

NWS Houston, Texas January 2018 Regional Climate Summary

Produced by Nikki Hathaway

. . . Abnormally Chilly January . . .

Another month filled with below normal temperatures and wintry precipitation. There were 28 consecutive days where the maximum temperature was at or below 70 degrees at Houston Hobby and the City of Houston. This 28 day run length is tied for the 12th longest set of consecutive days with maximum temperatures at or below 70 degrees at the City of Houston, and ranks 5th for Houston Hobby. For the City of Houston, There were also two rounds of wintry precipitation on January 2nd, and two weeks later beginning on January 15th and continuing into January 16th. Temperatures were not the only ones below normal either. Total monthly precipitation was also below normal for the month of January, with a deficit of 0.5 to 2.5 inches at the primary climate sites. Overall, this lack of rainfall across the region throughout the month, was the primary contender behind the expansion of drought conditions across portions of Southeast Texas.

Table of Contents

Page Number	Page Title
1	Cover
2	Table of Contents
3	Another Two Rounds of Wintry Precipitation
4	Precipitation
5	Total Monthly Precipitation
6	Total Monthly Precipitation Departure From Normal
7	Temperatures
8	Temperatures (Continued)
9	Temperatures: Consecutive Days of Maximum Temperature at or Below 70 Degrees
10	Below Normal January Temperatures
11	Drought Conditions
12	Drought (Continued)
13	Monthly Record Temperature and Rainfall Data
14	January Outlook
15	Climate Primary Site History



Another Two Rounds of Wintry Precipitation

On January 2nd, a Hard Freeze Warning was in effect for the entire region of SE TX as temperatures were forecast to fall below 25 degrees for two hours or longer. Very light sleet was reported in the Houston Heights area, as well as light snow flurries across the southern portion of Montgomery County and northern Harris County.

Later that month, a Winter Weather Advisory was issued for coastal counties, while a Winter Storm Warning was in effect across the remainder of SE TX on January 16th. A Wind Chill Advisory was also in effect across all of SE TX. Various types of frozen precipitation occurred including freezing rain, sleet, and snow from January 15th into the 16th. Reports of accumulation occurred in Walker County and northwest Harris County. Treacherous driving conditions commenced as bridges and roadways iced over, allowing black ice to form.

Site	Date	Total Snowfall
City of Houston	Jan. 2 nd	T
City of Galveston	Jan. 2 nd	T
Houston Hobby	Jan. 2 nd	T
Houston Hobby	Jan. 15 th	T
City of Houston	Jan. 15 th	T
City of Houston	Jan. 16 th	0.1
City of Galveston	Jan. 16 th	T
Houston Hobby	Jan. 16 th	T
City of College Station	Jan. 16 th	T



Precipitation

Overall, the month of January was rather dry, with roughly five days producing a majority of the monthly precipitation. Little precipitation left a deficit of 1 to 3 inches for monthly rainfall across the region. Towards the end of the month, a coastal low set up along the upper Texas coastline, bringing decent rainfall amounts across the region. This system even allowed for some daily 4-6 inch totals just to the east the our forecast area, south of Beaumont and Lake Charles. Multiple wet cold fronts pushed through the region, adding to not only our monthly rainfall totals, but also setting daily snowfall records due to wintry precipitation. Hail, ice pellets (sleet), light snow flurries and freezing rain were all experienced this month.

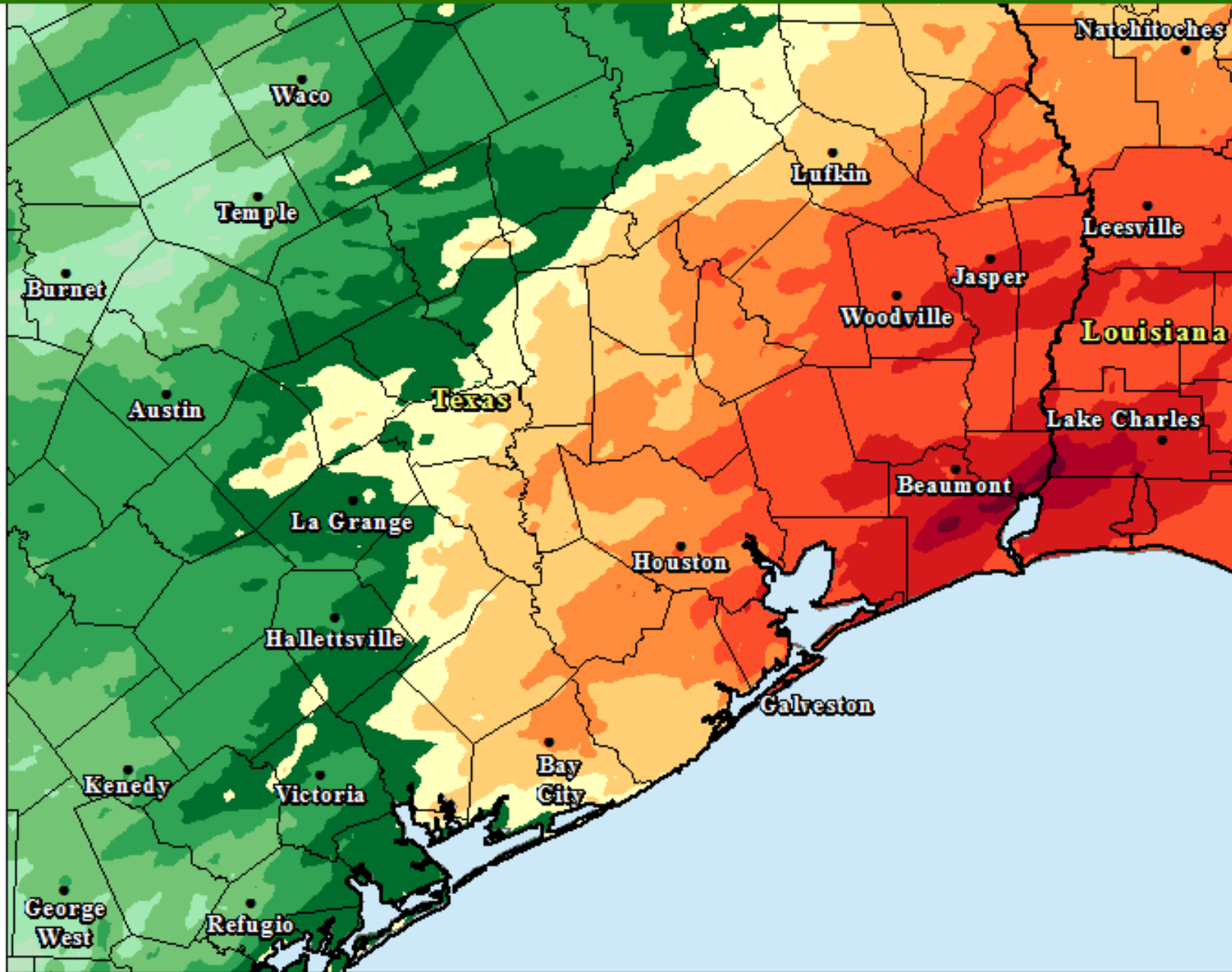
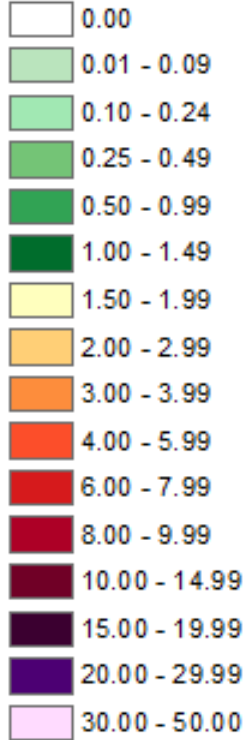
Site	Total Precipitation (in.)	Departure from Normal (in.)	Number of Thunderstorm Days	Maximum Daily Precipitation (in./date)	
Galveston (GLS)	3.32	-0.88	4	2.25	Dec. 27
Houston Hobby (HOU)	3.30	-0.57	5	0.60	Dec. 27
City of Houston (IAH)	3.06	-0.32	3	0.97	Dec. 11
College Station (CLL)	1.06	-2.18	1	0.60	Dec. 27



Precipitation (Continued)

Total Monthly Precipitation - January 2018

Inches



Created by the
NWS Forecast Office
Houston/Galveston, TX



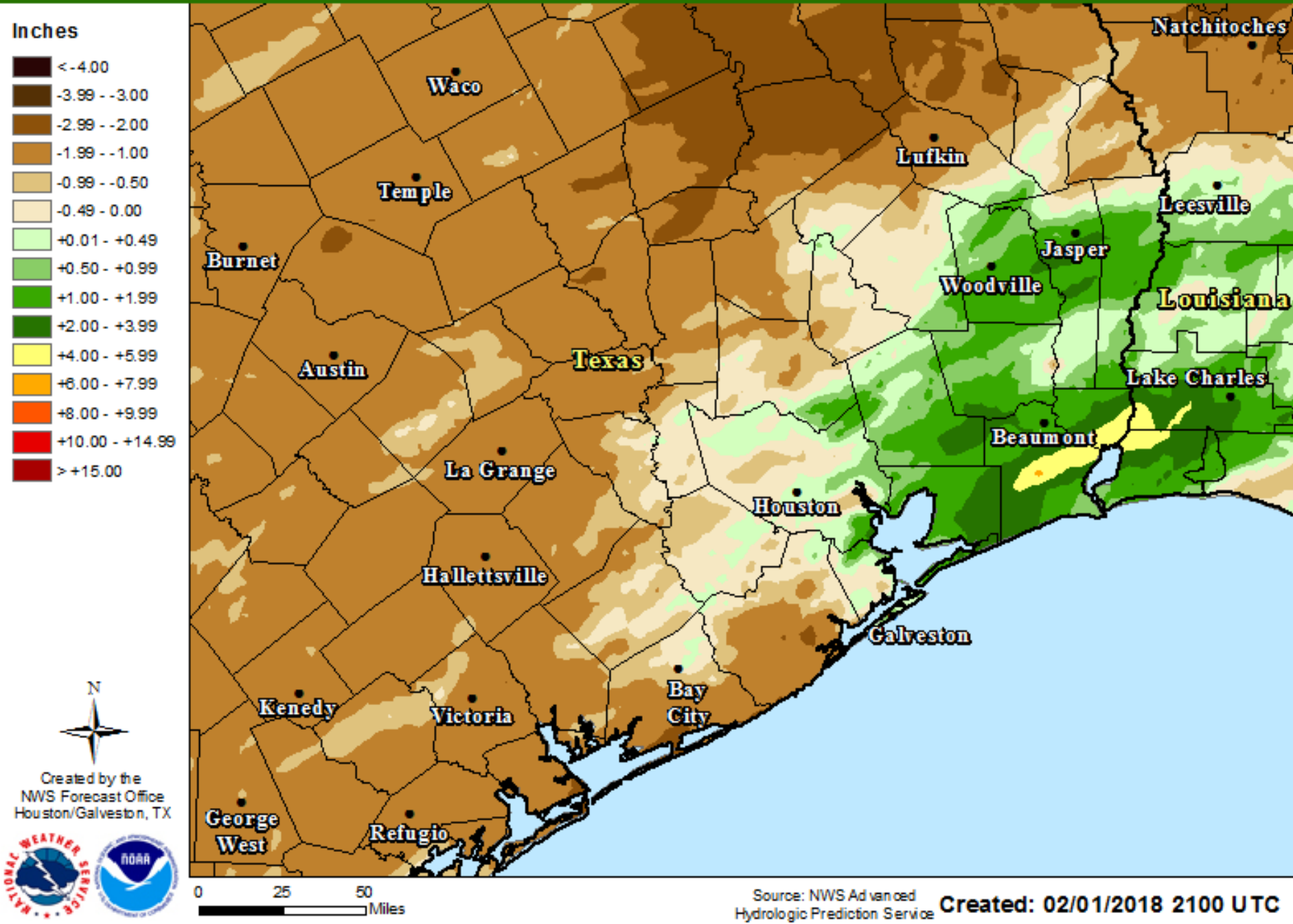
0 25 50
Miles

Source: NWS Advanced Hydrologic Prediction Service Created: 02/01/2018 2100 UTC



Precipitation (Continued)

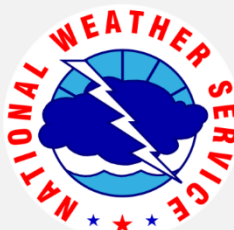
Total Monthly Precipitation Departure From Normal - January 2018



Temperatures

January brought below normal temperatures, resulting in a 3-5 degree departure from normal across the primary climate sites. Average high temperatures struggled to reach into the 60s, while average low temperatures remained in the 30s across most of the region besides along the coast which made it into the low 40s. A strong cold front in the middle of the month allowed low temperatures to reach their coldest point, the upper teens to low twenties. It was the 14th coldest January on record for the City of Houston and the 11th coldest at Houston Hobby. Additionally, high temperatures did not break into the 70s for 28 consecutive days at the City of Houston and Houston Hobby. This 28 day run length is tied for the 12th longest set of consecutive days with maximum temperatures at or below 70 degrees at the City of Houston, and ranks 5th for Houston Hobby.

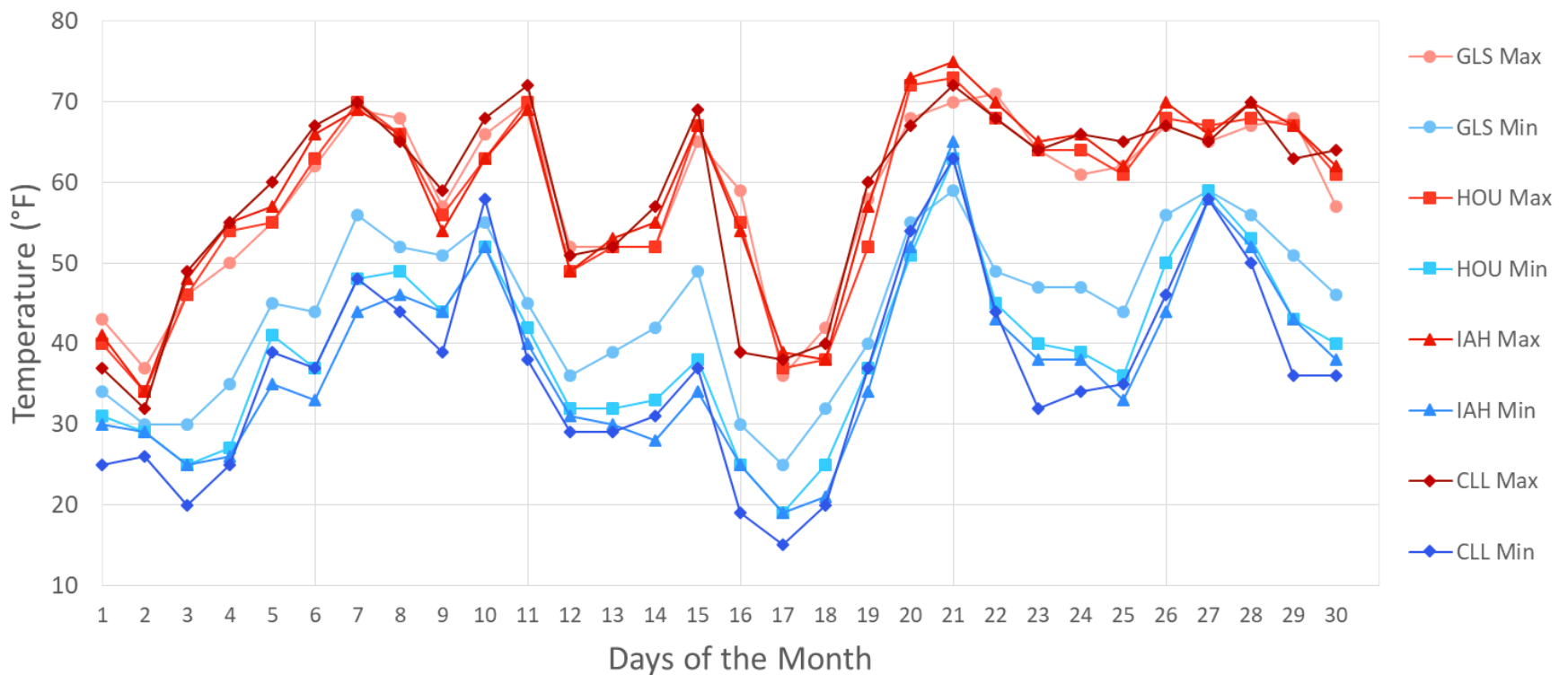
Site	Average Temp (F)	Average High Temp (F)	Average Low Temp (F)	Normal Average Temp (F)	Departure From Normal (F)	Maximum Temperature (F)	Minimum Temperature (F)
Galveston (GLS)	51.9	58.9	44.8	55.2	-3.3	71 on Jan. 22	25 on Jan. 17
Houston Hobby (HOU)	49.2	58.8	39.5	54.2	-5.0	73 on Jan. 21	19 on Jan. 17
City of Houston (IAH)	48.7	59.7	37.6	53.2	-4.5	75 on Jan. 21	19 on Jan. 17
College Station (CLL)	48.1	59.4	36.8	51.1	-3.0	72 on Jan. 21 & Jan. 11	15 on Jan. 17



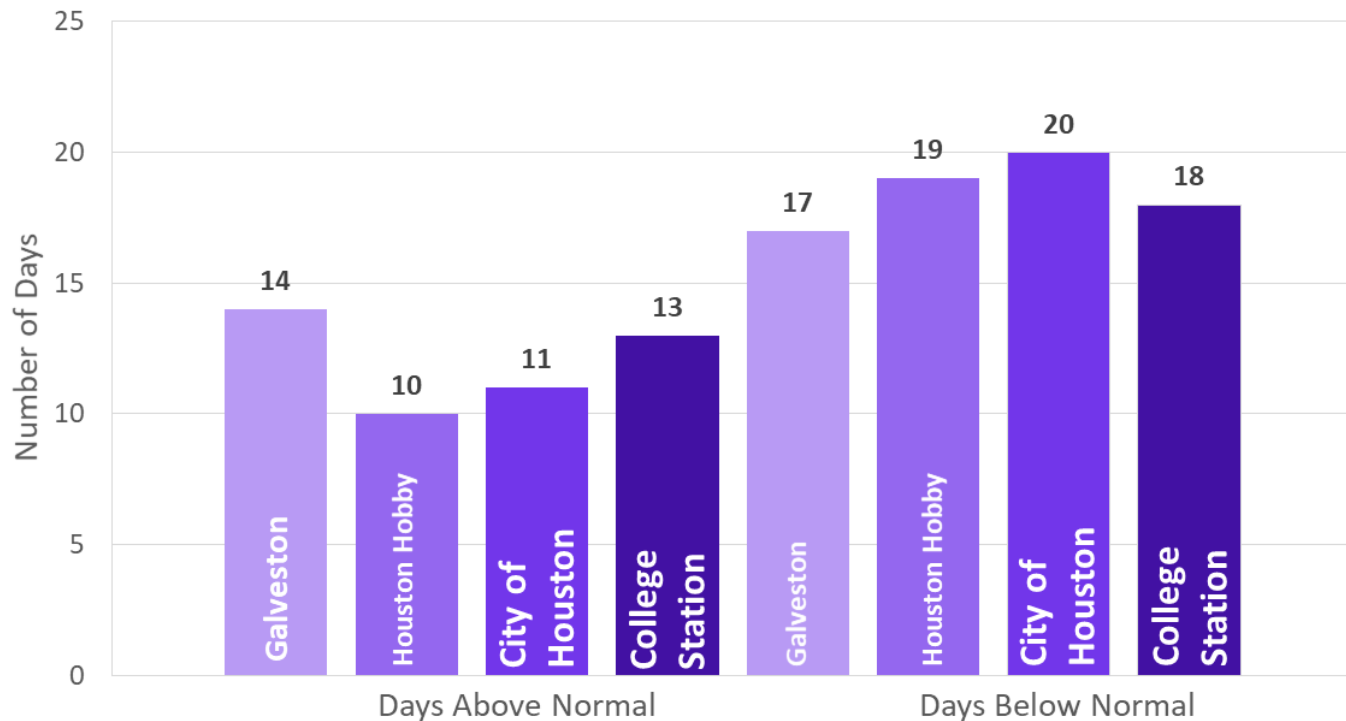
Temperatures (Continued)

Below is a line graph of temperature trends for the four primary climate sites, as well as a bar graph comparing above and below normal temperature days throughout the month of December.

January Temperature Trends



Mean Departure from Normal Distribution



Temperatures: Consecutive Days Max Temperature at or Below 70 Degrees

High temperatures finally reached back into the 70s on January 20th. There were been 28 consecutive days where the maximum temperature was at or below 70 degrees at Houston Hobby, also ranking 5th in terms of the longest run length with these conditions. For the City of Houston, this 28 day run length is tied for the 12th longest set of consecutive days with maximum temperatures at or below 70 degrees, tying with the years of 2010, 1960, 1924, and 1893.

Houston Hobby

Rank	Run Length	Ending Date
1	48	1978-02-24
2	41	1991-02-09
3	33	1976-12-29
-	33	1931-01-06
5	28	2018-01-19
-	28	2010-02-20
-	28	1960-03-08
8	27	1987-01-05
-	27	1977-01-26
-	27	1961-01-15
-	27	1944-01-20
12	25	2010-01-18
-	25	2001-01-05
-	25	1984-01-05
-	25	1970-01-23

City of Houston

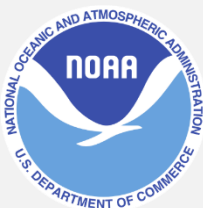
Rank	Run Length	Ending Date
1	49	1926-02-01
2	48	1966-03-01
3	47	1978-02-23
4	41	1961-01-16
5	34	1991-02-02
-	34	1968-01-24
7	33	1976-12-29
-	33	1914-01-07
9	32	1905-02-23
10	30	1992-01-21
11	29	1944-01-20
12	28	2018-01-19
-	28	2010-02-20
-	28	1960-03-08
-	28	1924-01-28
-	28	1893-01-10



Below Normal January Temperatures

January 2018 was considerably colder than normal. The average Temperature was 3 to 5 degrees cooler than normal. It was the 14th coldest January on record for the city of Houston and the 11th coldest at Houston Hobby. This was quite a contrast to January 2017 which was 6 to 8 degrees warmer than normal.

City of Houston	Houston Hobby	City of Galveston	College Station
40.7 1978	41.9 1940	44.4 1940	40.3 1979
42.6 1977	43.4 1978	45.3 1978	40.4 1978
43.1 1940	44.4 1979	46.5 1977	41.2 1977
44.1 1979	44.9 1977	47.0 1979	43.6 1963
45.0 1892	46.1 1948	47.3 1886	43.8 1970
48.6 2018 (14th)	49.1 2018 (11th)	51.9 2018 (43rd)	48.1 2018 (20th)
59.9 2017	60.7 2017	56.9 2017	56.9 2017



Drought Conditions

Abnormally dry conditions with periods lacking rainfall allowed drought conditions to expand through most of the month of January. Little relief due to rainfall occurred at the end of the month in some portions of the forecast area.

Weekly Updates (Date Posted)	Intensity and Impacts	Impacting the following Counties
January 2 nd	D0 D1	<ul style="list-style-type: none"> Portions of Houston, Madison, Brazos, Burleson, Liberty, Montgomery San Jacinto, Polk, Jackson, Colorado and Matagorda <ul style="list-style-type: none"> Majority of Liberty and Polk
January 9 th	D0	<ul style="list-style-type: none"> Expansion through portions of Trinity, San Jacinto, Montgomery, Grimes, Houston, Madison, Brazos, and Burleson
January 16 th	D0 D1	<ul style="list-style-type: none"> Burleson, Washington, Austin, Colorado, Brazoria, and Matagorda Introduction to portions of Wharton, Jackson, and Colorado.
January 23 rd	D0 D1	<ul style="list-style-type: none"> Regression and improvement to sections of Liberty and Montgomery Expansion through Brazoria and Jackson <ul style="list-style-type: none"> Expansion through Polk, Trinity, and Houston
January 30 th	D0 D1	<ul style="list-style-type: none"> Regression and improvement in portions of Brazoria, Wharton, Matagorda, San Jacinto and Liberty Regression and improvement in portions of Matagorda, Polk, and Jackson



Source:
<http://droughtmonitor.unl.edu>



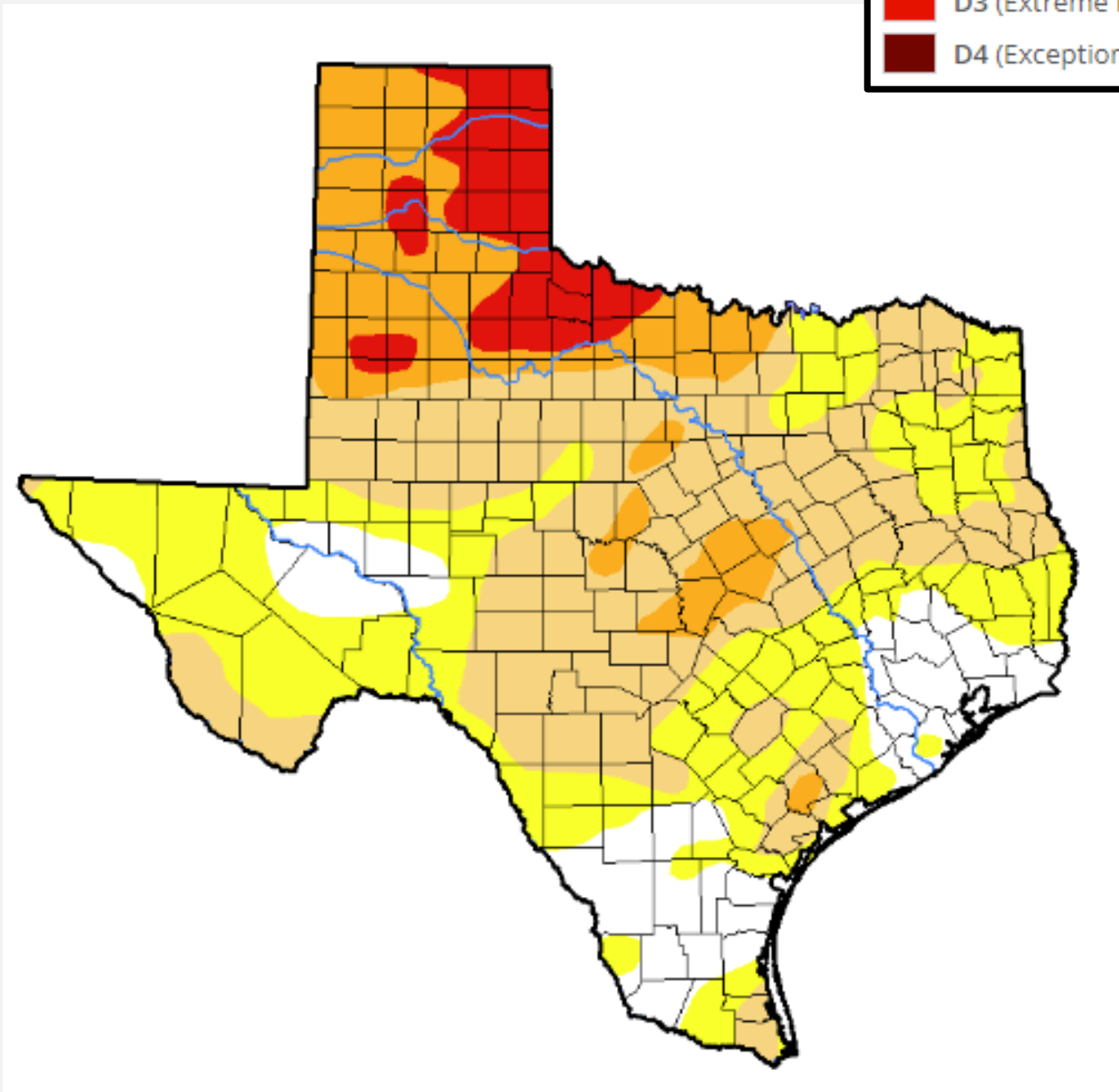
Drought Conditions

Most Recent Drought Map

Posted: January 30th

Intensity:

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)



Source:
<http://droughtmonitor.unl.edu>



Monthly Record Temperature and Rainfall Data

There were a total of eleven new records made throughout the month of December across SE TX primary climate sites.

Site	Date	Record Type	New Record	Previous Record
Houston Hobby	1/16	Low Min Temp	25°	27 in 1972
Houston Hobby	1/16	Daily Snowfall	T	0.00 in 2017
Houston Hobby	1/17	Low Min Temp	19°	23 in 1965
Houston Hobby	1/17	Low Max Temp	37°	38 in 2007
Houston Hobby	1/18	Low Max Temp	38°	Tied in 1978
City of Houston	1/16	Daily Snowfall	0.1"	T in 1953
City of Galveston	1/03	Daily Snowfall	T	Tied in 1919
City of Galveston	1/16	Daily Snowfall	T	0.00 in 2017
City of Galveston	1/17	Low Max Temp	36°	37 in 1885
City of College Station	1/16	Daily Snowfall	T	Tied in 1964
City of College Station	1/16	Low Min Temp	19°	21 in 1982



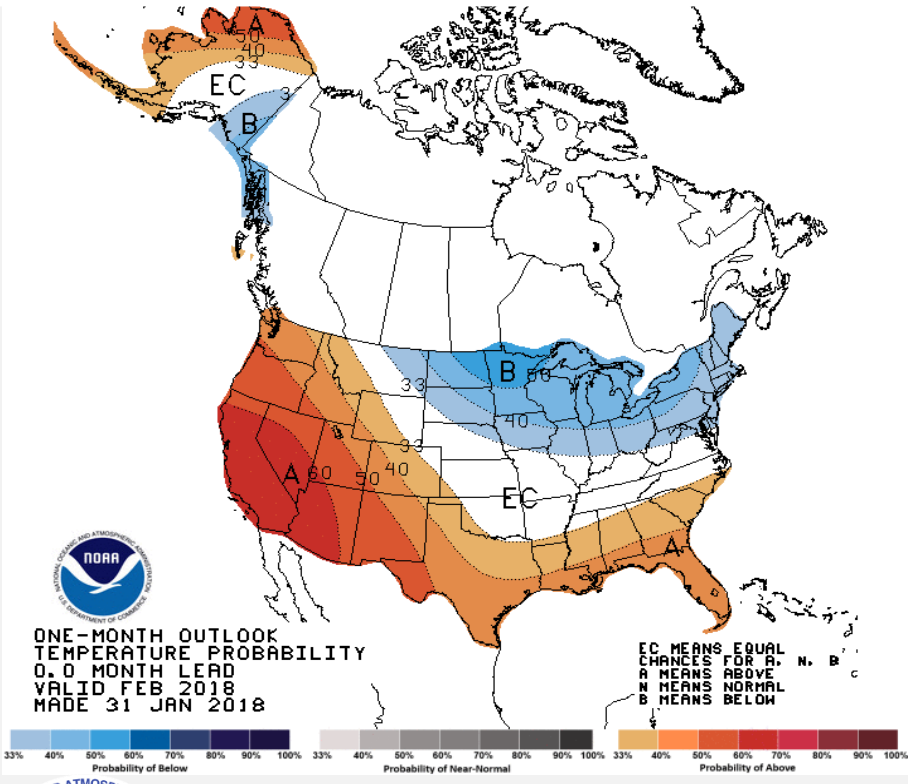
February Outlook

The latest outlook from the Climate Prediction Center (CPC) calls for an increased likelihood of above normal temperatures and below normal precipitation for the month of February.

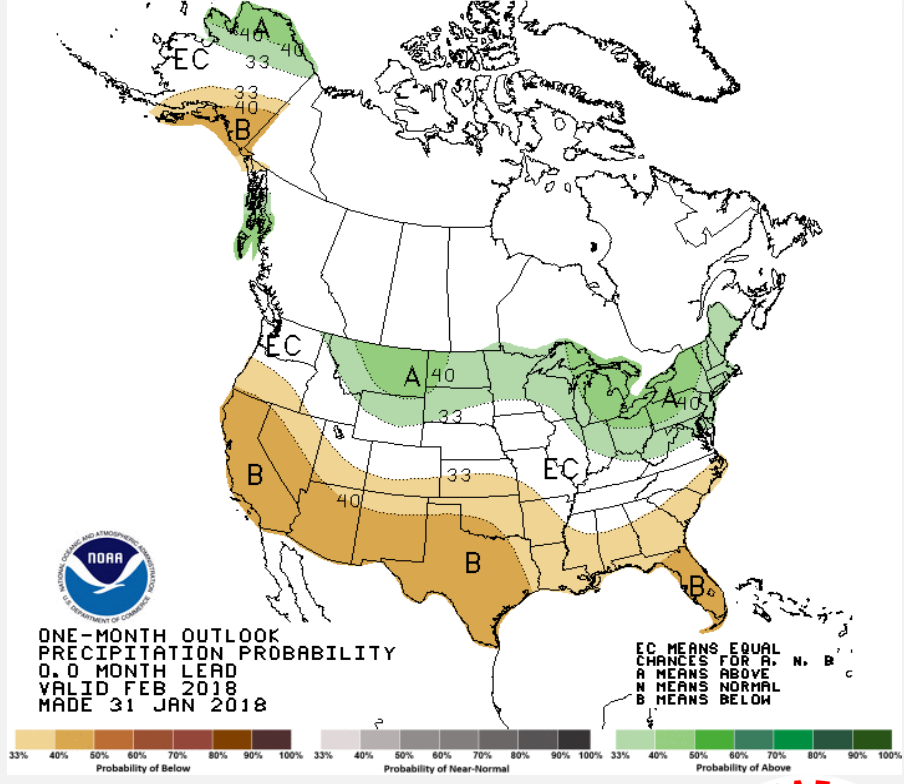
Site	Average Temp(°F)	Normal High (°F)	Normal Low (°F)
Galveston	57.6	64.3	50.9
Houston Hobby	57.3	66.0	48.5
City of Houston	56.4	66.3	46.5
College Station	54.6	64.8	44.4

Site	Normal Monthly Precipitation (in.)
Galveston (GLS)	2.57
Houston Hobby (HOU)	3.21
City of Houston (IAH)	3.20
College Station (CLL)	2.85

Upcoming Temperature Outlook



Upcoming Precipitation Outlook



Climate Primary Site History

Galveston (GLS)

Records for Galveston are from observations at the following locations: 67-69 Strand (April 1, 1871 - Aug 31, 1874); 23rd and the Strand (Sep 1, 1874 - July 29, 1878), 1.75 miles WSW of the previous location; the Custom House at Bath Street and the Strand (July 30, 1878 - May 8, 1882); Colorado and Sante Fe Railroad Building at 25th and the Strand (May 9, 1882 - March 14, 1883); back to the Custom House which later became the Cotton Exchange Building (March 15, 1883 - June 24, 1898), about a 1/3 of a mile E of the previous Custom House location; The Levy Building at 2223 Market Street (June 25, 1898 - Nov 26, 1900); the Trust Building at Tremont and Post Office Streets (Nov 27, 1900 - June 24, 1946), one-quarter mile south of the Levy Building; the U.S. Post Office Building at 601 Rosenberg (June 25, 1946 - 1994); Scholes Field (January 1995 to present).

Houston Hobby (HOU)

Records are based upon observations beginning in August 1931.

City of Houston (IAH)

Records for the City of Houston are from observations at the following locations: Cotton Station from July 1881 through September 1909, Stewart Building at Preston and Fannin from September 1909 through February 1926, Shell Building at Texas and Fannin from March 1926 through August 1938, Federal Building at Franklin and Fannin from August 1938 through May 1969, Intercontinental Airport from June 1969 to the present .

College Station (CLL)

Records from 1893 through July 1951 are based on observations taken at the Texas Agriculture Experiment COOP Station main farm located 6 miles southwest of College Station. Records from August 1951 through the present are based on observations taken at Easterwood field. Normal temperatures are calculated from 1981 to 2000 period.

