

NWS Houston, Texas August 2019 Regional Climate Summary

Produced by Nikki Hathaway, Jimmy Fowler, & Joshua Lichter

. . . Abnormally Dry August leads to the Development of Moderate Drought in Portions of Southeast Texas. . .

August continued the abnormally warm trend summer with twenty three daily records broken across the primary climate sites. High pressure remained over most of Texas throughout the month resulting in another month with mostly below normal precipitation. The continued dry conditions has lead to the development of Moderate Drought along the western portion of the region. There were a few severe thunderstorms during the month of August, including one that went through the City of Houston on August 28th. This storm knocked down a tree in Montrose and produced building damage in portions on Pasadena and Downtown Houston. The tropics remained fairly quiet through the first portion of the month, however three storms were named in the Atlantic within the last 10 days of the month, including Hurricane Dorian that strengthened into a Category 5 Hurricane.

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August 2019 by the Numbers

Location (records started)	Average Temp	Ranking	Total Rainfall	Ranking
City of Houston, TX (1888)	87.6°F	3 rd Warmest	2.42"	49 th Driest
Houston Hobby, TX (1930)	86.7°F	3 rd Warmest	7.11"	21 st Wettest
City of Galveston, TX (1871)	87.8°F	2 nd Warmest	2.25"	41 st Driest
City of College Station, TX (1882)	88.0°F	4 th Warmest	2.10"	51 st Wettest
Conroe, TX (1997)	85.4°F	4 th Warmest	1.82"	10 th Driest
David Wayne Hooks (Tomball), TX (1998)	86.0°F	2 nd Warmest	1.75"	5 th Driest
Angleton, TX (1998)	84.4°F	5 th Warmest	3.38"	10 th Wettest
Clover Field (Pearland), TX (1997)	85.9°F	4 th Warmest	5.73"	9 th Wettest
Palacios, TX (1943)	88.0°F	Warmest on Record	2.07"	25 th Driest
Sugar Land, TX (2000)	85.9°F	3 rd Warmest	1.79"	3 rd Driest
Huntsville, TX (1997)	87.2°F	3 rd Warmest	0.51"	5 th Driest
League City, TX (1990)	85.6°F	3 rd Warmest	4.53"	13 th Driest



Precipitation

August experienced another month of mostly isolated to scattered showers and thunderstorms resulting in widely variable precipitation totals. Majority of the climate sites saw below normal precipitation totals, although the Houston-Hobby (HOU) site was an outlier with 7.11" of rain bringing them about 2" above normal. The continued overall below normal precipitation this month expanded drought conditions across the area resulting in many counties issuing outdoor burn bans. Localized heavy rainfall from thunderstorms did result in one Flash Flood Warning and 21 Urban and Small Stream Flood Advisories.

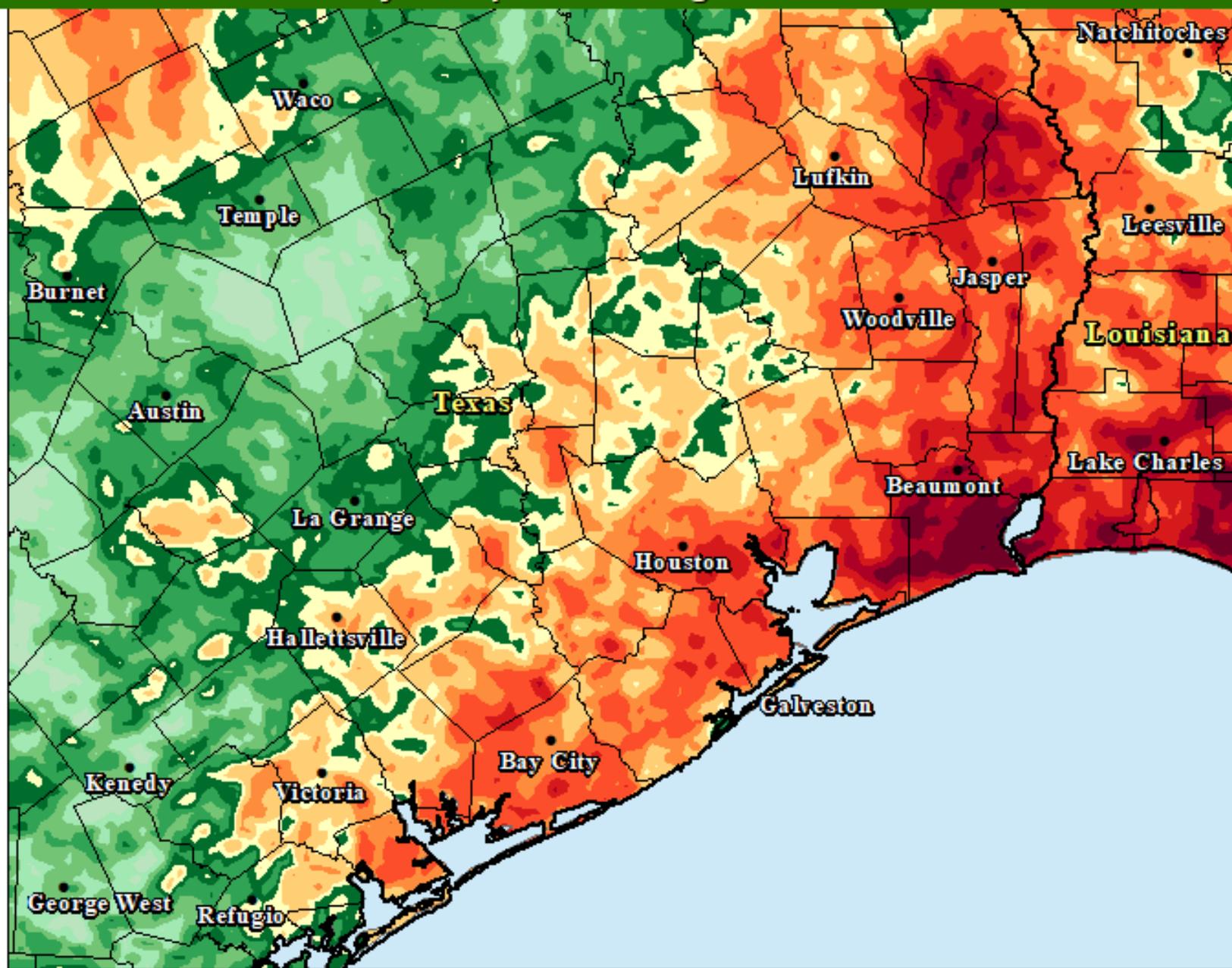
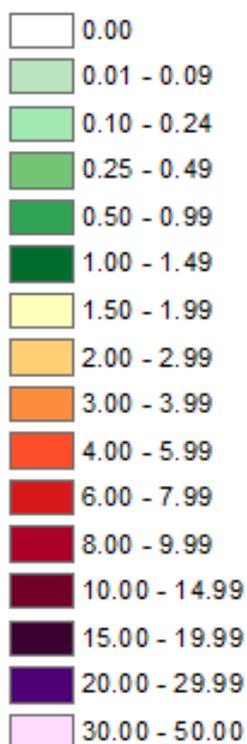
Site	Total Precipitation (in.)	Departure from Normal (in.)	Number of Thunder Days	Maximum Daily Precipitation (in./date)	
Galveston (GLS)	2.25	-2.14	9	1.01	August 23 rd
Houston Hobby (HOU)	7.11	+2.05	15	2.83	August 19 th
City of Houston (IAH)	2.42	-1.34	11	1.50	August 25 th
College Station (CLL)	2.10	-0.58	9	0.57	August 14 th



Precipitation (Continued)

Total Monthly Precipitation - August 2019

Inches



Created by the
NWS Forecast Office
Houston/Galveston, TX



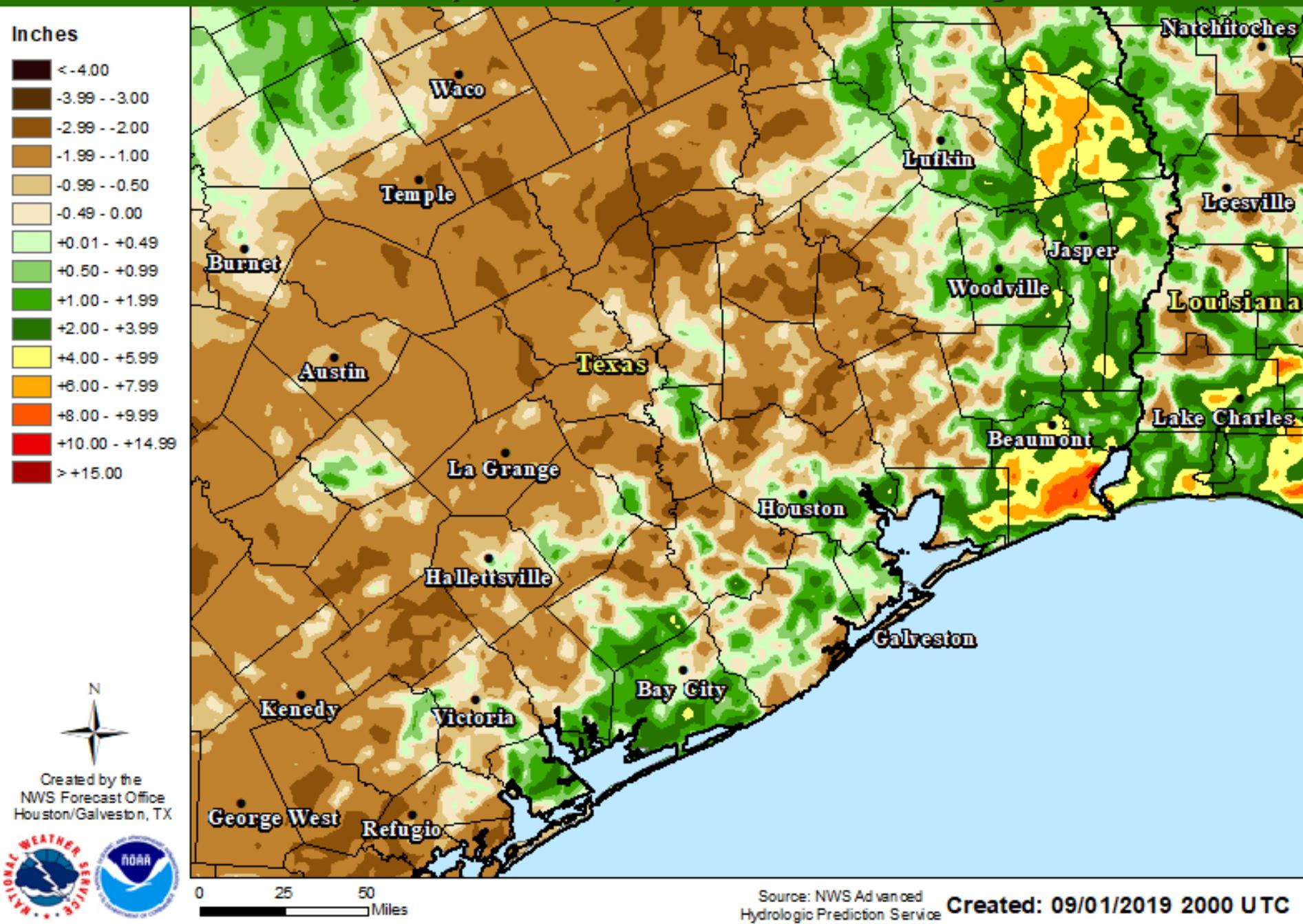
0 25 50
Miles

Source: NWS Advanced Hydrologic Prediction Service
Created: 09/01/2019 2000 UTC



Precipitation (Continued)

Total Monthly Precipitation Departure From Normal - August 2019



Temperatures

Daily average temperatures were above normal for most of the month of August with high pressure often times dominating the forecast. Houston climbed to triple digit heat for the first time this year on August 8th, then continued to see daily maximum temperatures over 100 degrees through August 14th. August 8th also brought dangerous heat to Galveston, which saw a maximum heat index of 117 degrees. The heat and humidity led to multiple Heat Advisories being issued throughout the month. Overall, College Station, Houston, and Galveston respectively saw their fourth, third, and second warmest Augusts on record.

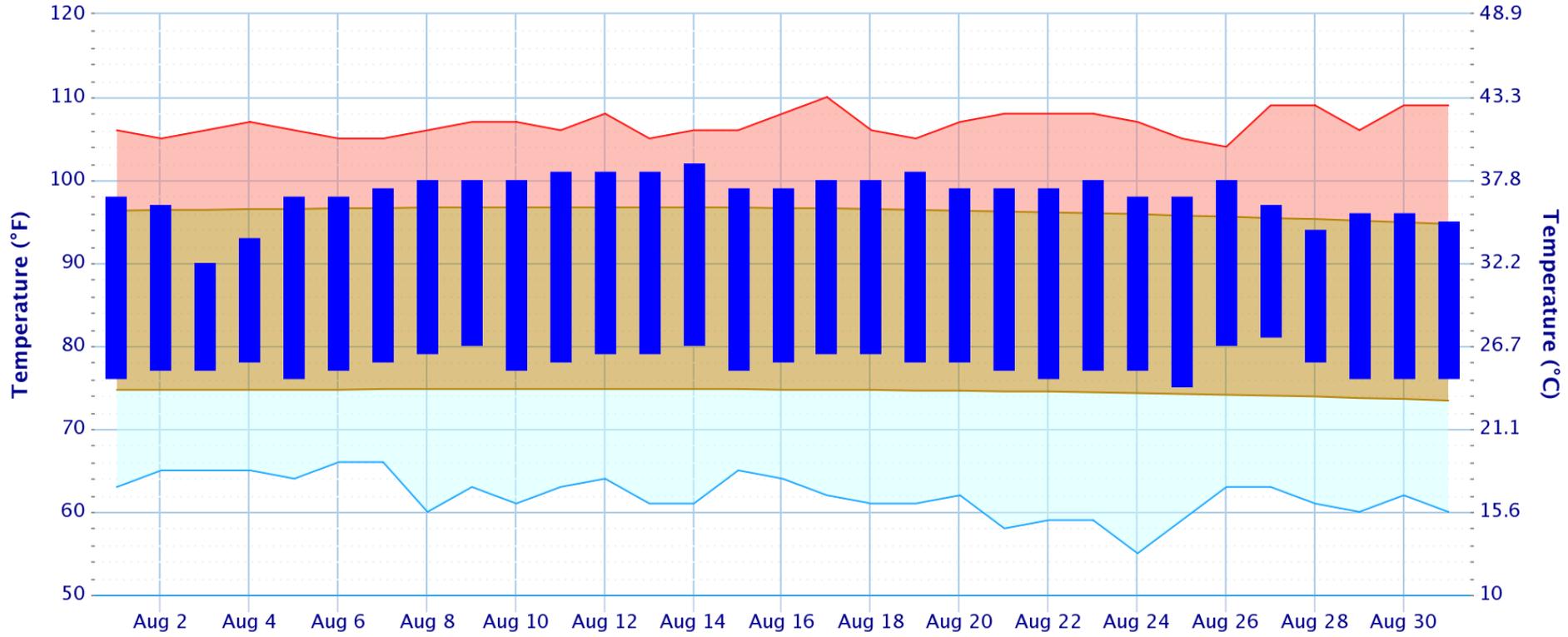
Site	Average Temp (F)	Average High Temp (F)	Average Low Temp (F)	Normal Average Temp (F)	Departure From Normal (F)	Maximum Temperature (F)	Minimum Temperature (F)
Galveston (GLS)	87.8	93.0	82.6	85.0	+2.8	98 on August 14 th	78 on August 24 th
Houston Hobby (HOU)	86.7	95.0	78.5	84.2	+2.5	100 on August 12 th , 13 th , and 14 th	73 on August 28 th
City of Houston (IAH)	87.6	97.5	77.8	84.6	+3.0	103 on August 13 th	74 on August 28 th and 29 th
College Station (CLL)	88.0	98.3	77.7	85.3	+2.7	102 on August 14 th	75 on August 25 th



Monthly Temperature Charts

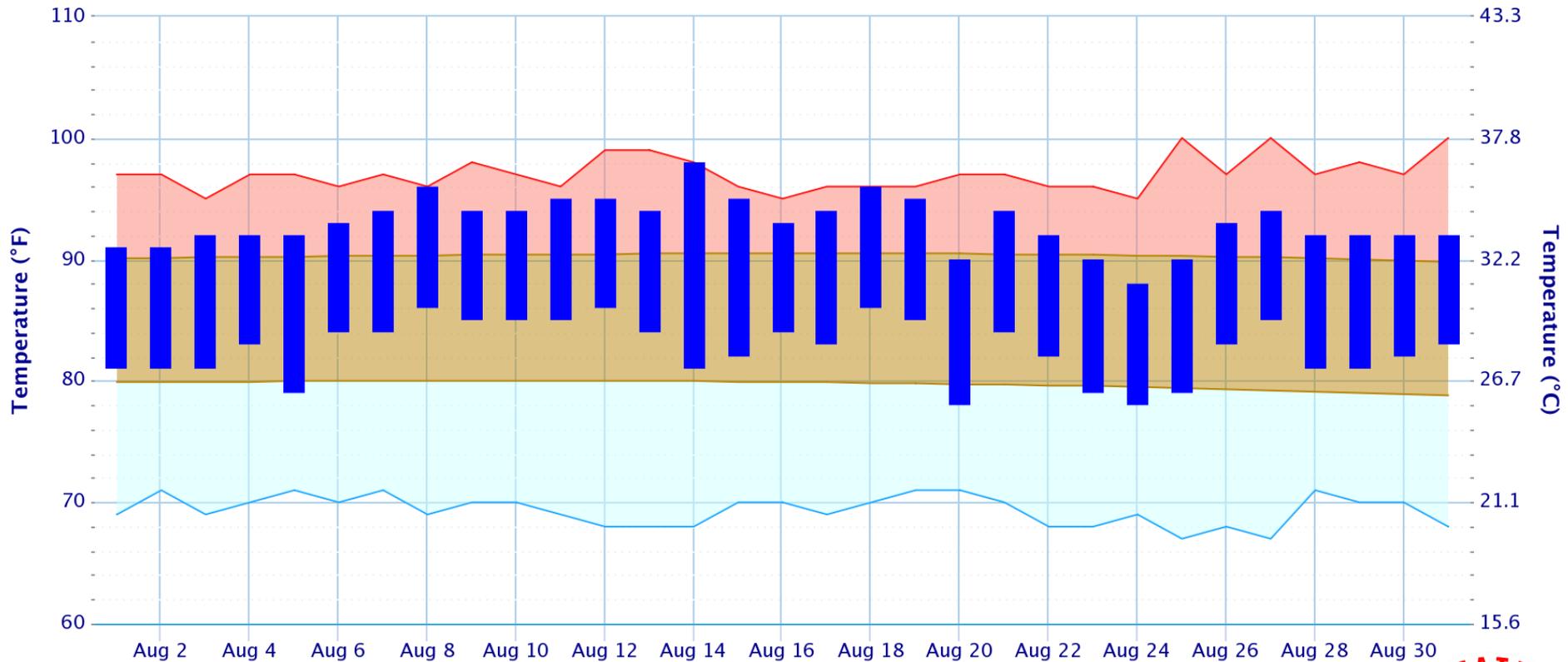
Daily Temperature Data – College Station Area, TX (ThreadEx)

Period of Record – Max temperature: 1888-10-01 to 2019-09-02; Min temperature: 1882-05-15 to 2019-09-02. Normals period: 1981-2010. Click and drag to zoom chart.



Daily Temperature Data – Galveston Area, TX (ThreadEx)

Period of Record – 1874-05-10 to 2019-09-02. Normals period: 1981-2010. Click and drag to zoom chart.



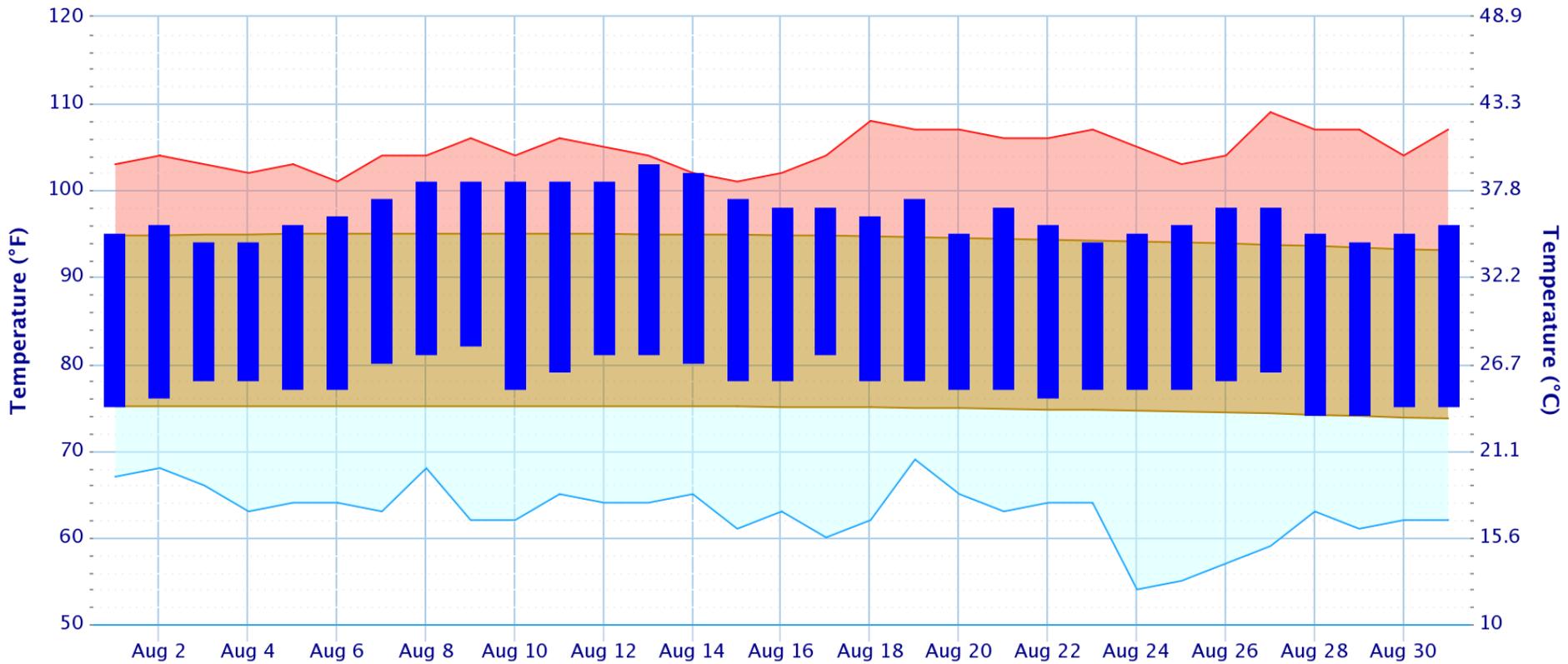
● Observed temperature range (2019) ● Normal temperature range — Record Max — Record Min



Monthly Temperature Charts (continued)

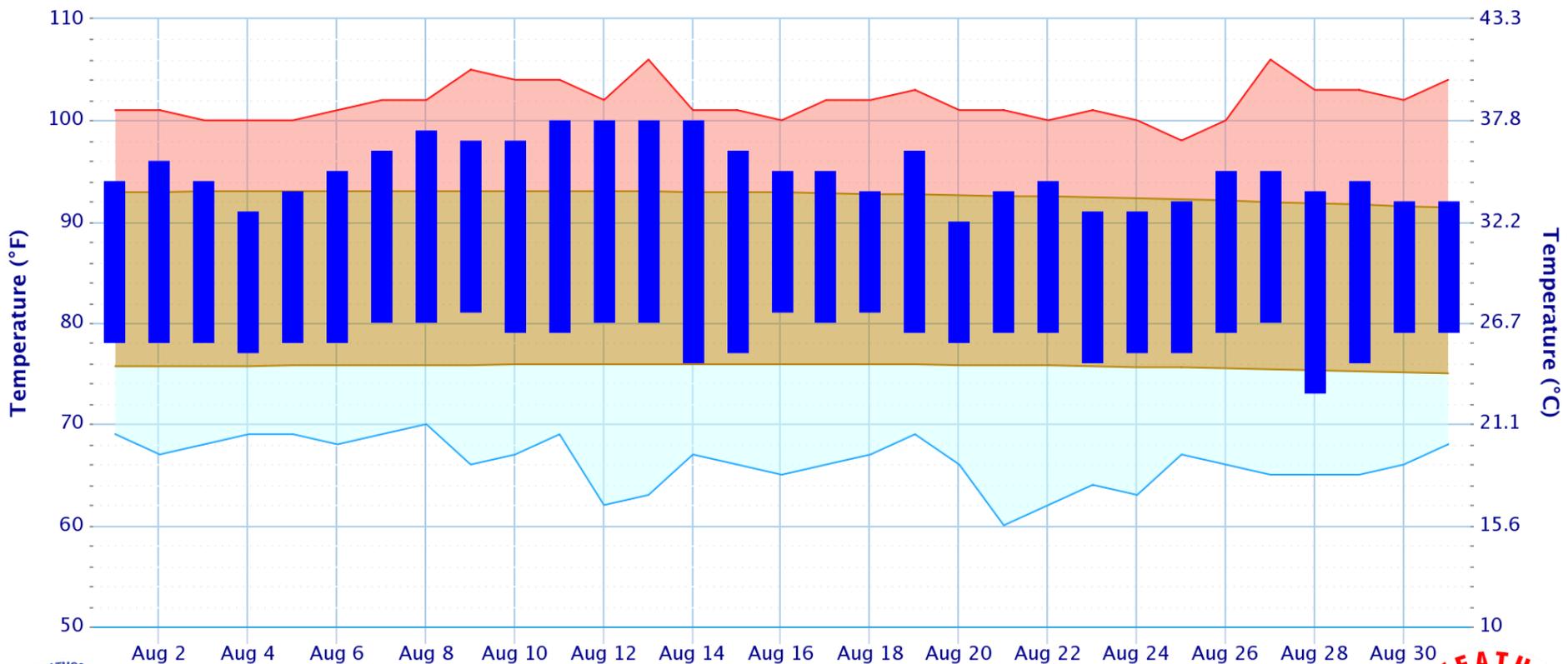
Daily Temperature Data – Houston Area, TX (ThreadEx)

Period of Record – 1889-05-01 to 2019-09-02. Normals period: 1981-2010. Click and drag to zoom chart.



Daily Temperature Data – HOUSTON WILLIAM P HOBBY AP, TX

Period of Record – 1930-08-01 to 2019-09-02. Normals period: 1981-2010. Click and drag to zoom chart.



● Observed temperature range (2019) ● Normal temperature range — Record Max — Record Min



Drought Conditions

Drought conditions expanded across the western and northern portions of the region. D1 (Moderate Drought) was introduced this month along the western border of the region.

Most Recent Drought Map

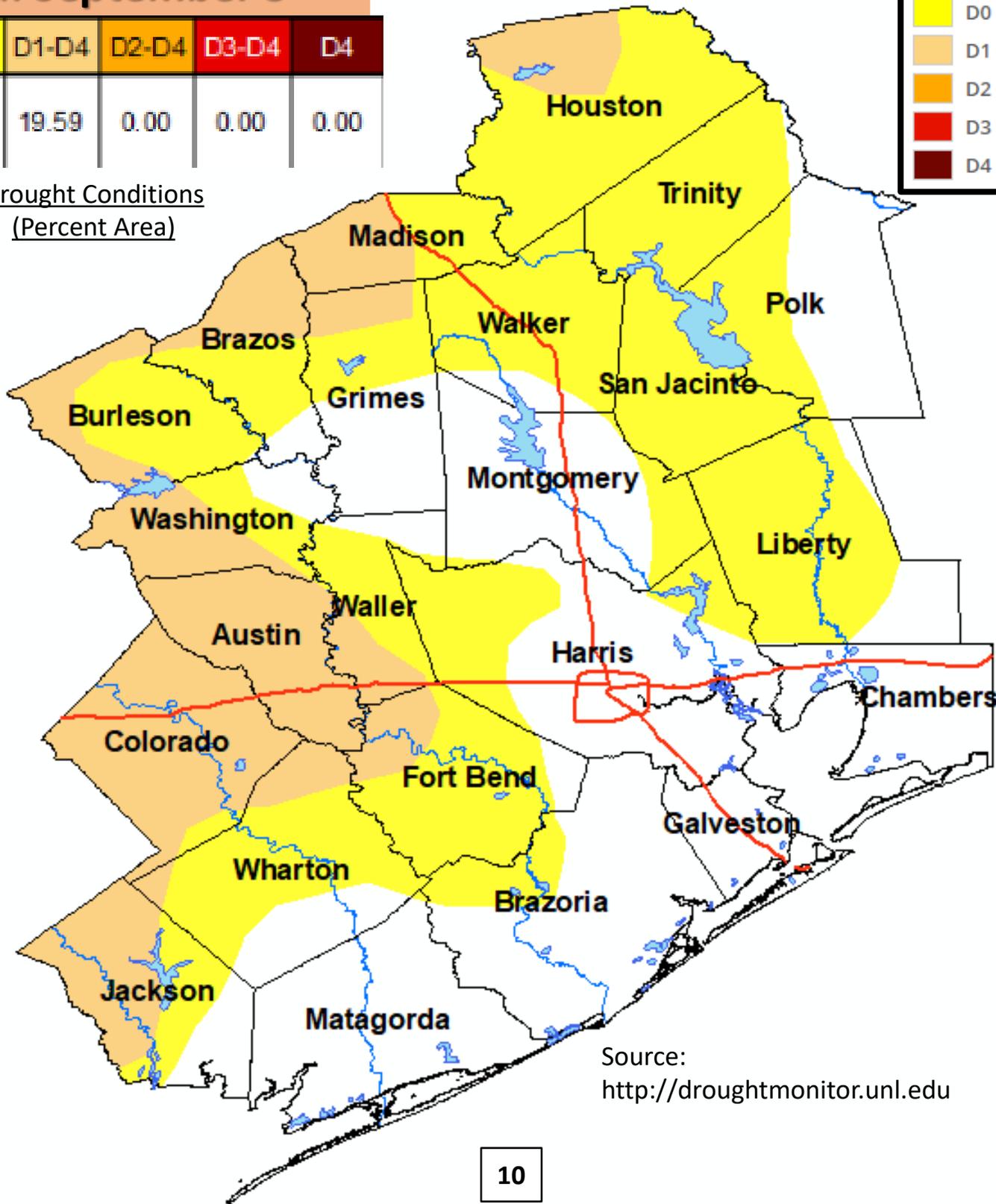
Posted: September 3rd

None	D0-D4	D1-D4	D2-D4	D3-D4	D4
38.19	61.81	19.59	0.00	0.00	0.00

Drought Conditions
(Percent Area)

Intensity:

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



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



August Daily Record Reports

A total of 23 daily records were set across the primary climate sites.

Site	Date	Record Type	New Record	Previous Record
Houston Hobby	August 7 th	High Min Temperature	80°	79° in 2016
Houston Hobby	August 8 th	High Min Temperature	80°	79° in 2002
City of Galveston	August 8 th	High Min Temperature	86°	85° in 2011
City of Galveston	August 8 th	High Max Temperature	96°	94° in 2011
City of Houston	August 8 th	High Min Temperature	81°	80° in 2011
City of Houston	August 9 th	High Min Temperature	82°	82° in 1980
Houston Hobby	August 9 th	High Min Temperature	81°	80° in 1980
City of Galveston	August 9 th	High Min Temperature	85°	85° in 2011
City of Galveston	August 10 th	High Min Temperature	85°	85° in 2011
City of Galveston	August 11 th	High Min Temperature	85°	85° in 2011
City of Galveston	August 12 th	High Min Temperature	86°	85° in 2011
City of Houston	August 14 th	High Max Temperature	102°	102° in 2007



August Daily Record Reports Continued

Site	Date	Record Type	New Record	Previous Record
City of Galveston	August 14 th	High Max Temperature	98°	98° in 1874
City of Houston	August 17 th	High Min Temperature	81°	81° in 2017
City of Galveston	August 18 th	High Min Temperature	86°	84° in 2017
City of Galveston	August 18 th	High Max Temperature	96°	96° in 2011
Houston Hobby	August 18 th	High Min Temperature	81°	81° in 2011
City of Galveston	August 19 th	High Min Temperature	85°	84° in 2005
City of Galveston	August 21 st	High Min Temperature	84°	84° in 2014
Houston Hobby	August 26 th	High Min Temperature	79°	79° in 2018
Houston Hobby	August 27 th	High Min Temperature	80°	79° in 2014
City of Galveston	August 27 th	High Min Temperature	85°	84° in 1989
City of College Station	August 27 th	High Min Temperature	81°	79° in 1902



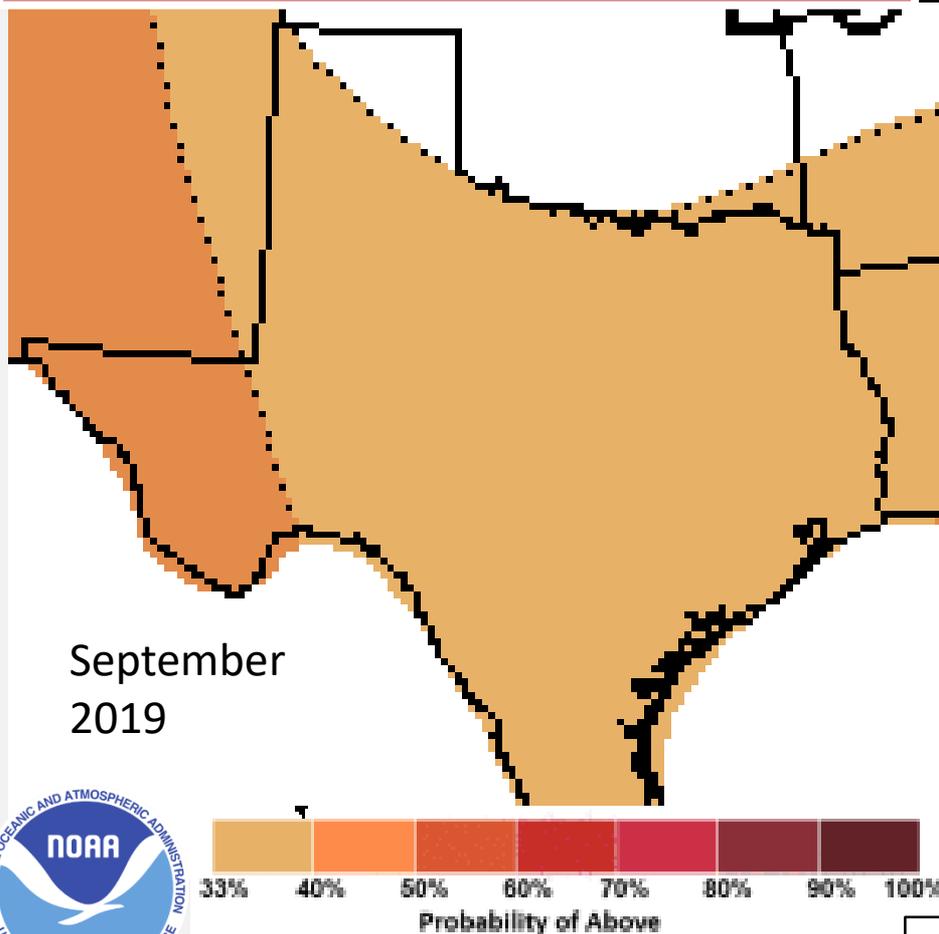
September Outlook

For September, the latest outlook from the Climate Prediction Center (CPC) calls for a 38% chance of above normal temperatures, 33% near normal temperatures, and a 30% chance for below normal temperatures across the area. The precipitation outlook calls for equal chances for above, below, or normal precipitation.

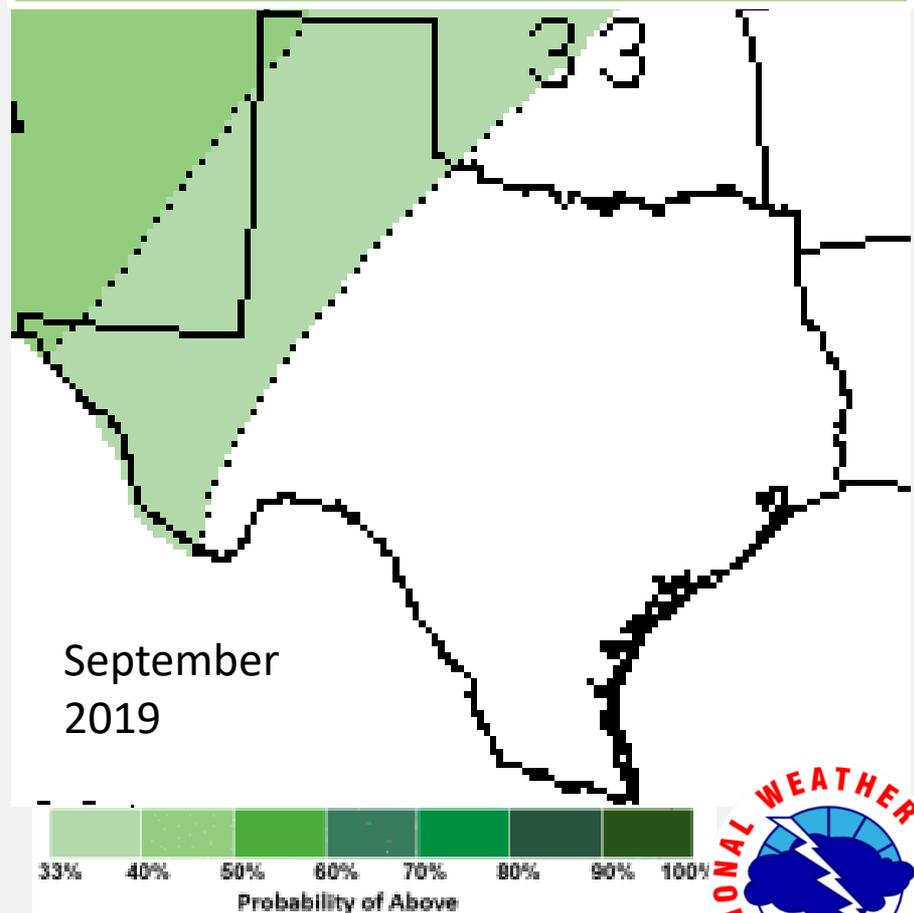
Site	Average Temp(°F)	Normal High (°F)	Normal Low (°F)
Galveston	81.6	87.4	75.9
Houston Hobby	80.1	88.4	71.7
City of Houston	79.8	89.7	68.8
College Station	80.0	90.5	69.4

Site	Normal Monthly Precipitation (in.)
Galveston (GLS)	6.03
Houston Hobby (HOU)	5.12
City of Houston (IAH)	4.12
College Station (CLL)	3.18

Temperature Outlook

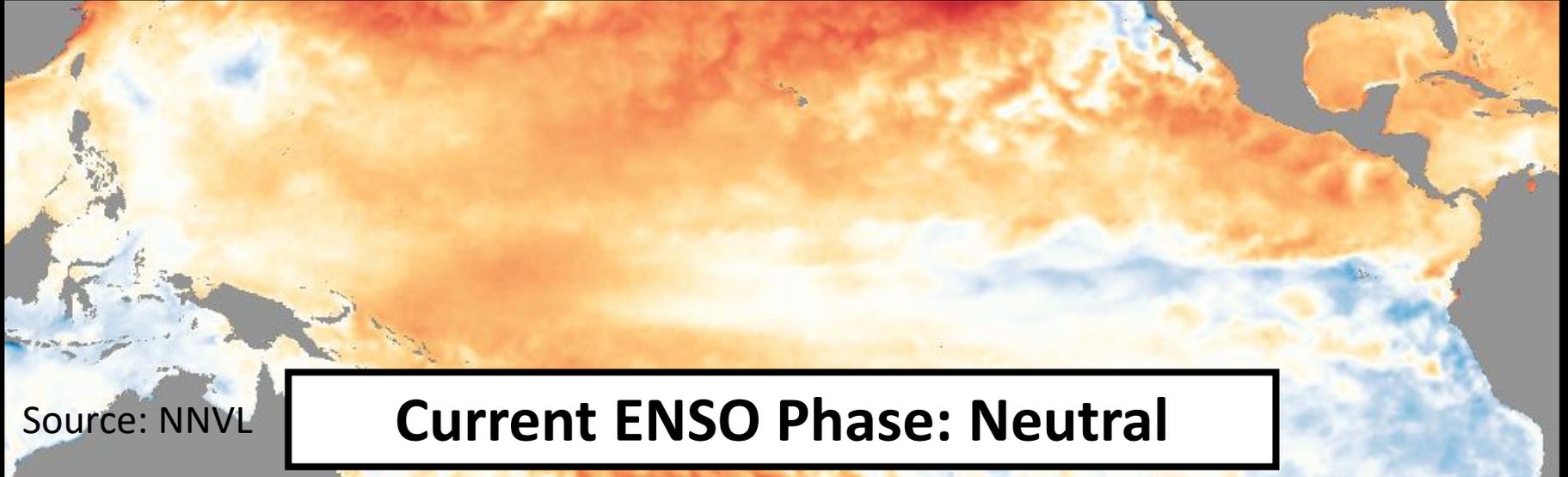


Precipitation Outlook

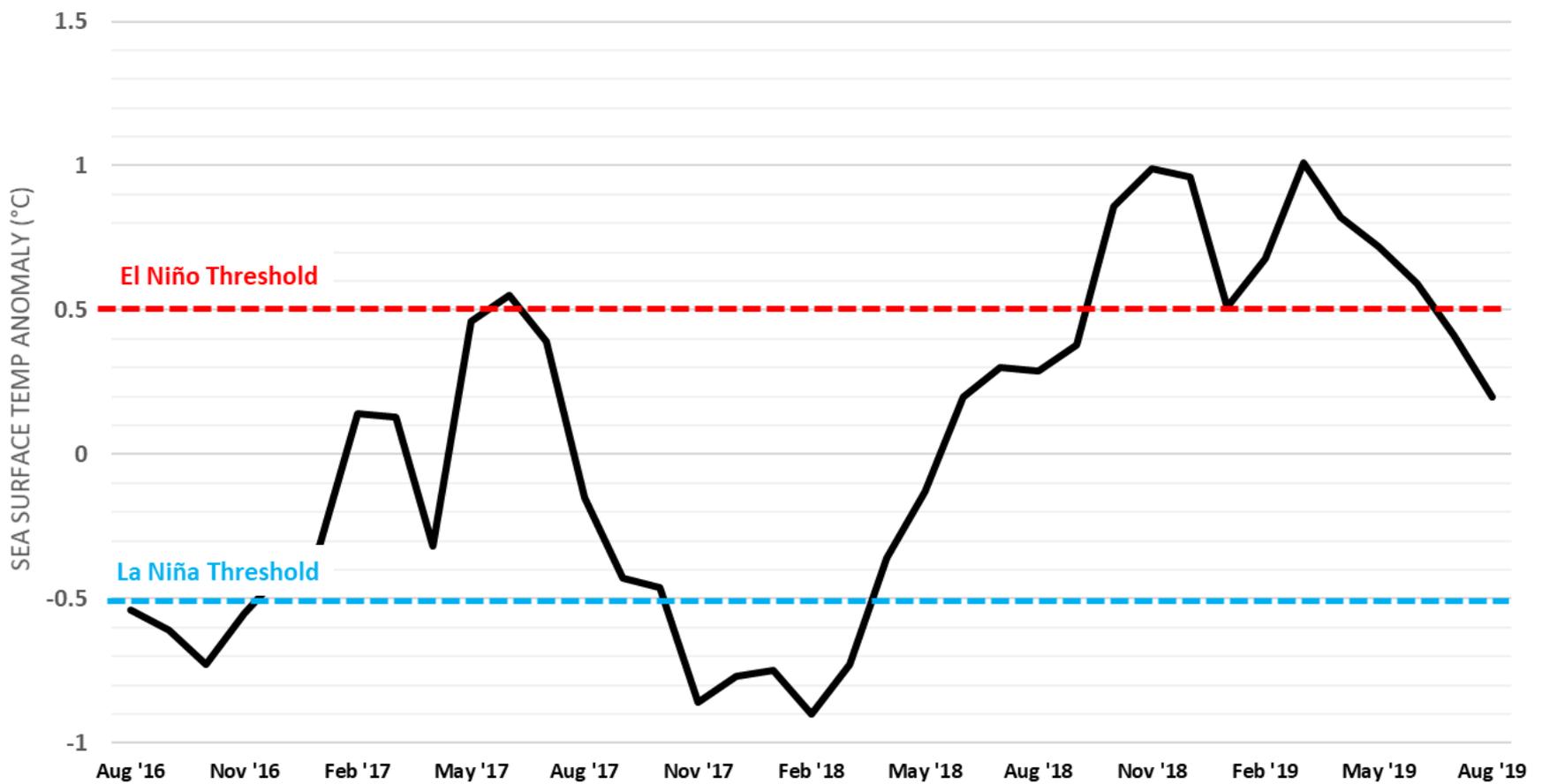


ENSO Observations

Sea Surface Temperature Anomalies across the Tropical Pacific Ocean during the month of August



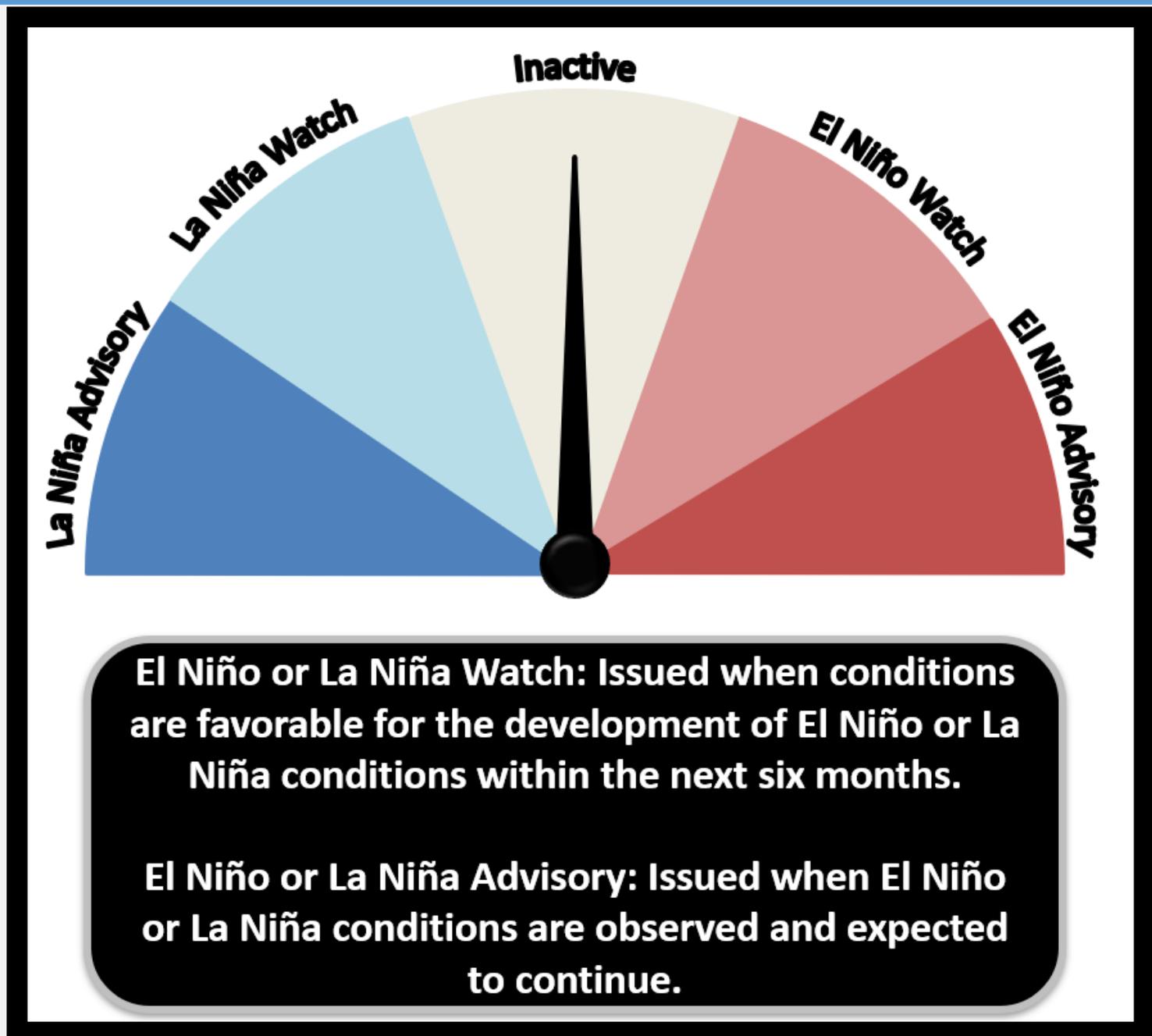
Sea Surface Temperature Anomalies (°C) in the Tropical Pacific



ENSO Forecast

The Climate Prediction Center's ENSO Forecast: ENSO-Neutral Continues

- There is a 75% chance of ENSO-Neutral conditions continuing through the fall
- There is a 55-60% chance of ENSO-Neutral conditions continuing through the spring



Tropical Recap

Three tropical systems formed in the Atlantic Basin during the month of August:

- **Tropical Storm Chantal:**

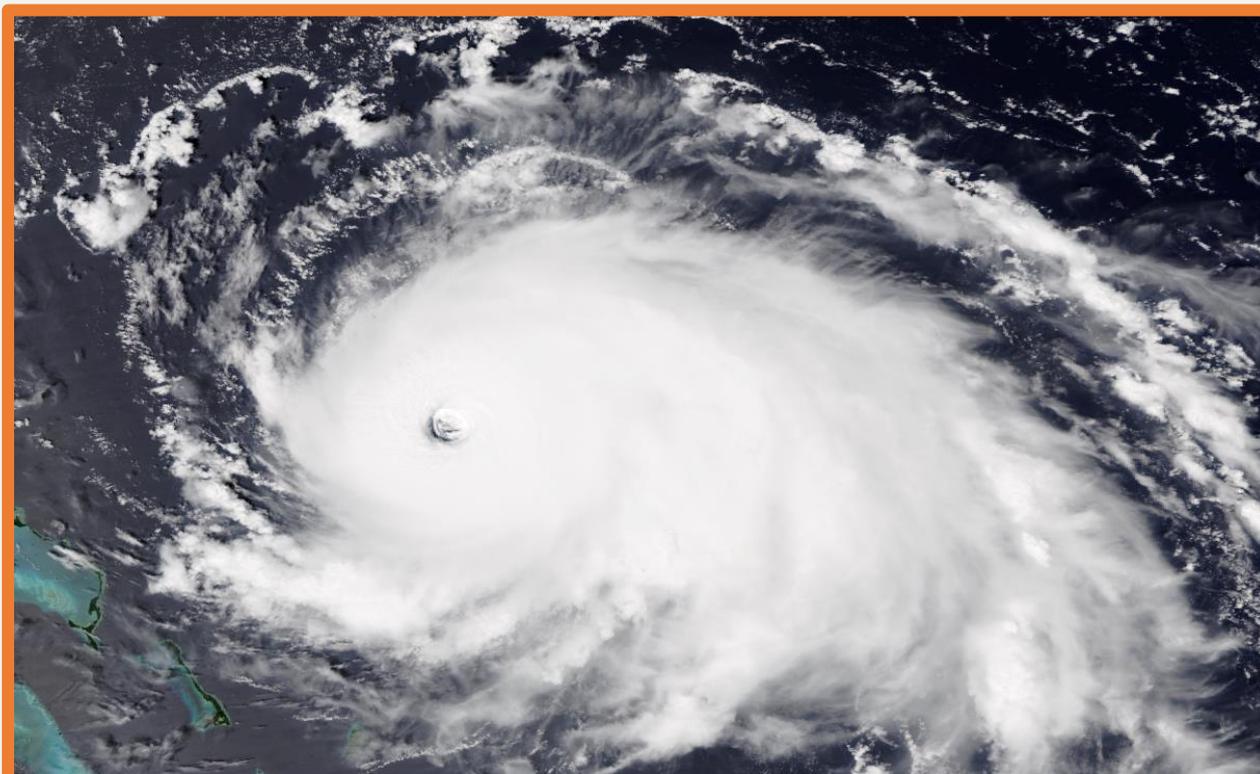
- Duration: August 21 – August 24
- Peak Wind Speed: 40 mph
- Location: North Atlantic Ocean

- **Hurricane Dorian:**

- Duration: August 24 – Through End of August Into September...
- Peak Wind Speed: 185 mph
- Location: Caribbean and along the Southeastern US coastline

- **Tropical Storm Erin:**

- Duration: August 26 – August 29
- Peak Wind Speed: 40 mph
- Location: Western Atlantic Ocean



Hurricane Dorian on August 31st, 2019

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 Santa 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.

