## NWS Houston, Texas August 2020 Regional Climate Summary

## Produced by Jimmy Fowler

## ...Above Normal Temperatures and Below Normal Precipitation continue across Southeast Texas...

...Hurricane Laura makes Landfall in Southeast Louisiana...
August was another month of unseasonably warm and dry conditions for SE Texas. Most of the region saw average temperatures around two to three degrees above normal with the City of Houston, Houston-Hobby, and the City of Galveston all experiencing all-time record high minimum temperatures on August $31^{\text {st. }}$. The City of Galveston and Houston-Hobby were both the second warmest Augusts on record. Precipitation deficits across the region were anywhere between two and four inches, which lead to the expansion of the drought across the north.

Hurricane Laura brought devastation to the Louisiana coastline at the end of the month with high winds, heavy rainfall, and historic storm surge. Some of the outer rain bands reached our extreme eastern areas, but Southeast Texas remained relatively unscathed.

## Table of Contents

## Page Number Page Title

1
2
3
4
5
6
7
8
9-11
12
13
14-16
17
18
19

Cover
Table of Contents
By the Numbers
Precipitation Summary
Precipitation Graph
Precipitation Imagery
Temperature Summary
Temperature Charts
Daily Record Reports
Drought Monitor
Next Month Outlook
Fall Outlook
ENSO Review
Hurricane Laura
Climate Primary Site History

By the Numbers: August 2020

| Location <br> (records started) | Average Temp | Ranking | Total Rainfall | Ranking |
| :---: | :---: | :---: | :---: | :---: |
| City of Houston, TX (1888) | $86.6^{\circ} \mathrm{F}$ | $8^{\text {th }}$ Warmest | 2.26" | 53 ${ }^{\text {rd }}$ Driest |
| Houston Hobby, TX (1930) | $87.0^{\circ} \mathrm{F}$ | $2^{\text {nd }}$ Warmest | 3.20 ' | $42^{\text {nd }}$ Driest |
| City of Galveston, TX (1871) | $87.9^{\circ} \mathrm{F}$ | $2^{\text {nd }}$ Warmest | 0.75" | $13^{\text {th }}$ Driest |
| City of College Station, TX (1882) | $86.5^{\circ} \mathrm{F}$ | $17^{\text {th }}$ Warmest | 0.58' | 23 ${ }^{\text {rd }}$ Driest |
| Conroe, TX (1997) | $85.2{ }^{\circ} \mathrm{F}$ | $5^{\text {th }}$ Warmest | 1.74" | 9 ${ }^{\text {th }}$ Driest |
| Huntsville, TX (1997) | $86.3^{\circ} \mathrm{F}$ | $5^{\text {th }}$ Warmest | 3.11' | $9^{\text {th }}$ Wettest |
| Sugar Land, TX (2000) | $85.6^{\circ} \mathrm{F}$ | $4^{\text {th }}$ Warmest | 2.78' | $6^{\text {th }}$ Driest |
| Palacios, TX (1943) | $85.7^{\circ} \mathrm{F}$ | $10^{\text {th }}$ Warmest | 0.16" | $2^{\text {nd }}$ Driest |
| Clover Field (Pearland), TX (1997) | $86.5^{\circ} \mathrm{F}$ | $3^{\text {rd }}$ Warmest | 2.77' | $8^{\text {th }}$ Driest |
| David Wayne Hooks (Tomball), TX (1998) | $85.1{ }^{\circ} \mathrm{F}$ | $6^{\text {th }}$ Warmest | 1.66" | $5^{\text {th }}$ Driest |
| Angleton, TX (1998) | $84.5{ }^{\circ} \mathrm{F}$ | $5^{\text {th }}$ Warmest | 2.15' | $9^{\text {th }}$ Driest |
| League City, TX (1990) | $85.7^{\circ} \mathrm{F}$ | $2^{\text {nd }}$ Warmest | 1.44" | $2^{\text {nd }}$ Driest |

## Precipitation

| Location | Total <br> Precipitation <br> (in.) | Departure from <br> Normal (in.) | Number of <br> Thunder Days | Maximum Daily Precipitation <br> (in./date) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Galveston <br> (GLS) | 0.75 | -3.65 | 8 | 0.34 | $24^{\text {th }}$ |
| Houston Hobby <br> (HOU) | 3.20 | -1.86 | 9 | 1.42 | $1^{\text {st }}$ |
| City of Houston <br> (IAH) | 2.26 | -1.50 | 8 | 1.63 | $17^{\text {th }}$ |
| College Station <br> (CLL) | 0.58 | -2.10 | 7 | 1.43 | $28^{\text {th }}$ |

August was an abnormally dry month across the region. Galveston and College Station both saw rainfall totals for the month below one inch.

## Precipitation Accumulation Graph

## Accumulated Precipitation

Green/black diamonds represent subsequent/missing values


## Precipitation Maps


$\square$

## Temperature

| Location | Average <br> High <br> Temp (F) | Average <br> Low (F) <br> Temp (F) | Average <br> Temp <br> (F) | Normal <br> Average <br> Temp (F) | Departure <br> From Normal <br> Average (F) | Maximum <br> Temperature <br> (F) | Minimum <br> Temperature <br> (F) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Galveston <br> (GLS) | 93.0 | 82.7 | 87.9 | 85.0 | +2.9 | 97 on the $18^{\text {th }}$ | 77 on the $1^{\text {st }}$ |
| Houston <br> Hobby <br> (HOU) | 95.6 | 78.5 | 87.0 | 84.2 | +2.8 | 100 on the <br> $16^{\text {th }}$ | 73 on the $1^{\text {st }}$ <br> \& $17^{\text {th }}$ |
| City of <br> Houston <br> (IAH) | 97.1 | 86.6 | 76.0 | 84.6 | +2.0 | 102 on the | $16^{\text {th }}$ |

August continued the stretch of above normal temperatures the region has been experiencing with the average temperature about two to three degrees above normal region-wide. There were 30 daily temperature records set during the month of August: 25 of them were high minimum temperature records, and 5 were daily high maximum temperature records. On August 31st, Houston, HoustonHobby, and Galveston all experienced all-time record high minimum temperatures. This August was in the Top Ten warmest Augusts for much of the area (see page 3).

City of College Station


City of Galveston


Houston-Hobby
Daily Temperature Data - HOUSTON WILLIAM P HOBBY AP, TX


City of Houston


## $=$

## Daily Record Reports

| Site | Date | Record Type | New Record | Previous Record |
| :---: | :---: | :---: | :---: | :---: |
| City of Houston | August $15^{\text {th }}$ | High Max Temperature | $101^{\circ}-\mathrm{T}$ | $101^{\circ}$ in 1994 |
| City of Houston | August $16^{\text {th }}$ | High Max Temperature | $102^{\circ}-\mathrm{T}$ | $102^{\circ}$ in 2011 |
| City of Houston | August 31 ${ }^{\text {st }}$ | High Min Temperature | $83^{\circ}$ | $81^{\circ}$ in 2016 |
| Houston-Hobby | August 6th | High Min Temperature | $80^{\circ}-\mathrm{T}$ | $80^{\circ}$ in 2017 |
| Houston-Hobby | August $7^{\text {th }}$ | High Min Temperature | $80^{\circ}-\mathrm{T}$ | $80^{\circ}$ in 2019 |
| Houston-Hobby | August $8^{\text {th }}$ | High Min Temperature | $80^{\circ}-\mathrm{T}$ | $81^{\circ}$ in 2019 |
| Houston-Hobby | August $11^{\text {th }}$ | High Min Temperature | $81^{\circ}-\mathrm{T}$ | $81^{\circ}$ in 2017 |
| Houston-Hobby | August $16^{\text {th }}$ | High Max Temperature | $101^{\circ}-\mathrm{T}$ | $101^{\circ}$ in 2011 |
| Houston-Hobby | August $25^{\text {th }}$ | High Min Temperature | $79^{\circ}-\mathrm{T}$ | $79^{\circ}$ in 2005 |
| Houston-Hobby | August $26^{\text {th }}$ | High Min Temperature | $80^{\circ}$ | $79^{\circ}$ in 2018 |
| High Max |  | Key | High Min | Low Min |

# Daily Record Reports 

| Site | Date | Record Type | New Record | Previous Record |
| :---: | :---: | :---: | :---: | :---: |
| Houston-Hobby | August $30{ }^{\text {th }}$ | High Min Temperature | $81^{\circ}$ | $80^{\circ}$ in 2012 |
| Houston-Hobby | August 31 ${ }^{\text {st }}$ | High Min Temperature | $83^{\circ}$ | $82^{\circ}$ in 2012 |
| City of College Station | August 31 ${ }^{\text {st }}$ | High Min Temperature | $80^{\circ}$ | $79^{\circ}$ in 2012 |
| City of Galveston | July $7^{\text {th }}$ | High Min Temperature | $81^{\circ}$ | $80^{\circ}$ in 2016 |
| City of Galveston | July $8^{\text {th }}$ | High Min Temperature | $81^{\circ}$ | $79^{\circ}$ in 2019 |
| City of Galveston | July 9th | High Min Temperature | $81^{\circ}$ | $80^{\circ}$ in 1996 |
| City of Galveston | July $10^{\text {th }}$ | High Min Temperature | $80^{\circ}-\mathrm{T}$ | $80^{\circ}$ in 2016 |
| City of Galveston | July $13^{\text {th }}$ | High Min Temperature | $81^{\circ}$ | $80^{\circ}$ in 2017 |
| City of Galveston | July $14^{\text {th }}$ | High Min Temperature | $79^{\circ}-\mathrm{T}$ | $79^{\circ}$ in 2017 |
| City of Galveston | August $9^{\text {th }}$ | High Min Temperature | $85^{\circ}-\mathrm{T}$ | $85^{\circ}$ in 2019 |
| Key <br> High Max <br> Low Max <br> Precip <br> High Min <br> Low Min |  |  |  |  |

## Daily Record Reports



## Drought Monitor As of September $1^{\text {th }}$




## September Climatology \& Outlook

| Location | Average <br> Temp $\left({ }^{\circ} \mathrm{F}\right)$ | Normal <br> High ( $\left.{ }^{\circ} \mathrm{F}\right)$ | Normal <br> Low ( $\left.{ }^{\circ} \mathrm{F}\right)$ |
| :---: | :---: | :---: | :---: |
| Galveston | 81.6 | 87.4 | 75.9 |
| Houston Hobby | 80.1 | 88.4 | 71.7 |
| City of Houston | 79.8 | 89.7 | 69.8 |
| College Station | 80.0 | 90.5 | 69.4 |


| Location | Normal Monthly <br> Precipitation (in.) |
| :---: | :---: |
| Galveston | 6.03 |
| Houston Hobby | 5.21 |
| City of Houston | 4.12 |
| College Station | 3.18 |

Temperature Outlook


Fall Outlook (September - November)

## Temperature Outlook



## Precipitation Outlook



## Fall Climatology (September - November)



## Fall Climatology (September - November)



Legend

Red Line: Average Max Temperature

Black Line: Average Temperature

Blue Line: Average Min Temperature

## The Climate Prediction Center's ENSO Forecast:

 La Niña Advisory- La Niña conditions are present
- $75 \%$ chance of La Niña conditions continuing into the winter



El Niño or La Niña Watch: Issued when conditions are favorable for the development of El Niño or La Niña conditions within the next six months.

El Niño or La Niña Advisory: Issued when El Niño or La Niña conditions are observed and expected to continue.

## Hurricane Laura

Hurricane Laura was the $12^{\text {th }}$ named tropical system and the $4^{\text {th }}$ hurricane of the season in the Atlantic Basin. It was also the first Major Hurricane of the season. Laura originated from a cluster of strong thunderstorms that moved off the African coast on August $16^{\text {th }}$. It would eventually become Laura in the Eastern Caribbean on August $21^{\text {st }}$ and move across various Caribbean Islands through the next several days. On the $\mathbf{2 5}^{\text {th }}$ it entered the southern Gulf of Mexico. It moved northwestward through the Gulf towards the TX/LA coastline in the subsequent days while going under rapid intensification. It eventually made landfall near Cameron, LA around 1am on August 27th as a Category 4 Hurricane with maximum sustained winds of 150 mph .

Hurricane Laura brought devastating storm surge, heavy rainfall, and dangerous winds across extreme eastern Texas and across Louisiana. The highest storm surge reported from Laura so far was 17.2 ft in Rutherford Beach. There were 77 fatalities attributed to Laura across the Caribbean

| August 20 | th | August 29 | th |
| :--- | :--- | :--- | :--- |


Hurricane Hanna on August 26th ${ }^{\text {th }} 2020$ approaching the Louisiana coastline

## 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).

## 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.

## City of Houston (IAH)

Houston Hobby (HOU)
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, Records are based upon observations beginning in August 1931. 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 .

