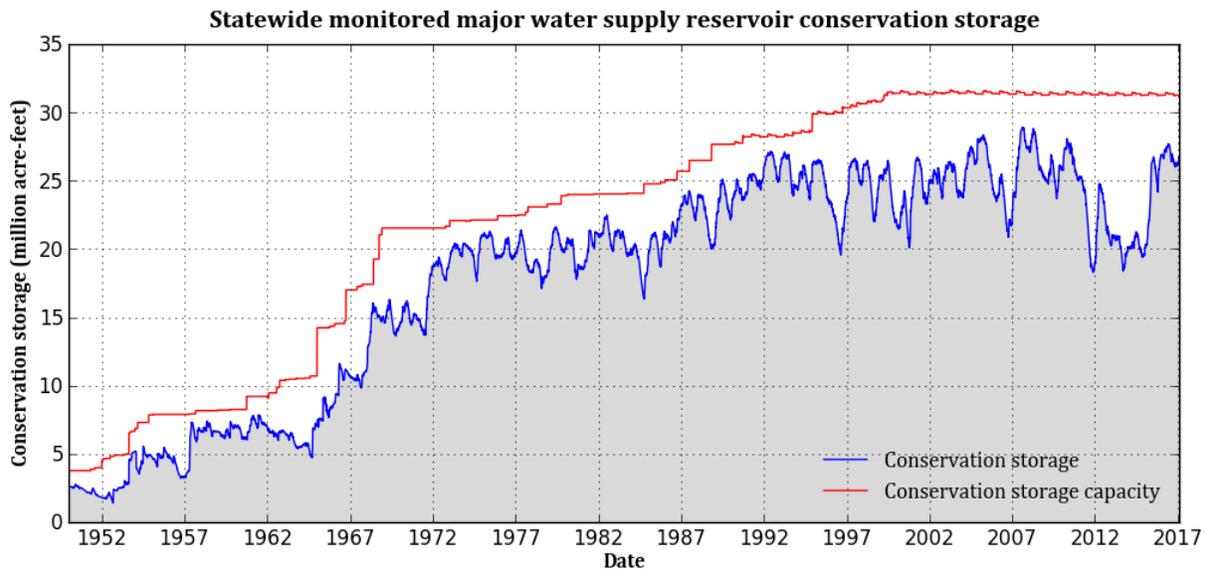


JANUARY 2017 RESERVOIR STORAGE*

At the end of January 2017, total conservation storage* in 115 of the state’s major water supply reservoirs was at 26.8 million acre-feet or 83 percent of total conservation storage capacity. This is approximately 0.5 million acre-feet more than a month ago but 0.36 million acre-feet less than storage at this time last year.

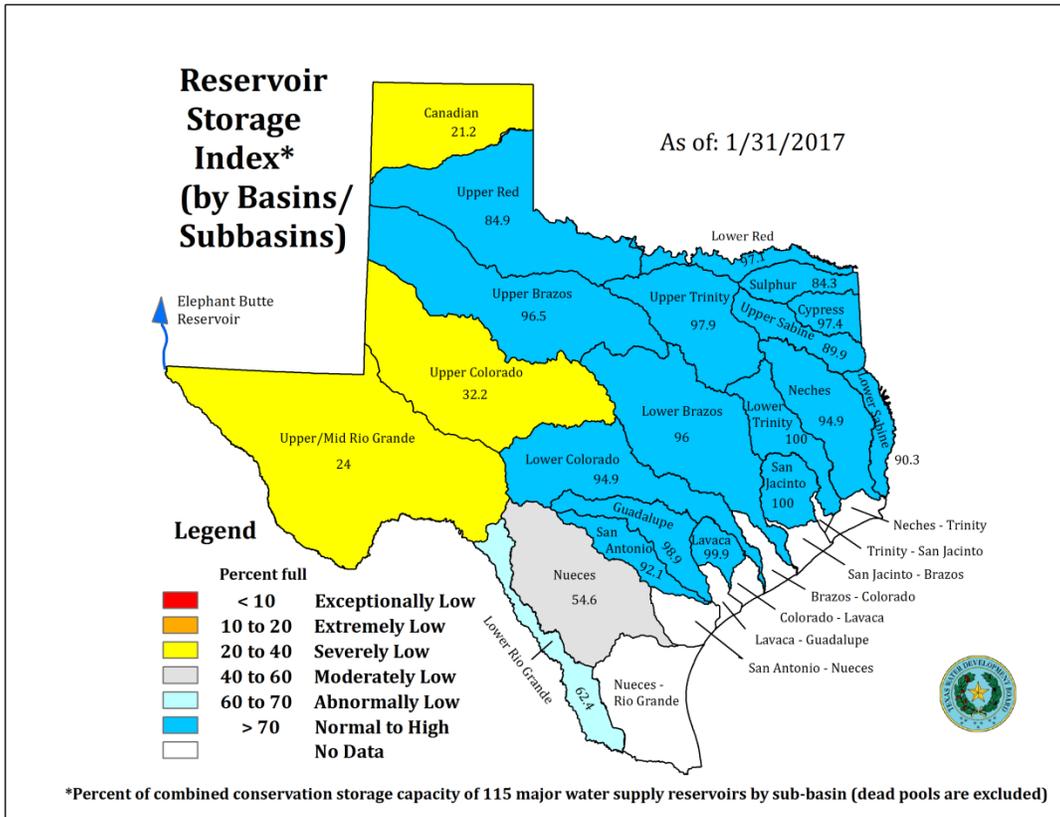
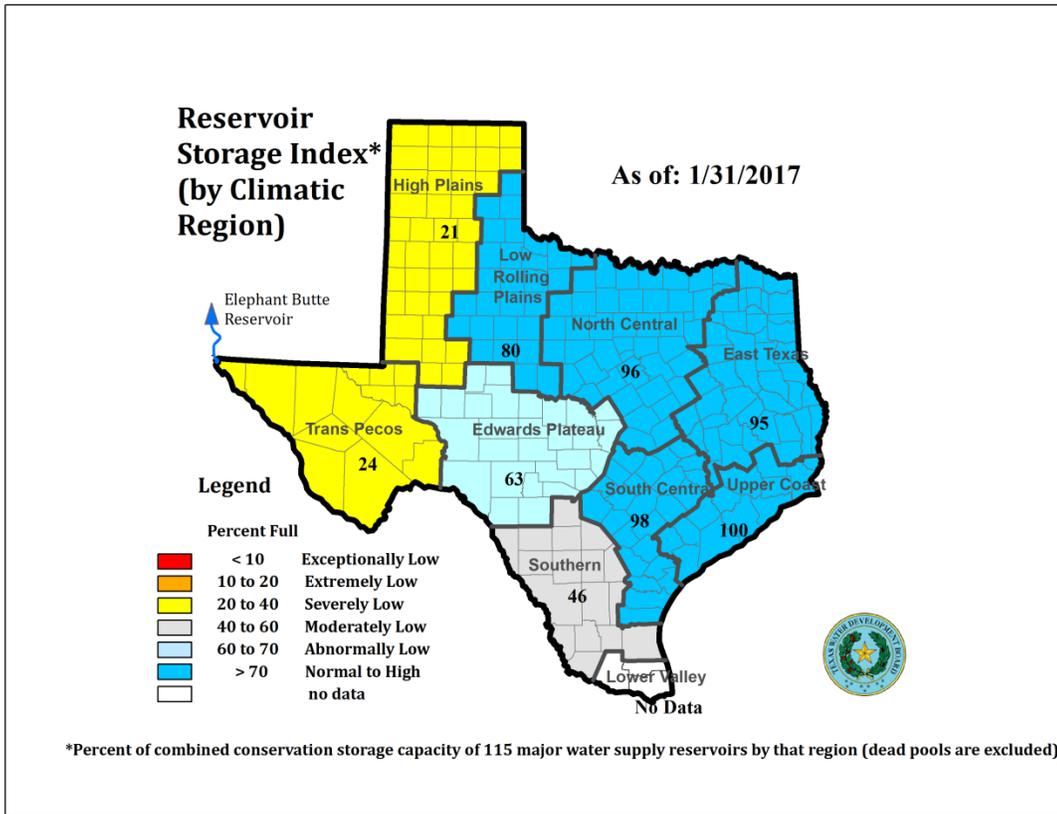
Forty-four (44) reservoirs held 100 percent of conservation storage capacity, primarily in the North Central (24 reservoirs) and East (13 reservoirs) regions. One reservoir, Palo Duro (2 percent), remained below 10 percent full.

Total combined storage was at or above normal (storage ≥70 percent) in the Upper Coast (100 percent), South Central (98 percent), North Central (96 percent), East (95 percent), and Low Rolling Plains (80 percent) regions. The region with the lowest percentage of storage was the High Plains (21 percent) region. Overall, storage increased in six regions but declined in three regions over the past month.



*Storage is based on end of the month data in 114 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.

JANUARY 2017 RESERVOIR CONDITIONS



*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	Conservation storage capacity	Conservation storage end of January 2017		Change since end of December 2016		Change since end of January 2016	
	(acre-feet)	(acre-feet)	(%)	(acre-feet)**	(%)	(acre-feet)**	(%)
HIGH PLAINS							
MacKenzie Reservoir	46,450	6,931	15	16	0	-654	-1
Meredith, Lake	500,000	118,057	24	2,558	1	-12,661	-3
Palo Duro Reservoir	61,066	1,013	2	-32	-0	-1,023	-2
White River Lake	29,880	7,349	25	-31	-0	-2,676	-9
TOTAL	637,396	133,350	21	2,511	0	-17,014	-3
LOW ROLLING PLAINS							
Abilene, Lake	7,900	7,733	98	24	0	5,507	70
Alan Henry Reservoir	94,808	90,410	95	678	1	235	0
Champion Creek Reservoir	41,580	15,690	38	134	0	6,134	15
Coleman, Lake	38,075	35,801	94	106	0	5,422	14
Colorado City, Lake	30,758	14,687	48	-102	-0	5,999	20
Fort Phantom Hill, Lake	70,030	69,054	99	1,044	1	0	0
Greenbelt Lake	59,968	16,357	27	204	0	2,197	4
Hords Creek Lake	8,443	6,929	82	-36	-0	2,851	34
J. B. Thomas, Lake	199,931	127,947	64	-792	-0	-15,714	-8
Kemp, Lake	245,307	245,307	100	458	0	32,695	13
Millers Creek Reservoir	26,768	26,768	100	0	0	0	0
North Fork Buffalo Creek Reservoir	15,400	12,302	80	-104	-1	-405	-3
Stamford, Lake	51,570	49,761	96	-99	-0	-1,809	-4
Sweetwater, Lake	12,267	2,769	23	91	1	1,122	9
TOTAL	902,805	721,515	80	1,606	0	44,234	5
NORTH CENTRAL							
Amon G Carter, Lake	19,266	19,266	100	0	0	0	0
Aquilla Lake	43,243	43,243	100	1,346	3	0	0
Arlington, Lake	40,188	37,871	94	6,687	17	-2,109	-5
Arrowhead, Lake	230,359	220,757	96	2,400	1	-8,154	-4
Bardwell Lake	46,122	46,122	100	1,124	2	0	0
Belton Lake	435,225	435,225	100	0	0	0	0
Benbrook Lake	85,648	72,135	84	1,403	2	-13,513	-16
Bonham, Lake	11,027	8,171	74	82	1	-2,845	-26
Bridgeport, Lake	366,236	366,236	100	1,397	0	0	0
*Brownwood, Lake	128,839	128,839	100	0	0	0	0
*Cisco, Lake	25,895	25,895	100	0	0	6,021	23
Crook, Lake	9,195	8,438	92	710	8	-736	-8
Eagle Mountain Lake	179,880	179,880	100	4,703	3	0	0
Georgetown, Lake	36,823	36,823	100	1,032	3	0	0
Graham, Lake	45,288	45,288	100	271	1	123	0
Granbury, Lake	132,949	132,949	100	408	0	0	0
Granger Lake	51,822	51,822	100	0	0	0	0
Grapevine Lake	164,703	164,703	100	0	0	0	0
*Halbert, Lake	6,033	5,417	90	625	10	192	3
Hubbard Creek Reservoir	318,067	311,018	98	2,040	1	163,169	51
Hubert H Moss Lake	24,058	23,821	99	1,429	6	-107	-0
Jim Chapman Lake (Cooper)	260,332	200,455	77	949	0	-59,877	-23
Joe Pool Lake	175,358	175,358	100	8,316	5	0	0
Kickapoo, Lake	86,345	79,249	92	391	0	-7,096	-8
Lavon Lake	406,388	349,769	86	13,035	3	-56,619	-14
Leon, Lake	27,762	23,354	84	-47	-0	-4,286	-15
Lewisville Lake	563,228	563,228	100	3,238	1	0	0
Limestone, Lake	203,780	197,253	97	19,449	10	-6,527	-3
*Lost Creek Reservoir	11,950	11,950	100	63	1	0	0
*Mineral Wells, Lake	5,273	5,273	100	0	0	0	0
Mountain Creek, Lake	22,850	22,850	100	0	0	0	0

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Conservation storage capacity		Conservation storage end of January 2017		Change since end of December 2016		Change since end of January 2016	
	(acre-feet)		(acre-feet)	(%)	(acre-feet)**	(%)	(acre-feet)**	(%)
<i>(North Central continued)</i>								
Navarro Mills Lake	49,827		49,827	100	751	2	0	0
New Terrell City Lake	8,583		8,480	99	275	3	-103	-1
Nocona, Lake (Farmers Crk)	21,444		21,164	99	964	4	-280	-1
Palo Pinto, Lake	26,766		25,275	94	-64	-0	-1,491	-6
Pat Cleburne, Lake	26,008		24,797	95	3,233	12	-1,211	-5
*Pat Mayse Lake	113,683		100,639	89	1,159	1	-13,044	-11
Possum Kingdom Lake	523,873		523,873	100	489	0	0	0
Proctor Lake	54,762		53,706	98	1,815	3	-1,056	-2
Ray Hubbard, Lake	439,559		419,276	95	7,446	2	-20,283	-5
Ray Roberts, Lake	788,167		788,167	100	1,417	0	0	0
Richland-Chambers Reservoir	1,087,839		1,064,414	98	41,543	4	-23,425	-2
Squaw Creek, Lake	151,250		151,250	100	0	0	0	0
Stillhouse Hollow Lake	227,771		227,771	100	0	0	0	0
Tawakoni, Lake	871,685		776,350	89	3,459	0	-95,335	-11
Texoma, Lake (Texas)	1,258,113		1,234,041	98	-24,072	-2	-9,205	-1
Texoma, Lake (Texas & Oklahoma)	2,525,281		2,468,089	98	-122,850	-5	-18,410	-1
Waco, Lake	189,418		188,689	100	-729	-0	888	0
Waxahachie, Lake	10,780		10,780	100	801	7	0	0
Weatherford, Lake	17,812		17,240	97	340	2	-572	-3
Whitney, Lake	553,344		486,452	88	4,814	1	-46,700	-8
Worth, Lake	33,495		32,880	98	1,989	6	-615	-2
TOTAL	10,618,311		10,197,729	96	116,681	1	-204,796	-2
EAST								
Athens, Lake	29,503		29,503	100	587	2	0	0
B A Steinhagen Lake	66,961		58,375	87	-3,304	-5	-296	-0
Bob Sandlin, Lake	190,822		190,822	100	10,719	6	0	0
Caddo, Lake	29,898		22,664	76	1,628	5	-7,234	-24
Cedar Creek Reservoir in Trinity	644,686		643,378	100	57,368	9	-654	-0
Conroe, Lake	410,988		410,988	100	0	0	384	0
Cypress Springs, Lake	66,756		66,626	100	1,094	2	-130	-0
Fork Reservoir, Lake	605,061		547,546	90	16,829	3	-42,579	-7
Houston County Lake	17,113		17,113	100	0	0	0	0
Jacksonville, Lake	25,670		25,670	100	0	0	0	0
*Livingston, Lake	1,785,348		1,785,348	100	0	0	0	0
Martin, Lake	75,726		70,386	93	3,421	5	-5,291	-7
Monticello, Lake	34,740		34,740	100	143	0	0	0
Murvaul, Lake	38,285		36,381	95	1,337	3	-1,904	-5
Nacogdoches, Lake	39,522		38,892	98	898	2	-411	-1
O' the Pines, Lake	241,363		241,363	100	17,463	7	0	0
Palestine, Lake	367,303		367,303	100	34,966	10	0	0
Sam Rayburn Reservoir	2,857,077		2,690,135	94	170,524	6	-166,942	-6
*Sulphur Springs, Lake	17,747		14,748	83	408	2	-2,561	-14
Toledo Bend Reservoir (Texas)	2,236,450		2,020,030	90	113,205	5	-216,420	-10
Toledo Bend Reservoir (Texas & Louisiana)	4,472,900		4,044,160	90	226,410	5	-471,550	-11
Tyler, Lake	72,073		72,073	100	4,153	6	0	0
Wright Patman Lake	122,593		122,593	100	0	0	0	0
TOTAL	9,975,685		9,506,677	95	431,439	4	-444,038	-4
TRANS-PECOS								
Elephant Butte Reservoir (Texas)	852,491		108,033	13	20,889	2	no data	
Elephant Butte Reservoir (Texas & New Mexico)	1,973,358		250,076	13	48,355	2	no data	
Red Bluff Reservoir	151,110		132,626	88	2,213	1	-2,627	-2
TOTAL	1,003,601		240,659	24	23,102	2	-2,627	-0

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of lake or reservoir	Conservation storage capacity (acre-feet)	Conservation storage end of January 2017		Change since end of December 2016		Change since end of January 2016	
		(acre-feet)	(%)	(acre-feet)**	(%)	(acre-feet)**	(%)
EDWARDS PLATEAU							
*Amistad Reservoir (Texas)	1,840,849	1,477,928	80	-74,417	-4	no data	
*Amistad Reservoir (Texas & Mexico)	3,275,532	2,142,218	65	-193,211	-6	no data	
Brady Creek Reservoir	28,808	18,239	63	381	1	7,553	26
Buchanan, Lake	860,607	817,122	95	1,520	0	no data	
E. V. Spence Reservoir	517,272	69,918	14	0	0	19,650	4
Inks, Lake	13,962	12,877	92	67	0	no data	
Lyndon B Johnson, Lake	115,249	87,234	76	-23,158	-20	no data	
Nasworthy	9,615	7,673	80	-120	-1	no data	
Oak Creek Reservoir	39,210	21,724	55	635	2	8,062	21
O. C. Fisher Lake	119,445	17,545	15	-12	-0	-3,317	-3
*O. H. Ivie Reservoir	554,340	132,874	24	2,660	0	63,105	11
Twin Buttes Reservoir	182,454	23,360	13	2,169	1	13,577	7
TOTAL	4,281,811	2,686,494	63	-90,275	-2	108,630	3
SOUTH CENTRAL							
*Austin, Lake	23,972	9,957	42	-12,708	-53	no data	
Canyon Lake	378,781	378,781	100	0	0	1,152	0
*Coleto Creek Reservoir	31,040	26,523	85	1,441	5	-2,922	-9
Medina Lake	254,823	234,576	92	-697	-0	72,267	28
Somerville Lake	147,104	147,104	100	0	0	0	0
Travis, Lake	1,113,348	1,113,348	100	0	0	no data	
TOTAL	1,949,068	1,910,289	98	-11,964	-1	70,497	4
UPPER COAST							
Houston, Lake	120,686	120,686	100	0	0	0	0
Texana, Lake	159,566	159,474	100	3,928	2	918	1
TOTAL	280,252	280,160	100	3,928	1	918	0
SOUTHERN							
Choke Canyon Reservoir	662,820	263,970	40	-4,367	-1	49,341	7
Corpus Christi, Lake	256,961	238,358	93	-5,378	-2	31,719	12
*Falcon Reservoir (Texas)	1,551,007	638,196	41	43,256	3	no data	
*Falcon Reservoir (Texas & Mexico)	2,646,817	773,697	29	-129,183	-5	no data	
TOTAL	2,470,788	1,140,524	46	33,511	1	81,060	3
STATEWIDE TOTAL							
STATEWIDE TOTAL	32,119,717	26,817,397	83	510,539	2	-363,136	-1

* Conservation volume is used as conservation storage capacity, because the dead storage is unknown.

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

Note:

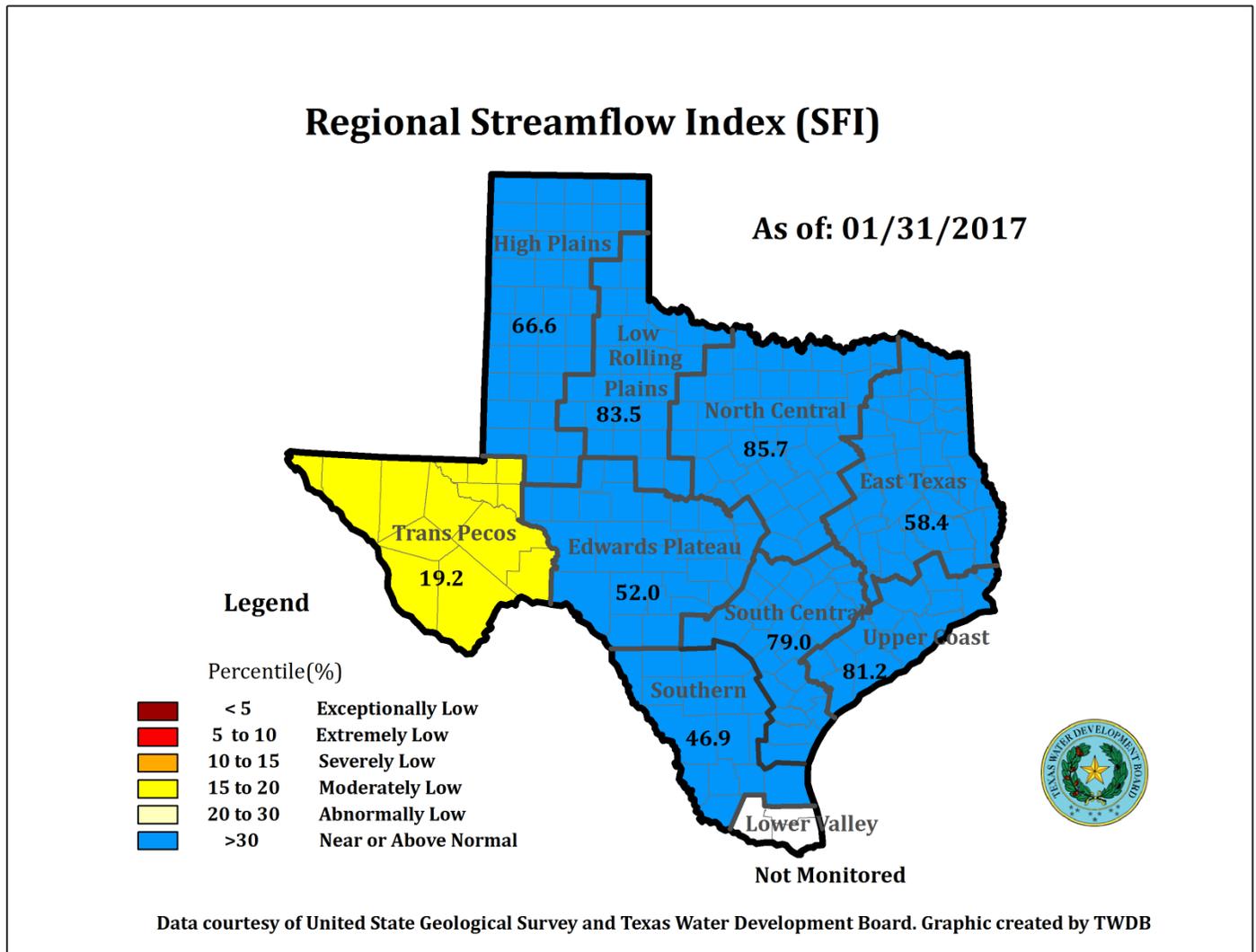
Conservation storage capacity is the space available to store water above the lowest outlet and below the top of conservation pool, or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included is any water in flood control storage (above the top of 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 $100 \times (\text{current conservation storage} - \text{past conservation storage}) / \text{conservation storage capacity}$. Values shown are for the Texas share of conservation storage in all reservoirs.

JANUARY 2017 STREAMFLOW CONDITIONS

The computed 30-day mean flow status for 29 reporting index stations monitored this month is presented below. Mean flow increased at 21 index stations and decreased at eight stations.

Streamflow Status	Number of Stations
Near or Above Normal (>30%)	27
Abnormally Low (20-30%)	1
Moderately Low (15-20%)	1
Severely Low (10-15%)	0
Extremely Low (5-10%)	0
Exceptionally Low (<5%)	0

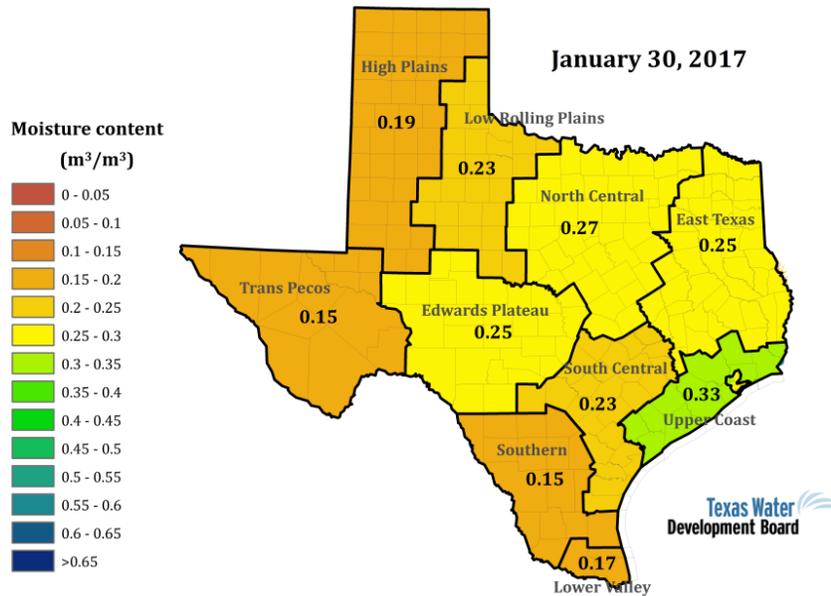
On a regional basis, as shown below, flows at index stations were moderately low in the Trans Pecos region but near or above normal in all other regions. Streamflow in the Lower Valley region is not monitored.



*Streamflow Index is defined as the percentile flow that exceeds a given percent of observed flows.

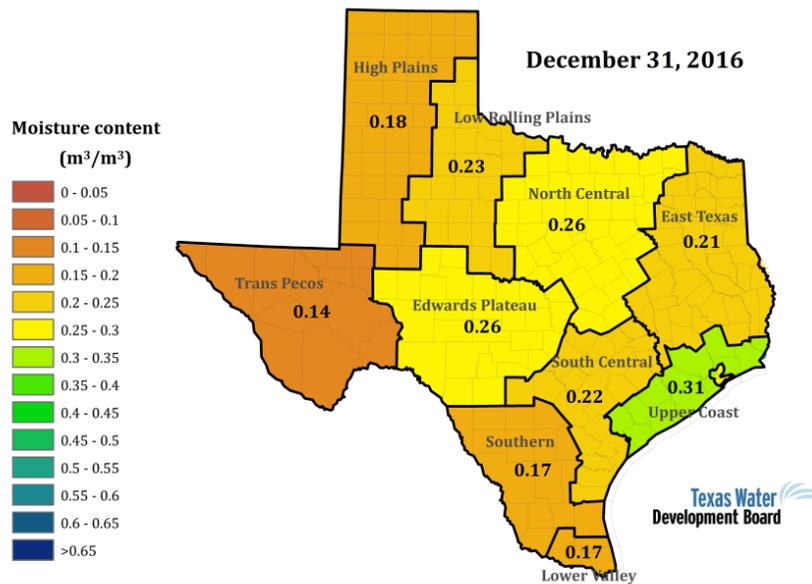
JANUARY 2017 SOIL MOISTURE CONDITIONS

Soil Moisture Condition



Data from NASA Soil Moisture Active Passive (SMAP) Level 4 - Model - Value Added Version 2
Soil moisture content is shown as volume of water per unit volume of bulk soil. Root zone: 0 to 1 meter depth.

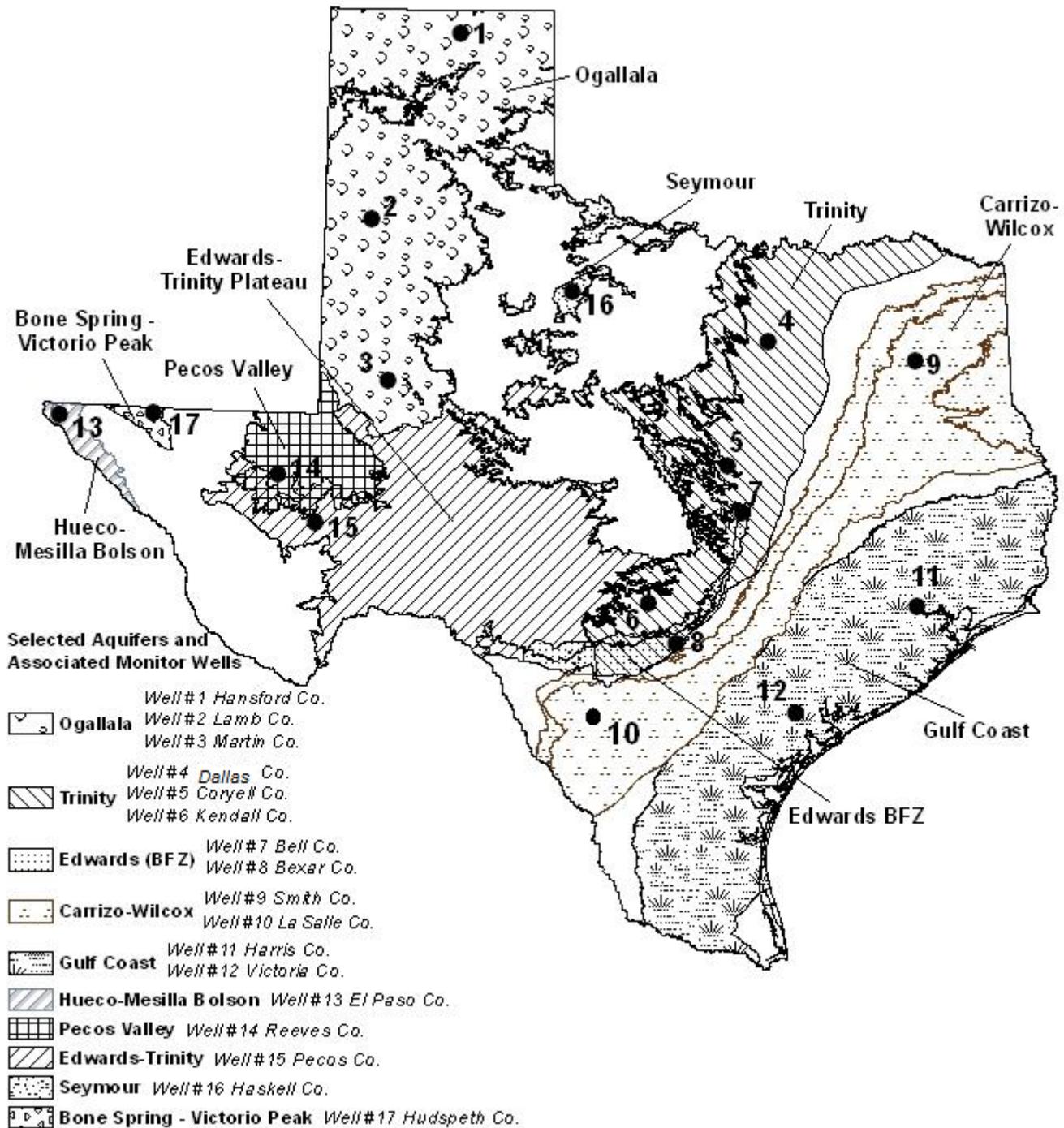
Soil Moisture Condition



Data from NASA Soil Moisture Active Passive (SMAP) Level 4 - Model - Value Added Version 2
Soil moisture content is shown as volume of water per unit volume of bulk soil. Root zone: 0 to 1 meter depth.

In the past 30 days, (*top image*, January 31, 2017) as compared to soil moisture at the end of December 2016 (*bottom image*), soil moisture condition remained consistent across all regions with modest declines in the Edwards Plateau and Southern regions but modest increases out west in the Trans Pecos and High Plains regions and in the eastern half of the state. The greatest increases in soil moisture occurred in the East Texas and Upper Coast regions.

JANUARY 2017 GROUNDWATER LEVELS IN OBSERVATION WELLS



Water-level measurements were available for all 17 key monitoring wells in the state. Water levels rose in 12 monitoring wells since the beginning of January, ranging from an increase of 0.04 feet in the Harris County Evangeline Formation – Gulf Coast Aquifer well (#11 on map) to 6.70 feet in the La Salle County Carrizo-Wilcox Aquifer well (#10 on map). Water levels declined in five monitoring wells, ranging from a decline of 0.1 feet in the Lamb County Ogallala Aquifer well (#2 on map) to 0.31 feet in the Hansford County Ogallala Aquifer well (#1 on map). The J-17 well (#8 on map) in San Antonio recorded a water level of 45.71 feet below land surface or 685.29 feet above mean sea level. There are no restrictions currently in place for the San Antonio portion of the Edwards (Balcones Fault Zone) Aquifer, with water levels at 25 feet above the Stage I critical management level.

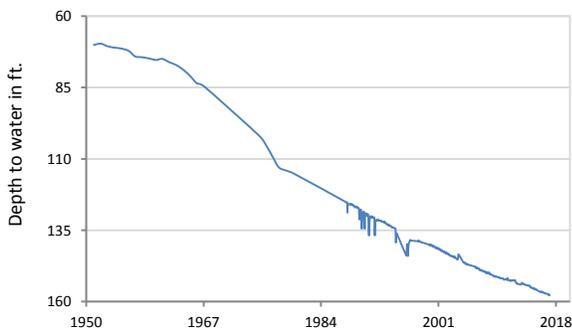
*IDs used in this publication on the aquifer map to indicate the monitoring well location (IDs 1 - 17) are different than the TWDB's six- or seven-digit state well identification number.

Monitoring Well	January	December	Month Change	Year Change	Historical Change	First Measured
(1) Hansford 0354301	157.78	157.47	-0.31	-1.19	-87.66	1951
(2) Lamb 1053602	147.12	147.02	-0.1	-0.78	-118.95	1951
(3) Martin 2739903	143.24	143.49	0.25	-0.85	-38.35	1964
(4) Dallas 3319101	494.51	494.56	0.05	1.70	-272.51	1954
(5) Coryell 4035404	512.95	513.39	0.44	-6.82	-220.95	1955
(6) Kendall 6802609	112.71	116.09	3.38	4.42	-52.71	1975
(7) Bell 5804816	121.7	121.87	-0.17	-2.38	1.81	2008
(8) Bexar 6837203	45.71	55.51	-0.2	18.6	0.93	1932
(9) Smith 3430907	431.9	432.79	0.89	2.21	-131.9	1987
(10) La Salle 7738103	448.89	455.59	6.7	24.81	-195.82	2003
(11) Harris 6514409	195.62	195.66	0.04	-6.30	-60.12*	1947**
(12) Victoria 8017502	33.16	34.41	0.25	2.12	0.84	1958
(13) El Paso 4913301	295.47	295.18	-0.29	0.46	-63.57	1964
(14) Reeves 4644501	157.45	160.73	3.28	-4.56	-65.36	1952
(15) Pecos 5216802	184.49	18.12	3.63	2.43	62.39	1976
(16) Haskell 2135748	46.26	46.32	0.06	0.63	-3.26	2002
(17) Hudspeth 4807516	134.31	136.84	2.53	0.9	-30.39	1966

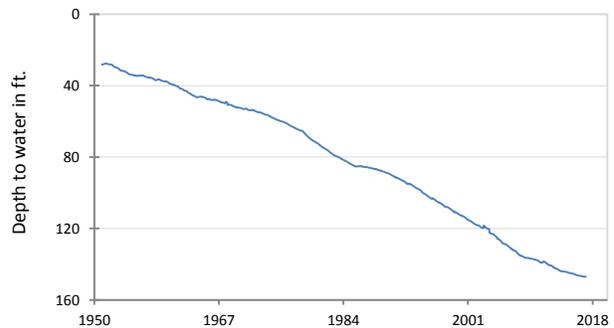
*Change since the original measurement of 135.5 feet below land surface in 1947 (**measurement not shown on the hydrograph)

JANUARY 2017 GROUNDWATER LEVELS IN OBSERVATION WELLS

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



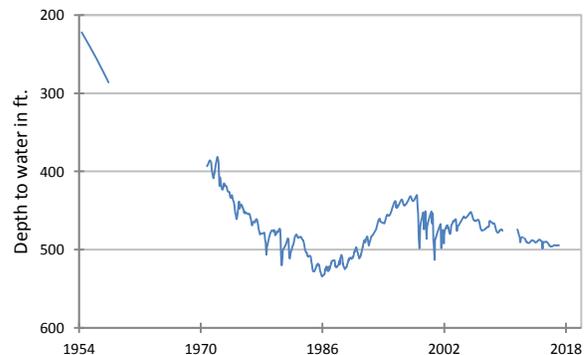
(2) State Well ID 10-53-602
Near Earth, Lamb County
Ogallala Aquifer



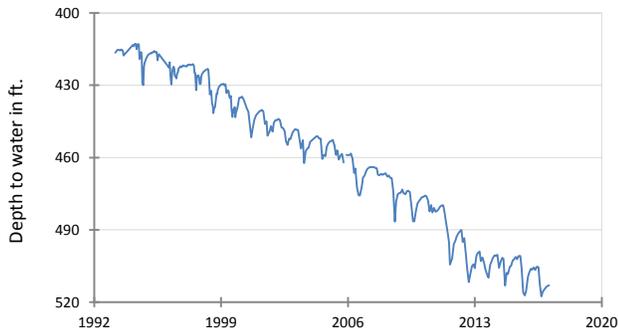
(3) State Well ID 27-39-903
Northwest Martin County
Ogallala Aquifer



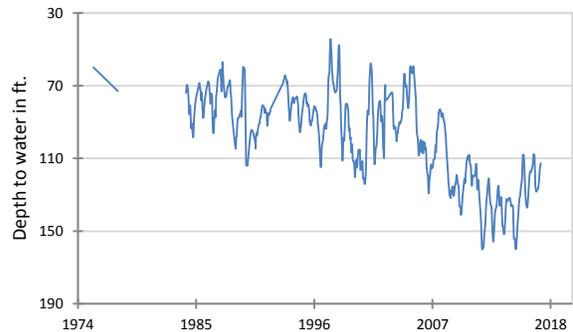
(4) State Well ID 33-19-101
Southeast Dallas, Dallas County
Twin Mountains Formation-Trinity Aquifer



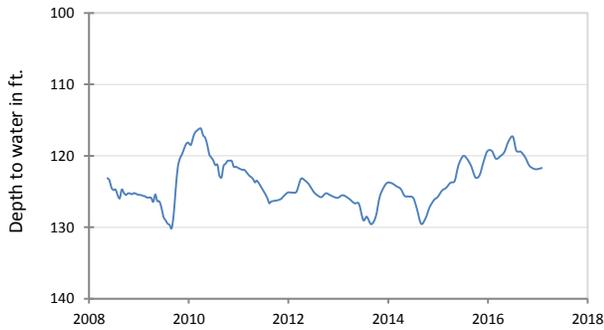
**(5) State Well ID 40-35-404
Gatesville, Coryell County
Hosston Formation-Trinity Aquifer**



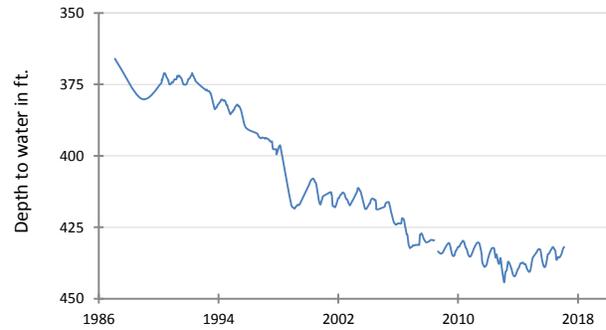
**(6) State Well ID 68-02-609
Waring, Kendall County
Cow Creek Formation-Trinity Aquifer**



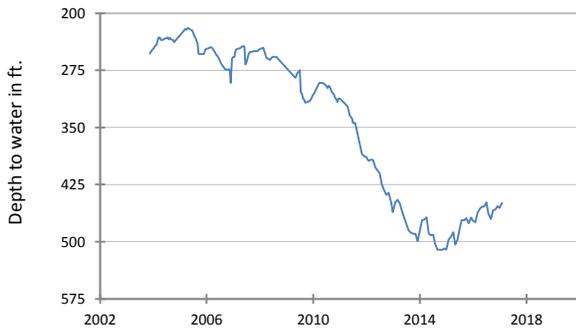
**(7) State Well ID 58-04-816
Near Salado, Bell County
Edwards (Balcones Fault Zone) Aquifer**



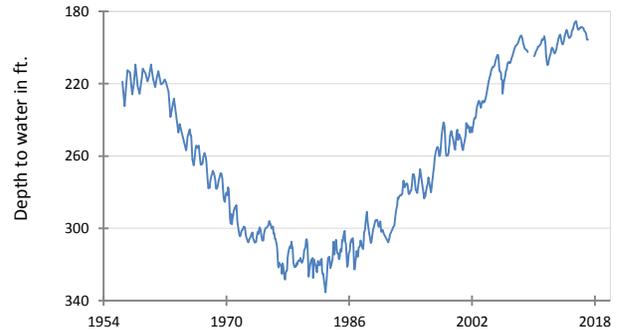
**(9) State Well ID 34-30-907
Red Springs, Smith County
Carrizo-Wilcox Aquifer**



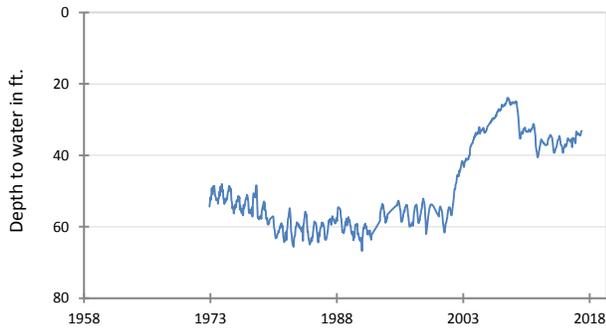
**(10) State Well ID 77-38-103
Near Cotulla, La Salle County
Carrizo-Wilcox Aquifer**



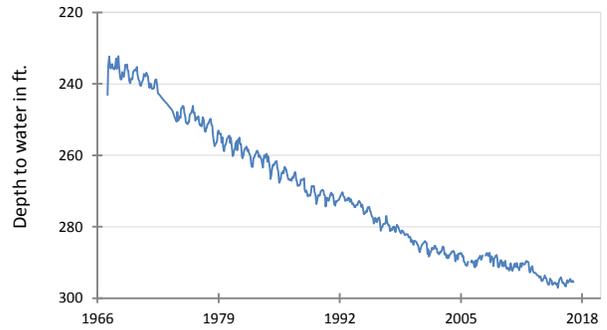
**(11) State Well ID 65-14-409
Alief, Harris County
Evangeline Formation-Gulf Coast Aquifer**



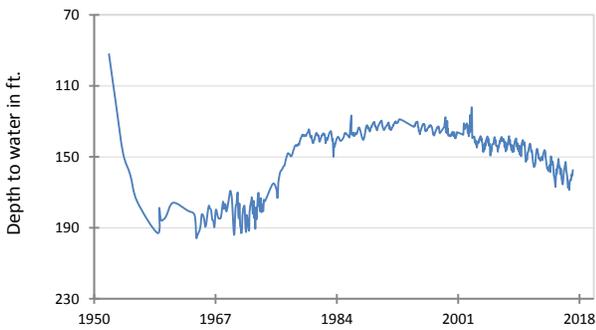
(12) State Well ID 80-17-502
Near Bloomington, Victoria County
Lissie Formation-Gulf Coast Aquifer



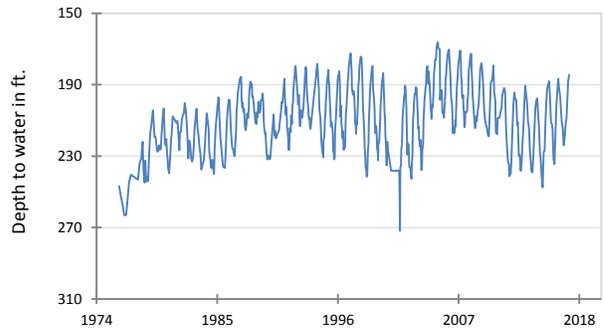
(13) State Well ID 49-13-301
El Paso, El Paso County
Hueco-Mesilla Bolson Aquifer



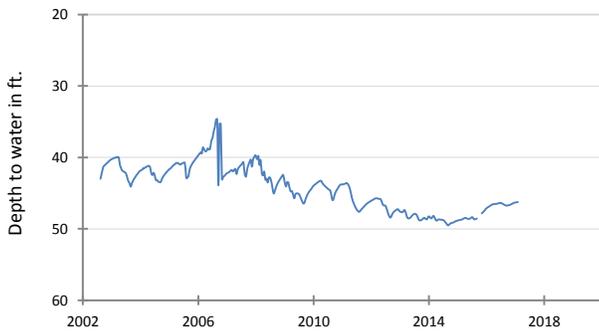
(14) State Well ID 46-44-501
Near Pecos, Reeves County
Pecos Valley Aquifer



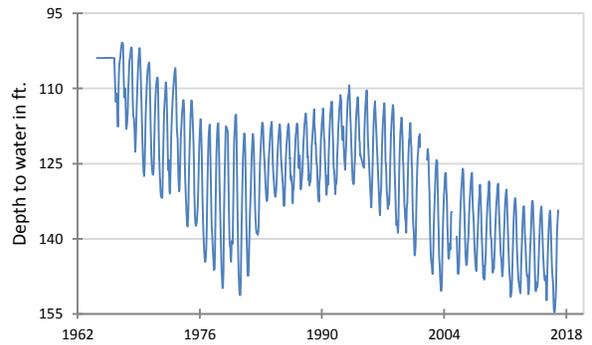
(15) State Well ID 52-16-802
Fort Stockton, Pecos County
Edwards-Trinity (Plateau) Aquifer



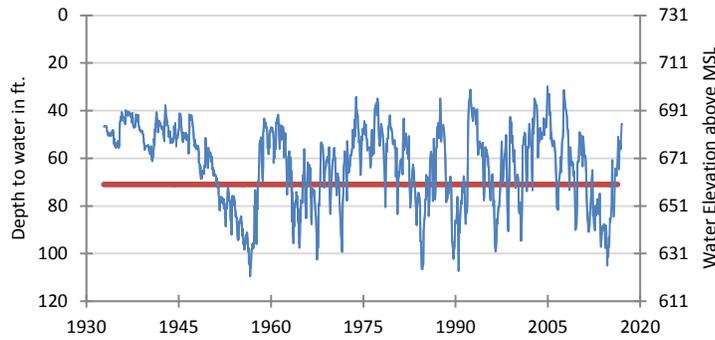
(16) State Well ID 21-35-748
Near O'Brien, Haskell County
Seymour Aquifer



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

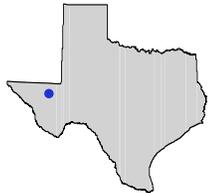


**(8) State Well ID 68-37-203 (J-17)
In San Antonio, Bexar County
Edwards (Balcones Fault Zone) Aquifer**



The late January water-level measurement in this Edwards (Balcones Fault Zone) Aquifer well, elevation 731 feet above mean sea level, was 45.71 feet below land surface, or 685.29 feet above mean sea level. This was 0.2 feet below last month's measurement, 18.60 feet above last year's measurement, and 0.93 feet above the initial measurement recorded in 1932.

***** Water levels below the red line indicate periods in which Edwards Aquifer Authority Stage I drought restrictions are in effect. *****



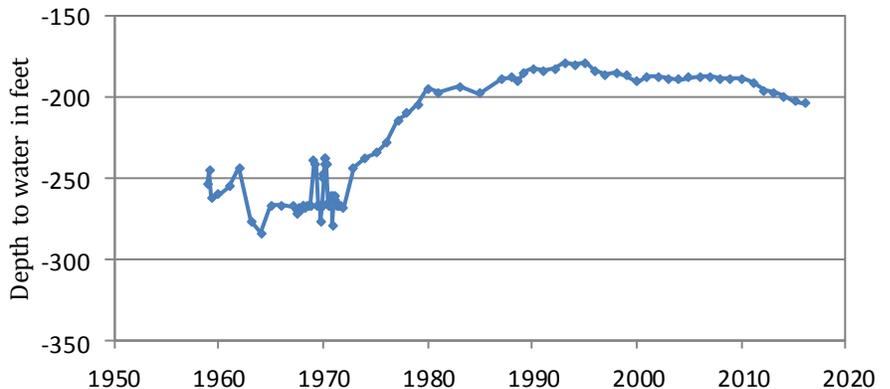
HYDROGRAPH OF THE MONTH

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

The Pecos Valley Aquifer is a major aquifer located in West Texas. The aquifer is composed of alluvial and windblown sediments that fill several structural basins, the largest of which are the Pecos Trough in the west and Monument Draw Trough in the east. Thickness of the alluvial fill reaches 1,500 feet, and freshwater saturated thickness averages 250 feet. The water quality of the aquifer is highly variable with the water being typically hard. Total dissolved solids concentrations in the Monument Draw Trough are usually less than 1,000 milligrams per liter and is considered to be fresh water. In the Pecos Trough, total dissolved concentrations are much higher, exceeding 3,000 milligrams per liter, and the water is considered to be moderately to highly saline. Irrigation accounts for more than 80 percent of the aquifer's usage, with municipal supplies, industrial usage, and power generation counting for the remaining usage.

Pecos Valley Aquifer

Well # 4644101, 514 feet deep
Unused well, Central Reeves County



The first recorded water-level measurement for this unused well was 254 feet below land surface in 1958 by the U.S. Geological Survey. The TWDB began measuring this well in 1962 and has measured every year since. In 1971, the water-level began a steady increase, peaking in 1993 at 179.12 feet below land surface, and remaining relatively constant since this peak. This increase in the water table is possibly from a decrease in irrigation pumping. The lowest recorded measurement of 284.11 feet below land surface was in 1964.