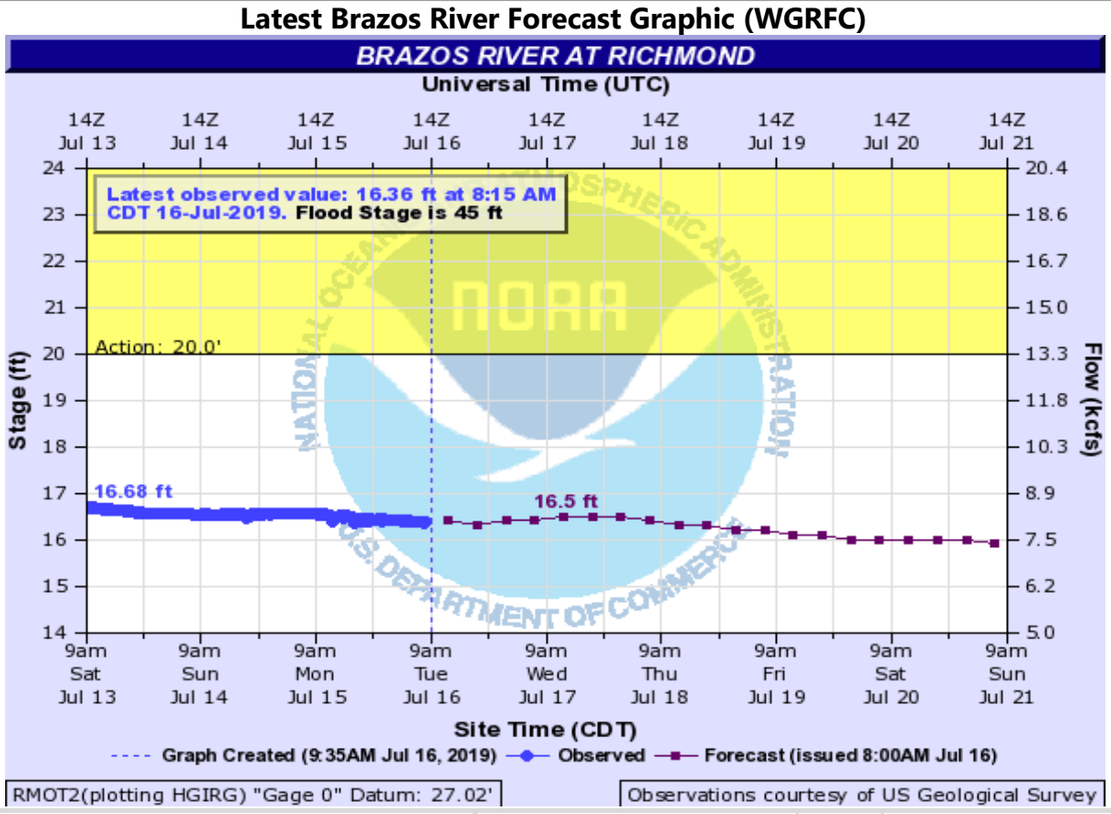
Flood Risk Assessment
Week of July 16, 2019

LJA ENGINEERING

Partly Cloudy to Sunny Skies

Brazos River Status

Latest Brazos River Forecast Graphic (WGRFC)



RMOT2(plotting HGIRG) "Gage 0" Datum: 27.02' | Observations courtesy of US Geological Survey

Current Levels **Forecasts Shown Below Current is Proposed Gage Reading at End of Forecast Window*

Location	Datum Adj.	Cur. Stage	Cur. Category	Forecast
Navasota River Near Normangee	245.00	3.81	Below Action	No Forecast
Bryan (Brazos River)	189.30	13.70	Below Action	11.80
Hempstead (Brazos River)	107.90	18.10	Below Action	16.30
Mill Creek Near Bellville	122.82	2.51	Below Action	No Forecast
San Felipe (Brazos River)	0.00	96.25	Below Action	96.00
Richmond (Brazos River)	27.02	16.36	Below Action	15.90
Rosharon (Brazos River)	0.01	14.12	Below Action	14.50

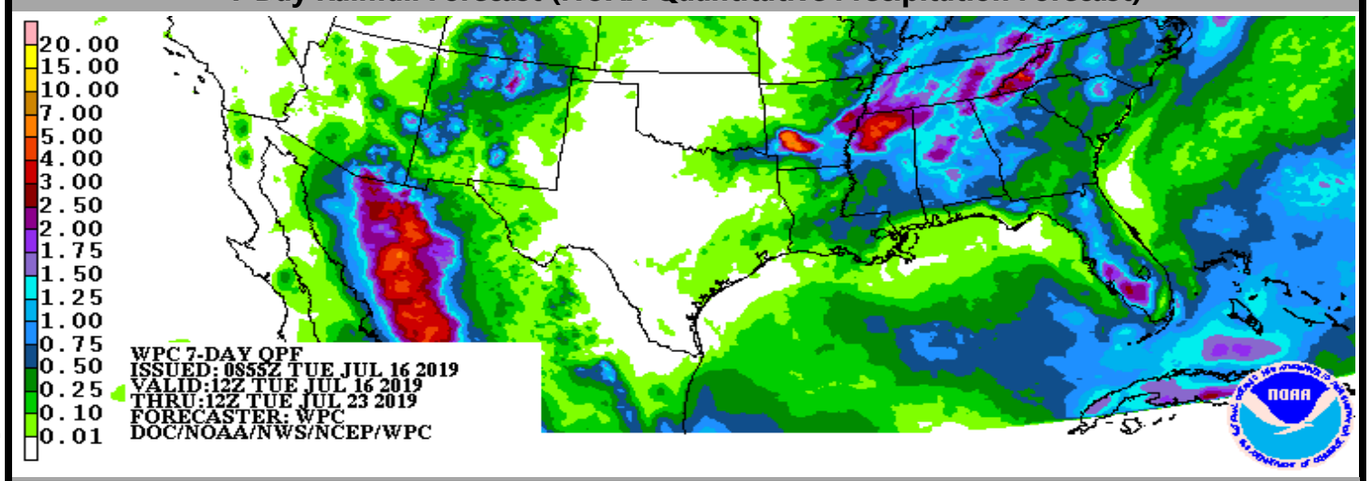
River forecasts for this location take into account past precipitation and the precipitation amounts expected approximately 24 hours into the future from the forecast issuance time.

Historical Period Mean:	14.35	(10/98 - 02/19)
Historical Period Peak:	44.88	(10/98 - 02/19)

Flood Categories	
Major Flood Stage	50
Moderate Flood Stage	48
Flood Stage	45
Action Stage	20
Low Stage	0

Previous 7 Days		Historical Peaks (Top 3)	
16.36	Current Reading	High:	61.20 (12/10/1913)
17.41	Peak Reading		55.19 (09/01/2017)
16.84	Average Reading		54.74 (06/02/2016)

7 Day Rainfall Forecast (NOAA Quantitative Precipitation Forecast)

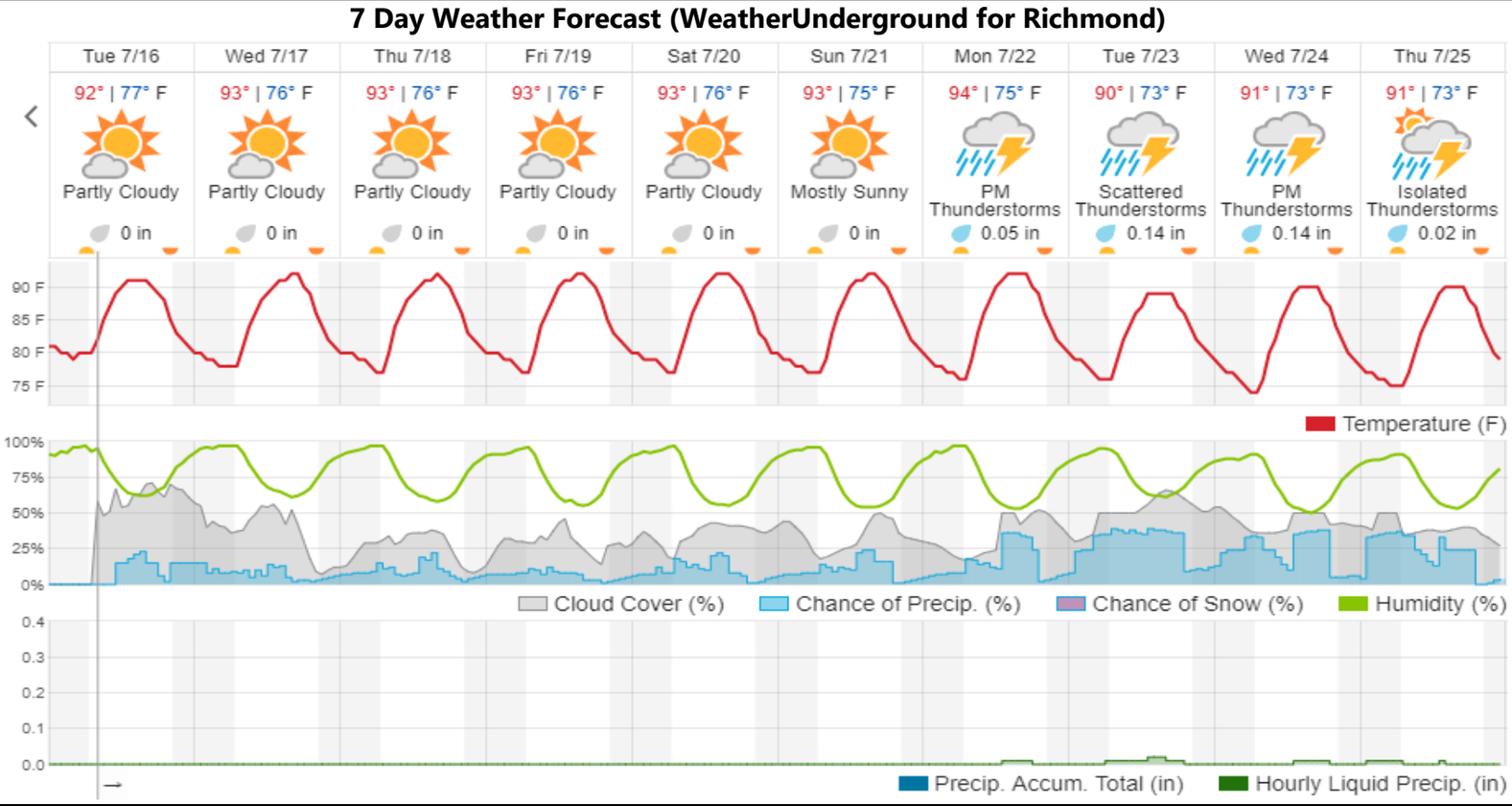


Rainfall (Inches) Summaries for 2019 **As Reported by NWS and USGS, Data Subject to Change*

Location	Week's Forecast	Last Week	July (MTD)	2019 (YTD)	YTD Normal (Thru July)	Drought Cond. (07/09)
College Station (NOAA)	0.01	0.01	0.16	24.55	22.84	None
Brenham (NOAA)	0.01	0.00	0.04	17.30	24.96	None
Richmond (USGS)	0.01	0.00	0.25	21.86	26.05	None
Sugar Land (NOAA)	0.01	0.03	0.05	27.90	27.33	None
Bush Interc. (NOAA)	0.01	0.45	1.79	25.82	28.11	None

Weekly Weather Forecast

7 Day Weather Forecast (WeatherUnderground for Richmond)

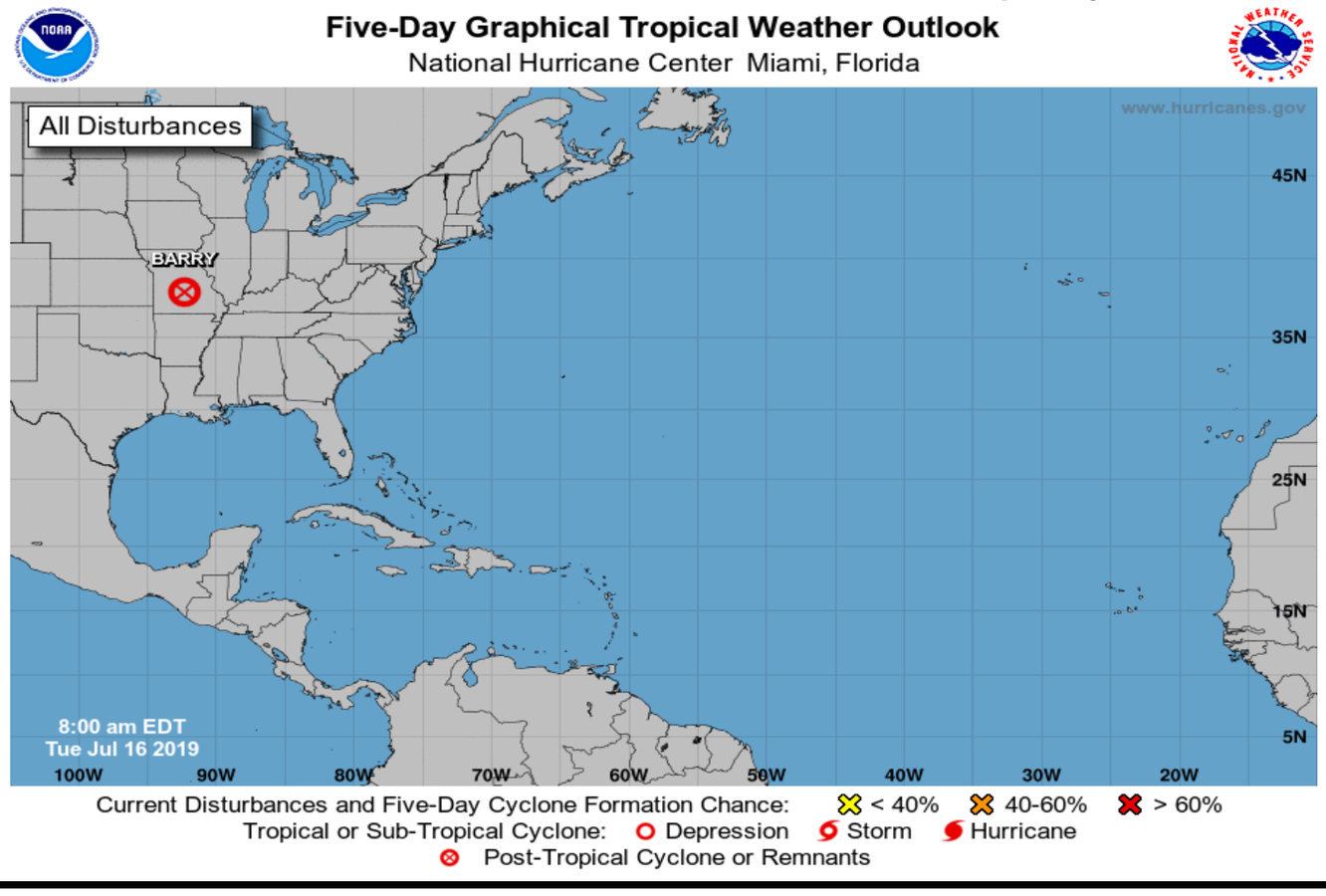


NWS Forecast Discussion

...Given these upper level conditions and lingering moisture, atmospheric environment over SE Texas will still be supportive of convection but the amount of coverage will be very different from the last couple of days. Meso-scale models are all in pretty good agreement with at least some scattered showers and storms over the area by afternoon given enough daytime heating...There seems to be at least some consensus of WRF runs having more convection in similar areas of north of I-10 most likely in the northern Harris/southern Montgomery county area. Latest HRRR model trends are for more isolated activity so possible that rain chances could be less than what we are expecting. Rainfall amounts should be less than yesterday with mainly 0.5 to 1 inches of rain but would not be all that surprised to see an isolated 2 inches given the amount of moisture lingering from Barry. High temperatures should reach the low/mid 90s again and with the humidity, heat index values should reach around 105F with the usual smattering of isolated brief higher readings. At this time a heat advisory is not expected. [Wednesday Through Tuesday]...Upper level ridging should build back in from the east by mid week over the Red River Valley. With the surface high situated over the northern portion of the Gulf of Mexico, onshore flow should help to pump moisture back into the region. Precipitable water values (PWs) Wednesday should range between 1.4 to 1.7 inches across the region and will rise back up to near 1.7 to 1.9 inches by the weekend...A slight chance for showers and thunderstorms by Friday...Through the remainder of the week, expect more of a typical summer pattern with heat indices each day reaching into the low 100s. Global guidance is in fairly good agreement in the extended with bringing in a few weak disturbances beneath the upper level ridge and across the southwestern Gulf of Mexico. These should also help to increase shower and thunderstorm coverage this weekend.

National Hurricane Center (June 1 through November 30)

Tropical Cyclones and Disturbances



The Weather Prediction Center is issuing advisories on Post-Tropical Cyclone Barry, located over southern Missouri; however,