Texas Water Conditions Report May 2024



Temperature

Water News:

You can find current weather information including precipitation, temperature, soil moisture, and National Weather Service alerts all in one place at the Texas Water Development Board's <u>Texmesonet.org</u>.

RAINFALL

In May, little to no rain [yellow, orange, and red shading, Figure 1(a)] fell in the Trans Pecos, High Plains, areas of the Low Rolling Plains, much of the Edwards Plateau, much of the Southern, South Central, Lower Valley, and western Upper Coast climate divisions. Above average to high amounts of rainfall [light and dark blue shading, Figure 1(a)] were seen in portions of the Low Rolling Plains, northeastern Edwards Plateau, portions of northeastern South Central, much of North Central, East Texas, and the eastern Upper Coast climate divisions.

Compared to historical data from 1991–2020, 0–75 percent of normal rainfall [yellow and orange shading, Figure 1(b)] was received in areas of the High Plains, northern Low Rolling Plains, much of the Trans Pecos, southern and western Edwards Plateau, much of South Central, portions of northern and eastern Southern, and the western Upper Coast climate divisions. 125–200 percent of normal rainfall [green shading, Figure 1(b)] was received in portions of the High Plains, much of the Low Rolling Plains, central and northeastern Edwards Plateau, northern and southern North Central, western and southern Southern, northeastern South Central, northern East Texas, and eastern Upper Coast climate divisions. 200–400 percent of normal rainfall [light to dark blue shading, Figure 1(b)] was received in scattered areas of the High Plains, central and southern Low Rolling Plains, much of North Central, central and southern East Texas, western Southern, and eastern Upper Coast climate divisions. 200–600 percent of normal rainfall [light purple shading, Figure 1(b)] was received in scattered areas of the High Plains, central and southern, and eastern Upper Coast climate divisions. 400–600 percent of normal rainfall [light purple shading, Figure 1(b)] was received in southern North Central, and southern East Texas climate divisions.



DROUGHT

At the end of May 49.15% of the state was in the D0 (abnormally dry) through D4 (exceptional drought) categories (Figure 2). This is approximately 1.93% higher than last month.



U.S. Drought Monitor

May 28, 2024

(Released Thursday, May. 30, 2024) Valid 8 a.m. EDT

	Drought Conditions (Percent Area)							
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4		
Current	50.84	49.16	26.48	13.03	1.90	0.00		
Last Week 05-21-2024	52.61	47.39	25.99	13.03	1.90	0.00		
3 Month s Ago 02-27-2024	57.31	42.69	22.67	8.94	1.97	0.00		
Start of Calendar Year 01-02-2024	39.60	60.40	39.47	17.78	5.68	0.68		
Start of Water Year 09-26-2023	3.03	96.97	80.64	59.66	38.06	12.68		
One Year Ago 05-30-2023	39.95	60.05	33.52	16.16	4.71	0.29		



D0 Abnormally Dry



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

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droughtmonitor.unl.edu

Figure 2. The percentage of drought in Texas according to the U.S. Drought Monitor map as of May 28, 2024.



Figure 3. Reservoir conservation storage at end-May expressed as percent full (%)

Out of 119 reservoirs in the state, 59 reservoirs held 100 percent conservation storage capacity, including Lake Bois d'Arc that reached 100% on April 30th for the first time since the lake was impounded in the fall of 2021. There were 18 reservoirs at or above 90 percent full. Fifteen reservoirs remained at or below 30 percent full: Abilene (12.6 percent full), Amistad (26.7 percent full), Choke Canyon (22.3 percent full), E.V. Spence (15.2 percent full), Falcon (9.6 percent full), Greenbelt (10.9 percent full), Hords Creek (29.6 percent full), J.B. Thomas (20.2 percent full), Mackenzie (9.2 percent full), Medina Lake (2.5 percent full), O.C. Fisher (1.6 percent full), O.H. Ivie (29.0 percent full), Palo Duro Reservoir (2.9 percent full), Twin Buttes (13.1 percent full), and the White River Lake (22.2 percent full). Elephant Butte Reservoir (New Mexico) was 23.2 percent full (Figure 3).

Reservoir conservation storage was at or above normal [Figure 4(a)] for East Texas (99.8 percent full), North Central (95.8 percent full), and the Upper Coast (96.1 percent full) climate divisions. Conservation storage was moderately low [Figure 4(a)] for the South Central (44.4 percent full) climate division. The Low Rolling Plains (64.1 percent full) climate division had abnormally low conservation storage. The High Plains (35.5 percent full), Edwards Plateau (36.4 percent full), and the Trans Pecos (25.7 percent full) climate divisions had severely low conservation storage, and the Southern (15.7 percent full) climate division had extremely low conservation storage [Figure 4(a)].

Combined conservation storage by river basin or sub-basin was exceptionally low [<10 percent full, red shading, Figure 4(b)] in the San Antonio river basin, and extremely low [10–20 percent full, dark red shading] in the Lower Rio Grande river basin. Severely low conservation storage [20–40 percent full, brown shading, Figure 4(b)] was seen in the Canadian, Upper/Mid Rio Grande, Nueces, and Upper Colorado river basins. The Lower Colorado river basins had moderately low conservation storage [40–60 percent full, orange shading, Figure 4(b)]. The Guadalupe river basin had abnormally low conservation storage [60-70 percent full, yellow shading, Figure 4(b)]. Normal to high conservation storage [>70 percent full, blue shading, Figure 4(b)] was observed in the Upper and Lower Red, Sulphur, Cypress, Upper and Lower Sabine, Upper and Lower Trinity, Upper and Lower Brazos, Neches, Lavaca, and San Jacinto river basins.



Figure 4: (a) Reservoir Storage Index* by climate division, and (b) Reservoir Storage Index* by basin/sub-basin.

*Reservoir Storage Index is defined as the percent full of conservation storage capacity. Percent full is calculated as the combined conservation storage of all reservoirs in a climate region or a basin/subbasin, excluding dead pool storage.

Storage change Storage at end-May 2021 Storage change Storage change Storage change Storage change Abilene, Lake 7,900 997 12.6 90 1.1 -1,10.8 1.4 Alan Henry Reservoir 96,207 87,634 91.1 4.7/7 4.3 99,277 10 Anistad Reservoir (Texas & Maxico) 3,27,5532 641,239 19.6 -21,260 -12 -207,430 -11 Anistad Reservoir (Texas & Maxico) 3,27,5532 641,239 100 0 0 -227,783 13 Anistad Reservoir (Texas & Maxico) 3,27,2532 12,872 100 0 0 0 -207,430 -11 Aquilta Lake 49,253 22,503 100 0 </th <th>CONSERVATION STOR</th> <th colspan="5">TEXAS RESERVOIRS</th>	CONSERVATION STOR	TEXAS RESERVOIRS						
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Amistad Reservoir (Texas & Mexico) 3,275,532 641,239 19.6 -21,785 0 -427,873 -13 Amistad Reservoir (Texas) 1,813,408 484,939 26.7 -21,00 10 <	Alan Henry Reservoir	96,207	87.634	91.1	4,177	4.3	9,927	10
Amistad Reservoir (Texas) 1,813,408 448,439 26.7 -21,500 1.2 07,430 -11 Amon G Carter, Lake 19,266 19,266 100 0 0 0 0 Aquilla Lake 43,243 43,243 100 0 0 0 2,577 63 Arington, Lake 230,359 172,875 75.0 36,804 16 15,312 66 Artens, Lake 230,359 172,875 75.0 36,804 16 13,990 68 Asteinhagen Lake 60,186 63,989 92,5 55,197 -7.5 1,812,426 13,243 100 0	*Amistad Reservoir (Texas & Mexico)	3.275.532	641,239	19.6	-21,785	0	-427.873	-13
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Arrowhead, Lake 220,359 172,875 75.0 36,804 16 15,312 6.6 Athens, Lake 229,503 100 0 <td>Arlington, Lake</td> <td>40.157</td> <td>40.157</td> <td>100</td> <td>0</td> <td>0</td> <td>2.517</td> <td>6.3</td>	Arlington, Lake	40.157	40.157	100	0	0	2.517	6.3
Athens, Lake 29,503 100 0 0 0 0 *Austin, Lake 23,972 23,065 96.2 308 1.3 1139 0.6 B A Steinhagen Lake 69,186 63,989 92.5 5,197 7.5 1.1,871 2.7 Berton Lake 432,631 432,631 100 77,622 18 1138,784 32 Benbrook Lake 192,417 110,217 100 0 0 0.8 0.8 0.8 0.5 0.5 1.0 7.8,325 2.1 1.0 0.0 0.8 0.5 3.6 3.6 3.1,254 8.4 8.7 1.0 0.0 0.5 0.5 3.0 5 3.1,254 8.4 1.7 3.7,40 1.4 8.0 1.0 8.1 1.0 0.0 0.0 0.0 0.0 1.0 1.2 1.3 5.0 5 2.12,500 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Arrowhead, Jake	230.359	172.875	75.0	36.804	16	15.312	6.6
International Control Contro Control <thcontrol< td="" th<=""><td>Athens Lake</td><td>29 503</td><td>29 503</td><td>100</td><td>0</td><td>0</td><td>0</td><td>0.0</td></thcontrol<>	Athens Lake	29 503	29 503	100	0	0	0	0.0
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Bardwell Lake 63,856 643,856 610 0 </td <td>B A Steinbagen Lake</td> <td>69 186</td> <td>63 989</td> <td>92.5</td> <td>-5 197</td> <td>-7.5</td> <td>-1 871</td> <td>-27</td>	B A Steinbagen Lake	69 186	63 989	92.5	-5 197	-7.5	-1 871	-27
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Clock, takeClock, takeClockCl	Crook Jake	9 195	9 195	100	0,704	ې.د ۱	157	17
Cypic 33 Spring > LakeComposition <th< td=""><td>Cypress Springs Lake</td><td>66 756</td><td>66 756</td><td>100</td><td>0</td><td>0</td><td>157</td><td>1.7</td></th<>	Cypress Springs Lake	66 756	66 756	100	0	0	157	1.7
L. V. Sperice Reservoir113,212133,712133,712134,20212,0202.3Eagle Mountain Lake185,087185,08710025,1311426,46814Elephant Butte Reservoir (Texas)852,491197,67123.214,2811.7-26,600-3.1Elephant Butte Reservoir (Total Storage)1,960,900457,57123.333,0581.7-61,575-3.1*Falcon Reservoir (Texas & Mexico)2,646,817243,1319.2-202,105-7.6-396,782-15*Falcon Reservoir (Texas)1,562,367149,5849.6-24,286-1.6-196,735-13Fork Reservoir, Lake605,061605,0611000021,1233.5Fort Phantom Hill, Lake70,03048,73069.61,4482.13950.6Georgetown, Lake38,00534,51690.83,814109,26624Graham, Lake45,28841,58291.89,221201,7583.9Granburg Lake133,900123,70400.82,1552.4111,0689.3	E V Spance Reservoir	517 272	78 718	15.2	267	01	-12 820	-25
Lagre Modified Reservoir (Texas)852,491197,67123.214,2811.7-26,600-3.1Elephant Butte Reservoir (Total Storage)1,960,900457,57123.333,0581.7-61,575-3.1*Falcon Reservoir (Texas & Mexico)2,646,817243,1319.2-202,105-7.6-396,782-15*Falcon Reservoir (Texas)1,562,367149,5849.6-24,286-1.6-196,735-13Fork Reservoir, Lake605,061605,0611000021,1233.5Georgetown, Lake38,00534,51690.83,814109,26624Gibbons Creek Reservoir25,72124,63395.8-1,088-4.21,1894.6Graham, Lake45,28841,58291.89,221201,7583.9Graphury Lake133,040123,7040.082,1552.4110,6582.4	Eagle Mountain Lake	185 087	185 087	100	25 131	14	26 468	14
Licphant Butte Reservoir (Total Storage)1,960,900457,57123.333,0581.761,575-3.1*Falcon Reservoir (Texas & Mexico)2,646,817243,1319.2202,105-7.6-396,782-15*Falcon Reservoir (Texas)1,562,367149,5849.624,286-1.6-196,735-13Fork Reservoir, Lake605,061605,0611000021,1233.5Fort Phantom Hill, Lake70,03048,73069.61,4482.13950.6Georgetown, Lake38,00534,51690.83,814109,26624Gibbons Creek Reservoir25,72124,63395.8-1,088-4.21,1894.6Graham, Lake45,28841,58291.89,221201,7583.9Graphury Lake133,909123,70400.82,1552.411,0688.3	Elephant Butte Reservoir (Texas)	852 /191	197,671	23.2	1/ 281	17	-26 600	-3.1
Liephant Butte Reservoir (Totar Storage)1,500,500437,57123.335,0381.7-01,57553.1*Falcon Reservoir (Texas & Mexico)2,646,817243,1319.2-202,105-7.6-396,782-15*Falcon Reservoir (Texas)1,562,367149,5849.6-24,286-1.6-196,735-13Fork Reservoir, Lake605,061605,0611000021,1233.5Fort Phantom Hill, Lake70,03048,73069.61,4482.13950.6Georgetown, Lake38,00534,51690.83,814109,26624Gibbons Creek Reservoir25,72124,63395.8-1,088-4.21,1894.6Graham, Lake45,28841,58291.89,221201,7583.9Graphury, Lake133,949123,70400.82,1152.411,0688.3	Elephant Butte Reservoir (Total Storage)	1 960 900	457 571	23.2	22 058	1.7	-61 575	-2.1
*Falcon Reservoir (Texas) 1,562,367 149,584 9.6 -24,2163 7.6 -196,735 -13 *Fork Reservoir, Lake 605,061 605,061 100 0 0 21,123 3.5 Fork Reservoir, Lake 605,061 605,061 100 0 0 21,123 3.5 Fort Phantom Hill, Lake 70,030 48,730 69.6 1,448 2.1 395 0.6 Georgetown, Lake 38,005 34,516 90.8 3,814 10 9,266 24 Gibbons Creek Reservoir 25,721 24,633 95.8 -1,088 -4.2 1,189 4.6 Graham, Lake 45,288 41,582 91.8 9,221 20 1,758 3.9	*Ealcon Reservoir (Texas & Mexico)	2 646 817	2/12/121	23.3	-202 105	-7.6	-306 782	-3.1
Fork Reservoir, Lake605,061605,061605,061100021,1233.5Fork Phantom Hill, Lake70,03048,73069.61,4482.13950.6Georgetown, Lake38,00534,51690.83,814109,26624Gibbons Creek Reservoir25,72124,63395.8-1,088-4.21,1894.6Graham, Lake45,28841,58291.89,221201,7583.9	*Falcon Reservoir (Texas)	1 562 367	1/0 52/	9.2 Q A	-202,103	-1.6	-106 725	_12
Fort Phantom Hill, Lake 70,030 48,730 69.6 1,448 2.1 335 Georgetown, Lake 38,005 34,516 90.8 3,814 10 9,266 24 Gibbons Creek Reservoir 25,721 24,633 95.8 -1,088 -4.2 1,189 4.6 Graham, Lake 45,288 41,582 91.8 9,221 20 1,758 3.9	Fork Reservoir Lake	£,502,507 605 061	605 061	9.0 100	-24,200	1.0	21 172	3 2
Georgetown, Lake 38,005 34,516 90.8 3,814 10 9,266 24 Gibbons Creek Reservoir 25,721 24,633 95.8 -1,088 -4.2 1,149 4.6 Graham, Lake 45,288 41,582 91.8 9,221 20 1,758 3.9	Fort Phantom Hill Lake	70 020	18 720	60 E	1 // 9	21	205	0.6
Gibbons Creek Reservoir 25,721 24,633 95.8 -1,088 -4.2 1,189 4.6 Graham, Lake 45,288 41,582 91.8 9,221 20 1,758 3.9	Georgetown Jake	38 005	21 516	0.00 00 Q	2 811	10	0 266 353	2/
Graham, Lake 45,288 41,582 91.8 9,221 20 1,758 3.9 Granhung, Lake 132,949 122,704 00.8 2,155 2,4 11,069 9,221	Gibbons Creek Reservoir	30,003	24,510 27 622	0.0 05 0	_1 000	_/ 2	3,200	24 1 G
Granbury Lake 122 040 122 704 00 0 2 155 2 4 14 060 0 2	Graham Lake	23,721 //5 299	24,033 /1 582	95.8 Q1 Q	-1,000 Q 221	20	1 752	-+.0 2 0
	Granbury Lake	127 9/9	122 704	91.8 99 8	3,221	20	11 062	9.9 8 2

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS									
	Storage	Storage stand	121/2024	Storage chan	ge	Storage chan	ge		
Name of lake or reservoir	capacity	capacity Storage at end-May 20		from end-Apr 2024		from end-May 2023			
	(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	6,549	10.9	-197	0	-549	0		
*Halbert, Lake	6,033	5,545	91.9	178	3	255	4.2		
Hords Creek Lake	8,109	2,399	29.6	669	8.3	-8	0		
Houston County Lake	17,113	17,113	100	0	0	0	0		
Houston, Lake	132,318	132,318	100	0	0	0	0		
Hubbard Creek Reservoir	313,298	161,650	51.6	2,831	0.9	-36,180	-12		
Hubert H Moss Lake	24,058	24,058	100	0	0	237	1		
Inks, Lake	13,729	13,139	95.7	242	1.8	47	0.3		
J. B. Thomas, Lake	199,931	40,305	20.2	1,664	0.8	-2,613	-1.3		
Jacksonville, Lake	25,670	25,670	100	0	0	0	0		
Jim Chapman Lake (Cooper)	258,723	258,723	100	0	0	0	0		
Joe Pool Lake	149,629	149,629	100	0	0	0	0		
Kemp, Lake	245,307	236,365	96.4	38,814	16	53,950	22		
Kickapoo, Lake	86,345	66,506	77.0	13,563	16	10,983	13		
Lavon Lake	409,757	409,757	100	0	0	16,152	3.9		
Leon, Lake	27,762	13,526	48.7	369	1.3	-2,328	-8.4		
Lewisville Lake	563,228	563,228	100	0	0	7,537	1.3		
Limestone, Lake	203,780	203,780	100	0	0	1,116	0.5		
*Livingston, Lake	1,603,504	1,603,504	100	0	0	0	0		
*Lost Creek Reservoir	11,950	11,862	99.3	561	4.7	97	0.8		
Lyndon B Johnson, Lake	112,778	111,173	98.6	320	0.3	-320	0		
Mackenzie Reservoir	46,450	4,295	9.2	21	0	-139	0		
Marble Falls, Lake	7,597	7,341	96.6	138	1.8	120	1.6		
Martin, Lake	75,726	75,726	100	0	0	148	0.2		
Medina Lake	254,823	6,468	2.5	-551	0	-7,002	-2.7		
Meredith, Lake	500,000	213,660	42.7	-4,632	0	46,854	9.4		
Millers Creek Reservoir	26,768	21,431	80.1	6,181	23	5,570	21		
*Mineral Wells, Lake	5,273	5,273	100	0	0	952	18		
Monticello, Lake	34,740	30,430	87.6	-166	0	1,124	3.2		
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	39,522	100	0	0	652	1.6		
Nasworthy	9,615	8,871	92.3	-26	0	712	7.4		
Navarro Mills Lake	49,827	49,827	100	0	0	0	0		
New Terrell City Lake	8,583	3,825	44.6	-2,329	-27	1,648	19		
Nocona, Lake (Farmers Crk)	21,444	18,318	85.4	2,635	12	412	1.9		
North Fork Buffalo Creek Reservoir	15,400	7,867	51.1	1,881	12	1,215	7.9		
O' the Pines, Lake	268,566	268,566	100	27,203	10	22,239	8.3		
O. C. Fisher Lake	115,742	1,822	1.6	-83	0	-1,417	-1.2		
*O. H. Ivie Reservoir	554,340	160,959	29.0	15,687	2.8	-45,301	-8.2		
Oak Creek Reservoir	39,210	12,880	32.8	487	1.2	-4,359	-11		

	Stora do						
Name of lake or reservoir	capacity	Storage Storage at end-May 2024		Storage change from end-Apr 2024		from end-May 2023	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)	(%)	(acre-feet)**	(%
	(Continued					
Palestine, Lake	367,303	367,303	100	0	0	0	(
Palo Duro Reservoir	61,066	1,781	2.9	-174	0	-1,510	-2.5
Palo Pinto, Lake	26,766	19,886	74.3	8,878	33	5,544	2:
Pat Cleburne, Lake	26,008	26,008	100	0	0	3,894	15
*Pat Mayse Lake	113,683	113,683	100	0	0	0	(
Possum Kingdom Lake	538,139	537,781	99.9	-358	0	66,581	17
Proctor Lake	54,762	31,332	57.2	15,043	28	6,589	17
Ray Hubbard, Lake	439,559	439,559	100	0	0	3,127	0.7
Ray Roberts, Lake	788,167	788,167	100	0	0	0	(
Red Bluff Reservoir	151,110	60,552	40.1	-1,813	-1.2	-24,654	-16
Richland-Chambers Reservoir	1,099,417	1,099,417	100	0	0	6,572	0.6
Sam Rayburn Reservoir	2,857,077	2,857,077	100	328,044	11.5	0	(
Somerville Lake	150,293	150,293	100	0	0	0	(
Squaw Creek, Lake	151,250	151,250	100	0	0	0	(
Stamford, Lake	51,570	51,366	99.6	9,732	19	12,074	23
Stillhouse Hollow Lake	229,796	229,796	100	74,099	32	70,738	31
Striker, Lake	16,878	16,878	100	332	2	0	(
Sweetwater, Lake	12,267	5,457	44.5	-78	0	-1,509	-12
*Sulphur Springs, Lake	17,747	17,747	100	0	0	0	(
Tawakoni, Lake	871,685	871,685	100	0	0	370	(
Texana, Lake	158,975	147,624	92.9	-3,661	-2.3	-10,325	-6.5
Texoma, Lake (Texas & Oklahoma)	2,487,601	2,662,400	100	125,600	5	343,659	14
Texoma, Lake (Texas)	1,243,801	1,243,801	100	0	0	84,431	6.8
Toledo Bend Reservoir (Texas & Louisiana)	4,472,900	4,499,171	100	-63,293	-1.4	116,788	2.6
Toledo Bend Reservoir (Texas)	2,236,450	2,236,450	100	0	0	47,308	2.1
Travis, Lake	1,098,044	433,968	39.5	26,557	2.4	-61,999	-5.6
Twin Buttes Reservoir	182,454	23,819	13.1	-963	0	-26,569	-15
Tyler, Lake	72,073	72,073	100	0	0	0	(
Waco, Lake	189,418	189,418	100	0	0	52,450	28
Waxahachie, Lake	11,060	11,060	100	0	0	378	3.4
Weatherford, Lake	17,812	17,049	95.7	2,890	16	5,683	32
White River Lake	29,880	6,625	22.2	-567	-1.9	1,008	3.4
Whitney, Lake	564,808	564,808	100	0	0	98,340	17
Worth, Lake	24,419	20,392	83.5	3,255	13	3,915	16
Wright Patman Lake	310,382	310,382	100	0	0	15,430	5
	STATE	WIDE TOTAL					

*Total volume below elevation of conservation pool top is used as the 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.

SOIL MOISTURE

At the end of May 2024, root zone soil moisture was low [yellow, orange, Figure 5(a)] in the Panhandle, West, and South Texas. Areas of more severe dryness [brown shading, Figure 5(a)] were seen in the Trans Pecos, northeastern and southern High Plains, northern and western Low Rolling Plains, western Edwards Plateau, much of the South Central, Southern, Lower Valley, and western East Texas climate divisions. Average soil moisture [green shading, Figure 5(a)] was seen in the central High Plains, northern and eastern Low Rolling Plains, eastern Edwards Plateau, northern South Central, much of the North Central, East Texas, and the Upper Coast climate divisions. Above average soil moisture [blue shading, Figure 5(a)], was seen in eastern North Central climate division.

Compared to conditions at the end of April 2024, soil moisture increased [blue shading in Figure 5(b)] in the central High Plains, northern and southeastern Low Rolling Plains, eastern Edwards Plateau, portions of northern and southern North Central, southern East Texas and northeastern Upper Coast climate divisions. Soil moisture decreased [red shading in Figure 5(b)] in the High Plains, southern Low Rolling Plains, northern North Central, northern East Texas, much of the Upper Coast, Trans Pecos, Edwards Plateau, Southern, the South Central, the Lower Valley climate divisions.



Figure 5: (a) Root zone soil moisture conditions in May 2024 and (b) the difference in root zone soil moisture between end-April 2024 and end-May 2024.

STREAMFLOW CONDITIONS

Normal streamflow (25–75th percentile, green shading, Figure 6) was recorded in parts of the Panhandle, Northern, Central, and Coastal regions of Texas this month. Above normal streamflow (76–90th percentile, light blue shading, Figure 6) was seen in Upper Colorado (Middle Concho watershed), Lower Red (Bois D'Arc Island watershed), Upper Trinity, Upper and Middle Sabine, Sulphur, San Jacinto (Spring watershed), and Upper and Middle Brazos river basins. Much above normal streamflow (>90th percentile, dark blue shading, Figure 6) was seen in Trinity, Neches, Pecos (Independence watershed), Brazos (Lampasas, and Lower Brazos-Little Brazos watersheds), San Jacinto-Brazos (Austin-Oyster watershed), San Jacinto (Buffalo-San Jacinto watershed), Trinity-San Jacinto (North Galveston Bay watershed), and Neches-San Jacinto river basins. Record highs (black shading, Figure 6) were seen in Brazos (Cowhouse, Bosque, and Navasota watersheds), Trinity (Lower Trinity watershed), San Jacinto (West and East Fork San Jacinto watersheds) and Neches (Village watershed) river basins.

Below normal streamflow (10–24th percentile, orange shading, Figure 6) was seen in the Canadian, Upper Red, Colorado, Guadalupe, San Antonio, Lavaca, San Antonio-Nueces, Nueces, and Nueces-Rio Grande river basins. Much below normal streamflow (<10th percentile, dark red shading, Figure 6) was seen Pecos, Upper Colorado (North and South Concho, and Lower Colorado-Cummins watersheds), Guadalupe, San Antonio (Medina watershed), Nueces (Nueces headwaters, Upper Frio, Hondo, and San Miguel watersheds), Nueces-Rio Grande (South Corpus Christi Bay watershed), and San Antonio-Nueces (Mission watershed) river basins.



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



MAY 2024 GROUNDWATER LEVELS IN MONITORING WELLS

Water level measurements were available for 17 key monitoring wells in the state. The recorder in one well (#18 on map) was offline or the well experienced issues during the reporting period. Water levels rose in eight monitoring wells since the beginning of May, with an increase of 0.08 feet in the El Paso County Hueco-Mesilla Bolsons Aquifer well (#13 on map) to 1.14 feet in the Bell County Edwards (BFZ) Aquifer well (#7 on map). Water levels declined in seven monitoring wells, ranging from a decline of -0.06 feet in the Lamb County Ogallala Aquifer well (#2 on map) to -9.43 feet in the Pecos County Edwards-Trinity (Plateau) Aquifer well (#15 on map). Water level changes were not available for two wells (#4 and #14) that were offline in April. The J-17 well (#8 on map) in San Antonio recorded a water level of 100.30 feet below land surface or 630.70 feet above mean sea level. Water levels are 9.30 feet below the Stage 3 critical management levels for the San Antonio portion of the Edwards (Balcones Fault Zone) Aquifer. The Edwards Aquifer Authority declared Stage 3 water restrictions effective April 3, 2024, as a result of well J-17 water levels and area spring flow levels.

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

Monitoring Well	May (depth to water, feet)	April (depth to water, feet)	Month Change	Year Change	Historical Change*	First Measured (year)
(1) Hansford 0354301	165.42	165.26	-0.16	-1.15	-95.30	1951
(2) Lamb 1053602	154.96	154.90	-0.06	-0.99	-126.79	1951
(3) Martin 2739903	145.68	145.84	0.16	0.20	-40.79	1964
(4) Dallas 3319101	499.43	NA	NA	-2.15	-277.43	1954
(5) Coryell 4035404	545.00	545.59	0.59	-2.75	-253.00	1955**
(6) Kendall 6802609	152.56	153.49	0.93	-2.69	-92.56	1975
(7) Bell 5804816	121.23	122.37	1.14	3.24	2.28	2008
(8) Bexar 6837203	100.30	92.10	-8.20	-17.10	-53.66	1932
(9) Anderson 3813106	239.10	239.24	0.14	-2.44	-94.10	1965**
(10) La Salle 7738103	527.26	524.77	-2.49	6.37	-274.19	2003
(11) Harris 6514409	194.90	195.73	0.83	-6.13	-59.40*	1947**
(12) Victoria 8017502	32.61	31.98	-0.63	-0.69	1.39	1958**
(13) El Paso 4913301	297.70	297.78	0.08	1.96	-65.80	1964**
(14) Reeves 4644501	154.06	NA	NA	2.16	-61.97	1952
(15) Pecos 5216802	220.54	211.11	-9.43	-12.26	26.34	1976
(16) Schleicher 5512134	318.38	317.46	-0.92	-3.46	-16.48	2003
(17) Haskell 2135748	46.84	47.19	0.35	-0.34	-3.84	2002
(18) Hudspeth 4807516	NA	147.86	NA	NA	-43.94	1966

*Change since the original measurement taken on the date indicated in the last column. The historical change shown for recorder well #18 is based off the most recent water level records from April 2024.

** Measurement not shown on the hydrograph.

NA (not available). All data are provisional and subject to revision.









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



The late May water level measurement in this Edwards (Balcones Fault Zone) Aquifer well, located at an elevation of 731 feet above mean sea level, was 100.30 feet below land surface, or 630.70 feet above mean sea level. This was 8.20 feet below last month's measurement, 17.10 feet below last year's measurement, and 53.66 feet below the initial measurement recorded in 1932.

Water levels below the red line indicate periods in which Edwards Aquifer Authority Stage 3 drought restrictions are in effect. The Edwards Aquifer Authority declared an increase from Stage 2 to Stage 3 Critical Period Management permit reductions as of April 3, 2024, as a result of well J-17 water levels and area spring flow levels.

* Recorder well #18 expereinced issues in May 2024 and no data are reported.

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 Edwards-Trinity (Plateau) Aquifer is a major aquifer extending across much of the southwestern part of Texas. The waterbearing units are composed predominantly of limestone and dolomite of the Edwards Group and sands of the Trinity Group. Although maximum saturated thickness of the aquifer is greater than 800 feet, freshwater saturated thickness averages 433 feet. Water quality ranges from fresh to slightly saline, with total dissolved solids ranging from 100 to 3,000 milligrams per liter, and water is characterized as hard within the Edwards Group. More than twothirds of the groundwater is used for irrigation, while the remainder is used for municipal and livestock supplies. Water levels have remained relatively stable because recharge has generally kept pace with the low amounts of pumping over the extent of the aquifer.



The initial measurement of 81.56 feet below land surface was recorded by the TWDB in October 1979. Since then, the TWDB has continued to take near-annual measurements in the unused well. The period of record shows an overall increase in water level. From 1979 to 1995, the water level increased nearly 20 feet, followed by a more gradual increase at a rate roughly equal to 0.12 ft per year from 1995 to present. Periods of water level decline in 1993, 2003, and 2009 through 2010 may be the result of nearby pumping or drought.





Photo of well #27-51-902 general setting (left) and well head (right)

1. Peter G. George, Ph.D., P.G., Robert E. Mace, Ph.D., P.G., Rima Petrossian, P.G. Aquifers of Texas: Report 380.; 2011. https://www.twdb.texas.gov/groundwater/aquifer/majors/edwards-trinity-plateau.asp