Texas Water Conditions Report

January 2020

Texas Water Development Board

RAINFALL

Rainfall observations from the National Oceanic and Atmospheric Administration – National Weather Service (NOAA-NWS) indicate that during the month of January portions of the High Plains, south and west Trans Pecos, western portions of the Southern climate division and patches of the Edwards Plateau climate divisions received little to no rainfall [yellow, orange and red shading, Figure 1(a)]. The central and eastern parts of the state including eastern Low Rolling Plains, eastern Edwards Plateau, the majority of the North Central, South Central, Upper Coast, and East Texas climate divisions received high amounts of rainfall [light and dark blue shading, Figure 1(a)], reaching 10.33 inches in eastern portions of the state [dark blue shading, Figure 1(a)].

Monthly rainfall for January was below-average [yellow and orange shading, Figure 1(b)], compared to historical data from 1981–2010, in the south and west Trans Pecos, the majority of the High Plains, Southern, Lower Valley, and South Central divisions, as well as the southeast North Central, southwest East Texas, and the north, west, and eastern borders of the Upper Coast. The northern High Plains, northeast corner of the Trans Pecos, the majority of the Low Rolling Plains, Edwards Plateau, north and east portions of East Texas, southern Upper Coast, and north and west North Central received above average rainfall [green and blue shading, Figure 1(b)], with an area in the northern North Central climate division receiving 4-6 times the average rainfall in January [purple shading, Figure 1(b)]

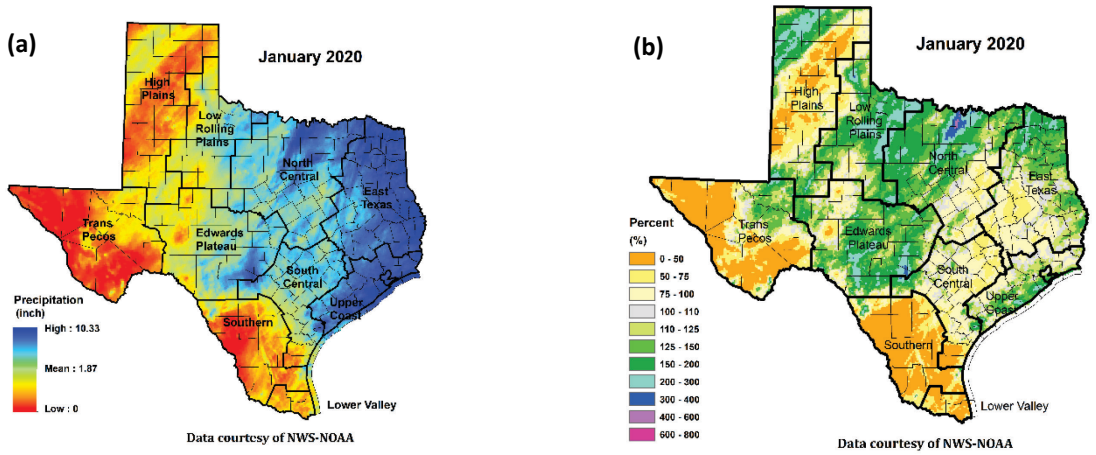


Figure 1: (a) Monthly accumulated rainfall, (b) Percent of normal rainfall

RESERVOIR STORAGE

At the end of January 2020, total conservation storage* in 118 of the state's major water supply reservoirs plus Elephant Butte Reservoir in New Mexico was 26.18 million acre-feet or 81 percent of total conservation storage capacity (Figure 2). This is approximately 0.601 million acre-feet more than a month ago and approximately 1.96 million acre-feet less than the end of January 2019.

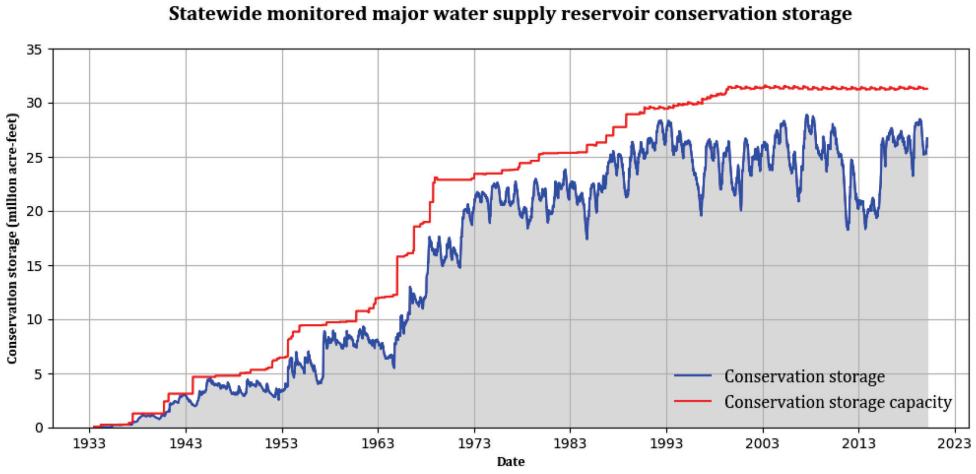


Figure 2: Statewide reservoir conservation storage

Out of 118 reservoirs in the state, 25 reservoirs held 100 percent of conservation storage capacity (Figure 3). Additionally, 35 were at or above 90 percent full. Seven reservoirs [E.V. Spence (27 percent full), Greenbelt (20 percent full), J.B. Thomas (24 percent full), Mackenzie (11 percent full), O. C. Fisher (9 percent full), Palo Duro Reservoir (5 percent full), and White River (18 percent full)] remained below 30 percent full. Elephant Butte Reservoir (located in New Mexico) was at 30 percent full.

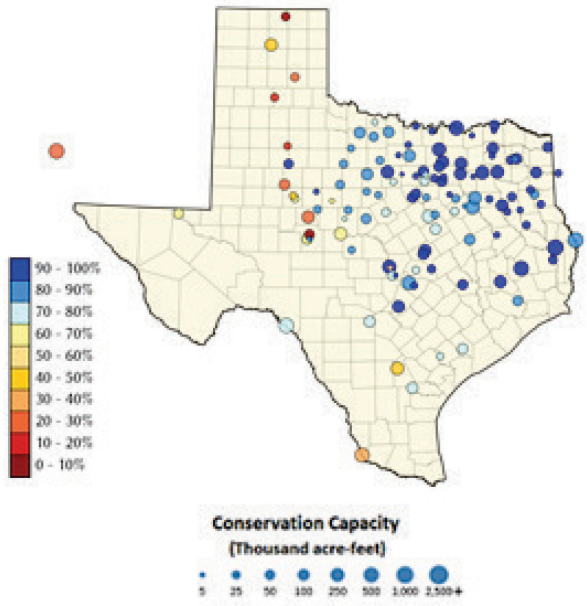


Figure 3: Reservoir conservation storage at end-January expressed as percent full (%)

*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 ≥70 percent full) in the North Central (92.2 percent full), South Central (85.4 percent full), East Texas (93.8 percent full), and Upper Coast (80.5 percent full) climate divisions (Figure 4). Conservation storage in the Low Rolling Plains (66.4 percent full) and Edwards Plateau (69.2 percent full) climate divisions was abnormally low (Figure 4). The High Plains (35 percent full), Southern (39.4 percent full), and Trans Pecos (35.1 percent full) climate divisions had severely low conservation storage.

Combined conservation storage by river basin or sub-basin showed that the Upper and Lower Red, Upper and Lower Brazos, Lower Colorado, Guadalupe, San Antonio, Lavaca, Upper and Lower Trinity, San Jacinto, Neches, Upper and Lower Sabine, Sulphur, and Cypress was normal to high (>70percent full). The Canadian and Upper/Mid Rio Grande conservation storage was severely low (20-40 percent full).

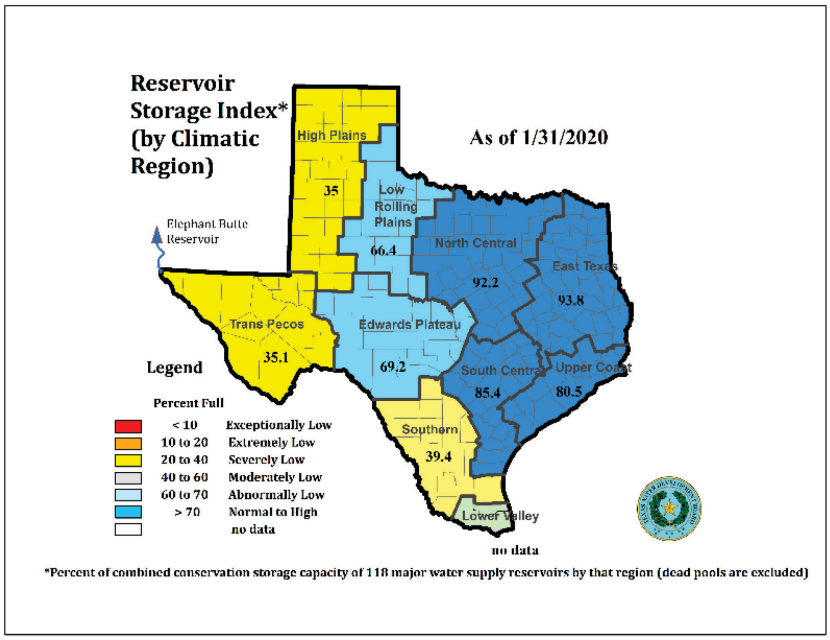


Figure 4: Reservoir Storage Index* by climate division at 1/31/2020

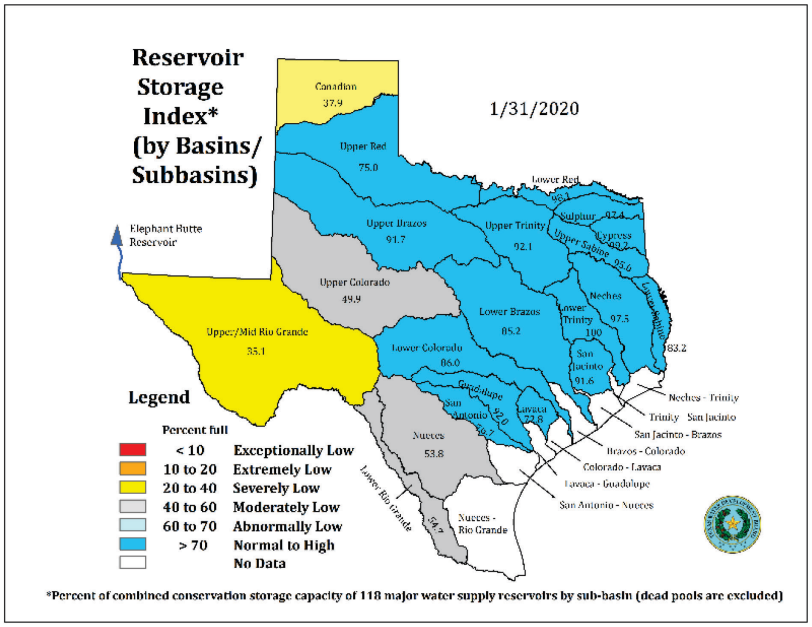


Figure 5: Reservoir Storage Index* by river basin/sub-basin at 1/31/2020

*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-January		Storage change from end-Dec 2019		Storage change from end-Jan 2019	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
Abilene, Lake	7,900	5,211	66	84	1	-2,689	-34
Alan Henry Reservoir	96,207	89,532	93	-553	0	6,833	7
*Amistad Reservoir (Texas & Mexico)	3,275,532	1,684,148	51	5,843	0	-281,088	-9
*Amistad Reservoir (Texas)	1,840,849	1,362,012	74	-16,016	0	-16,902	0
Amon G Carter, Lake	19,266	17,832	93	124	1	-1,434	-7
Aquilla Lake	43,243	35,222	81	347	1	-8,021	-19
Arlington, Lake	40,157	40,157	100	3,797	9	212	1
Arrowhead, Lake	230,359	203,594	88	1,484	1	-26,621	-12
Athens, Lake	29,503	29,503	100	1,340	5	0	0
*Austin, Lake	23,972	22,619	94	138	1	-663	-3
B A Steinhagen Lake	69,186	66,257	96	1,680	2	1,877	3
Bardwell Lake	46,122	39,869	86	769	2	-6,253	-14
Belton Lake	435,225	400,248	92	231	0	-34,977	-8
Benbrook Lake	85,648	66,946	78	4,146	5	-18,702	-22
Bob Sandlin, Lake	192,417	192,417	100	6,699	3	0	0
Bonham, Lake	11,027	11,027	100	1,820	17	137	1
Brady Creek Reservoir	28,808	24,653	86	206	1	-4,155	-14
Bridgeport, Lake	366,236	313,873	86	1,980	1	-52,363	-14
*Brownwood, Lake	130,868	107,864	82	-182	0	-23,004	-18
Buchanan, Lake	860,607	785,824	91	8,556	1	-31,080	-4
Caddo, Lake	29,898	29,898	100	0	0	0	0
Canyon Lake	378,781	354,590	94	631	0	-24,191	-6
Cedar Creek Reservoir in Trinity	644,686	580,476	90	15,228	2	-63,883	-10
Champion Creek Reservoir	41,580	27,517	66	-121	0	-1,158	-3
Cherokee, Lake	40,094	40,094	100	0	0	0	0
Choke Canyon Reservoir	662,820	296,070	45	-4,813	0	-67,028	-10
*Cisco, Lake	29,003	25,214	87	-19	0	843	3
Coleman, Lake	38,075	32,853	86	-103	0	-5,078	-13
Colorado City, Lake	31,040	22,639	73	323	1	-8,401	-27
*Coleto Creek Reservoir	30,758	13,728	45	-108	0	-1,632	-5
Conroe, Lake	410,988	377,068	92	8,185	2	-33,920	-8
Corpus Christi, Lake	256,062	188,712	74	-5,083	-2	-67,350	-26
Crook, Lake	9,195	9,195	100	136	1	52	1
Cypress Springs, Lake	66,756	66,756	100	0	0	0	0
E. V. Spence Reservoir	517,272	137,798	27	-947	0	-1,836	0
Eagle Mountain Lake	179,880	179,880	100	18,213	10	0	0
Elephant Butte Reservoir (Texas)	852,491	254,144	30	13,727	2	192,413	23
Elephant Butte Reservoir (Total Storage)	1,973,358	588,296	30	31,776	2	445,401	23
*Falcon Reservoir (Texas & Mexico)	2,646,817	570,822	22	-45,761	-2	-439,273	-17
*Falcon Reservoir (Texas)	1,551,007	494,296	32	-7,856	0	-294,804	-19
Fork Reservoir, Lake	605,061	564,671	93	20,563	3	-34,057	-6
Fort Phantom Hill, Lake	70,030	62,789	90	1,545	2	-7,241	-10
Georgetown, Lake	36,823	25,951	70	690	2	-10,872	-30
Graham, Lake	45,288	38,605	85	273	1	-6,683	-15
Granbury, Lake	132,949	132,623	100	489	0	-326	0

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Storage capacity	Storage at end-January		Storage change from end-Dec 2019		Storage change from end-Jan 2019	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
		Continued					
Granger Lake	51,822	51,822	100	0	0	0	0
Grapevine Lake	163,064	163,064	100	0	0	0	0
Greenbelt Lake	59,968	12,033	20	62	0	-196	0
*Halbert, Lake	6,033	5,063	84	-21	0	-293	-5
Hords Creek Lake	8,109	6,271	77	-13	0	1,033	13
Houston County Lake	17,113	17,113	100	0	0	0	0
Houston, Lake	130,147	117,520	90	-2,578	-2	-12,627	-10
Hubbard Creek Reservoir	313,298	272,875	87	-575	0	-40,423	-13
Hubert H Moss Lake	24,058	24,058	100	205	1	97	0
Inks, Lake	13,962	7,883	56	-5,054	-36	-5,002	-36
J. B. Thomas, Lake	199,931	48,298	24	-1,649	0	-23,595	-12
Jacksonville, Lake	25,670	25,670	100	725	3	0	0
Jim Chapman Lake (Cooper)	260,332	251,369	97	28,711	11	-8,963	-3
Joe Pool Lake	175,800	158,274	90	3,297	2	-15,091	-9
Kemp, Lake	245,307	208,618	85	5,922	2	-36,689	-15
Kickapoo, Lake	86,345	71,341	83	889	1	-15,004	-17
Lavon Lake	406,388	371,059	91	33,222	8	-35,329	-9
Leon, Lake	27,762	23,649	85	31	0	-3,938	-14
Lewisville Lake	563,228	563,228	100	0	0	0	0
Limestone, Lake	203,780	165,488	81	2,103	1	-38,292	-19
*Livingston, Lake	1,741,867	1,741,867	100	0	0	1,637	0
*Lost Creek Reservoir	11,950	11,732	98	505	4	-218	-2
Lyndon B Johnson, Lake	115,249	86,377	75	-22,740	-20	-2,203	-2
Mackenzie Reservoir	46,450	5,317	11	-31	0	-411	0
Marble Falls, Lake	6,901	6,836	99	5	0	3,008	44
Martin, Lake	75,726	63,237	84	3,649	5	-12,341	-16
Medina Lake	254,823	195,414	77	-3,616	-1	-59,409	-23
Meredith, Lake	500,000	209,492	42	895	0	18,552	4
Millers Creek Reservoir	26,768	23,241	87	340	1	-3,527	-13
*Mineral Wells, Lake	5,273	5,166	98	406	8	-107	-2
Monticello, Lake	34,740	29,991	86	1,636	5	-145	0
Mountain Creek, Lake	22,850	22,850	100	0	0	0	0
Murvaul, Lake	38,285	37,771	99	2,428	6	-514	-1
Nacogdoches, Lake	39,522	37,384	95	2,527	6	-2,138	-5
Nasworthy	9,615	8,257	86	no data		-400	-4
Navarro Mills Lake	49,827	38,416	77	-128	0	-11,411	-23
New Terrell City Lake	8,583	8,583	100	437	5	0	0
Nocona, Lake (Farmers Crk)	21,444	19,901	93	517	2	-1,543	-7
North Fork Buffalo Creek Reservoir	15,400	11,925	77	432	3	-3,475	-23
O' the Pines, Lake	241,363	241,363	100	0	0	0	0
O. C. Fisher Lake	115,742	10,711	9	-94	0	-4,137	-4
*O. H. Ivie Reservoir	554,340	385,206	69	1,648	0	95,104	17
Oak Creek Reservoir	39,210	34,574	88	202	1	-4,636	-12

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Storage capacity	Storage at end-January		Storage change from end-Dec 2019		Storage change from end-Jan 2019	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
	Continued						
Palestine, Lake	367,303	358,814	98	25,608	7	-8,489	-2
Palo Duro Reservoir	61,066	3,043	5	-242	0	2,693	4
Palo Pinto, Lake	26,766	19,986	75	-160	0	-6,780	-25
Pat Cleburne, Lake	26,008	22,397	86	1,055	4	-3,611	-14
*Pat Mayse Lake	113,683	113,683	100	0	0	0	0
Possum Kingdom Lake	538,139	530,479	99	9,150	2	-6,408	-1
Proctor Lake	54,762	40,219	73	313	1	-14,543	-27
Ray Hubbard, Lake	439,559	399,856	91	18,733	4	-38,032	-9
Ray Roberts, Lake	788,167	788,167	100	0	0	0	0
Red Bluff Reservoir	151,110	98,208	65	2,980	2	-1,751	-1
Richland-Chambers Reservoir	1,087,839	943,414	87	8,861	1	-144,425	-13
Sam Rayburn Reservoir	2,857,077	2,785,328	97	180,264	6	-71,749	-3
Somerville Lake	150,293	148,608	99	1,895	1	-1,685	-1
Squaw Creek, Lake	151,250	149,674	99	3,302	2	-1,576	-1
Stamford, Lake	51,570	46,075	89	895	2	-5,495	-11
Stillhouse Hollow Lake	227,771	205,743	90	-1,081	0	-22,028	-10
Striker, Lake	16,934	16,934	100	0	0	0	0
Sweetwater, Lake	12,267	12,088	99	143	1	-179	-1
*Sulphur Springs, Lake	17,747	16,434	93	-55	0	1,357	8
Tawakoni, Lake	871,685	842,808	97	34,286	4	-28,877	-3
Texana, Lake	159,566	116,091	73	-1,748	-1	-42,924	-27
Texoma, Lake (Texas & Oklahoma)	2,487,601	2,435,470	98	-140,954	-6	38,829	2
Texoma, Lake (Texas)	1,243,801	1,217,734	98	-26,067	-2	19,414	2
Toledo Bend Reservoir (Texas & Louisiana)	4,472,900	3,723,634	83	348,540	8	-792,076	-18
Toledo Bend Reservoir (Texas)	2,236,450	1,859,767	83	174,270	8	-376,683	-17
Travis, Lake	1,113,348	925,748	83	16,218	1	-187,600	-17
Twin Buttes Reservoir	182,454	118,136	65	2,327	1	7,135	4
Tyler, Lake	72,073	67,740	94	5,062	7	-4,333	-6
Waco, Lake	189,418	148,909	79	-1,601	0	-40,509	-21
Waxahachie, Lake	10,780	10,379	96	585	5	-401	-4
Weatherford, Lake	17,812	17,769	100	2,674	15	163	1
White River Lake	29,880	5,486	18	-104	0	839	3
Whitney, Lake	553,344	436,563	79	12,164	2	-109,083	-20
Worth, Lake	24,419	18,668	76	258	1	-5,000	-20
Wright Patman Lake	122,593	122,593	100	0	0	0	0
STATEWIDE TOTOL							
STATEWIDE TOTAL	**32,143,116**	**26,178,075**	**81**	**601,883**	**2**	**-1,966,143**	**-6**

* 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.

Note:
Conservation storage capacity is the space available to store water above the lowest outlet and below the top of the conservation pool (some may have seasonal variations), or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included is any water in flood control storage (above the top of the conservation pool or normal maximum operating level) or any water in the dead pool storage. Conservation storage percentage is based on the conservation storage capacity of the reservoir and the conservation storage in the reservoir on date shown. Percent change is given by 100 * (current conservation storage - past conservation storage)/conservation storage capacity.

STREAMFLOW CONDITIONS

Calculated runoff by hydrologic unit codes for January 2020 showed that much of the state had near normal (25–75th percentile, green shading in Figure 6) streamflow. Some sub-watersheds in the mid-Colorado, upper Brazos, Canadian, Sulphur, and mid-Trinity river basins had above normal streamflow (76−90th percentile, light blue shading in Figure 6). A few river basins had much above normal streamflow conditions (>90 percentile, dark blue shading in Figure 6), including the upper Brazos, upper trinity, and portions of the Red river basin. Several sub-watersheds in the mid and lower Colorado, Lavaca, lower Guadalupe, San Antonio-Nueces, upper and lower Nueces, lower Brazos, Brazos-Colorado, upper San Jacinto, mid Trinity and upper Neches river basins had below normal (10–24th percentile, orange shading in Figure 6) streamflow. Some Sub-watersheds had much below normal (less than the 10th percentile, dark brown shading in Figure 6) streamflow. These include the upper Rio Grande, lower Nueces, Lavaca, Brazos, and mid-Colorado. Record lows (red shading in Figure 6) were found in the mid-Brazos and lower Nueces river basins.

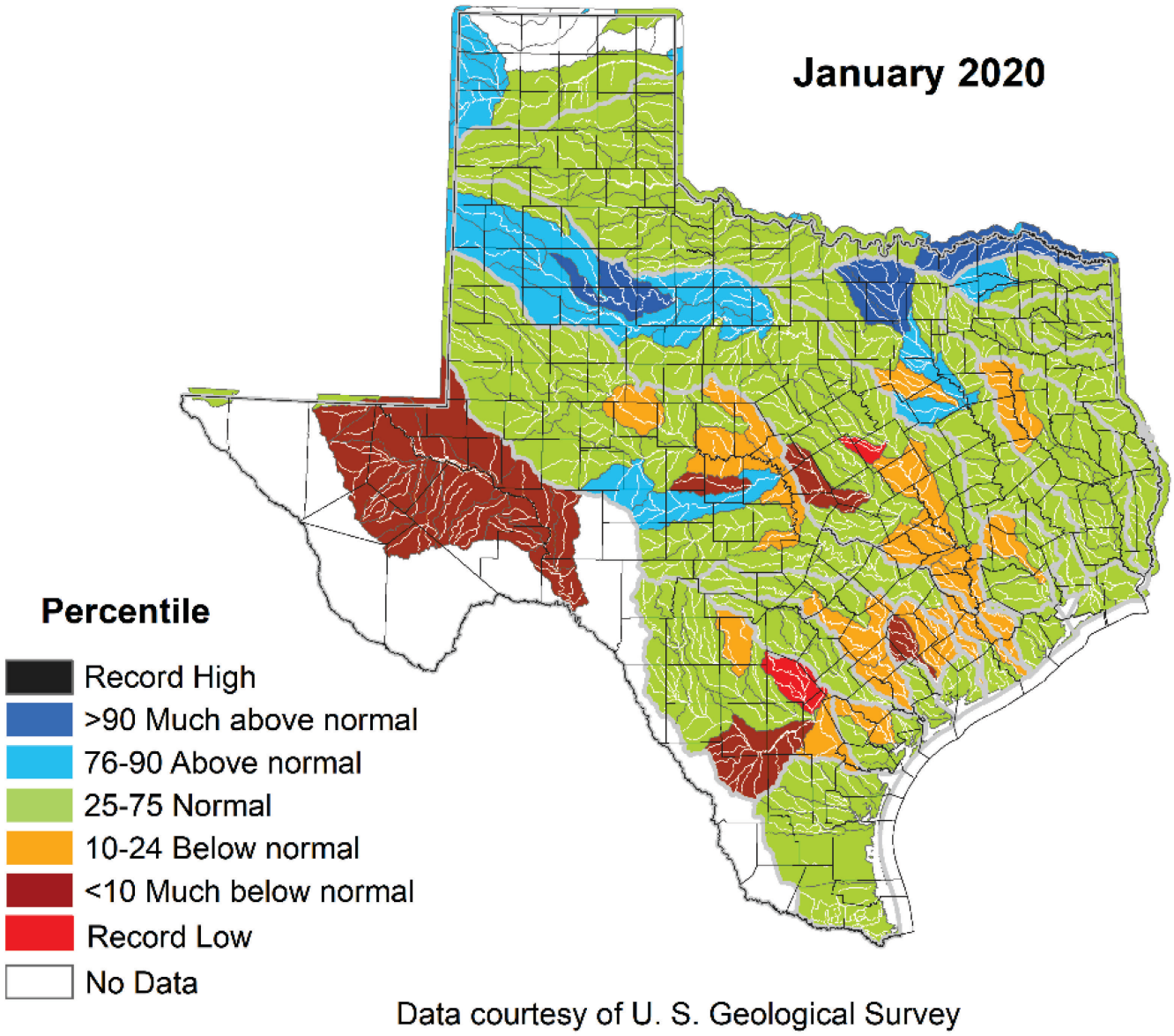


Figure 6: Runoff percentiles by the U.S. Geological Survey's Hydrologic Unit Code

SOIL MOISTURE CONDITIONS

Root zone soil moisture at the end of January 2020 [Figure 7(a)] was moderate [> 0.20 cubic meters of water per bulk cubic meter soil (m^3/m^3)] in the majority of the state. There were areas of low soil moisture [> 0.15 cubic meters of water per bulk cubic meter soil (m3/m3)] in the northeast, as well as scattered in parts of the south and west Trans Pecos, pockets in the northeast and southwest High Plains, and in portions of the Southern climate region with the lowest soil moisture represented in the southeast. There was a band of low soil moisture that stretched across the South Central region and extending north through the south and west East Texas region and along the southern border of the South Central. In other climate divisions, root zone soil moisture was high [< 0.3 cubic meters of water per bulk cubic meter soil (m3/m3)]. These divisions include the northern High Plains, north, central, south and east areas of the North Central region, with higher soil moisture content in the north east portions of the region. The northwest, small areas of the southeast, and a narrow band from the middle of the South Central region reaching northeast had high soil moisture levels. The majority of the Upper Coast, and small pockets in central and east Edwards Plateau, and scattered areas along the south, small portions of the north, east and central East Texas also had high soil moisture content.

Compared to conditions at the end of December 2019, soil moisture content increased [green to blue shading in Figure 7(b)] in portions of the north, central and south Low Rolling Plains, in the majority of the Edwards Plateau, particularly in the east, the majority of the North Central region with higher increases in the north, the majority of the South Central region, and nearly all of the Upper Coast and East Texas climate divisions. Soil moisture content decreased [yellow, orange, and brown shading in Figure 7(b)] in the southern portion of the South Central, and nearly all of the Southern, High Plains, Trans Pecos and Lower Valley regions.

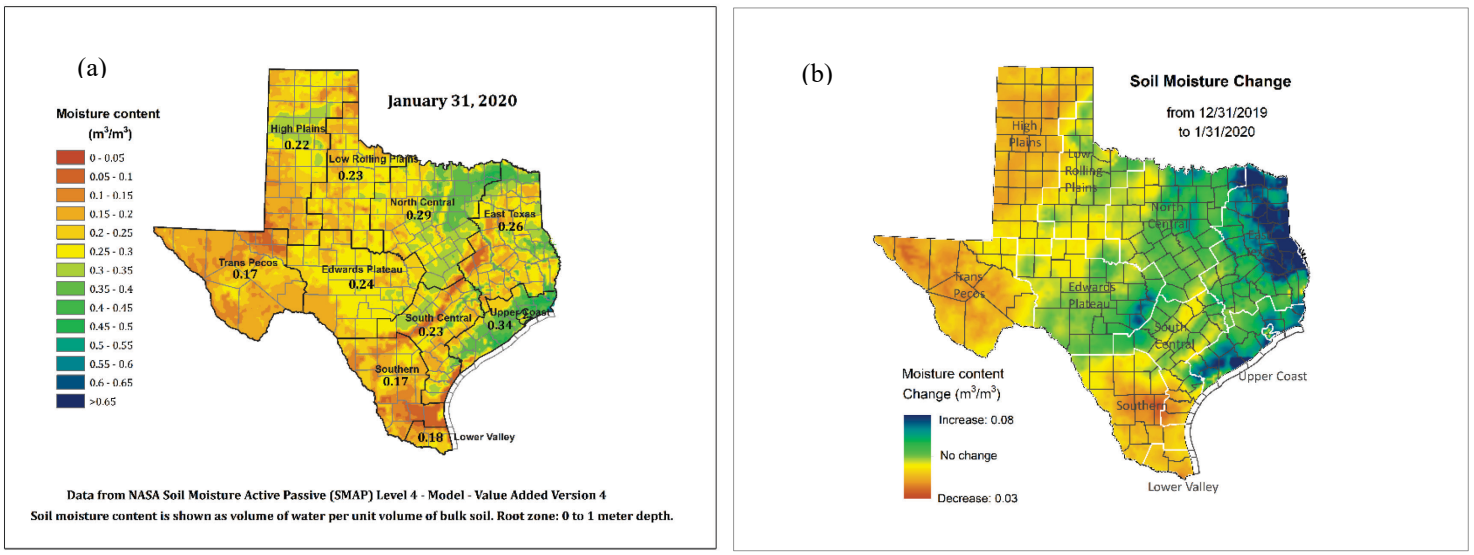
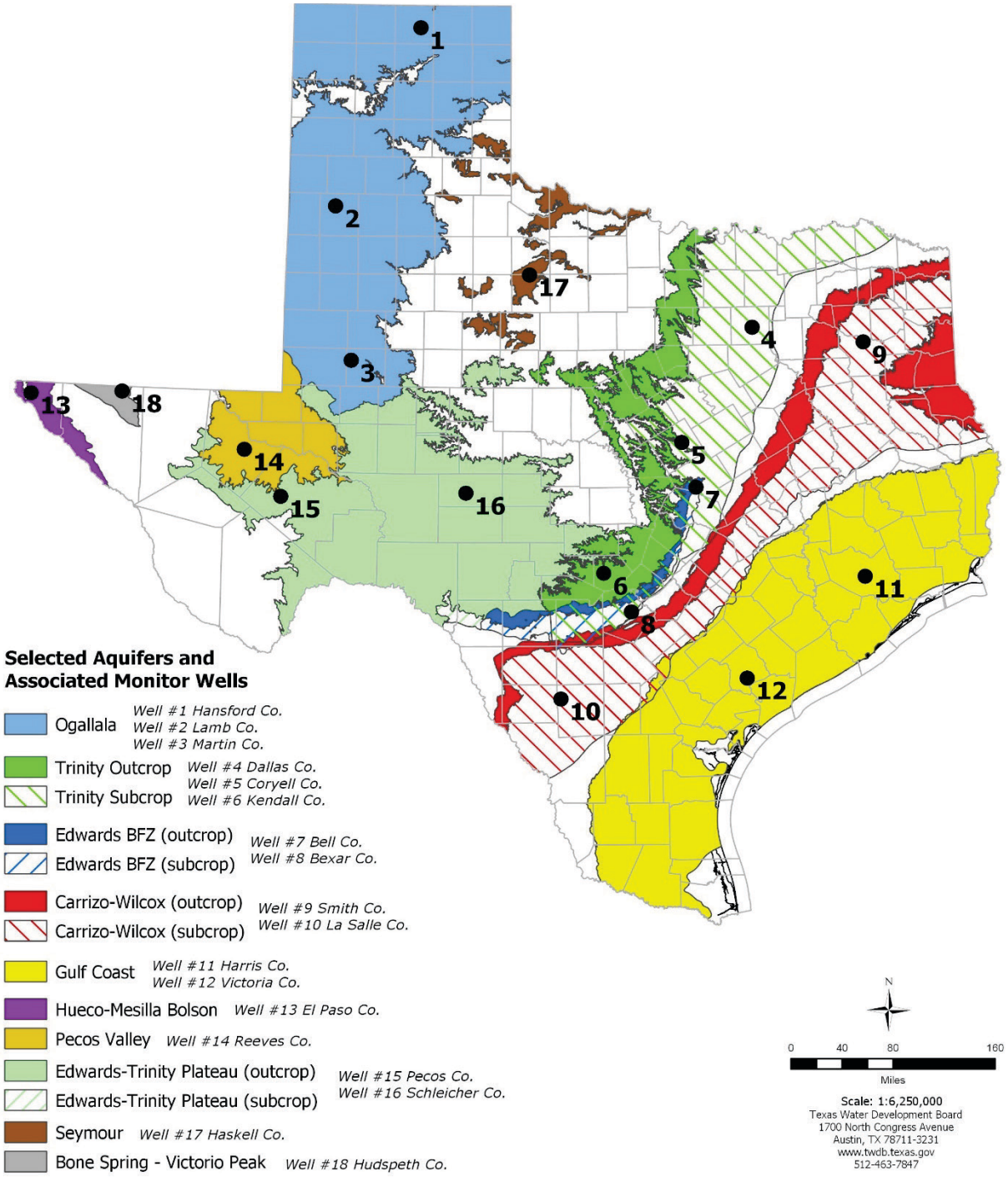


Figure 7: Root zone soil moisture conditions on January 31, 2020(a) and the difference in root zone soil moisture between end-December 2019 and end-January 2020 (b)



GROUNDWATER LEVELS IN OBSERVATION WELLS

January 2020

Water-level measurements were available for 16 key monitoring wells in the state. Water levels rose in 14 monitoring wells since the beginning of January, ranging from an increase of 0.07 feet in the Bell County Edwards (Balcones Fault Zone) Aquifer well (#7 on map) to 3.59 feet in the Pecos County Edwards-Trinity Plateau Aquifer (#15 on map). Water levels declined in 2 monitoring wells, ranging from a decline of -0.16 feet in the Lamb County Ogallala Aquifer well (#2 on map) to -1.47 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 58.00 feet below land surface or 672.6 feet above mean sea level. Water levels are 13 feet above the Stage 1 critical management level for the San Antonio portion of the Edwards (Balcones Fault Zone) Aquifer.

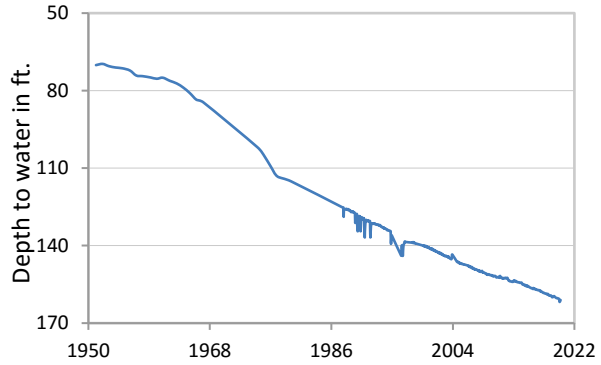
***Well numbers used in this publication on the aquifer map to indicate the monitoring well location (numbers 1 - 17) are different than the TWDB's seven-digit state well number.**

Monitoring Well	January	December	Month Change	Year Change	Historical Change	First Measured
(1) Hansford 0354301	NA	161.06	*NA*	*NA*	*NA*	1951
(2) Lamb 1053602	150.81	150.65	*-0.16*	*-1.11*	*-122.64*	1951
(3) Martin 2739903	143.24	143.74	*0.50*	*1.49*	*-38.35*	1964
(4) Dallas 3319101	496.36	497.05	*0.69*	*1.94*	*-274.36*	1954
(5) Coryell 4035404	530.91	533.20	*2.29*	*-4.69*	*-238.91*	1955
(6) Kendall 6802609	141.84	140.37	*-1.47*	*-20.52*	*-81.84*	1975
(7) Bell 5804816	123.04	123.11	*0.07*	*-3.69*	*0.47*	2008
(8) Bexar 6837203	58.00	59.00	*1.00*	*-13.50*	*-11.36*	1932
(9) Smith 3430907	435.55	436.51	*0.96*	*-1.24*	*-135.55*	1977
(10) La Salle 7738103	NA	NA	*NA*	*NA*	*NA*	2003
(11) Harris 6514409	191.68	192.68	*1.00*	*-2.31*	*-56.18**	1947**
(12) Victoria 8017502	32.56	33.14	*0.58*	*2.35*	*1.44*	1958
(13) El Paso 4913301	295.80	296.28	*0.48*	*-0.58*	*-63.90*	1964
(14) Reeves 4644501	159.51	160.25	*0.74*	*7.01*	*-67.42*	1952
(15) Pecos 5216802	183.32	186.91	*3.59*	*-2.81*	*63.56*	1976
(16) Schleicher 5512134	282.04	282.52	*0.48*	*-15.55*	*19.86*	2003
(17) Haskell 2135748	44.14	44.30	*0.16*	*1.76*	*-1.14*	2002
(18) Hudspeth 4807516	139.99	142.86	*2.87*	*0.53*	*-36.07*	1966

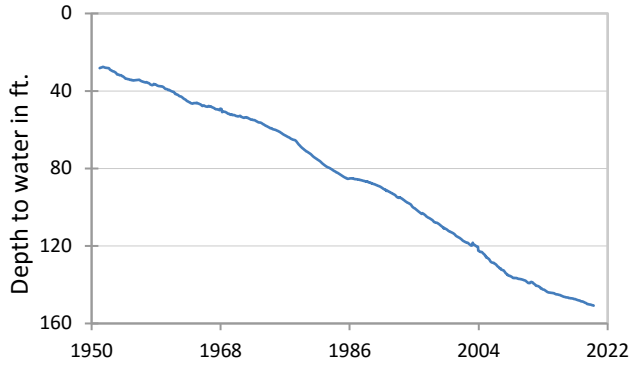
*Change since the original measurement of 135.5 feet below land surface in 1947 (**measurement not shown on the hydrograph)

January 2020 OBSERVATION WELL HYDROGRAPHS

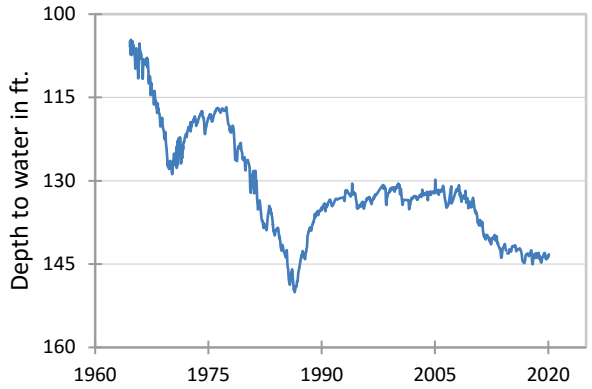
(1) State Well #03-54-301
Near Spearman, Hansford County
Ogallala Aquifer



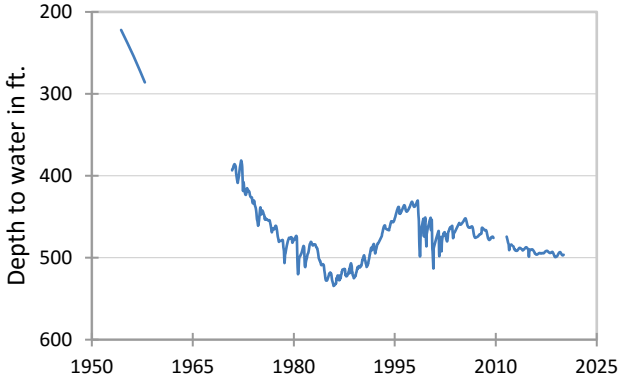
(2) State Well #10-53-602
Near Earth, Lamb County
Ogallala Aquifer



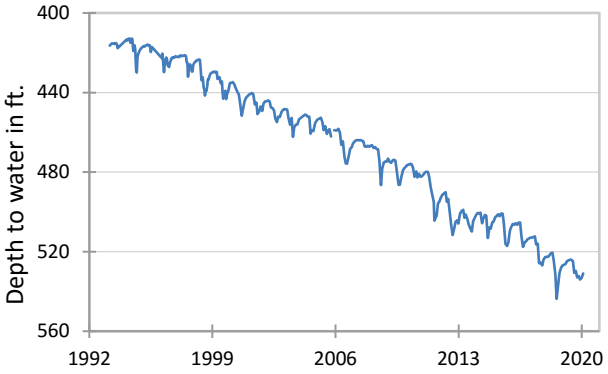
(3) State Well #27-39-903
Northwest Martin County
Ogallala Aquifer



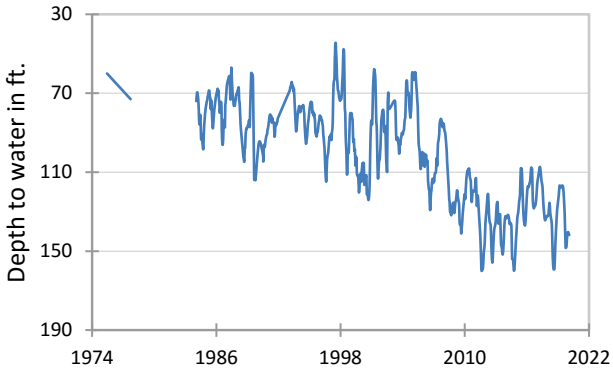
(4) State Well #33-19-101
Southeast Dallas, Dallas County
Twin Mountains Formation-Trinity Aquifer



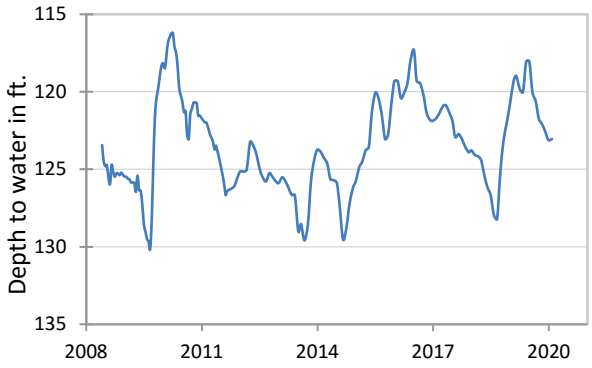
(5) State Well #40-35-404
Gatesville, Coryell County
Hosston Formation-Trinity Aquifer



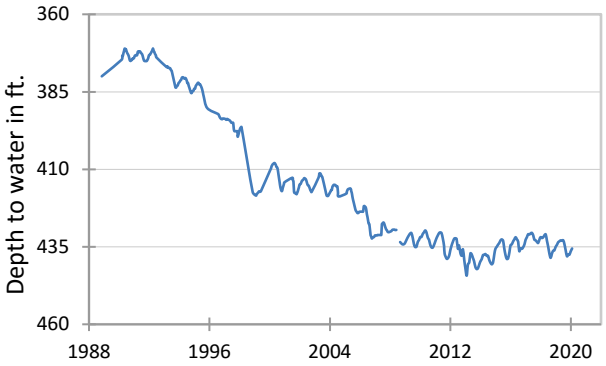
(6) State Well #68-02-609
Waring, Kendall County
Cow Creek Formation-Trinity Aquifer



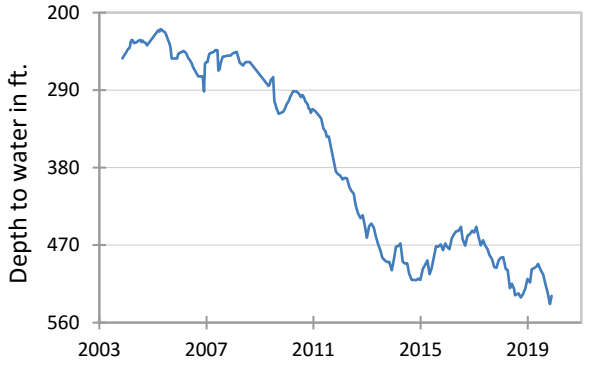
(7) State Well #58-04-816
Near Salado, Bell County
Edwards (Balcones Fault Zone) Aquifer



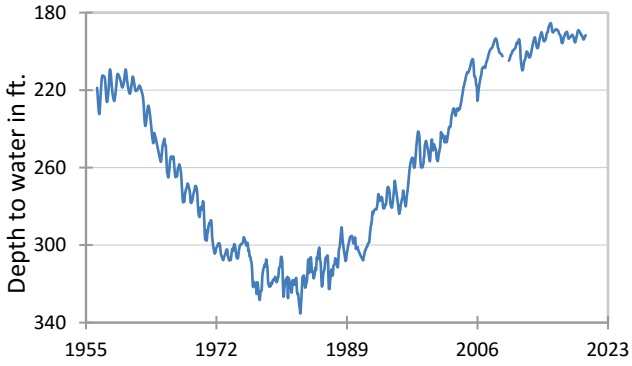
(9) State Well #34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer



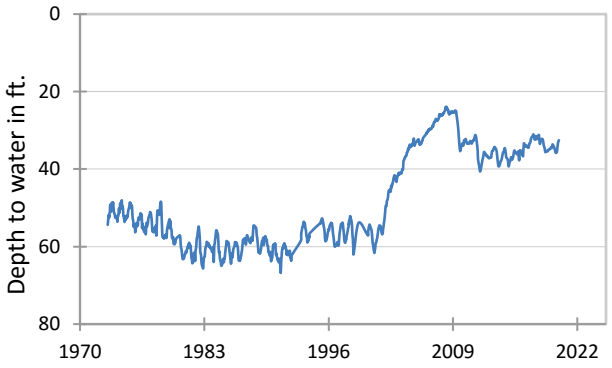
(10) State Well #77-38-103
Near Cotulla, La Salle County
Carrizo-Wilcox Aquifer



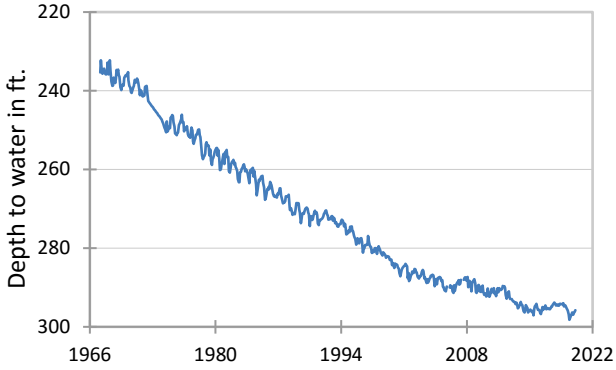
(11) State Well #65-14-409
Alief, Harris County
Evangeline Formation-Gulf Coast Aquifer



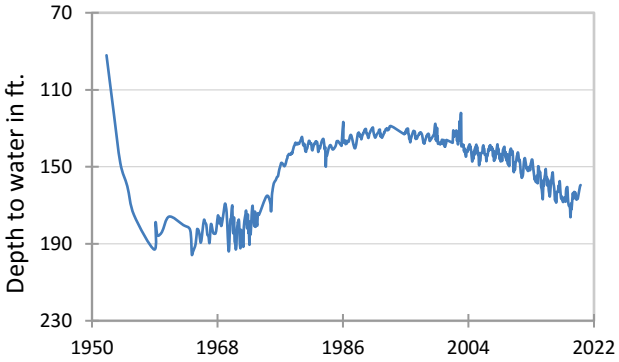
(12) State Well #80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer



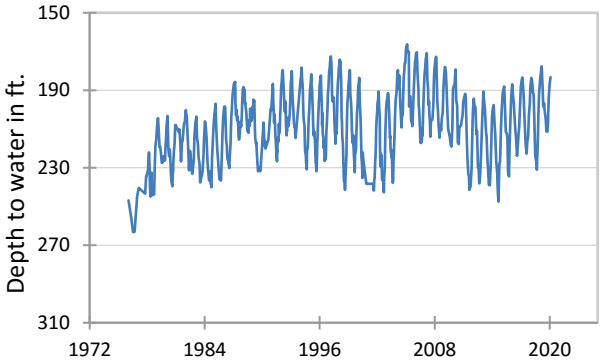
(13) State Well #49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolson Aquifer



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

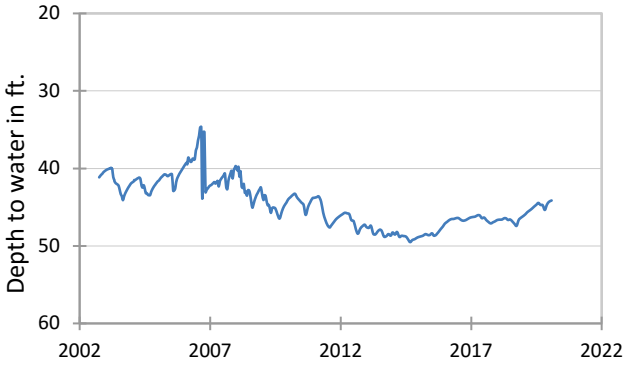


(15) State Well #52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer

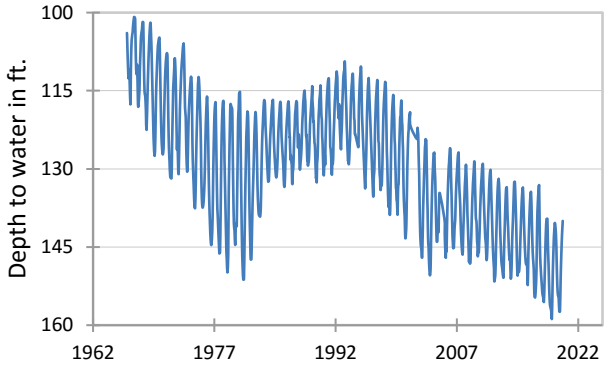


(16) State Well #55-12-134
Eldorado, Schleicher County
Trinity Aquifer

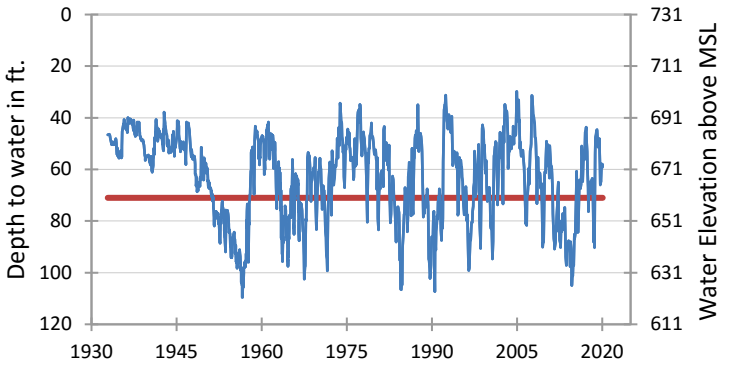
(17) State Well #21-35-748
Near O'Brien, Haskell County
Seymour Aquifer

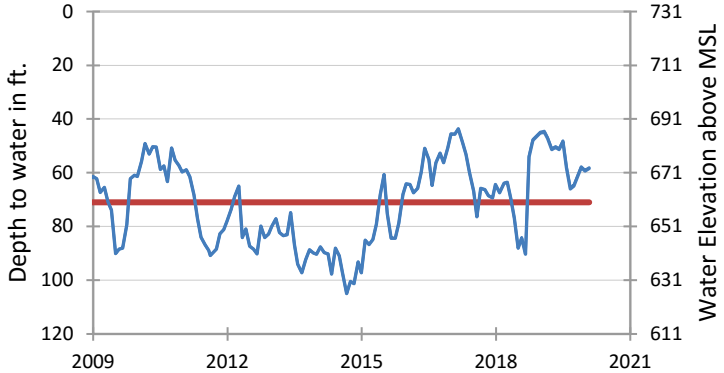


(18) State Well #48-07-516
Dell City, Hudspeth County
Bone Spring - Victorio Peak Aquifer



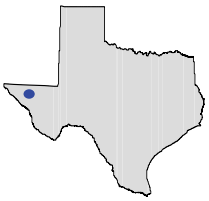
(8) State Well #68-37-203 (J-17)
San Antonio, Bexar County
Edwards (Balcones Fault Zone) Aquifer





The late January water-level measurement in this Edwards (Balcones Fault Zone) Aquifer well, elevation 731 feet above mean sea level, was 58.00 feet below land surface, or 672.60 feet above mean sea level. This was 1.00 foot above last month's measurement, 13.50 feet below last year's measurement and 11.36 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.



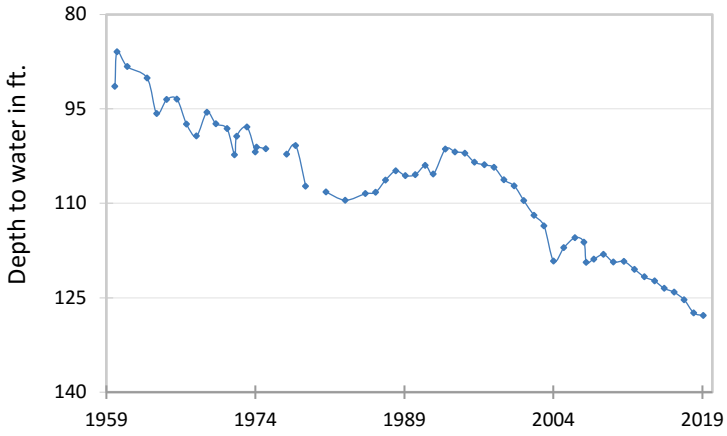
HYDROGRAPH OF THE MONTH

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

Capitan Reef Complex Aquifer

The Capitan Reef Complex Aquifer is a minor aquifer located in In Culberson, Hudspeth, Jeff Davis, Brewster, Pecos, Reeves, Ward, and Winkler counties. It is exposed in mountain ranges of Far West Texas; elsewhere it occurs in the subsurface. The aquifer is composed of as much as 2,360 feet of massive cavernous dolomite and limestone. Water from the Capitan Reef Complex is thought to contribute to the base flow of San Solomon Springs in Reeves County. Overall, the aquifer contains water of marginal quality, yielding small to large quantities of slightly saline to saline groundwater containing 1,000 to greater than 5,000 milligrams per liter of total dissolved solids. Water of the freshest quality, with total dissolved solids between 300 and 1,000 milligrams per liter, is present in the west near areas of recharge where the reef rock is exposed in several mountain ranges. Although most of the groundwater pumped from the aquifer in Texas is used for oil reservoir flooding in Ward and Winkler counties, a small amount is used to irrigate salt-tolerant crops in Pecos, Culberson, and Hudspeth counties. Over the last 70 years, water levels have declined in some areas as a result of localized production.

Well #47-17-206, 750 feet deep
unused, Hudspeth County



The initial measurement of 91.42 feet below land surface was recorded by the USGS in November of 1959. Since then, near-annual measurements have been recorded by the USGS and TWDB. The period of record reveals a gradual decline in water level roughly equal to -0.61 ft/yr. This decline is likely attributed to nearby pumping for irrigation.

Far away (left), and close-up (right) images of well #47-17-206.