

NWS Houston, Texas May 2019 Regional Climate Summary

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. . . Abnormally Warm and Wet May . . .

Ample rainfall and warm temperatures set a total of twenty two daily records across the primary climate sites through out the month of May. Above normal monthly rainfall totals kept drought to a minimum area wide. Weak El Niño conditions were also noted and an El Niño Advisory was in effect throughout the month.

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May 2019 by the Numbers

Location (records started)	Average Temp	Ranking	Total Rainfall	Ranking
City of Houston, TX (1888)	78.6°F	13 th Warmest	7.16"	28 th Wettest
Houston Hobby, TX (1930)	79.2°F	6 th Warmest	11.05"	7 th Wettest
City of Galveston, TX (1871)	78.6°F	9 th Warmest	6.72"	19 th Wettest
City of College Station, TX (1882)	77.1°F	24 th Warmest	7.90"	22 nd Wettest
Conroe, TX (1997)	77.1°F	5 th Warmest	7.35"	5 th Wettest
David Wayne Hooks (Tomball), TX (1998)	77.7°F	7 th Warmest	7.14"	7 th Wettest
Angleton, TX (1998)	77.6°F	5 th Warmest	5.96"	5 th Wettest
Pearland, TX (1997)	78.4°F	6 th Warmest	11.00"	2 nd Wettest
Palacios, TX (1943)	79.4°F	4 th Warmest	3.67"	36 th Wettest
Sugar Land, TX (2000)	78.1°F	7 th Warmest	12.63"	2 nd Wettest
Huntsville, TX (1997)	77.6°F	5 th Warmest	5.59"	6 th Wettest
League City, TX (1990)	78.7°F	3 rd Warmest	10.84"	2 nd Wettest



Precipitation

May 2019 was not only record worthy across Southeast Texas, but across the entire United States. This past May was “the second-wettest month in the U.S. that contributed to a record-wet, 12-month period.” Specifically, Houston Hobby recorded its 7th wettest May on record, 5th wettest in Conroe, and 2nd wettest for League City, Pearland, and Sugar Land. Most of the monthly rainfall can be attributed to many stalled frontal boundaries that washed out over the region. Multiple Flash Flood Watches had to be issued throughout the month to account for the heavy rainfall, as well as Flash Flood and River Flood Warnings.

Source: NOAA

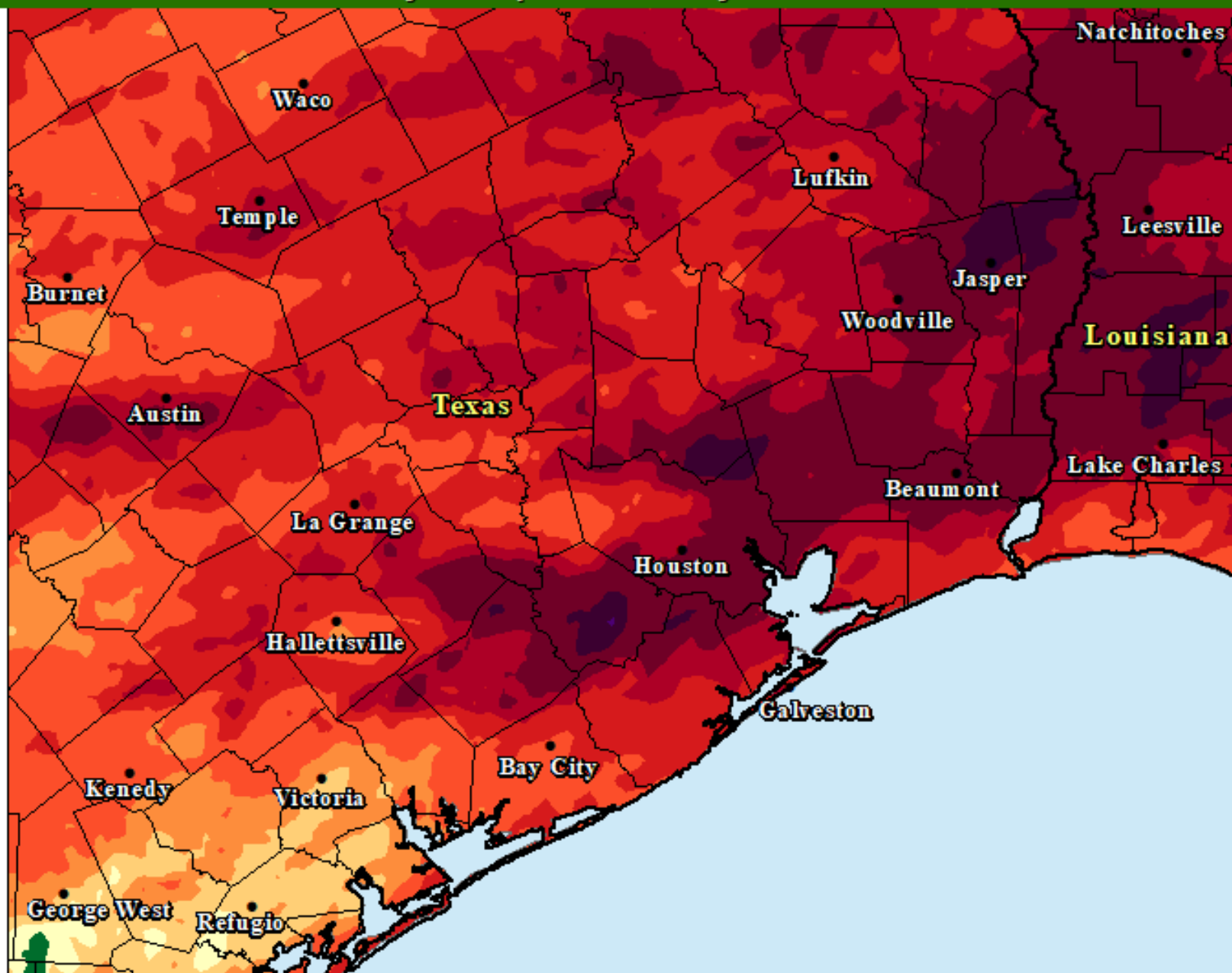
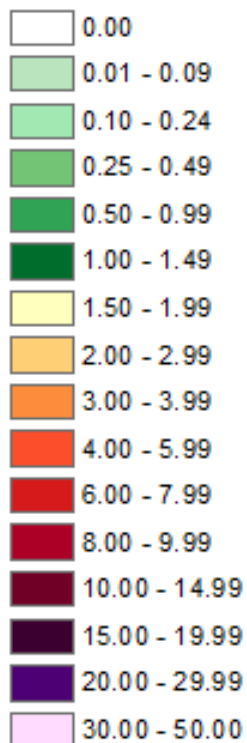
Site	Total Precipitation (in.)	Departure from Normal (in.)	Number of Thunder Days	Maximum Daily Precipitation (in./date)	
Galveston (GLS)	6.72	2.40	7	2.77	May 9th
Houston Hobby (HOU)	11.05	6.30	8	3.38	May 7th
City of Houston (IAH)	7.16	2.07	8	2.53	May 9th
College Station (CLL)	7.90	3.57	8	2.81	May 3rd



Precipitation (Continued)

Total Monthly Precipitation - May 2019

Inches



Created by the
NWS Forecast Office
Houston/Galveston, TX



0 25 50
Miles

Source: NWS Advanced Hydrologic Prediction Service
Created: 06/01/2019 2000 UTC



Temperatures

Daily average temperatures were above normal nearly every day throughout the month of May, besides the second week. A cold front moved through the region during the second week of the month and as a result, daily average temperatures were below normal by four to eleven degrees depending on the climate site. Overall, May 2019 ranked 7th warmest for Houston Hobby and 9th warmest for the City of Galveston on record.

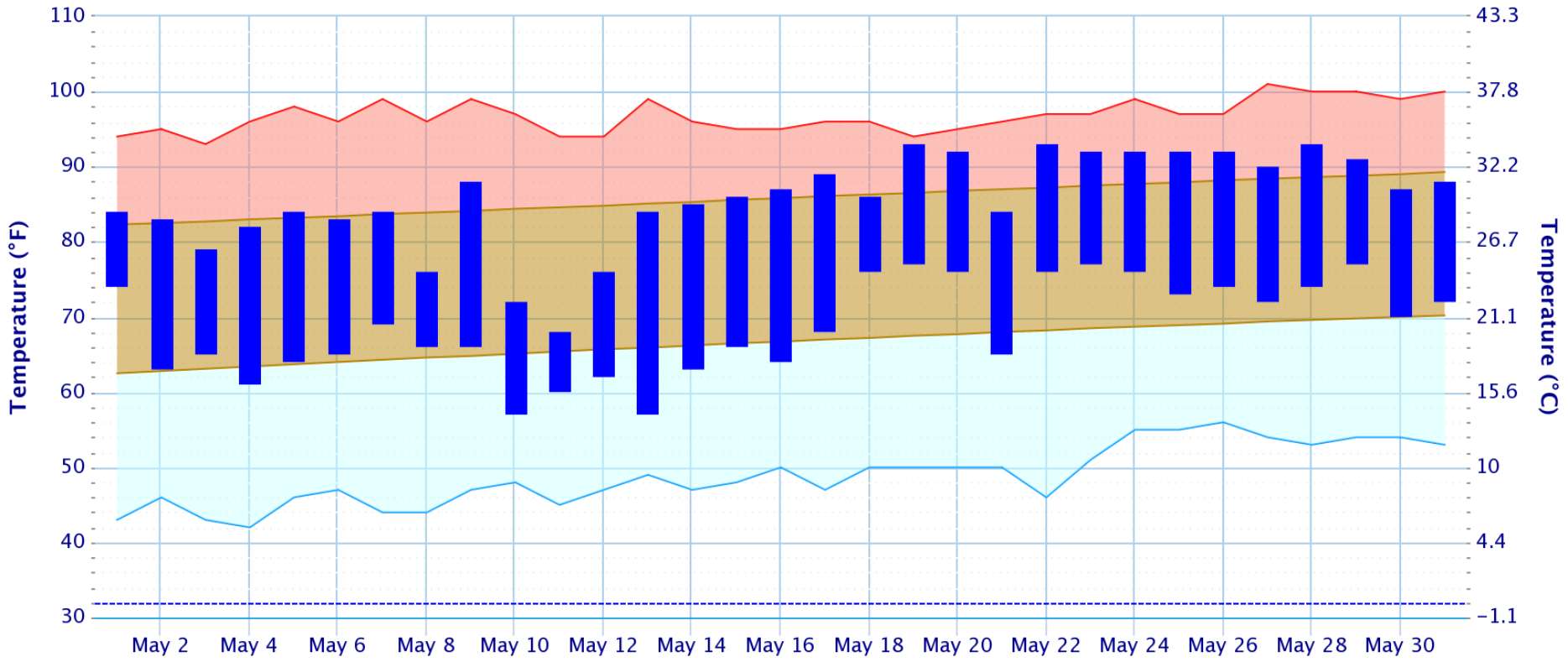
Site	Average Temp (F)	Average High Temp (F)	Average Low Temp (F)	Normal Average Temp (F)	Departure From Normal (F)	Maximum Temperature (F)	Minimum Temperature (F)
Galveston (GLS)	78.6	82.9	74.3	77.6	1.0	88 on May 30th & 31st	66 on May 4th
Houston Hobby (HOU)	79.2	86.1	72.2	78.0	2.2	92 on May 30th	62 on May 13th
City of Houston (IAH)	78.6	86.5	70.7	76.9	1.7	93 on May 19th & 31st	59 on May 13th
College Station (CLL)	77.1	85.7	68.6	76.2	0.9	93 on April 22th & 28th	57 on May 10th & 13th



Monthly Temperature Charts

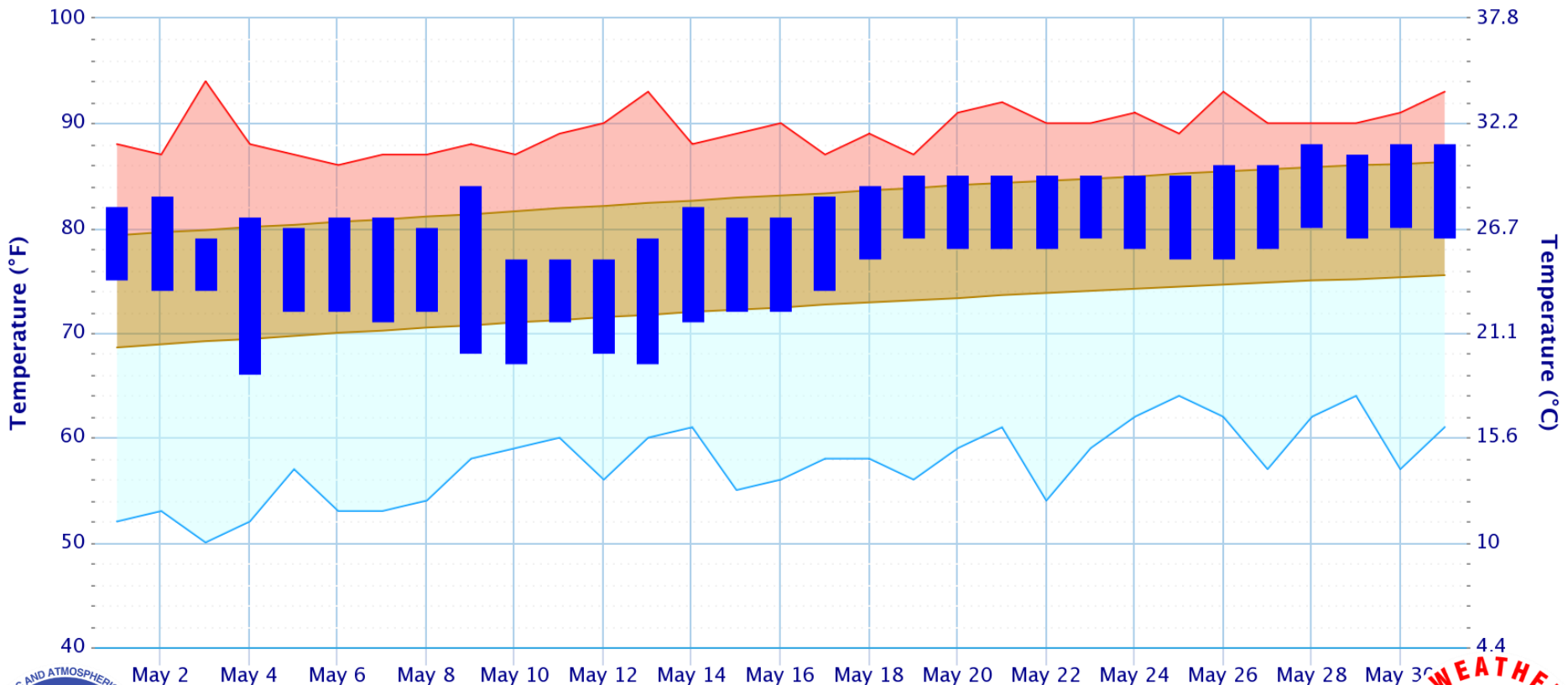
Daily Temperature Data – College Station Area, TX (ThreadEx)

Period of Record – Max temperature: 1888-10-01 to 2019-06-01; Min temperature: 1882-05-15 to 2019-06-01. Normals period: 1981-2010. Click and drag to zoom chart.

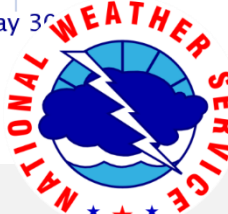


Daily Temperature Data – Galveston Area, TX (ThreadEx)

Period of Record – 1874-05-10 to 2019-06-01. Normals period: 1981-2010. Click and drag to zoom chart.



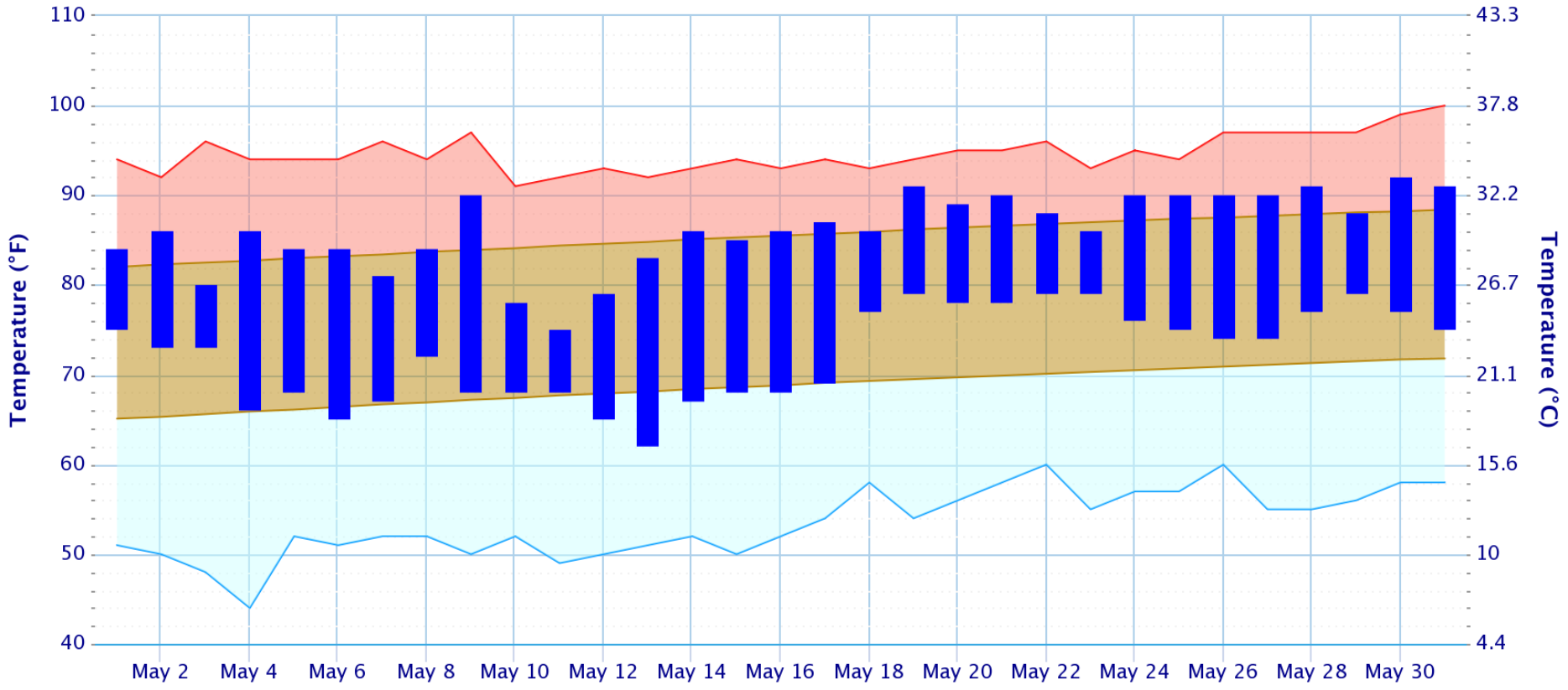
● Observed temperature range (2019) ● Normal temperature range — Record Max — Record Min



Monthly Temperature Charts (continued)

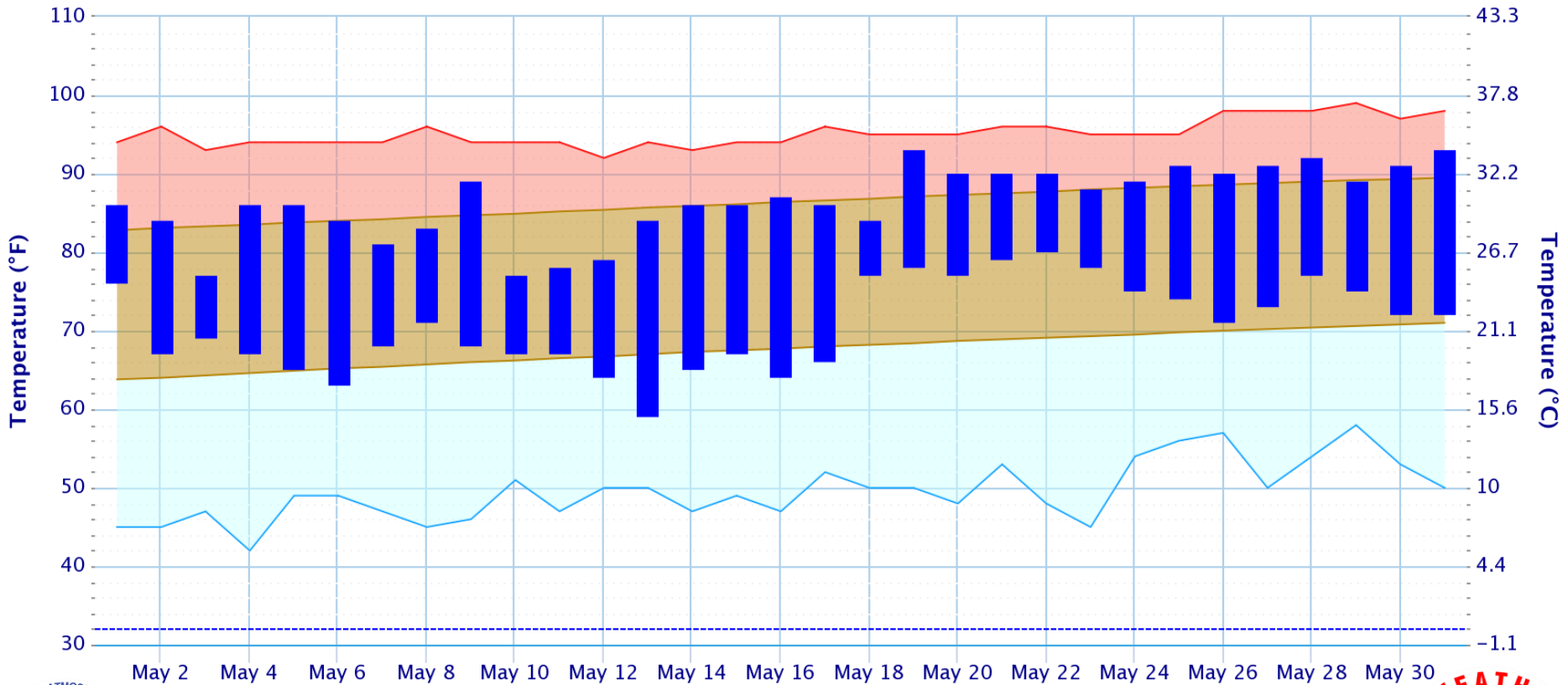
Daily Temperature Data – HOUSTON WILLIAM P HOBBY AP, TX

Period of Record – 1930-08-01 to 2019-06-01. Normals period: 1981–2010. Click and drag to zoom chart.



Daily Temperature Data – Houston Area, TX (ThreadEx)

Period of Record – 1889-05-01 to 2019-06-01. Normals period: 1981–2010. Click and drag to zoom chart.



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

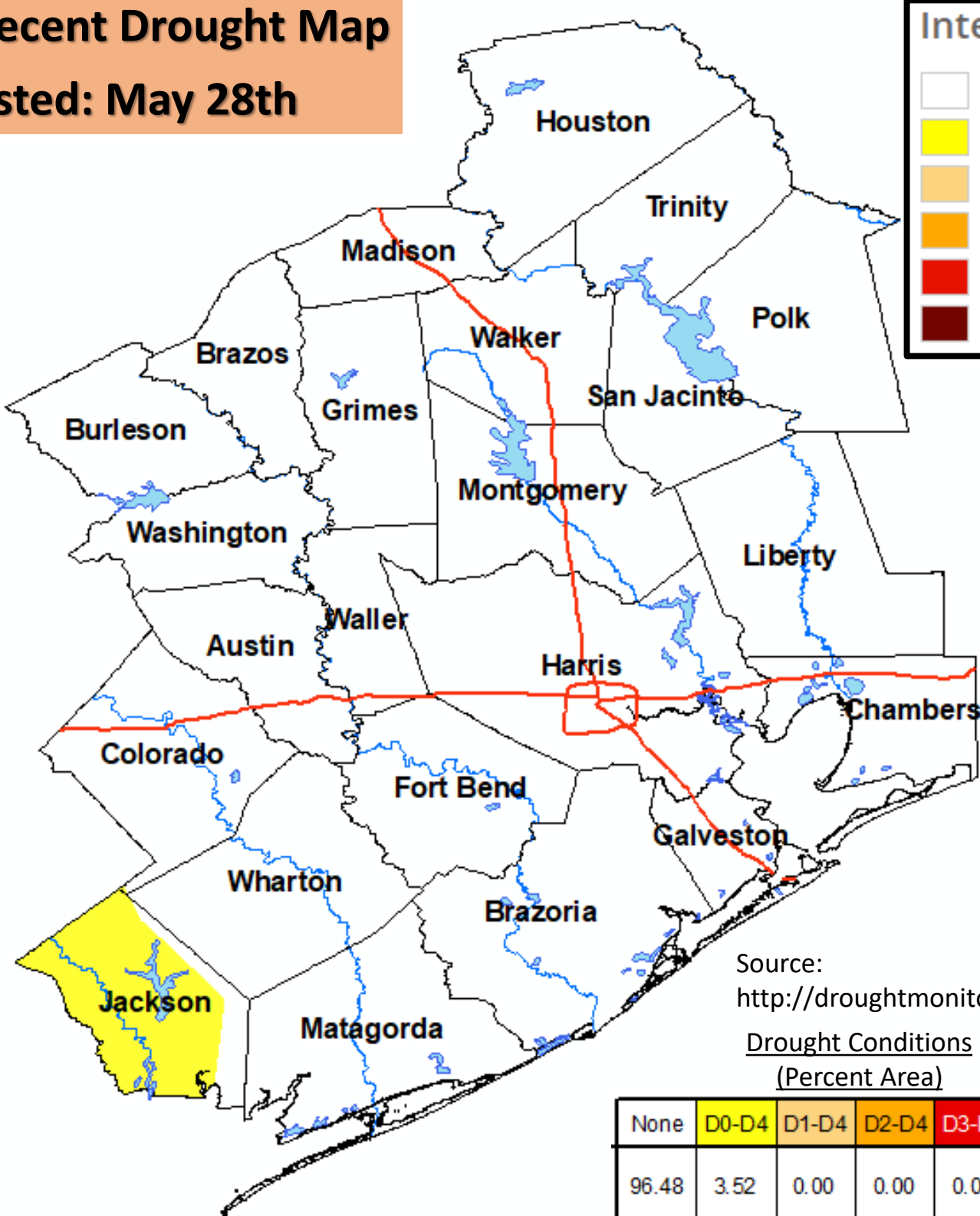


Drought Conditions

The month of May ended with abnormally dry conditions across Jackson County.

Most Recent Drought Map

Posted: May 28th



Intensity:

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

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

Drought Conditions
 (Percent Area)

None	D0-D4	D1-D4	D2-D4	D3-D4	D4
96.48	3.52	0.00	0.00	0.00	0.00



May Daily Record Reports

A total of 22 daily records were set across all of the primary climate sites.

Site	Date	Record Type	New Record	Previous Record
City of Houston	May 1st	High Min Temperature	76°	75° in 2002
Houston Hobby	May 1st	High Min Temperature	75°	75° in 2016
City of College Station	May 3rd	Rainfall	2.81"	2.67" in 1904
Houston Hobby	May 7th	Rainfall	3.38"	2.97" in 1938
Houston Hobby	May 9th	Rainfall	3.36"	0.97" in 1944
City of Houston	May 9th	Rainfall	2.53"	2.42" in 1987
City of College Station	May 11th	Low Max Temperature	68°	68° in 1971
City of College Station	May 18th	High Min Temperature	76°	76° in 2017
Houston Hobby	May 18th	High Min Temperature	77°	77° in 2017
Houston Hobby	May 19th	High Min Temperature	79°	78° in 2017
City of Houston	May 19th	High Min Temperature	78°	78° in 2017
City of College Station	May 19th	High Min Temperature	77°	77° in 1960
City of College Station	May 20th	High Min Temperature	76°	76° in 1990



May Daily Record Reports (Continued)

A total of 11 daily records were set across three of the primary climate sites.

Site	Date	Record Type	New Record	Previous Record
City of Houston	May 21st	High Min Temperature	79°	77° in 2013
City of Houston	May 22nd	High Min Temperature	80°	77° in 2008
City of Houston	May 23rd	High Min Temperature	78°	78° in 2008
Houston Hobby	May 21st	High Min Temperature	78°	77° in 2011
Houston Hobby	May 22nd	High Min Temperature	79°	79° in 2008
City of Galveston	May 22nd	High Min Temperature	78°	78° in 1989
City of Galveston	May 23rd	High Min Temperature	79°	79° in 2008
City of College Station	May 29th	High Min Temperature	77°	77° in 1902
Houston Hobby	May 29th	High Min Temperature	79°	77° in 1996



June Outlook

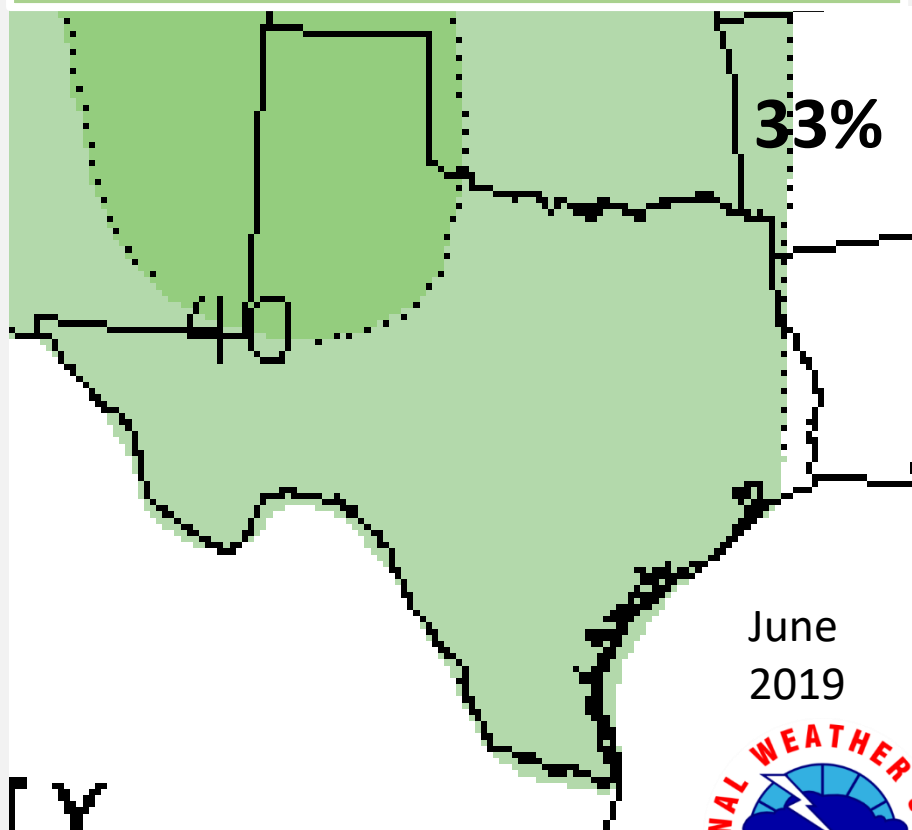
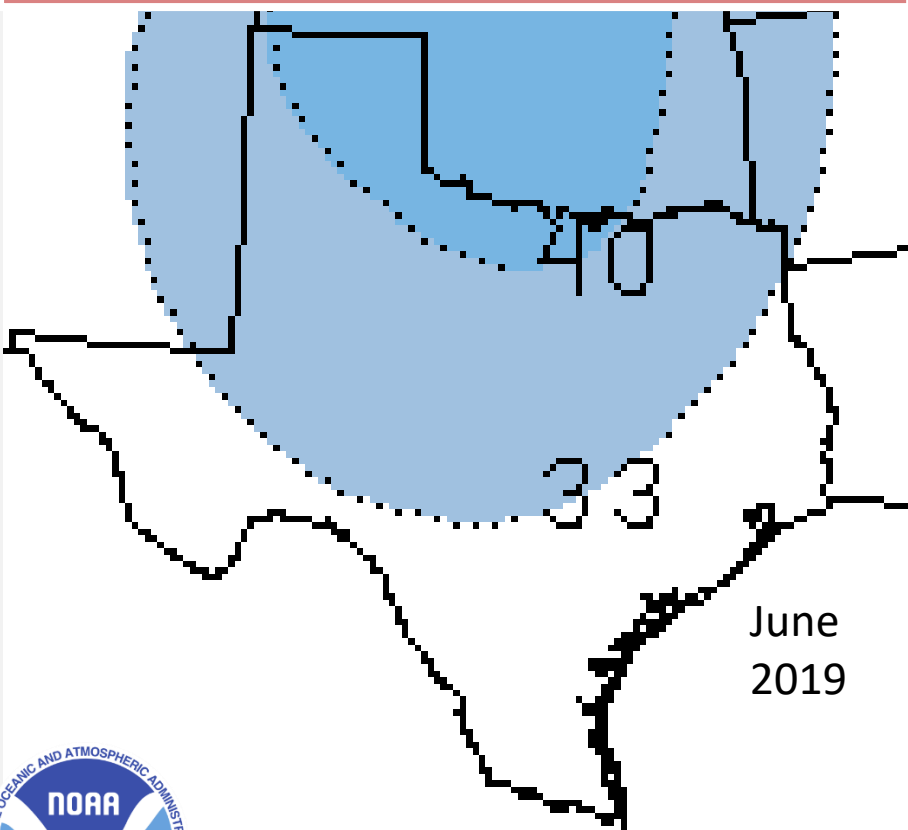
For June, the latest outlook from the Climate Prediction Center (CPC) calls for a 33.3% chance of below normal temperatures, a 33.3% chance of above normal temperatures and a 33.3% chance of normal temperatures across Southeast Texas. This is otherwise known as an "equal chance" (EC) of above normal, normal, and below normal temperatures. The precipitation outlook also calls for a 34% chance of above normal precipitation, a 33% chance of near normal precipitation and a 33% chance of below normal precipitation.

Site	Average Temp(°F)	Normal High (°F)	Normal Low (°F)
Galveston	82.9	88.2	77.5
Houston Hobby	82.0	90.1	73.9
City of Houston	82.4	91.4	73.3
College Station	82.2	91.7	72.7

Site	Normal Monthly Precipitation (in.)
Galveston (GLS)	5.69
Houston Hobby (HOU)	7.10
City of Houston (IAH)	5.93
College Station (CLL)	4.45

Temperature Outlook

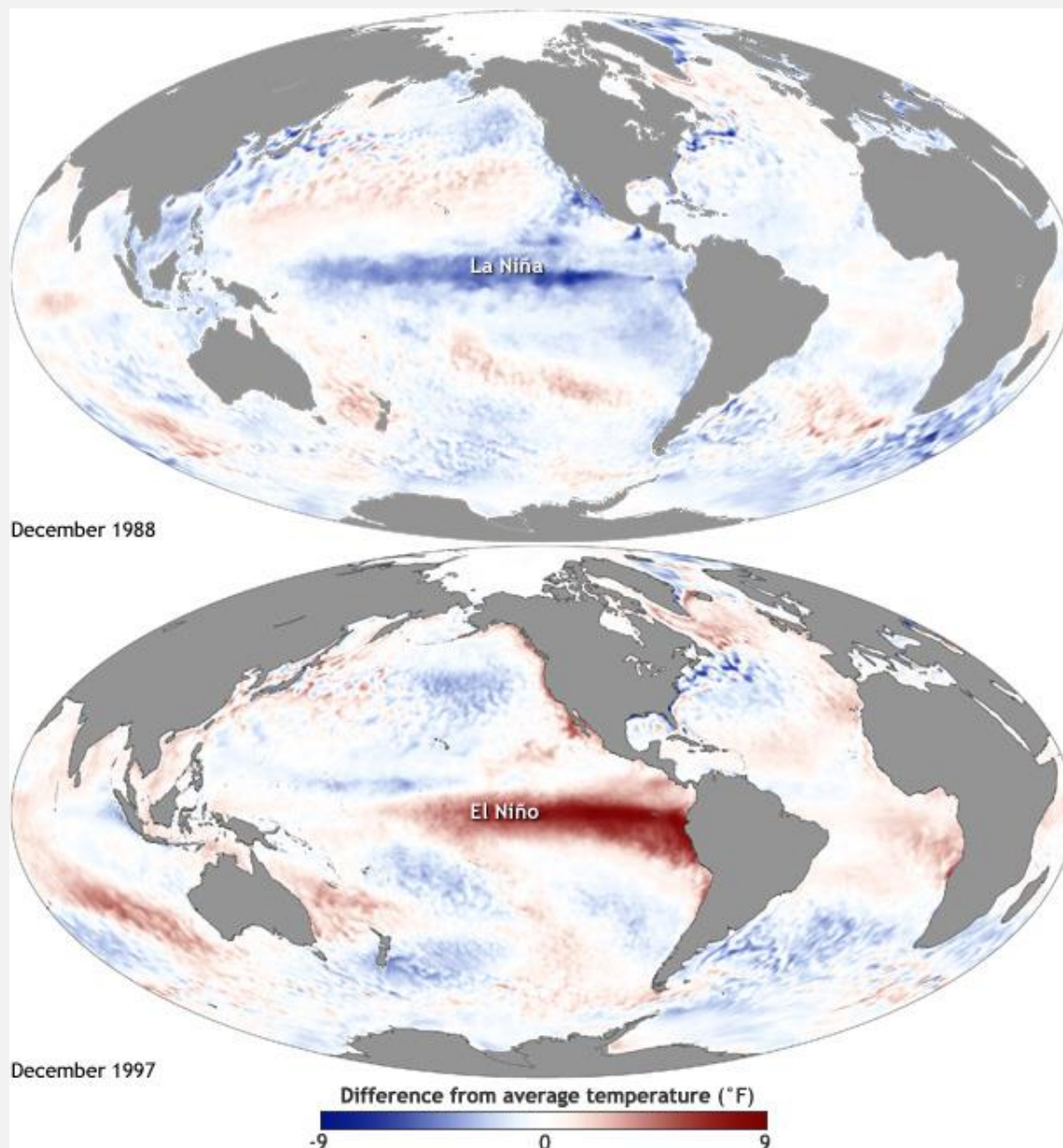
Precipitation Outlook



ENSO

What is ENSO?

The El Niño-Southern Oscillation (ENSO) is a climate oscillation that occurs across the tropical Pacific Ocean that has impacts on weather patterns across the world. As the name alludes to, ENSO has two aspects: the oceanic aspect (El Niño) and atmospheric aspect (Southern Oscillation). The El Niño part refers to the oscillation of the sea surface temperatures (SSTs) across the tropical Pacific, and also includes the strength of the wind field north of the equator in the tropical Pacific (trade winds). The Southern Oscillation, also called the Walker Circulation, refers to atmospheric pressure anomalies across the Pacific Ocean. There are three phases to ENSO: Neutral, El Niño (when the tropical pacific is warmer than normal), and La Niña (when the tropical pacific is cooler than normal). The phase of ENSO can have impacts on the weather across the globe.



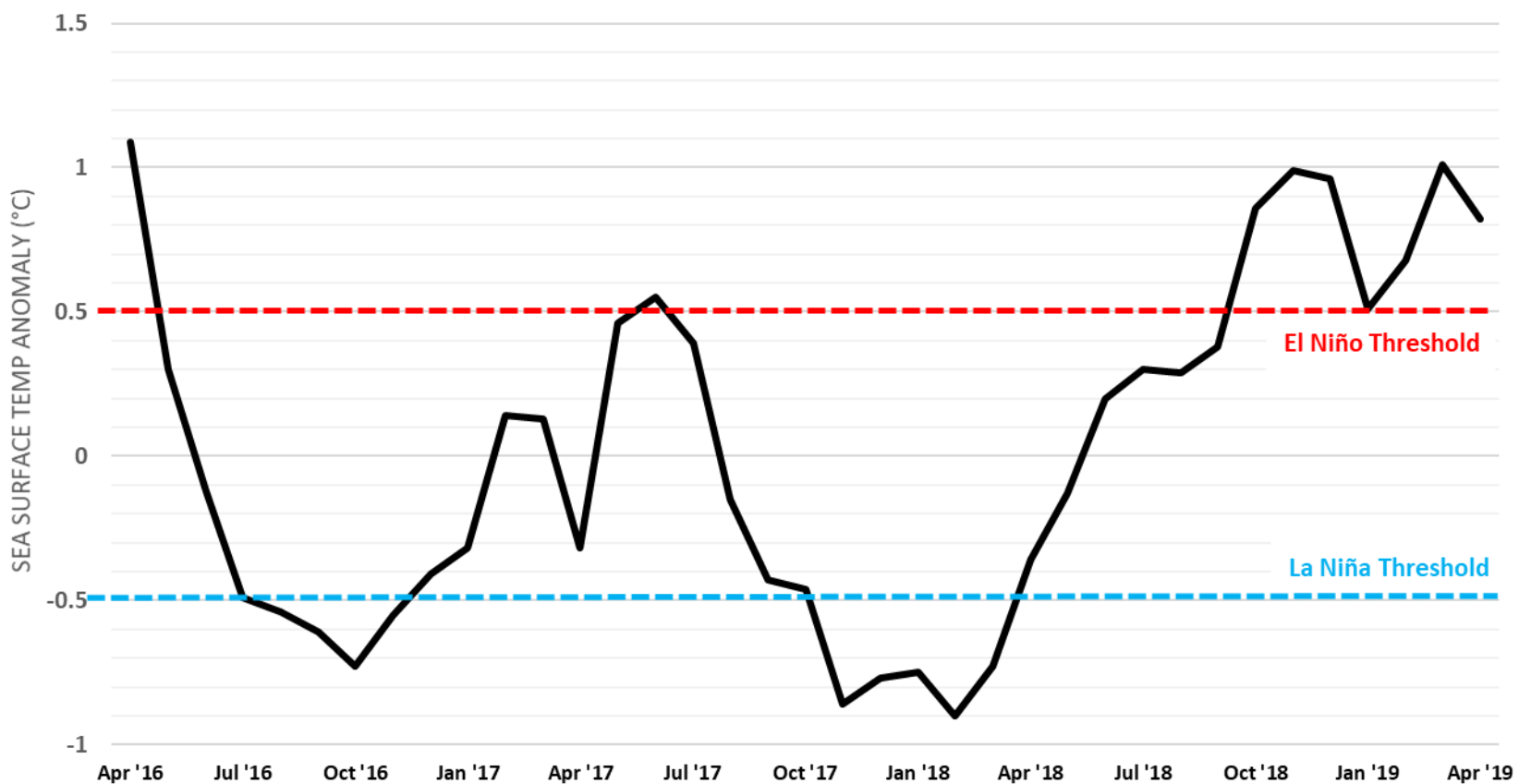
ENSO Observations

Sea Surface Temperature Anomalies across the Tropical Pacific Ocean from May 20 – 26, 2019

Current ENSO Phase: Weak **El Niño**

Source: NNVL

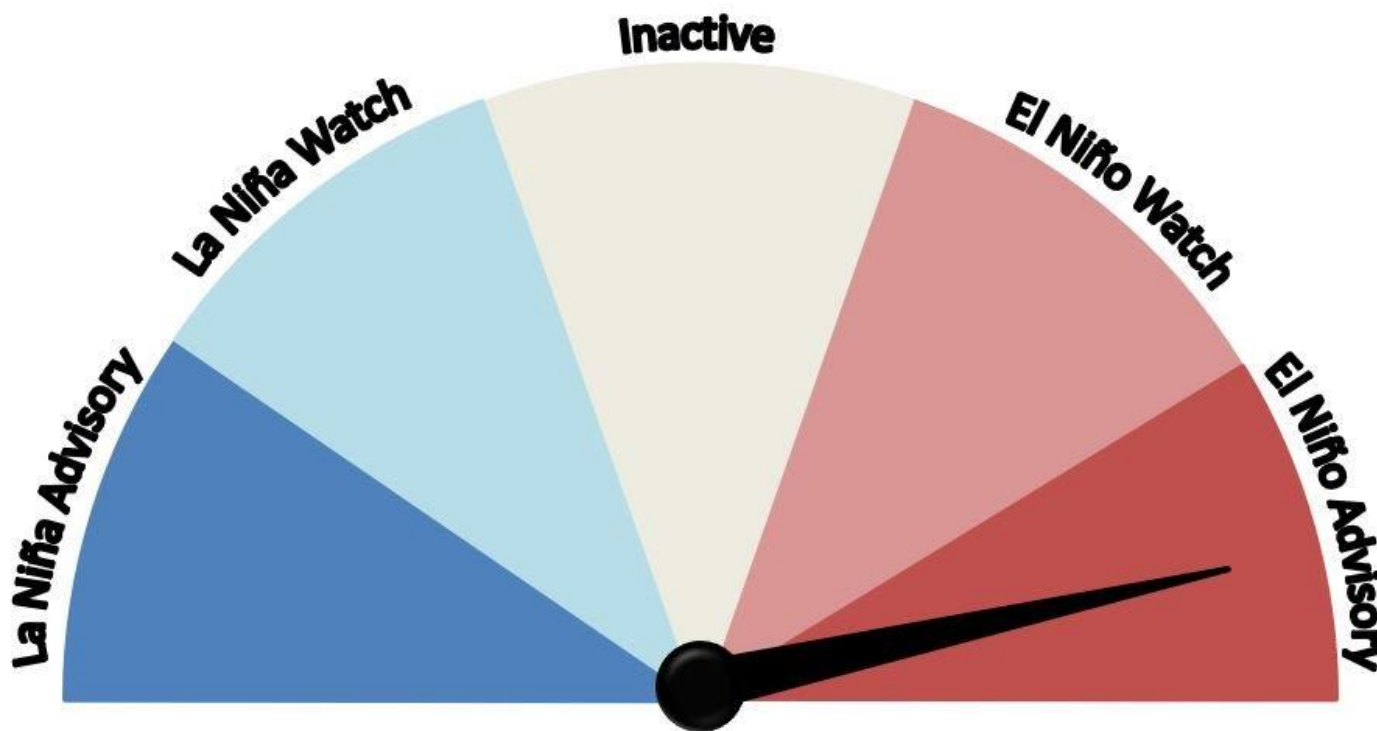
Sea Surface Temperature Anomalies (°C) in the Tropical Pacific



ENSO Forecast

The Climate Prediction Center's ENSO Forecast: **El Niño Continues**

- 70% Chance of El Niño continuing through the Summer
- 55-60% Chance of El Niño continuing through the Fall



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 Season Forecast

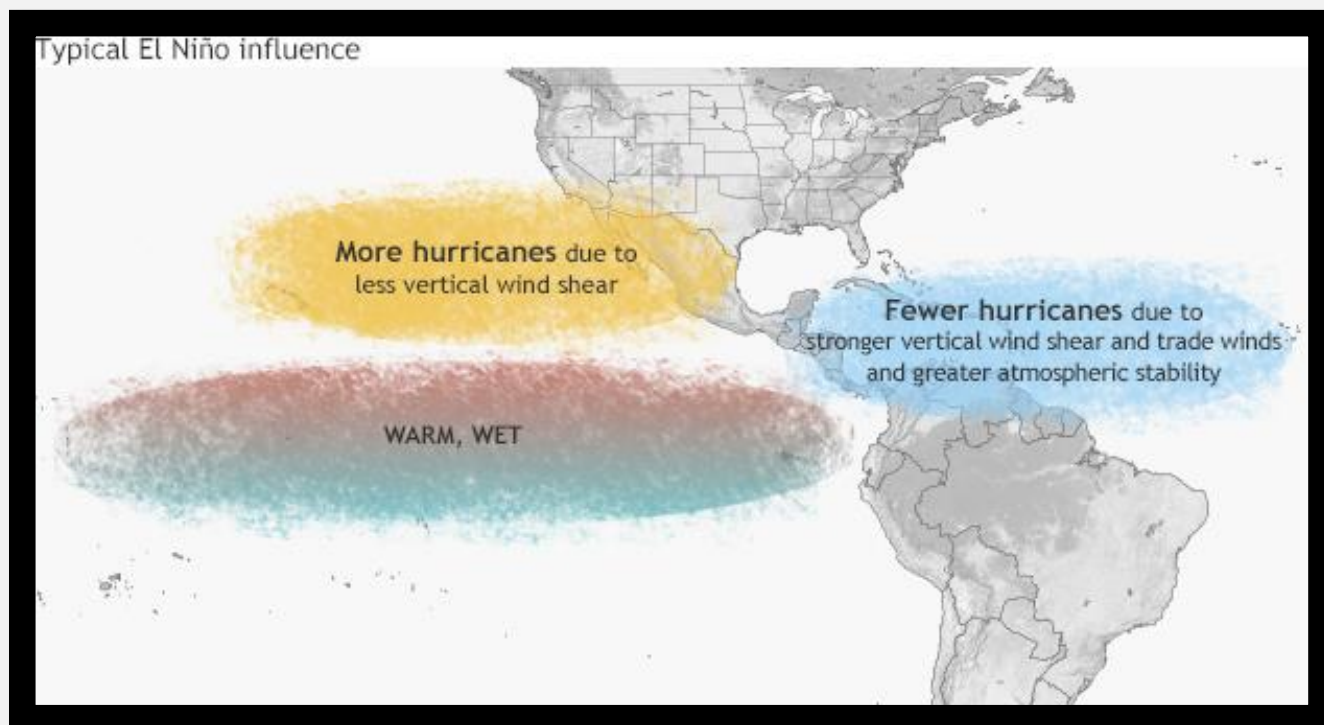
Climate Prediction Center Outlook for the Atlantic Hurricane Season:

- 9 – 15 named storms
- 4 – 8 of those storms become hurricanes
- 2 – 4 of those hurricanes become **major** hurricanes

There is a 40% chance of a near-normal season, a 30% chance of an above-normal season, and a 30% chance of a below-normal season.

List of 2019 Atlantic Tropical System Names

Andrea*	Lorenzo
Barry	Melissa
Chantal	Nestor
Dorian	Olga
Erin	Pablo
Fernand	Rebekah
Gabrielle	Sebastien
Humberto	Tanya
Imelda	Van
Jerry	Wendy
Karen	*Already formed during the month of May



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.

