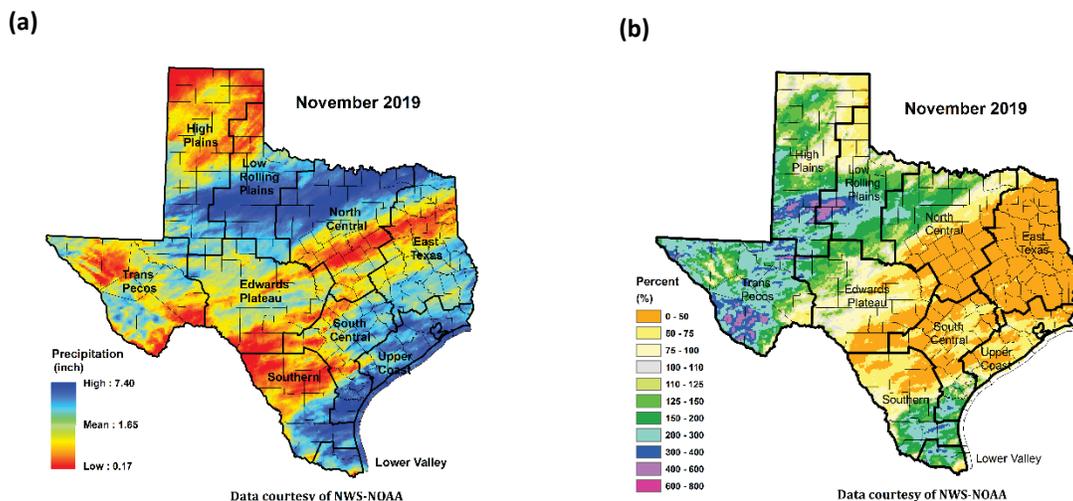


November 2019

## RAINFALL

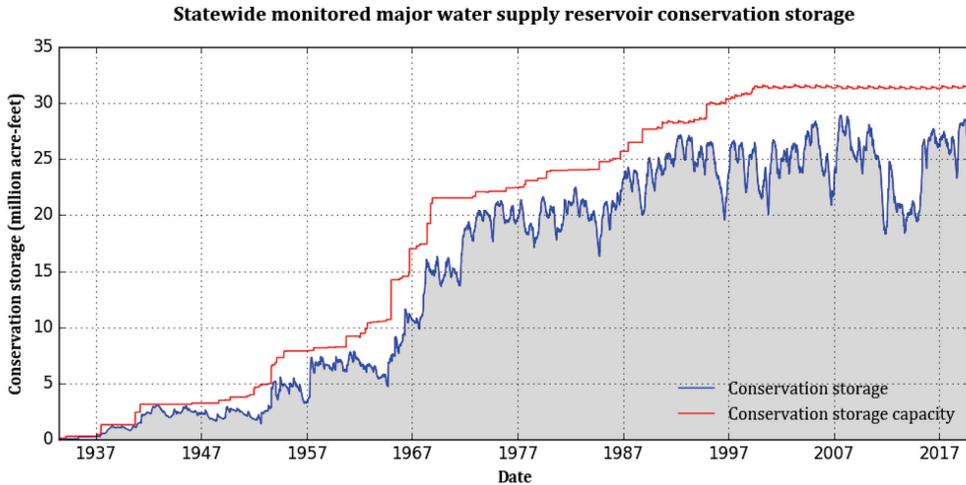
Rainfall observations from the National Oceanic and Atmospheric Administration – National Weather Service (NOAA-NWS) indicate that several climate divisions received little to no rainfall [yellow, orange and red shading, Figure 1(a)]. These regions include the northern portions of the Low Rolling Hills and High Plains, portions of the northern and southern Trans Pecos, central and southern portions of the Edwards Plateau, the northcentral portion of the Southern, the central and southern regions of the North Central, and northern portions of East Texas climate divisions. The lower portions of the High Plains, the majority of the Low Rolling Plains and Upper Coast, the northern half of the North Central, the southeast portions of the Southern, parts of South Central and East Texas, and scattered areas of the Trans Pecos and Edwards Plateau received considerable rainfall, with some regions receiving more than 7" [dark blue shading, Figure 1(a)]. Monthly rainfall for November was below-average [yellow and orange shading, Figure 1(b)], compared to historical data from 1981–2010, over much of the state. Exceptions being southern regions of the South Central and Southern, and the Lower Valley, which received above average rainfall. Some areas of the Trans Pecos, High Plains and Low Rolling Plains received 2 to 4 times the average, and in some very select areas of the Trans Pecos and Low Rolling Plains exceeded that receiving 6 to 8 times the average rainfall amounts for November.



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

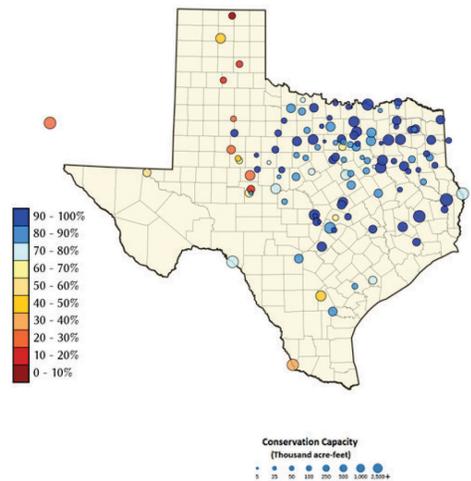
## **RESERVOIR STORAGE**

At the end of November 2019, 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 80 percent of total conservation storage capacity (Figure 2). This is approximately 0.05 million acre-feet less than a month ago and approximately 2.3 million acre-feet less than end-November 2018.



**Figure 2:** Statewide reservoir conservation storage

Out of 118 reservoirs in the state, 15 reservoirs held 100 percent of conservation storage capacity (Figure 3). Additionally, 35 were at or above 90 percent full. Eight reservoirs [E.V. Spence (27 percent full), Falcon (23 percent full), Greenbelt (20 percent full), J.B. Thomas (26 percent full), Mackenzie (12 percent full), O. C. Fisher (11 percent full), Palo Duro Reservoir (6 percent full), and White River (19 percent full)] remained below 30 percent full. Elephant Butte Reservoir (located in New Mexico) was at 25 percent full.



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



**CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS**

Name of lake or reservoir	Storage capacity	Storage at end-November		Storage change from end-Oct 2019		Storage change from end-Nov 2018	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
Abilene, Lake	7,900	5,122	65	-20	0	-2,778	-35
Alan Henry Reservoir	96,207	91,120	95	6,898	7	6,376	7
*Amistad Reservoir (Texas & Mexico)	1,840,849	1,383,810	75	4,251	0	66,408	4
*Amistad Reservoir (Texas)	3,275,532	1,652,432	50	29,565	1	-226,192	-7
Amon G Carter, Lake	19,266	17,903	93	15	0	-1,363	-7
Aquilla Lake	43,243	35,437	82	-787	-2	-7,806	-18
Arlington, Lake	40,188	37,220	93	-945	-2	-2,834	-7
Arrowhead, Lake	230,359	203,864	88	1,754	1	-24,614	-11
Athens, Lake	29,503	27,793	94	105	0	-1,710	-6
*Austin, Lake	23,972	22,665	95	168	1	-400	-2
B A Steinhagen Lake	66,961	63,005	94	2,136	3	817	1
Bardwell Lake	46,122	39,810	86	-773	-2	-6,312	-14
Belton Lake	435,225	403,607	93	-5,366	-1	-31,618	-7
Benbrook Lake	85,648	55,419	65	5,061	6	-30,229	-35
Bob Sandlin, Lake	192,417	185,369	96	-262	0	-7,048	-4
Bonham, Lake	11,027	9,236	84	356	3	-1,591	-14
Brady Creek Reservoir	28,808	24,584	85	-122	0	-4,224	-15
Bridgeport, Lake	366,236	313,653	86	4,718	1	-50,953	-14
*Brownwood, Lake	128,839	107,942	84	-1,188	0	-20,897	-16
Buchanan, Lake	860,607	775,348	90	1,280	0	-43,944	-5
Caddo, Lake	29,898	29,898	100	0	0	0	0
Canyon Lake	378,781	355,854	94	-2,298	0	-22,927	-6
Cedar Creek Reservoir in Trinity	644,686	572,531	89	-10,401	-2	-71,828	-11
Champion Creek Reservoir	41,580	27,777	67	-21	0	-1,236	-3
Cherokee, Lake	40,094	38,864	97	1,337	3	-1,230	-3
Choke Canyon Reservoir	662,820	304,921	46	-5,203	0	-58,708	-9
*Cisco, Lake	29,003	25,423	88	-67	0	1,939	7
Coleman, Lake	38,075	33,196	87	-121	0	-4,627	-12
Colorado City, Lake	31,040	23,049	74	-863	-3	-7,991	-26
*Coleta Creek Reservoir	30,758	13,944	45	0	0	-1,687	-5
Conroe, Lake	410,988	369,607	90	-4,723	-1	-41,381	-10
Corpus Christi, Lake	256,062	196,808	77	-8,455	-3	-59,254	-23
Crook, Lake	9,195	9,195	100	859	9	146	2
Cypress Springs, Lake	66,756	66,756	100	0	0	0	0
E. V. Spence Reservoir	517,272	141,103	27	-707	0	5,934	1
Eagle Mountain Lake	179,880	165,298	92	1,737	1	-14,065	-8
Elephant Butte Reservoir (Texas)	852,491	215,386	25	27,209	3	176,921	21
Elephant Butte Reservoir (Total Storage)	1,973,358	498,579	25	62,984	3	409,539	21
*Falcon Reservoir (Texas & Mexico)	1,551,007	485,228	31	16,578	1	-295,098	-19
*Falcon Reservoir (Texas)	2,646,817	619,834	23	5,138	0	-522,334	-20
Fork Reservoir, Lake	605,061	551,983	91	-7,941	-1	-37,365	-6
Fort Phantom Hill, Lake	70,030	60,711	87	141	0	-9,319	-13
Georgetown, Lake	36,823	24,443	66	565	2	-12,380	-34
Graham, Lake	45,288	38,788	86	69	0	-6,500	-14
Granbury, Lake	132,949	130,433	98	3,431	3	-2,190	-2

**CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS**

Name of lake or reservoir	Storage capacity	Storage at end-November		Storage change from end-Oct 2019		Storage change from end-Nov 2018	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
<i>Continued</i>							
Granger Lake	51,822	51,822	100	898	2	0	0
Grapevine Lake	164,703	164,703	100	6,857	4	0	0
Greenbelt Lake	59,968	11,978	20	-20	0	-251	0
*Halbert, Lake	6,033	4,998	83	80	1	-369	-6
Hords Creek Lake	8,443	6,785	80	-102	-1	1,388	16
Houston County Lake	17,113	17,113	100	0	0	0	0
Houston, Lake	130,147	119,666	92	-9,468	-7	-10,481	-8
Hubbard Creek Reservoir	313,298	276,482	88	-725	0	-36,032	-12
Hubert H Moss Lake	24,058	24,047	100	644	3	140	1
Inks, Lake	13,962	12,975	93	165	1	-7	0
J. B. Thomas, Lake	199,931	51,727	26	-449	0	-23,594	-12
Jacksonville, Lake	25,670	24,638	96	79	0	-1,032	-4
Jim Chapman Lake (Cooper)	260,332	227,092	87	-4,465	-2	-32,884	-13
Joe Pool Lake	175,358	155,447	89	-1,543	0	-19,911	-11
Kemp, Lake	245,307	204,876	84	2,066	1	-40,431	-16
Kickapoo, Lake	86,345	71,920	83	-211	0	-14,425	-17
Lavon Lake	406,388	332,170	82	6,136	2	-74,218	-18
Leon, Lake	27,762	23,837	86	78	0	-3,628	-13
Lewisville Lake	563,228	547,946	97	22,135	4	-15,282	-3
Limestone, Lake	203,780	167,268	82	-4,603	-2	-36,016	-18
*Livingston, Lake	1,785,348	1,785,348	100	0	0	719	0
*Lost Creek Reservoir	11,950	11,211	94	205	2	-730	-6
Lyndon B Johnson, Lake	115,249	110,759	96	732	1	1,823	2
Mackenzie Reservoir	46,450	5,353	12	-43	0	-484	-1
Marble Falls, Lake	6,901	6,831	99	6	0	76	1
Martin, Lake	75,726	60,456	80	-1,492	-2	-15,270	-20
Medina Lake	254,823	206,807	81	-7,991	-3	-33,728	-13
Meredith, Lake	500,000	208,076	42	596	0	17,419	3
Millers Creek Reservoir	26,768	23,362	87	20	0	-3,406	-13
*Mineral Wells, Lake	5,273	4,796	91	176	3	-477	-9
Monticello, Lake	34,740	28,251	81	-35	0	-1,594	-5
Mountain Creek, Lake	22,850	22,850	100	0	0	0	0
Murvaul, Lake	38,285	35,543	93	-502	-1	-2,742	-7
Nacogdoches, Lake	39,522	35,056	89	-521	-1	-3,965	-10
Nasworthy	9,615	8,245	86	25	0	-475	-5
Navarro Mills Lake	49,827	39,488	79	-1,125	-2	-10,339	-21
New Terrell City Lake	8,583	8,256	96	51	1	-327	-4
Nocona, Lake (Farmers Crk)	21,444	19,603	91	78	0	-1,841	-9
North Fork Buffalo Creek Reservoir	15,400	11,659	76	0	0	-3,674	-24
O' the Pines, Lake	241,363	241,363	100	0	0	0	0
O. C. Fisher Lake	119,445	13,047	11	-173	0	-4,271	-4
*O. H. Ivie Reservoir	554,340	385,206	69	-300	0	133,127	24
Oak Creek Reservoir	39,210	34,462	88	180	0	-4,748	-12

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS							
Name of lake or reservoir	Storage capacity	Storage at end-November		Storage change from end-Oct 2019		Storage change from end-Nov 2018	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%)
<i>Continued</i>							
Palestine, Lake	367,303	329,954	90	-4,341	-1	-37,349	-10
Palo Duro Reservoir	61,066	3,567	6	-409	0	3,196	5
Palo Pinto, Lake	26,766	20,630	77	60	0	-6,136	-23
Pat Cleburne, Lake	26,008	21,668	83	-148	0	-4,340	-17
*Pat Mayse Lake	113,683	113,683	100	3,641	3	0	0
Possum Kingdom Lake	538,139	519,409	97	11,406	2	-16,763	-3
Proctor Lake	54,762	40,141	73	-709	-1	-14,621	-27
Ray Hubbard, Lake	439,559	384,063	87	980	0	-55,496	-13
Ray Roberts, Lake	788,167	788,167	100	14,381	2	0	0
Red Bluff Reservoir	151,110	92,642	61	3,091	2	-1,631	-1
Richland-Chambers Reservoir	1,087,839	948,664	87	-20,287	-2	-139,175	-13
Sam Rayburn Reservoir	2,857,077	2,582,789	90	-21,212	0	-274,288	-10
Somerville Lake	147,104	145,050	99	861	1	-2,054	-1
Squaw Creek, Lake	151,250	146,681	97	-248	0	-4,569	-3
Stamford, Lake	51,570	45,791	89	2,137	4	-5,779	-11
Stillhouse Hollow Lake	227,771	210,278	92	-3,926	-2	-17,493	-8
Striker, Lake	16,934	16,934	100	0	0	0	0
Sweetwater, Lake	12,267	11,839	97	204	2	-428	-3
*Sulphur Springs, Lake	17,747	16,762	94	-310	-2	1,931	11
Tawakoni, Lake	871,685	815,246	94	-8,180	0	-56,439	-6
Texana, Lake	159,566	124,497	78	3,841	2	-34,150	-21
Texoma, Lake (Texas & Oklahoma)	1,258,113	1,258,113	100	0	0	0	0
Texoma, Lake (Texas)	2,525,281	2,646,154	100	105,937	4	14,641	1
Toledo Bend Reservoir (Texas & Louis)	2,236,450	1,663,479	74	-27,554	-1	-442,243	-20
Toledo Bend Reservoir (Texas)	4,472,900	3,331,058	74	-55,108	-1	-884,486	-20
Travis, Lake	1,113,348	927,416	83	-21,231	-2	-185,932	-17
Twin Buttes Reservoir	182,454	114,678	63	1,194	1	20,707	11
Tyler, Lake	72,073	62,377	87	-516	0	-9,696	-13
Waco, Lake	189,418	154,323	81	-4,970	-3	-35,095	-19
Waxahachie, Lake	10,780	9,411	87	215	2	-1,369	-13
Weatherford, Lake	17,812	15,085	85	279	2	-2,478	-14
White River Lake	29,880	5,799	19	-50	0	959	3
Whitney, Lake	553,344	425,107	77	-6,412	-1	-124,151	-22
Worth, Lake	33,495	27,905	83	-258	0	-4,364	-13
Wright Patman Lake	122,593	122,593	100	-12,476	-10	0	0
<b>STATEWIDE TOTAL</b>							
<b>STATEWIDE TOTAL</b>	<b>32,207,807</b>	<b>25,652,362</b>	<b>80</b>	<b>-55,103</b>	<b>0</b>	<b>-2,318,752</b>	<b>-7</b>

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

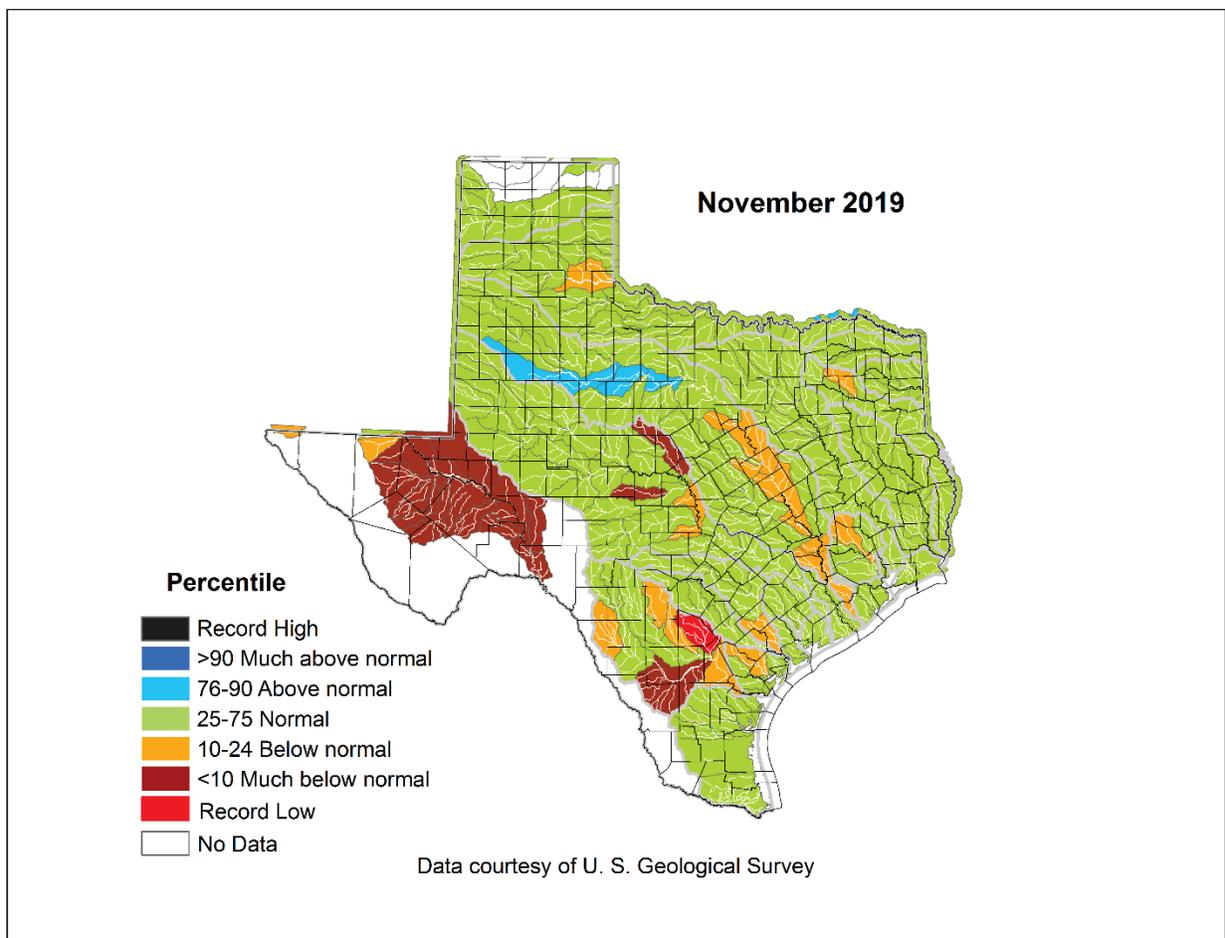
\*\*Monthly and yearly changes do not include reservoirs that did not have data in the last month or last year.

**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  $100 * (\text{current conservation storage} - \text{past conservation storage}) / \text{conservation storage capacity}$ .

## STREAMFLOW CONDITIONS

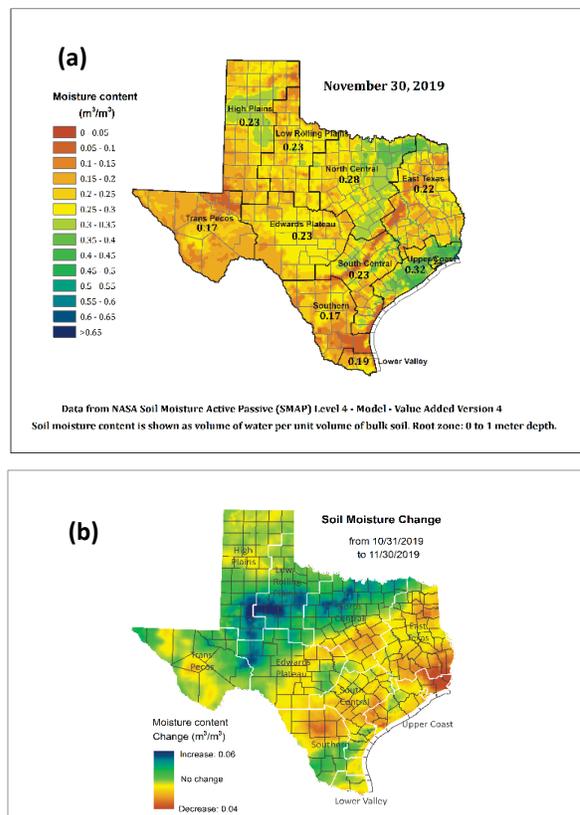
Computed runoff by hydrologic unit codes for November 2019 shows that much of the state had near normal (25–75<sup>th</sup> percentile, green shading in Figure 6) streamflow. The upper Brazos River basin had above normal (76–90<sup>th</sup> percentile, light blue shading in Figure 6). Several sub-basins in the upper Rio Grande, middle reaches of the Red, lower Colorado, lower Brazos, San Jacinto, Nueces, and upper Sabine river basins had below normal (10–24<sup>th</sup> percentile, light brown shading in Figure 6) streamflow. Several sub-basins in the upper Colorado, Rio Grande and the Nueces river basins had much below normal (less than the 10<sup>th</sup> percentile, dark brown shading in Figure 6) streamflow. A record low (red shading in Figure 6) continues in the Nueces river basin.



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

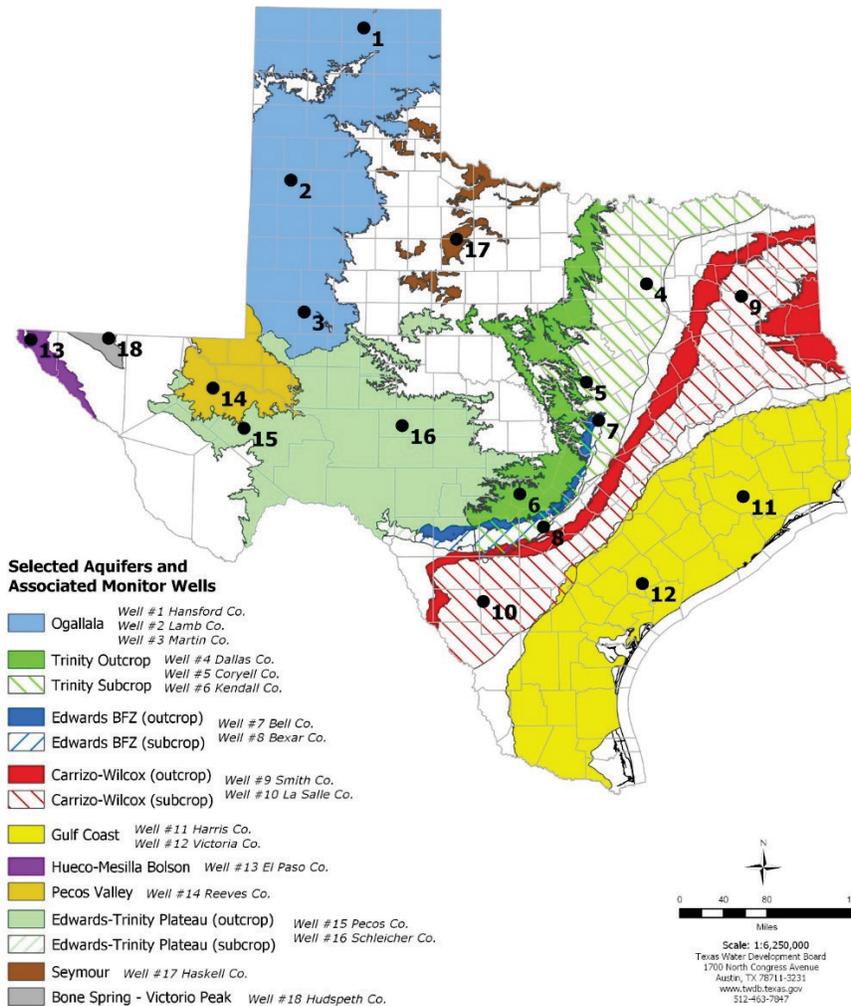
## **SOIL MOISTURE CONDITIONS**

Root zone soil moisture at the end of November 2019 [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. Exceptions of low soil moisture [ $> 0.15$  cubic meters of water per bulk cubic meter soil ( $m^3/m^3$ )] in areas of the northern High Plains, the northeastern corner of the Trans Pecos, the southern portion of the Southern climate division and a narrow band running through the center of the South Central climate division and spreading through western East Texas. In other climate divisions, root zone soil moisture was high [ $< 0.3$  cubic meters of water per bulk cubic meter soil ( $m^3/m^3$ )]. These divisions include the northeastern portion of the North Central region, a large portion of the Upper Coast, pockets of the Low Rolling Hills, and portions of the High Plains and South Central regions. Compared to conditions at the end of October 2019, soil moisture content increased [green to blue shading in Figure 7(b)] in the southern regions of the High Plains, central Low Rolling Plains and North Central regions, northwestern Edwards Plateau, and small pockets in the Trans Pecos. Soil moisture content decreased [brown and yellow shading in Figure 7(b)] in some portions of the High Plains, Trans Pecos, Edwards Plateau, North Central and Southern regions, as well as the majority of the South Central, Upper Coast, and East Texas regions.



**Figure 7:** Root zone soil moisture conditions on November 30, 2019 (a) and the difference in root zone soil moisture from end-October 2019 and end-November 2019 (b)

## GROUNDWATER LEVELS IN OBSERVATION WELLS



Water-level measurements were available for 16 key monitoring wells in the state. Water levels rose in 11 monitoring wells since the beginning of November, ranging from an increase of 0.24 feet in the Victoria County Gulf Coast Aquifer well (#12 on map) to 11.83 feet in the Pecos County Edwards-Trinity Plateau Aquifer (#15 on map). Water levels declined in 4 monitoring wells, ranging from a decline of -0.09 feet in the Lamb County Ogallala Aquifer well (#2 on map) to -1.92 feet in the Coryell County Trinity Aquifer well (#5 on map). Water levels remained the same for the Smith County Carrizo-Wilcox Aquifer well (#9 on map). The J-17 well (#8 on map) in San Antonio recorded a water level of 57.70 feet below land surface or 672.9 feet above mean sea level. Water levels are 13.3 feet above the Stage 1 critical management level for the San Antonio portion of the Edwards (Balcones Fault Zone) Aquifer.

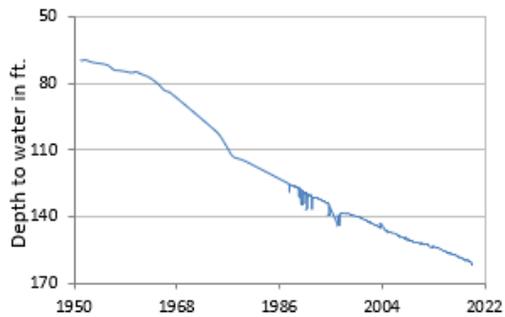
\*Well numbers used in this publication on the aquifer map to indicate the monitoring well location (numbers 1 - 17) are different than the TWDB's seven-digit state well number.

Monitoring Well	November	October	Month Change	Year Change	Historical Change	First Measured
(1) Hansford 0354301	NA	161.81	NA	NA	NA	1951
(2) Lamb 1053602	150.62	150.53	-0.09	-1.27	-122.45	1951
(3) Martin 2739903	143.54	144.05	0.51	0.10	-38.65	1964
(4) Dallas 3319101	496.99	496.44	-0.55	1.99	-274.99	1954
(5) Coryell 4035404	534.10	532.18	-1.92	-7.22	-242.10	1955
(6) Kendall 6802609	140.81	147.62	6.81	-10.68	-80.81	1975
(7) Bell 5804816	122.55	122.08	-0.47	-0.49	0.96	2008
(8) Bexar 6837203	57.70	64.60	6.90	-11.49	-11.06	1932
(9) Smith 3430907	437.54	437.54	0.00	-1.40	-137.54	1977
(10) La Salle 7738103	528.98	538.48	9.50	-8.46	-275.91	2003
(11) Harris 6514409	193.36	193.91	0.55	-0.91	-57.86*	1947**
(12) Victoria 8017502	35.51	35.75	0.24	-0.08	-1.51	1958
(13) El Paso 4913301	296.39	296.90	0.51	-1.89	-64.49	1964
(14) Reeves 4644501	NA	NA	NA	NA	NA	1952
(15) Pecos 5216802	194.31	206.14	11.83	-2.60	52.57	1976
(16) Schleicher 5512134	282.74	283.04	0.30	-21.15	19.16	2003
(17) Haskell 2135748	44.67	45.36	0.69	1.70	-1.67	2002
(18) Hudspeth 4807516	146.55	151.18	4.63	0.47	-42.63	1966

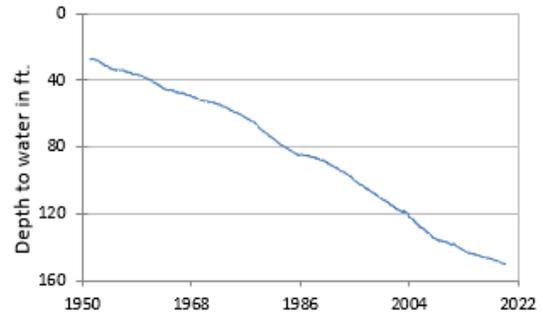
\*Change since the original measurement of 135.5 feet below land surface in 1947 (\*\*measurement not shown on the hydrograph)

**November 2019 OBSERVATION WELL HYDROGRAPHS**

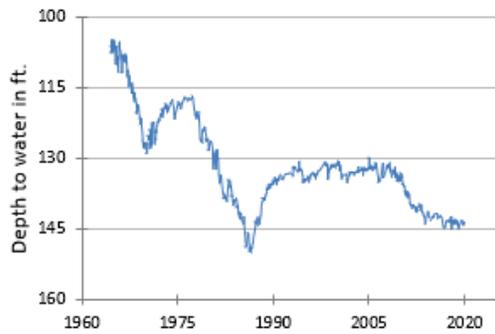
**(1) State Well #03-54-301  
Near Spearman, Hansford County  
Ogallala Aquifer**



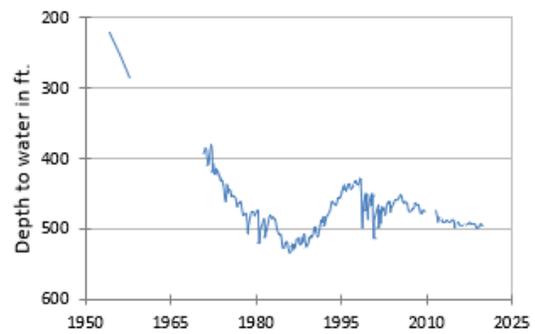
**(2) State Well #10-53-602  
Near Earth, Lamb County  
Ogallala Aquifer**



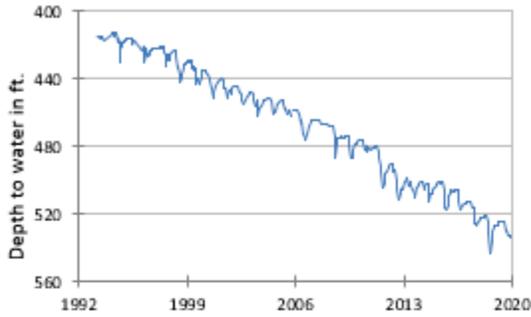
**(3) State Well #27-39-903  
Northwest Martin County  
Ogallala Aquifer**



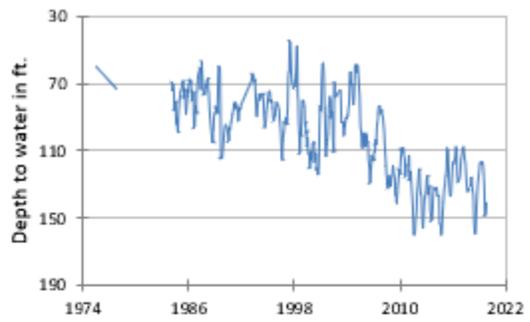
**(4) State Well #33-19-101  
Southeast Dallas, Dallas County  
Twin Mountains Formation-Trinity Aquifer**



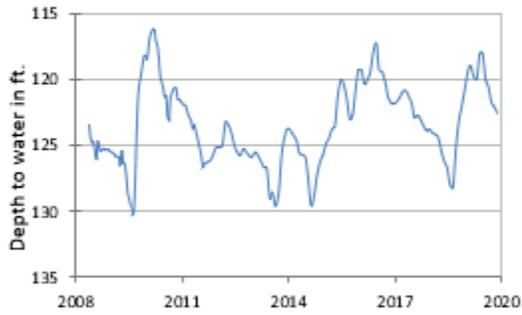
**(5) State Well #40-35-404**  
Gatesville, Coryell County  
Hosston Formation-Trinity Aquifer



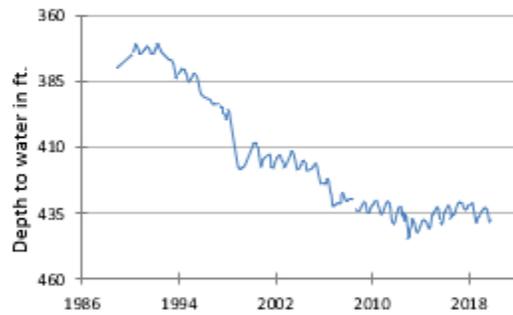
**(6) State Well #68-02-609**  
Waring, Kendall County  
Cow Creek Formation-Trinity Aquifer



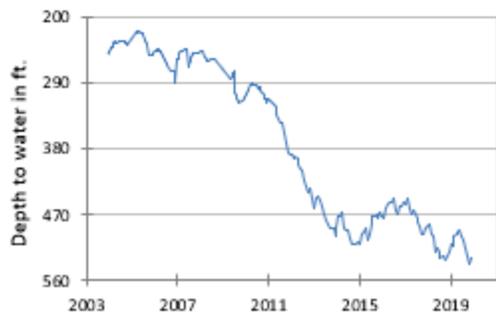
**(7) State Well #58-04-816**  
Near Salado, Bell County  
Edwards (Balcones Fault Zone) Aquifer



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



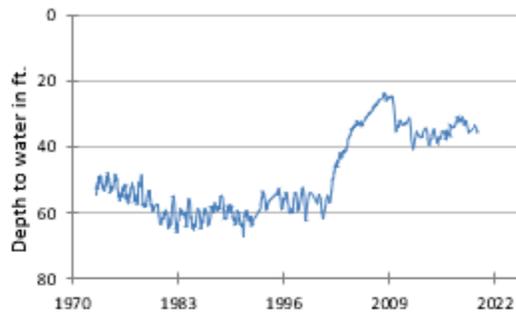
**(10) State Well #77-38-103**  
Near Cotulla, La Salle County  
Carrizo-Wilcox Aquifer



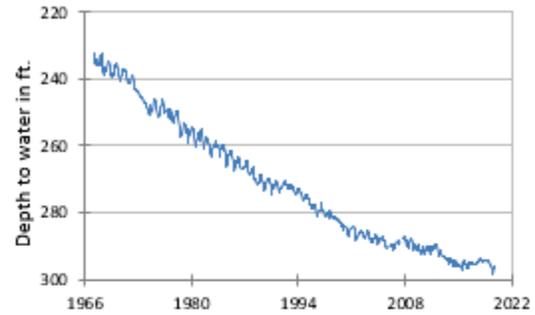
**(11) State Well #65-14-409**  
Alief, Harris County  
Evangeline Formation-Gulf Coast Aquifer



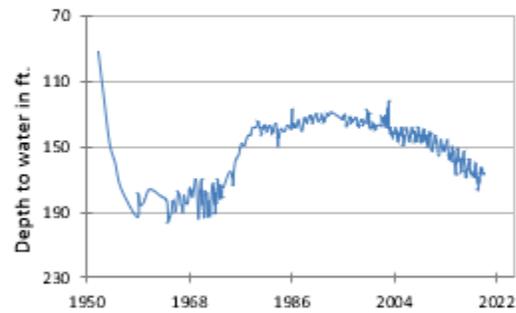
**(12) State Well #80-17-502**  
Near Bloomington, Victoria County  
Lissie Formation-Gulf Coast Aquifer



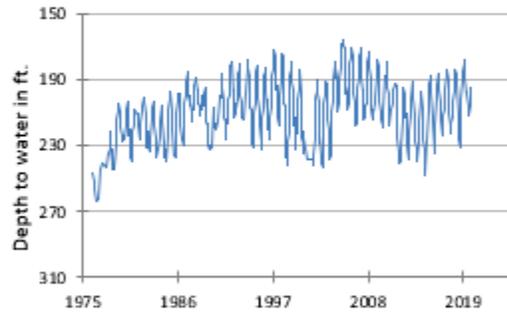
**(13) State Well #49-13-301**  
El Paso, El Paso County  
Hueco-Mesilla Bolson Aquifer



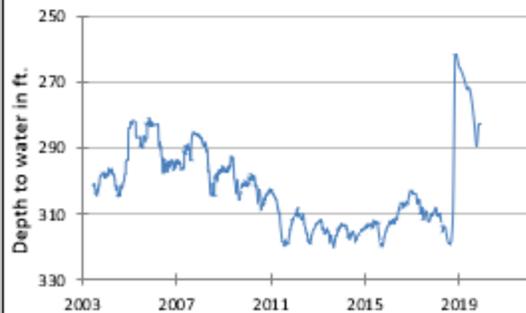
**(14) State Well #46-44-501**  
Near Pecos, Reeves County  
Pecos Valley Aquifer



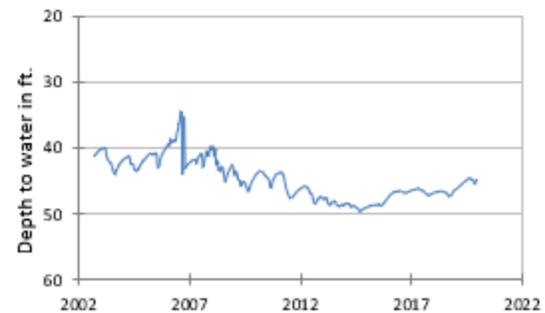
**(15) State Well #52-16-802**  
Fort Stockton, Pecos County  
Edwards-Trinity (Plateau) Aquifer



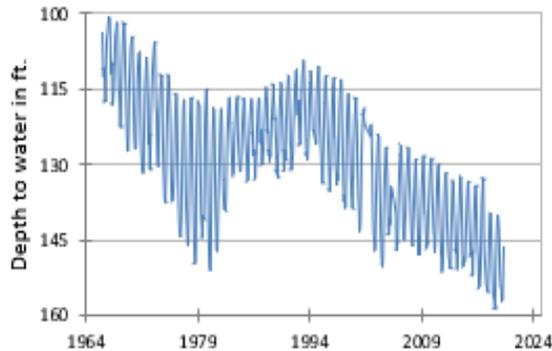
**(16) State Well #55-12-134**  
Eldorado, Schleicher County  
Trinity Aquifer



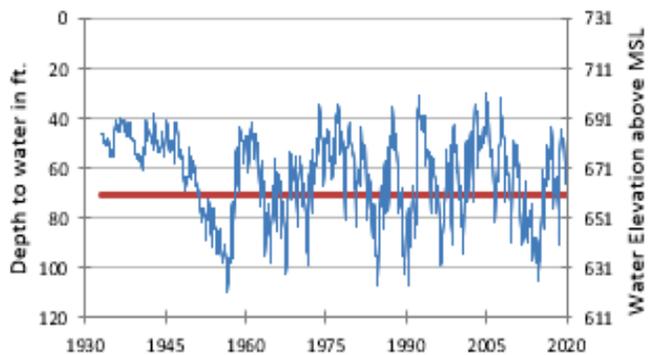
**(17) State Well #21-35-748**  
Near O'Brien, Haskell County  
Seymour Aquifer



(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 November water-level measurement in this Edwards (Balcones Fault Zone) Aquifer well, elevation 731 feet above mean sea level, was 57.70 feet below land surface, or 672.9 feet above mean sea level. This was 6.90 feet above last month's measurement, 11.49 feet below last year's measurement and 11.06 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.

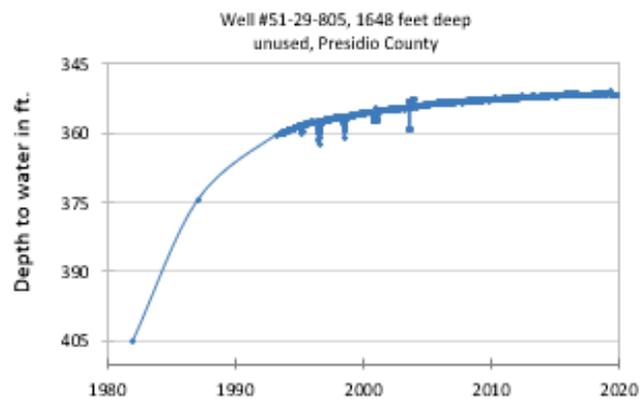


## HYDROGRAPH OF THE MONTH

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

The West Texas Bolsons Aquifer is a minor aquifer located in several basins, or bolsons, in Far West Texas. The aquifer occurs as water-bearing, basin-fill deposits as much as 3,000 feet thick. It is composed of eroded materials that vary depending on the mountains bordering the basins and the manner in which the sediments were deposited. Sediments range from the fine-grained silt and clay of lake deposits to the coarse-grained volcanic rock and limestone of alluvial fans. Freshwater saturated thickness averages about 580 feet. Groundwater quality varies depending on the basin, ranging from freshwater, containing less than 1,000 milligrams per liter of total dissolved solids, to slightly to moderately saline water, containing between 1,000 and 4,000 milligrams per liter of total dissolved solids. Groundwater is used for irrigation and livestock throughout the area and for municipal supply in the cities of Presidio, Sierra Blanca, Valentine and Van Horn. From the 1950s to the present, water levels have been in decline in the West Texas Bolsons Aquifer, with the most significant declines occurring south of Van Horn in the Lobo Flats area and to the east in the Wild Horse Basin.

### West Texas Bolsons Aquifer



The initial measurement of 405 feet below land surface was recorded by the Texas Water Development Board in January of 1982. The TWDB continued to collect water level measurements in the unused well and in July of 1993 they installed an automatic water-level recorder which then took hourly measurements (displayed online) and near-weekly measurements (in the groundwater database). The period of record reveals a steady recovery in water level roughly equal to 1.44 ft/yr. While this is uncommon for the West Texas Bolsons Aquifer, other nearby monitoring wells have experienced similar recoveries. This may be attributed to the cessation of pumping for irrigation in the local area.



Far away (left), and close-up (right) images of well #51-29-805.