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Tennessee Climate Office Monthly Report

9-1-2017

2017 September - Tennessee Monthly Climate Report

Tennessee Climate Office, East Tennessee State University

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September Tennessee Weather and Climate Roundup:

Week 1 (Thursday, Aug 31 - Wed, Sep 6th)

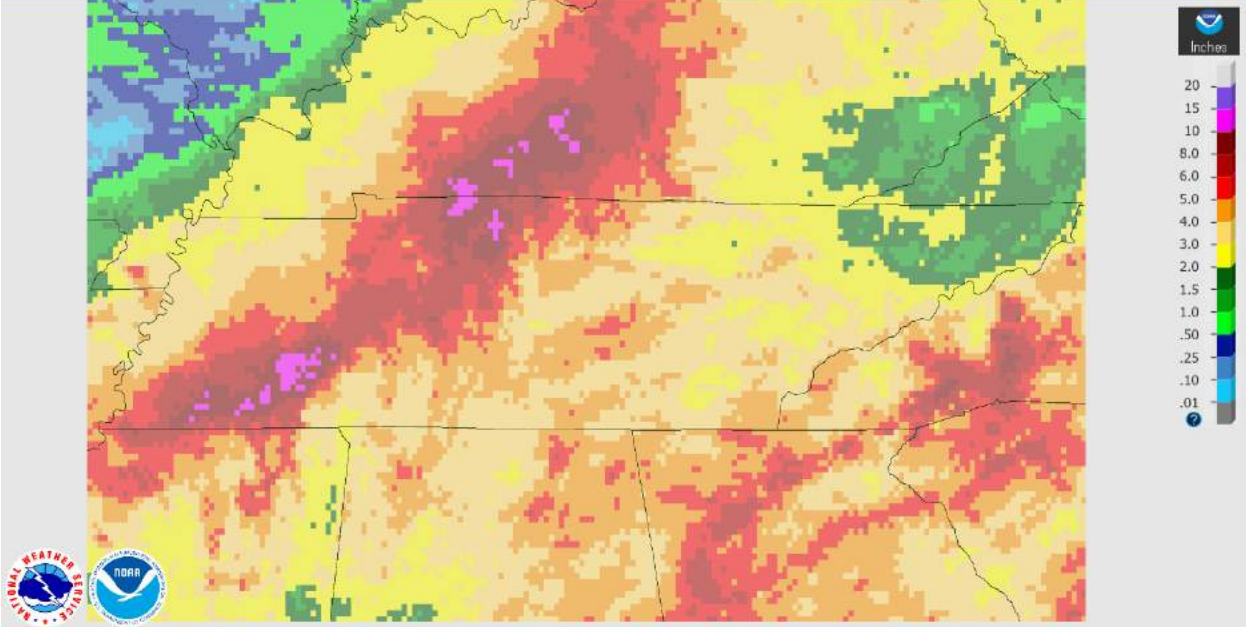
The end of August and beginning of September was an active time for weather in Tennessee, as the remnants of Hurricane/Tropical Storm Harvey crossed over the western and central portions of the state. The storm brought flash flooding and tornadoes with it. 4 tornadoes were reported in middle Tennessee; with an EF0 in Maury County, an EF0 in Perry County, and an EF0 and EF1 in Davidson County; luckily no injuries or fatalities occurred. In addition to these tornadoes the winds associated with Harvey (still a strong tropical depression) downed numerous trees and powerlines leaving thousands without power on Sep 1st (Peak winds include 49mph at outlaw field airport in Clarksville and 47mph at Nashville International airport).



3-Day rainfall totals from August 30th-Sept 2nd of 6-10 inches were common along a corridor from the Memphis area up to Clarksville. Highest amounts recorded included 10.93 in Greenbrier, and 10.2 inches in Henderson.

September 14, 2017 14-Day Observed Precipitation

Created on: September 14, 2017 - 15:10 UTC
Valid on: September 14, 2017 12:00 UTC

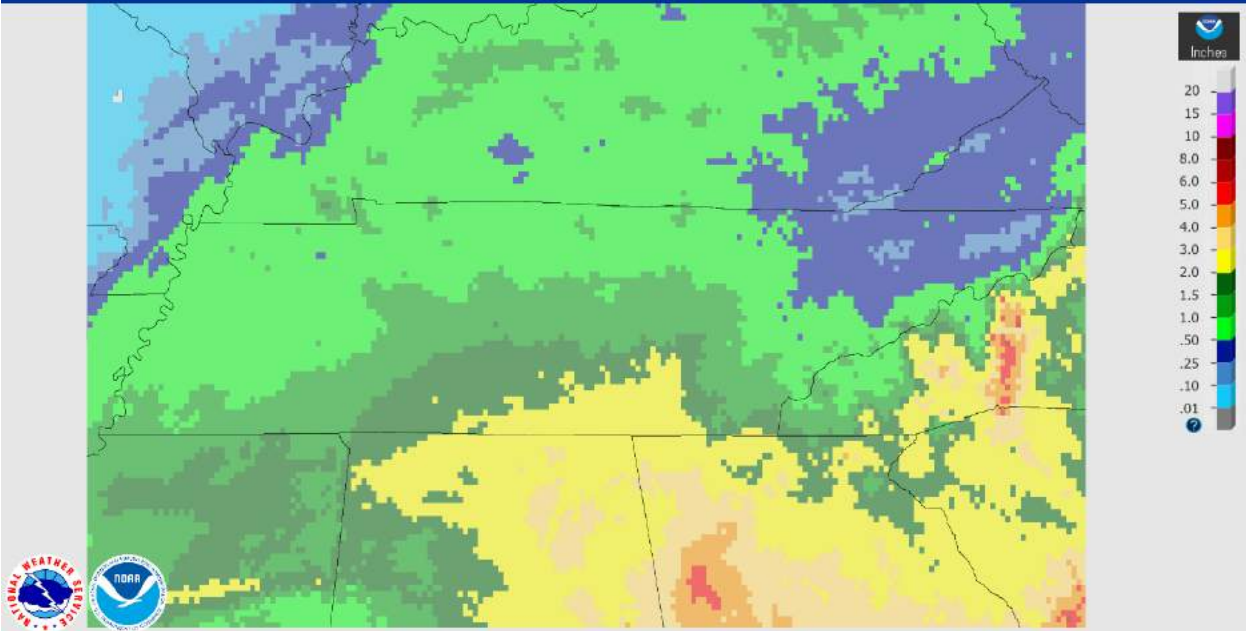


Week 2: (Thursday, Sep 7th – Wednesday, Sep 13th)

Another week, the remnants of another tropical system! This week the remnants of Hurricane Irma tracked over the state, and while underwhelming some forecasts it did bring strong winds and some steady rains to the state, especially the southeastern region. Winds of 32mph were reported in Fayetteville TN, and South-Central TN picked up about 2 inches of rain from the system.

September 14, 2017 7-Day Observed Precipitation

Created on: September 14, 2017 - 15:12 UTC
Valid on: September 14, 2017 12:00 UTC

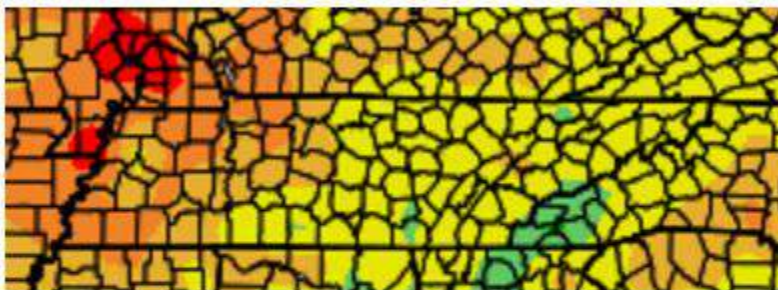


The larger effect of Irma on Tennessee this week was the large amount of cloud cover and northerly/easterly winds that kept much of the state well below average in temperatures on Monday and Tuesday. Chattanooga, Knoxville, and TriCities have each recorded the record coolest start to September with each location averaging 7-9 degrees below average, and each location also setting record low high temperatures on Monday Sep 11th. Crossville also set a record low high on the 11th at 59F. For the first half of the month Tri Cities, Knoxville, Chattanooga, all had record low average temps. Memphis had second coolest start to September (cooler than any time since 1800's).

Week 3: (Thursday Sep 14th to Wednesday Sep 20th)

It is still technically summer until Friday at 4pm/3CT and the weather this week across Tennessee has best been described as summer-like; in stark contrast to the first two weeks of the month. *The second half of the month has started off as a complete switch from the first half.* High pressure became the main feature for the week as temperatures climbed from record lows in the previous two weeks to above average highs now in the third week of the month. Only a few areas along the plateau and in the Smokies were not above average for the week. On Wednesday high temperatures were in the mid 90's, and heat indices over 100F in the western region, and upper 80's approaching 90F in middle and eastern Tennessee.

Departure from Normal Temperature (F) 9/14/2017 - 9/20/2017

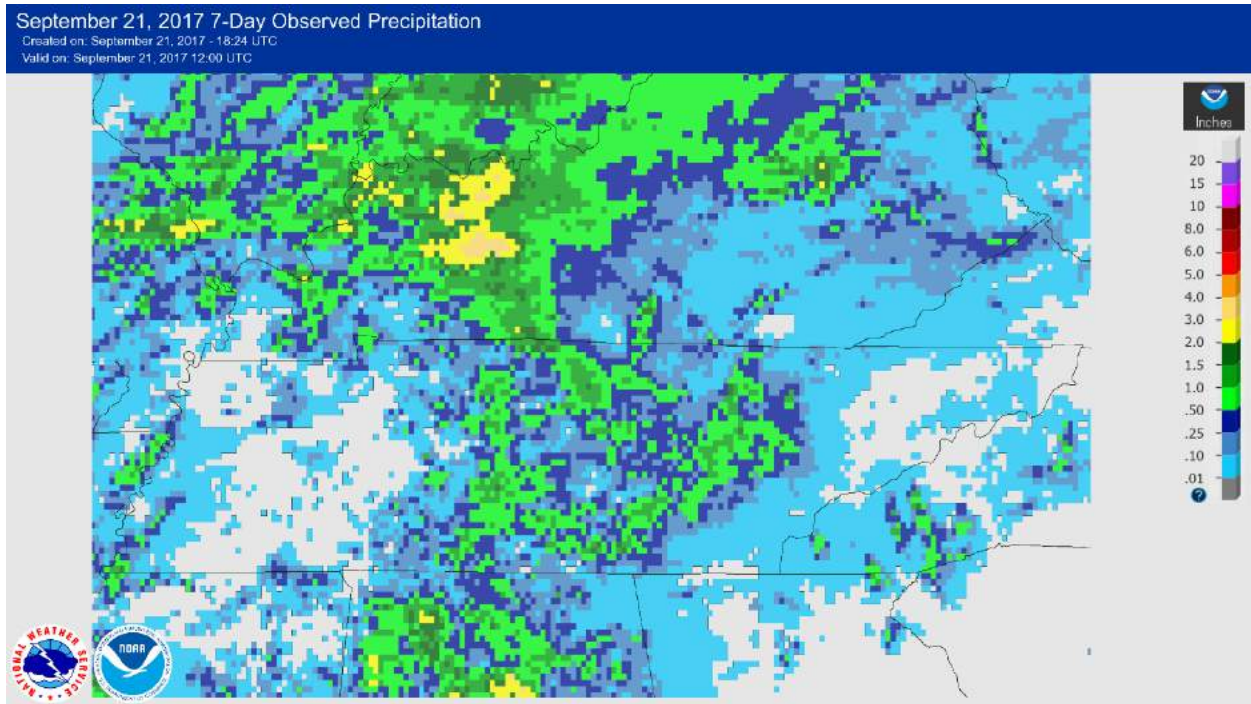


Warmer than normal temperatures were observed in most of the state with the western region seeing the largest departure from normal.



For the most part it was a dry week, with some rounds of thunderstorms moving from the Ohio valley through parts of middle Tennessee on Tuesday afternoon (19th) leading to several severe thunderstorm warnings. Trees were downed in the Davidson county neighborhoods of Creve Hall/Oak Hill and a roof

collapsed in at a daycare in Maryland Farms in Williamson County {source SPC storm reports 9/19/17}. Otherwise just some scattered thundershowers have contributed to small rainfall totals across the state.

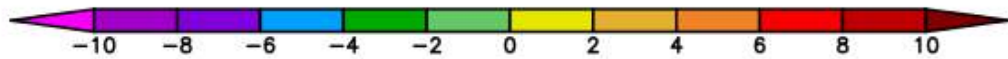
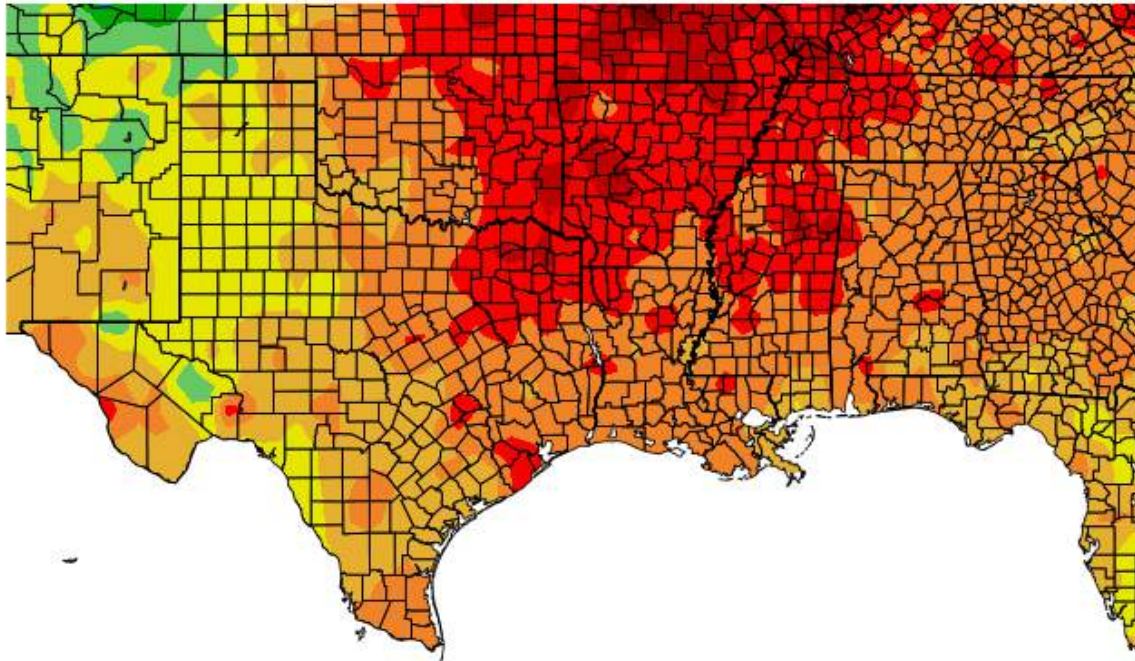


Week 4: (Thursday Sep 21th to Wednesday Sep 27th)

The Hot and Dry streak continued through the last day of summer and the first week of fall across Tennessee. A few scattered and light showers occurred on the 21st and 22nd, mainly in middle Tennessee, but after that a large high pressure system became the main weather driver for the state. Almost San Diego like patterns existed with warm sunny days and cool nights for the week. Due to the lack of rainfall and lower soil moisture there were some pretty large diurnal temperature ranges with 25-35 degree difference between morning lows and afternoon highs being common.

Note* I missed this week of reporting and was not able to get the 7 day rainfall totals or temperature anomalies, however below are the 14 day observed precip and temp anomaly ending on Oct 6th the weather between the two weeks was very similar so it kind of works

Departure from Normal Temperature (F) 9/22/2017 – 10/5/2017

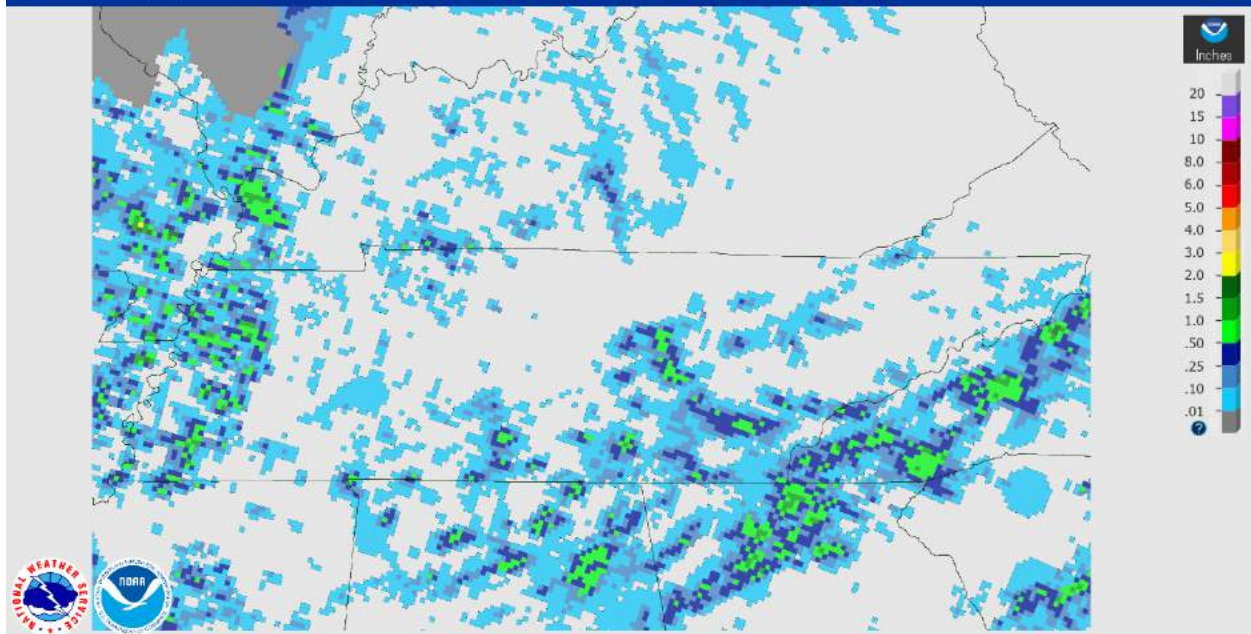


Generated 10/6/2017 at HPRCC using provisional data.

NOAA Regional Climate Centers

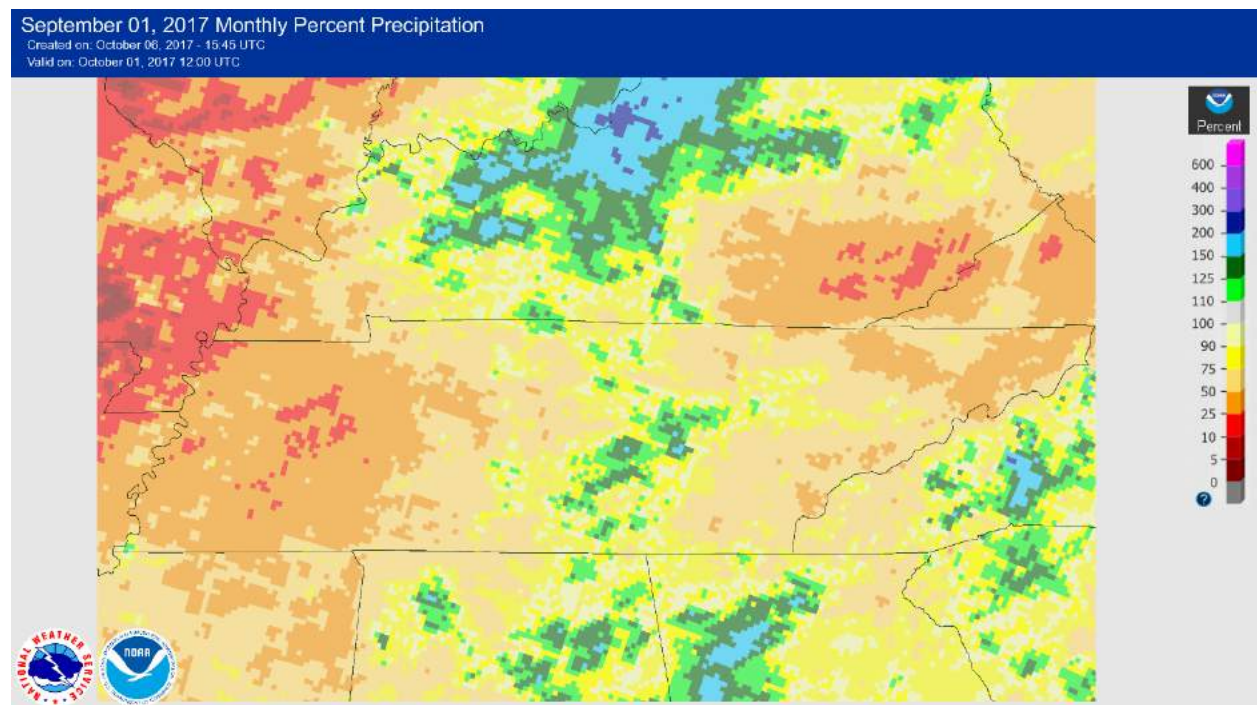
October 06, 2017 14-Day Observed Precipitation

Created on: October 06, 2017 - 15:47 UTC
Valid on: October 06, 2017 12:00 UTC



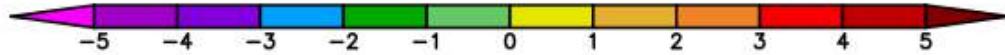
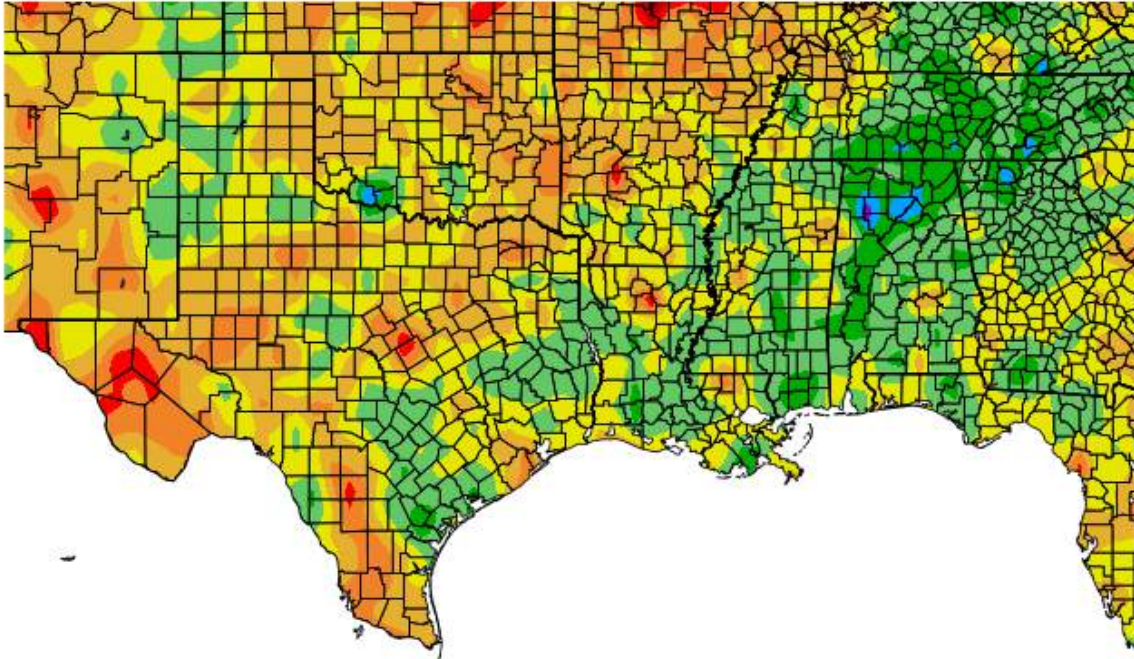
Monthly Summary:

September was a tale of two patterns! The first half of the month was wet, rainy, and cool. The remnant lows of both Hurricane Harvey and Irma (both of which made landfall in the U.S. as Cat 4 hurricanes) influenced weather in the state during the first and second weeks of September, respectively. Once we entered the second half of the month the jet stream flipped and the eastern US, including TN was baked under high pressure that allowed above normal temperatures and almost no organized rainfall producing systems. On the whole the month's precipitation was below average in most of the state, indicating the lack of rain in the second half of the month outweighed the rains of the tropical systems in the first half. Only a few areas in eastern middle Tennessee and along southern sections of the Cumberland Plateau saw above normal rainfall. **Important note that most of the rainfall from Harvey fell in western and NW middle TN on the last 2 days of August so that is not incorporated in this figure.*



Temperature wise the the eastern and middle parts of the state were 1-2 degrees Fahrenheit below average for the month (probably due to the record cool first half of the month in addition to the seasonally cool low temperatures of the second half of the month ought weighing the well above average highs at the end of the month. In some areas of western TN the month came out 1-2 degrees above average.

Departure from Normal Temperature (F)
9/1/2017 – 9/30/2017



Generated 10/3/2017 at HPRCC using provisional data.

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