrowhead, Lake	230,359	227,181	98.6	-1,586	0.0	20,463	8.9
Athens, Lake	29,503	29,503	100.0	0	0.0	0	0.0
*Austin, Lake	23,972	23,050	96.2	170	0.7	462	1.9
B A Steinhagen Lake	69,186	61,484	88.9	-2,214	-3.2	-1,342	-1.9
Bardwell Lake	46,122	46,122	100.0	0	0.0	0	0.0
Belton Lake	435,225	426,415	98.0	-2,765	0.0	9,542	2.2
Benbrook Lake	85,648	76,632	89.5	-2,450	-2.9	-3,147	-3.7
Bob Sandlin, Lake	192,417	192,417	100.0	0	0.0	0	0.0
Bonham, Lake	11,027	11,027	100.0	147	1.3	74	0.7
Brady Creek Reservoir	28,808	19,320	67.1	-353	-1.2	-5,640	-19.6
Bridgeport, Lake	366,236	320,063	87.4	-3,112	0.0	-887	0.0
*Brownwood, Lake	130,868	111,598	85.3	-1,427	-1.1	4,339	3.3
Buchanan, Lake	860,607	715,420	83.1	-4,114	0.0	-49,080	-5.7
Caddo, Lake	29,898	29,898	100.0	0	0.0	no data	
Canyon Lake	378,781	333,954	88.2	-1,592	0.0	-20,242	-5.3
Cedar Creek Reservoir in Trinity	644,686	644,686	100.0	0	0.0	654	0.1
Champion Creek Reservoir	41,580	24,212	58.2	-188	0.0	-3,339	-8.0
Cherokee, Lake	40,094	40,094	100.0	0	0.0	0	0.0
Choke Canyon Reservoir	662,820	226,545	34.2	-3,650	0.0	-66,337	-10.0
*Cisco, Lake	29,003	22,771	78.5	-211	0.0	-2,490	-8.6
Coleman, Lake	38,075	32,427	85.2	-307	0.0	-341	0.0
Colorado City, Lake	31,040	21,275	68.5	20	0.1	-1,127	-3.6
*Coletto Creek Reservoir	30,758	11,093	36.1	-172	0.0	-2,625	-8.5
Conroe, Lake	410,988	410,988	100.0	0	0.0	30,252	7.4
Corpus Christi, Lake	256,062	123,549	48.2	-5,534	-2.2	-58,439	-22.8
Crook, Lake	9,195	9,195	100.0	125	1.4	125	1.4
Cypress Springs, Lake	66,756	66,756	100.0	0	0.0	0	0.0
E. V. Spence Reservoir	517,272	114,039	22.0	-1,498	0.0	-24,075	-4.7
Eagle Mountain Lake	179,880	164,966	91.7	-1,908	-1.1	-14,914	-8.3
Elephant Butte Reservoir (Texas)	852,491	78,422	9.2	11,226	1.3	-184,618	-21.7
Elephant Butte Reservoir (Total Storage)	1,985,900	181,532	9.1	25,987	1.3	-427,356	-21.5
*Falcon Reservoir (Texas & Mexico)	2,646,817	500,821	18.9	12,985	0.5	-57,018	-2.2
*Falcon Reservoir (Texas)	1,551,007	434,396	28.0	7,182	0.5	-51,060	-3.3
Fork Reservoir, Lake	605,061	605,061	100.0	16,230	2.7	5,547	0.9
Fort Phantom Hill, Lake	70,030	61,137	87.3	-715	-1.0	-4,523	-6.5
Georgetown, Lake	36,823	24,006	65.2	-247	0.0	-2,711	-7.4
Gibbons Creek Reservoir	25,721	23,185	90.1	-23	0.0	1,753	6.8
Graham, Lake	45,288	42,320	93.4	-456	-1.0	3,096	6.8
Granbury, Lake	132,949	132,134	99.4	-815	0.0	-815	0.0

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Name of lake or reservoir	Storage capacity		Storage at end-February		Storage change from end-Jan 2021		Storage change from end-Feb 2020	
	(acre-feet)		(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
<i>Continued</i>								
Granger Lake	51,822		51,822	100.0	1,584	3.1	no data	
Grapevine Lake	163,064		163,064	100.0	0	0.0	0	0.0
Greenbelt Lake	59,968		9,905	16.5	38	0.1	-2,179	-3.6
*Halbert, Lake	6,033		5,258	87.2	-38	0.0	-120	-2.0
Hords Creek Lake	8,109		4,184	51.6	-140	-1.7	-2,055	-25.3
Houston County Lake	17,113		17,113	100.0	0	0.0	0	0.0
Houston, Lake	130,147		130,147	100.0	1,462	1.1	2,469	1.9
Hubbard Creek Reservoir	313,298		273,306	87.2	-2,886	0.0	287	0.1
Hubert H Moss Lake	24,058		23,853	99.1	-11	0.0	-97	0.0
Inks, Lake	13,962		12,937	92.7	-45	0.0	-15	0.0
J. B. Thomas, Lake	199,931		25,982	13.0	-1,203	0.0	-22,049	-11.0
Jacksonville, Lake	25,670		25,670	100.0	0	0.0	0	0.0
Jim Chapman Lake (Cooper)	260,332		260,332	100.0	9,482	3.6	0	0.0
Joe Pool Lake	175,800		165,972	94.4	-360	0.0	-7,097	-4.0
Kemp, Lake	245,307		208,500	85.0	-709	0.0	-10,742	-4.4
Kickapoo, Lake	86,345		69,208	80.2	-1,192	-1.4	-2,976	-3.4
Lavon Lake	406,388		406,388	100.0	0	0.0	0	0.0
Leon, Lake	27,762		25,332	91.2	-280	-1.0	1,369	4.9
Lewisville Lake	563,228		563,228	100.0	0	0.0	0	0.0
Limestone, Lake	203,780		203,780	100.0	0	0.0	0	0.0
*Livingston, Lake	1,741,867		1,736,955	99.7	-4,912	0.0	-4,912	0.0
*Lost Creek Reservoir	11,950		11,455	95.9	17	0.1	-495	-4.1
Lyndon B Johnson, Lake	115,249		110,759	96.1	-428	0.0	854	0.7
Mackenzie Reservoir	46,450		4,096	8.8	-48	0.0	-1,184	-2.5
Marble Falls, Lake	6,901		6,831	99.0	-70	-1.0	27	0.4
Martin, Lake	75,726		75,726	100.0	0	0.0	0	0.0
Medina Lake	254,823		99,384	39.0	-3,220	-1.3	-91,216	-35.8
Meredith, Lake	500,000		177,576	35.5	-552	0.0	-31,916	-6.4
Millers Creek Reservoir	26,768		26,526	99.1	-242	0.0	2,840	10.6
*Mineral Wells, Lake	5,273		5,273	100.0	0	0.0	0	0.0
Monticello, Lake	34,740		31,399	90.4	988	2.8	988	2.8
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		36,864	93.3	1,125	2.8	-2,658	-6.7
Nasworthy	9,615		8,183	85.1	-25	0.0	-173	-1.8
Navarro Mills Lake	49,827		49,827	100.0	0	0.0	0	0.0
New Terrell City Lake	8,583		8,583	100.0	0	0.0	0	0.0
Nocona, Lake (Farmers Crk)	21,444		20,083	93.7	13	0.1	-1,361	-6.3
North Fork Buffalo Creek Reservoir	15,400		14,859	96.5	-158	-1.0	2,848	18.5
O' the Pines, Lake	241,363		241,363	100.0	0	0.0	0	0.0
O. C. Fisher Lake	115,742		7,210	6.2	-85	0.0	-3,415	-3.0
*O. H. Ivie Reservoir	554,340		337,088	60.8	-1,103	0.0	-49,616	-9.0
Oak Creek Reservoir	39,210		30,108	76.8	-337	0.0	-5,137	-13.1

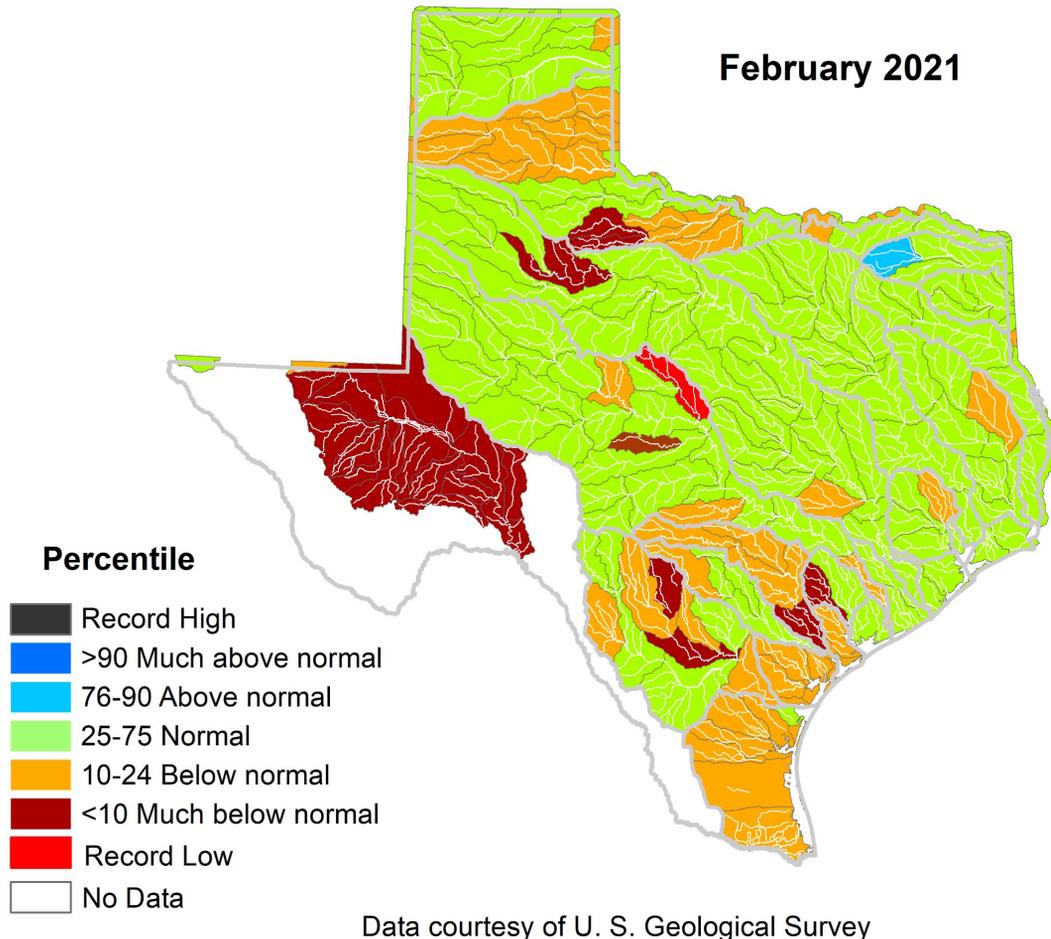
## CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Storage capacity	Storage at end-February		Storage change from end-Jan 2021		Storage change from end-Feb 2020	
	(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	847	1.4	-75	0.0	-1,957	-3.2
Palo Pinto, Lake	26,766	22,748	85.0	-358	-1.3	2,942	11.0
Pat Cleburne, Lake	26,008	21,801	83.8	-268	-1.0	-3,677	-14.1
*Pat Mayse Lake	113,683	113,683	100.0	0	0.0	0	0.0
Possum Kingdom Lake	538,139	530,125	98.5	-1,418	0.0	-8,014	-1.5
Proctor Lake	54,762	52,840	96.5	-137	0.0	11,712	21.4
Ray Hubbard, Lake	439,559	439,559	100.0	0	0.0	835	0.2
Ray Roberts, Lake	788,167	775,469	98.4	0	0.0	-12,698	-1.6
Red Bluff Reservoir	151,110	75,415	49.9	1,497	1.0	-25,029	-16.6
Richland-Chambers Reservoir	1,087,839	1,080,995	99.4	-6,844	0.0	-6,844	0.0
Sam Rayburn Reservoir	2,857,077	2,704,437	94.7	17,594	0.6	-152,640	-5.3
Somerville Lake	150,293	129,820	86.4	1,983	1.3	-20,473	-13.6
Squaw Creek, Lake	151,250	149,266	98.7	-1,984	-1.3	1,094	0.7
Stamford, Lake	51,570	51,570	100.0	0	0.0	3,674	7.1
Stillhouse Hollow Lake	227,771	227,771	100.0	0	0.0	20,585	9.0
Striker, Lake	16,934	16,934	100.0	0	0.0	0	0.0
Sweetwater, Lake	12,267	10,000	81.5	-42	0.0	-2,267	-18.5
*Sulphur Springs, Lake	17,747	17,747	100.0	0	0.0	2,505	14.1
Tawakoni, Lake	871,685	871,685	100.0	0	0.0	0	0.0
Texana, Lake	159,566	154,640	96.9	-3,275	-2.1	43,760	27.4
Texoma, Lake (Texas & Oklahoma)	2,487,601	2,262,037	90.9	-236,328	-9.5	-121,701	-4.9
Texoma, Lake (Texas)	1,243,801	1,131,018	90.9	-112,783	-9.1	-60,850	-4.9
Toledo Bend Reservoir (Texas & Louisiana)	4,472,900	4,011,397	89.7	65,219	1.5	-332,770	-7.4
Toledo Bend Reservoir (Texas)	2,236,450	2,003,648	89.6	32,609	1.5	-166,386	-7.4
Travis, Lake	1,113,348	748,143	67.2	-1,965	0.0	-167,812	-15.1
Twin Buttes Reservoir	182,454	99,228	54.4	109	0.1	-20,693	-11.3
Tyler, Lake	72,073	72,073	100.0	0	0.0	0	0.0
Waco, Lake	189,418	183,475	96.9	-957	0.0	3,958	2.1
Waxahachie, Lake	10,780	10,284	95.4	-7	0.0	-496	-4.6
Weatherford, Lake	17,812	16,325	91.7	186	1.0	-1,422	-8.0
White River Lake	29,880	3,610	12.1	-86	0.0	-1,745	-5.8
Whitney, Lake	553,344	485,646	87.8	-18,561	-3.4	14,825	2.7
Worth, Lake	24,419	18,700	76.6	897	3.7	-5,548	-22.7
Wright Patman Lake	122,593	122,593	100.0	0	0.0	0	0.0
<b>STATEWIDE TOTAL</b>							
<b>STATEWIDE TOTAL</b>	<b>32,168,837</b>	<b>25,692,232</b>	<b>79.9</b>	<b>-149,816</b>	<b>0</b>	<b>-1,399,512</b>	<b>-4.4</b>

## STREAMFLOW CONDITIONS

Much of the state had near normal streamflow (25–75th percentile, green shading in Figure 6) in February 2021. Above normal streamflow (76–90th percentile, light blue shading in Figure 6) was seen in the Sulphur river basin. Below normal streamflow (10–24th percentile, orange shading in Figure 6) was recorded in the Upper and Lower Red, Neches, San Jacinto, Lower Brazos, Upper and Lower Colorado, Guadalupe, San Antonio, San Antonio-Nueces, Nueces, Lavaca-Guadalupe, and Nueces-Rio-Grande river basins.

Some watersheds in the Upper Red, Upper Brazos, Upper Colorado, Lavaca, Guadalupe, Nueces, and Upper Rio Grande river basins had much below normal streamflow (less than the 10th percentile, dark brown shading in Figure 6). A record low was seen in the Upper Colorado river basin (red shading, Figure 6).



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

## SOIL MOISTURE

Root zone soil moisture at the end of February 2021 [Figure 7(a)] was moderate [ $> 0.20$  cubic meters of water per bulk cubic meter soil ( $m^3/m^3$ )] in portions of the Trans Pecos, northern High Plains, portions of Low Rolling Plains, Edwards Plateau, northern Southern, Lower Valley, central South Central, parts of East Texas, and western North Central climate divisions. There were areas of low soil moisture [ $< 0.15$  cubic meters of water per bulk cubic meter soil ( $m^3/m^3$ )] in portions of the Trans Pecos, southern and northern High Plains, parts of the Low Rolling Hills, southern Southern, northeastern and southern South Central, western East Texas, and portions of northern Lower Valley climate divisions. Soil moisture was high [ $> 0.3$  cubic meters of water per bulk cubic meter soil ( $m^3/m^3$ )] in areas of central and eastern Edwards Plateau, eastern North Central, northern and southern South Central, Upper Coast and parts of East Texas climate divisions [Figure 7(a)].

Compared to conditions at the end of January 2021, soil moisture content increased [green to blue shading in Figure 7(b)] in the northern High Plains, portions of northern and southern Trans Pecos, central and southern Edwards Plateau, northern and southeastern portions of Southern, northern South Central, much of North Central and East Texas, portions of the Upper Coast, and eastern Lower Valley climate divisions. Soil moisture content decreased [yellow, orange, and brown shading in Figure 7(b)] in the central and northwestern Trans Pecos, portions of the High Plains, much of the Low Rolling Plains, northern Edwards Plateau, much of the Southern, eastern Lower Valley, southern and central east South Central, much of the Upper Coast, and portions of central North Central climate divisions.

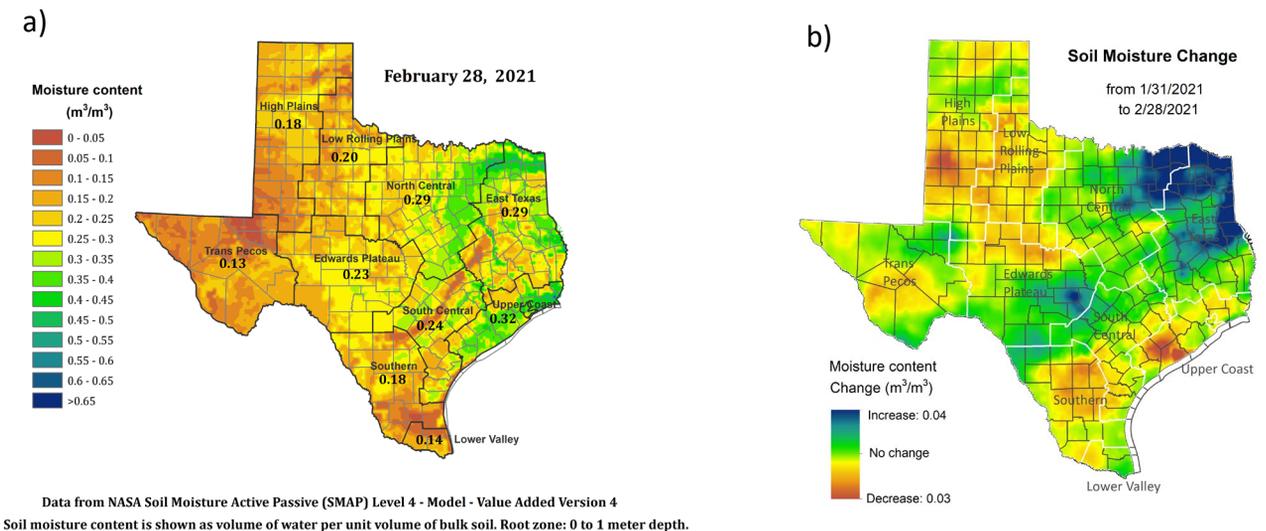
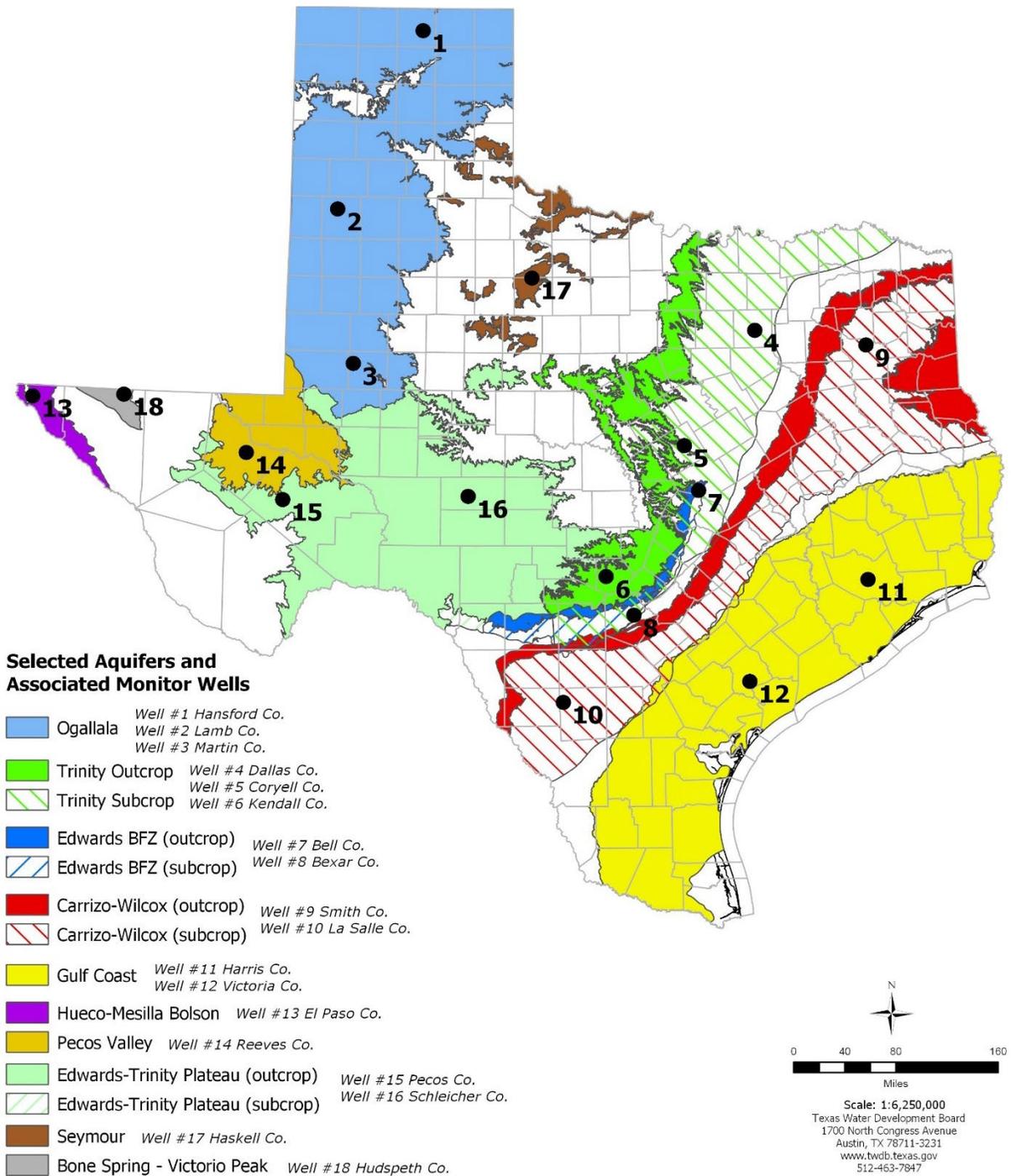


Figure 7: Root zone soil moisture conditions in February 2021 (a) and the difference in root zone soil moisture between end-January 2021 and end-February 2021 (b)



### February 2021 GROUNDWATER LEVELS IN MONITORING WELLS

Water-level measurements were available for 15 key monitoring wells in the state. Recorders in 3 wells (#10, #14, & #17) were temporarily offline and scheduled for repair. Water levels rose in 4 monitoring wells since the beginning of February, ranging from an increase of 0.06 feet in the Martin County Ogallala Aquifer well (#3 on map) to 3.84 feet in the Pecos County Edwards-Trinity (Plateau) Aquifer well (#15 on map). Water levels declined in 11 monitoring wells, ranging from a decline of -0.08 feet in the Harris County Gulf Coast Aquifer well (#11 on map) to -9.23 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 71.90 feet below land surface or 659.10 feet above mean sea level. Water levels are 0.90 feet below the Stage I critical management level for the San Antonio portion of the Edwards (Balcones Fault Zone) Aquifer.

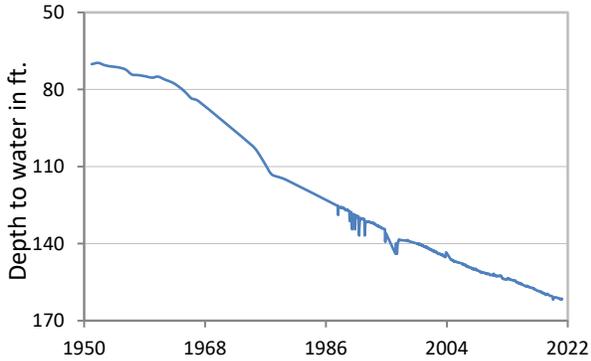
\*Well numbers used in this publication on the aquifer map to indicate the monitoring well location (numbers 1–18) are different than the TWDB's seven-digit state well number.

Monitoring Well	February	January	Month Change	Year Change	Historical Change	First Measured
(1) Hansford 0354301	161.65	161.37	-0.28	NA	-91.53	1951
(2) Lamb 1053602	151.72	151.63	-0.09	-0.82	-123.55	1951
(3) Martin 2739903	144.62	144.68	0.06	-1.43	-39.73	1964
(4) Dallas 3319101	488.44	488.97	0.53	6.84	-266.44	1954
(5) Coryell 4035404	530.79	529.97	-0.82	-1.76	-238.79*	1955**
(6) Kendall 6802609	156.08	146.85	-9.23	-19.19	-96.08	1975
(7) Bell 5804816	125.12	124.48	-0.64	-2.15	-1.61	2008
(8) Bexar 6837203	71.90	65.70	-6.20	-14.40	-25.26	1932
(9) Smith 3430907	435.77	435.34	-0.43	-1.43	-135.77*	1977**
(10) La Salle 7738103	NA	511.89	NA	NA	NA	2003
(11) Harris 6514409	187.54	187.46	-0.08	2.85	-52.04*	1947**
(12) Victoria 8017502	33.37	32.75	-0.62	-1.38	0.63*	1958**
(13) El Paso 4913301	296.30	296.16	-0.14	-0.47	-64.40*	1964**
(14) Reeves 4644501	NA	NA	NA	NA	NA	1952
(15) Pecos 5216802	188.15	191.99	3.84	-7.79	58.73	1976
(16) Schleicher 5512134	289.98	288.96	-1.02	-4.46	11.92	2003
(17) Haskell 2135748	NA	NA	NA	NA	NA	2002
(18) Hudspeth 4807516	143.57	144.82	1.25	-4.33	-39.65	1966

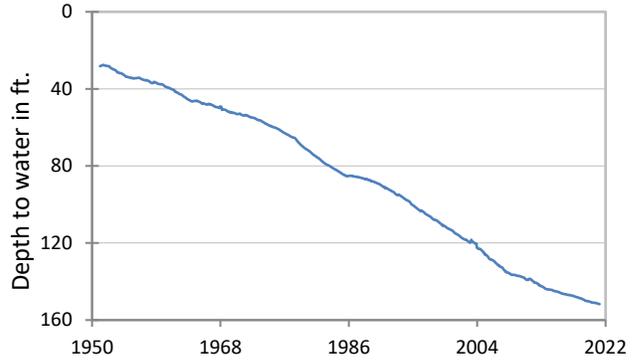
\*Change since the original measurement taken on the date indicated in the last column (\*\*measurement not shown on the hydrograph)

**February 2021 MONITORING WELL HYDROGRAPHS**

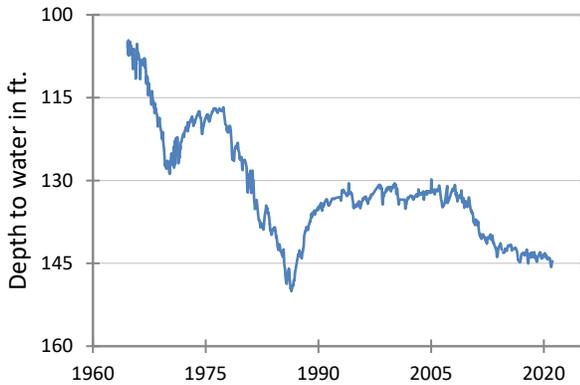
**(1) State Well #03-54-301  
Near Spearman, Hansford County  
Ogallala Aquifer**



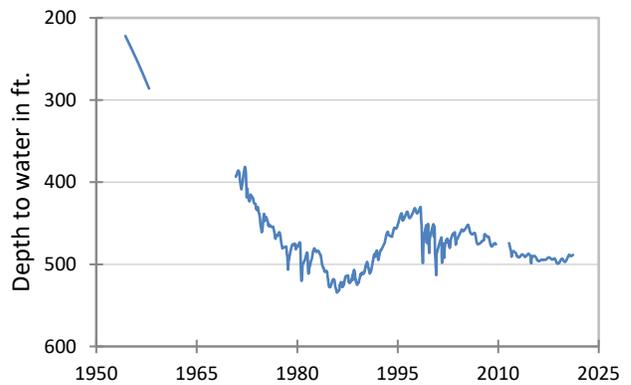
**(2) State Well #10-53-602  
Near Earth, Lamb County  
Ogallala Aquifer**



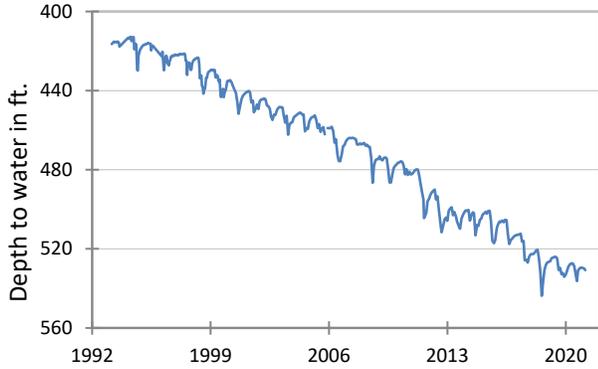
**(3) State Well #27-39-903  
Northwest Martin County  
Ogallala Aquifer**



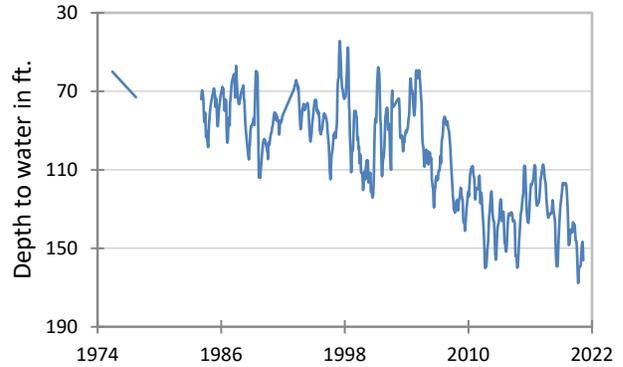
**(4) State Well #33-19-101  
Southeast Dallas, Dallas County  
Twin Mountains Formation-Trinity Aquifer**



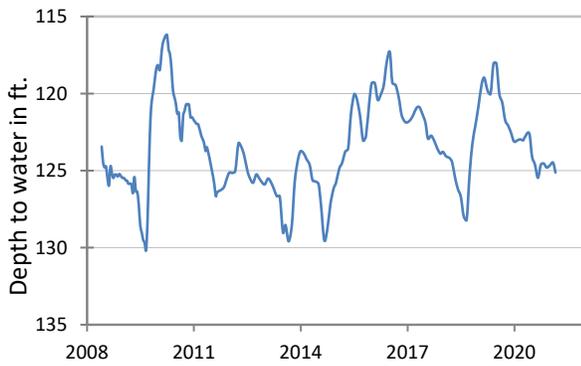
**(5) State Well #40-35-404**  
**Gatesville, Coryell County**  
**Hosston Formation-Trinity Aquifer**



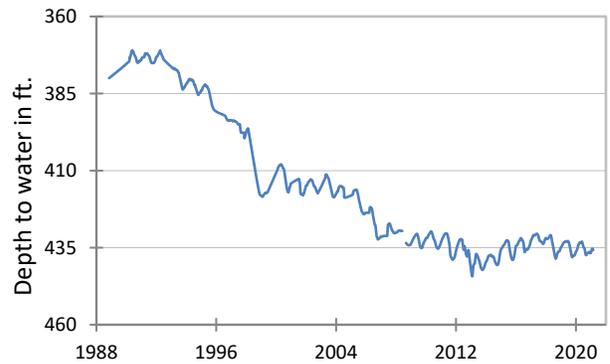
**(6) State Well #68-02-609**  
**Waring, Kendall County**  
**Travis Peak Formation-Trinity Aquifer**



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



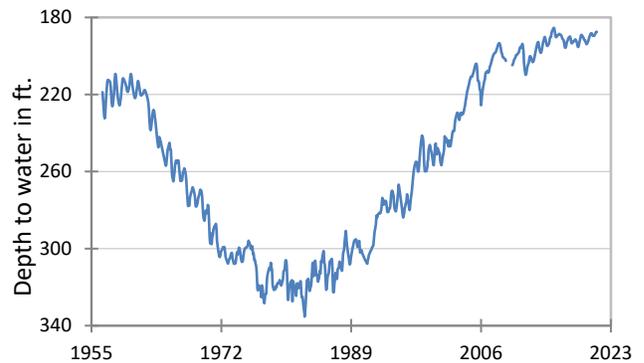
**(9) State Well #34-30-907**  
**Red Springs, Smith County**  
**Carrizo-Wilcox Aquifer**



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

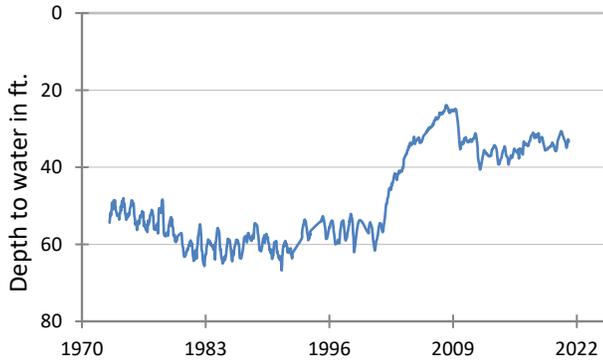


**(11) State Well #65-14-409**  
**North Houston, Harris County**  
**Evangeline Formation-Gulf Coast Aquifer**

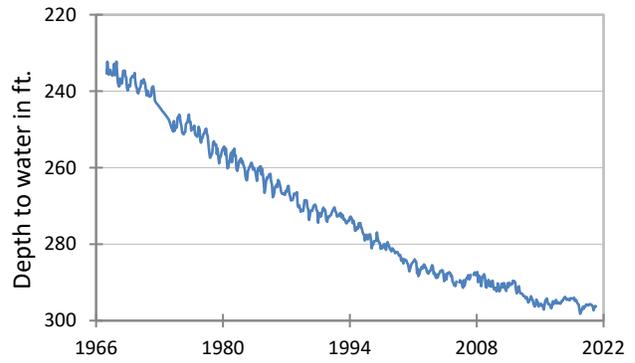


\*Recorder well #10 was offline in February 2021

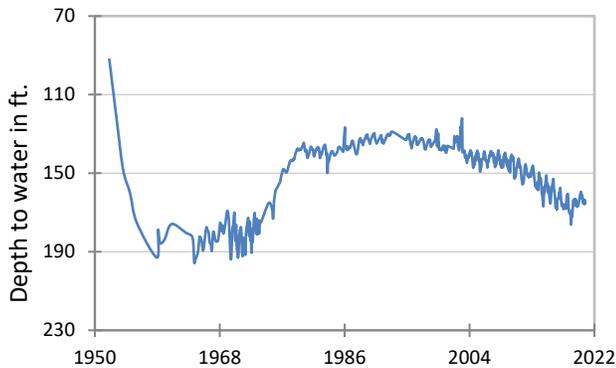
**(12) State Well #80-17-502**  
**Near Bloomington, Victoria County**  
**Lissie Formation-Gulf Coast Aquifer**



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

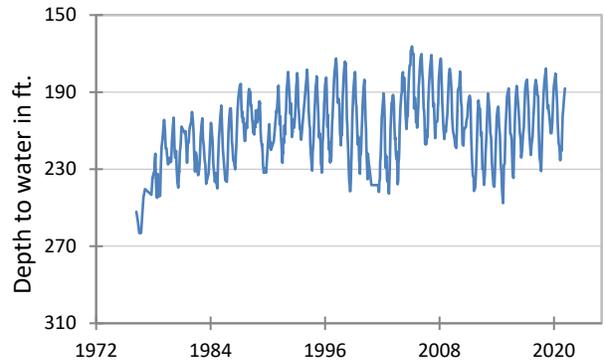


**(14) State Well #46-44-501**  
**Near Pecos, Reeves County**  
**Pecos Valley Aquifer**

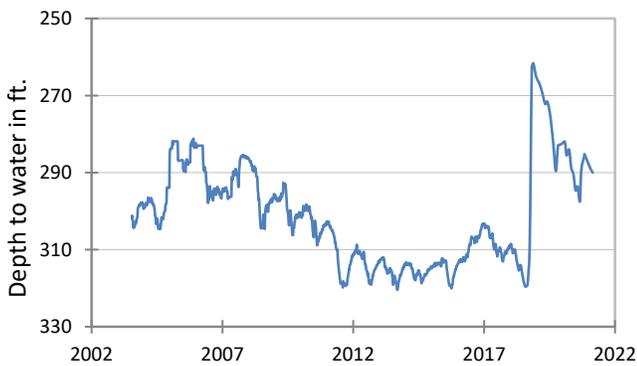


\*Recorder well #14 was offline in February 2021

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

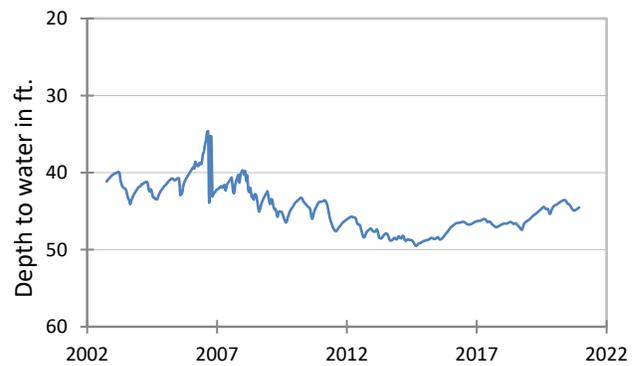


**(16) State Well #55-12-134**  
**Eldorado, Schleicher County**  
**Edwards-Trinity (Plateau) Aquifer**

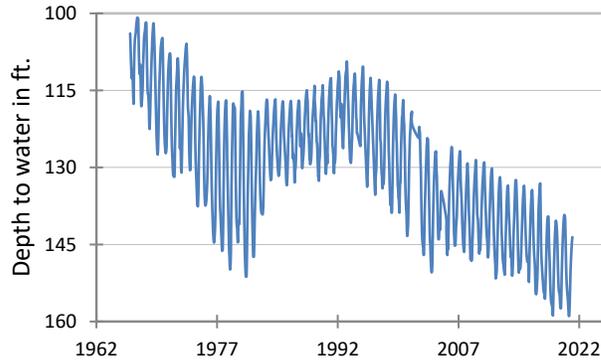


\*Recorder well #16 was offline in February 2021

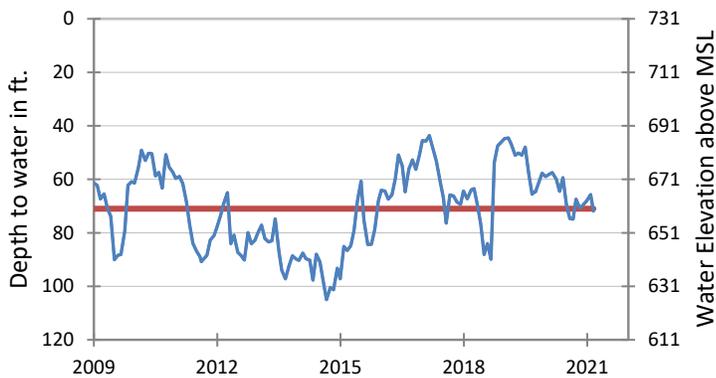
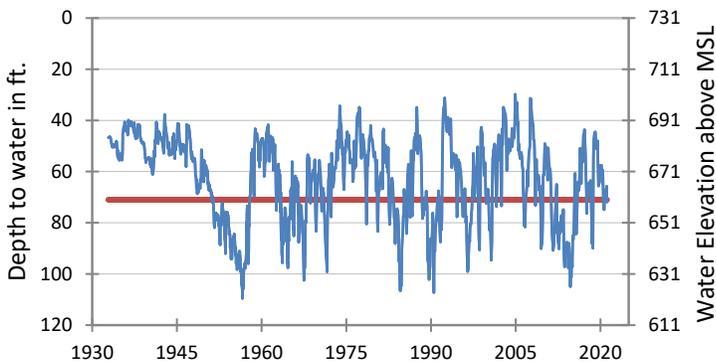
**(17) State Well #21-35-748**  
**Near O'Brien, Haskell County**  
**Seymour Aquifer**



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

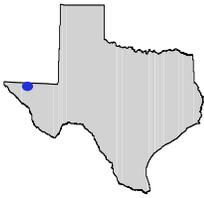


**(8) State Well #68-37-203 (J-17)  
San Antonio, Bexar County  
Edwards (Balcones Fault Zone) Aquifer**



The late February water-level measurement in this Edwards (Balcones Fault Zone) Aquifer well, located at an elevation of 731 feet above mean sea level, was 71.90 feet below land surface, or 659.10 feet above mean sea level. This was 6.20 feet below last month's measurement, 14.40 feet below last year's measurement and 25.26 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 February 2021, Stage 1 drought restrictions were in effect because the aquifer dropped 0.9 feet below the Stage 1 critical management level.**



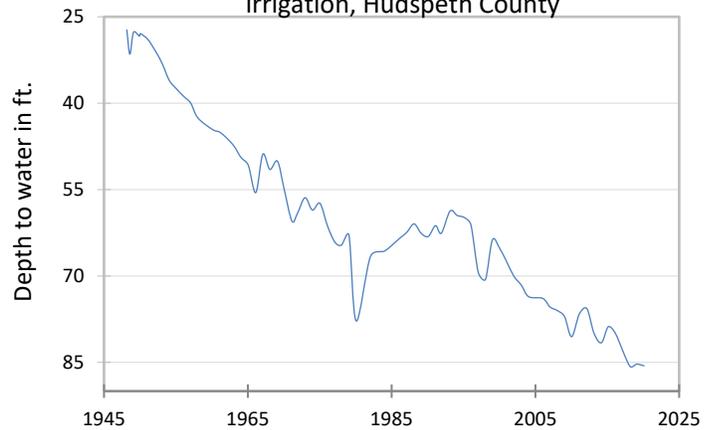
## HYDROGRAPH OF THE MONTH

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

The Bone Springs – Victorio Peak Aquifer is a minor aquifer located in northern Hudspeth County. The principal water-bearing units in the aquifer are the Permian Bone Spring and Victorio Peak limestones. The formations produce groundwater from solution cavities developed along joints and fracture planes. Water is generally slightly saline, with total dissolved solids of 1,000 to 3,000 milligrams per liter. In the Dell Valley area, total dissolved solids increase to 3,000 to 10,000 milligrams per liter. Since the late 1940s, pumping has been the principle means of discharge for the aquifer. Water levels have declined in the Dell Valley area from 5 to 60 feet, with an average of about 30 feet over a period of about 55 years. These declines are most likely due to pumping for irrigation.

### Bone Spring – Victorio Peak Aquifer

Well #48-07-606, 250 feet deep  
irrigation, Hudspeth County



The initial measurement of 27.29 feet below land surface was observed by the USGS in March of 1948. Since then, USGS and the TWDB have taken near-yearly water level measurements. The period of record reveals an overall steady decline in water level of about 58 feet over 72 years (equivalent to about 0.81 feet per year), with a period of recovery occurring from approximately 1982 to 1994.



Far away (left), and close-up (right) images of well #48-07-606.