

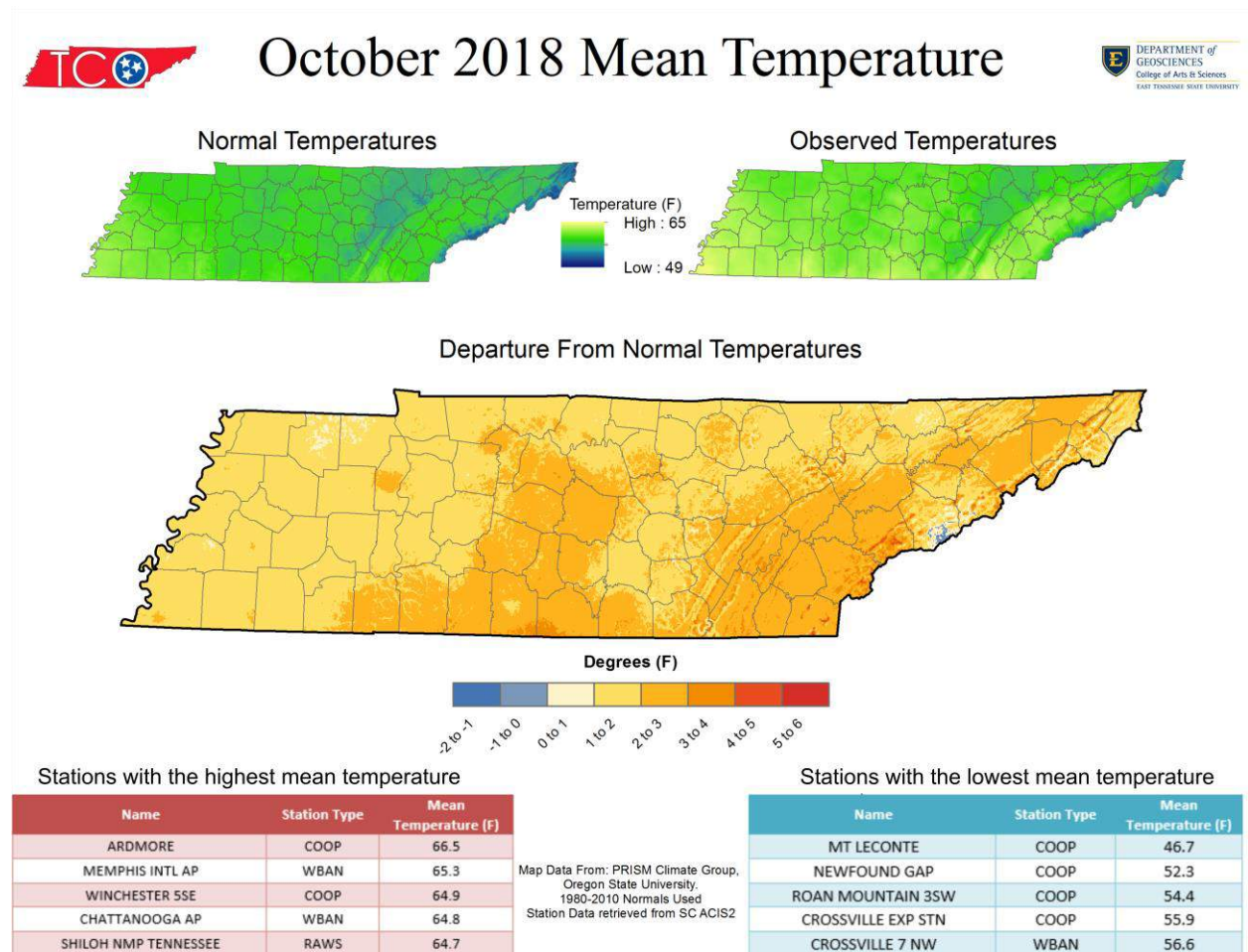
October 2018 Tennessee Climate Summary

Prepared by William Tollefson and Dr. Andrew Joyner

Tennessee Climate Office * East Tennessee State University

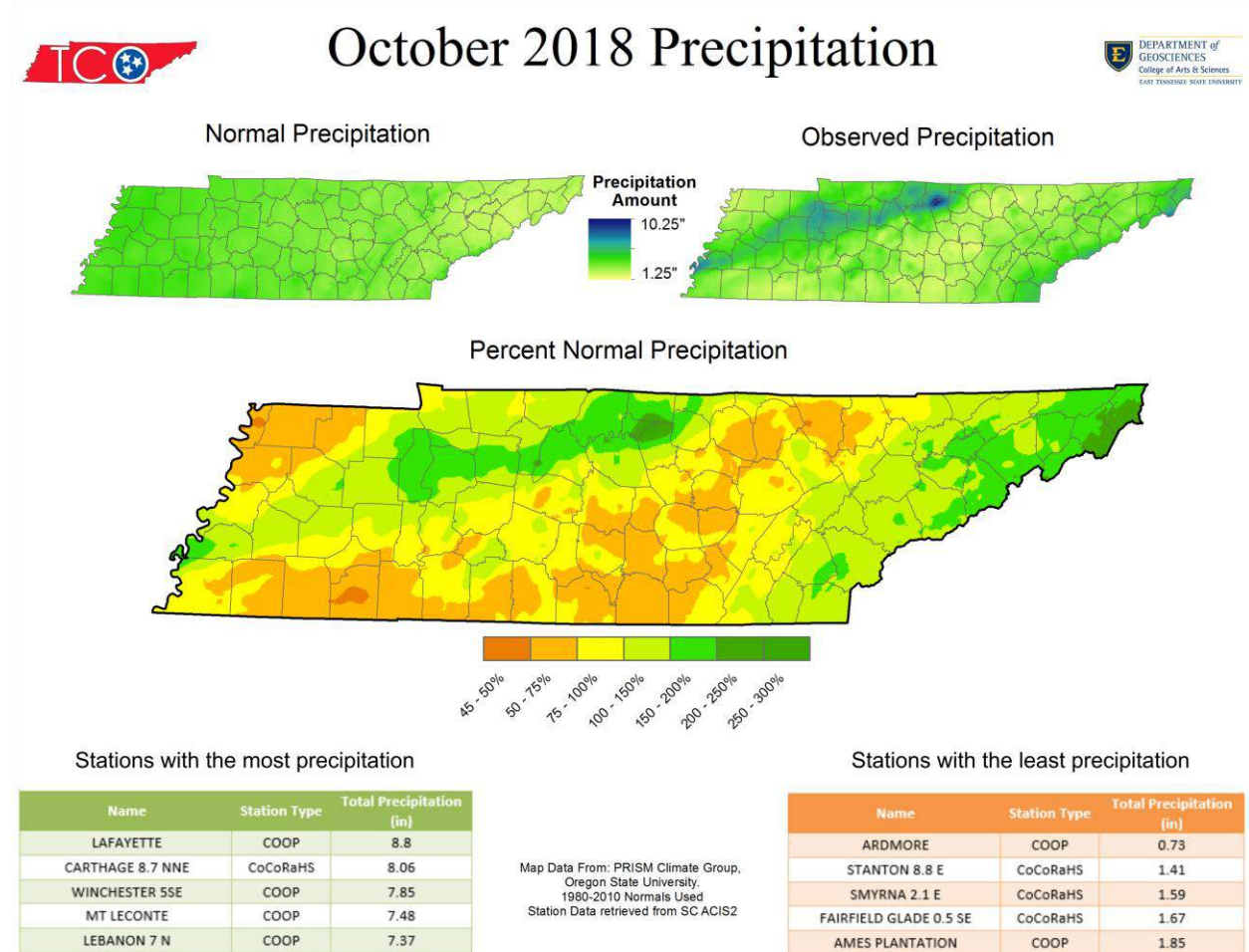
Monthly Temperature Summary:

The monthly mean temperatures averaged mostly above normal, with the eastern half averaging 2-3°F above normal. However, as is common, this masks a more amplified weekly pattern. The first half of the month, temperatures were well above normal, with most of the state observing conditions 10-14°F above normal. In the middle of the month the pattern shifted with cooler air moving in from west to east. The third week of the month brought temperatures that were 5-10°F below normal for most of the state. A slight warming pattern put temperatures at the end of the month right at normal.



Monthly Precipitation Summary:

October is usually the driest month of the year for most areas of the state, and some areas (notably the northwest corner, and on a diagonal line from the southwest corner (Shelby County) east and northeast to the Cumberland Plateau, recorded below normal precipitation. Areas in the eastern 1/3 of the state and along a line from Tipton County in the west to Pickett County in the east recorded above normal precipitation. These areas of above normal precipitation correspond to areas of rainfall produced by Hurricane Michael, and a stalled frontal boundary during the week of October 11th - 17th.



Top Tenn (warmest, coldest, wettest, driest stations of the month):

Hottest Stations (highest max temp):

| Name | Station Type | Max Temperature (F) |
|------------------------------|--------------|---------------------|
| ARDMORE | COOP | 96 |
| MEMPHIS WFO | WBAN | 93 |
| SHILOH NMP TENNESSEE | RAWS | 93 |
| LEWISBURG EXP STA | COOP | 93 |
| FRANKLIN SEWAGE PLANT | COOP | 93 |
| GERMANTOWN 4SE | COOP | 93 |
| MEMPHIS INTERNATIONAL AP | WBAN | 92 |
| NASHVILLE INTL AP | WBAN | 92 |
| CAMDEN TOWER TENNESSEE | RAWS | 92 |
| AMES PLANTATION | COOP | 92 |
| JACKSON EXP STA | COOP | 92 |
| SEVIERVILLE | COOP | 92 |
| MILAN EXP STN | COOP | 92 |
| UT MARTIN BRANCH EXP STATION | COOP | 92 |
| CLARKSVILLE NO.2 | COOP | 92 |
| CLARKSVILLE WWTP | COOP | 92 |
| NASHVILLE BERRY FIELD | COOP | 92 |

11 stations tied for last place among the TopTenn hottest list with a maximum temperature of 92°F during the month. Additionally, 51 of the 123 stations that had fewer than 5 missing high temperature observations recorded a temperature of 90°F at some point during the month.

Coldest Stations (lowest min temp):

| Name | Station Type | Lowest Temperature (F) |
|--------------------------|--------------|------------------------|
| MT LCONTE | COOP | 15 |
| LEWISBURG EXP STA | COOP | 23 |
| NEWFOUND GAP | COOP | 23 |
| NORRIS | COOP | 24 |
| ROAN MOUNTAIN 3SW | COOP | 25 |
| INDIAN GRAVE TENNESSEE | RAWS | 28 |
| PULASKI WASTEWATER PLANT | COOP | 28 |
| TAZEWELL | COOP | 28 |
| ONEIDA | COOP | 28 |
| COALMONT | COOP | 28 |

83 of 116 stations reporting fewer than 5 missed days during the month recorded a minimum temperature of 32°F or below during the month.

Warmest Stations (highest mean temps):

| Name | Station Type | Mean Temperature (F) |
|---------------------------|--------------|----------------------|
| ARDMORE | COOP | 66.5 |
| MEMPHIS INTERNATIONAL AP | WBAN | 65.3 |
| WINCHESTER 5SE | COOP | 64.9 |
| CHATTANOOGA AP | WBAN | 64.8 |
| SHILOH NMP TENNESSEE | RAWS | 64.7 |
| GERMANTOWN 4SE | COOP | 64.5 |
| AMES PLANTATION | COOP | 63.8 |
| SEVIERVILLE | COOP | 63.6 |
| BROWNSVILLE | COOP | 63.4 |
| LEWISBURG TOWER TENNESSEE | RAWS | 63.3 |
| PIKEVILLE | COOP | 63.3 |

Two stations tied for last place in the TopTenn warmest list with a mean temperature of 63.3°F.

Coollest Stations (lowest mean temps):

| Name | Station Type | Mean Temperature (F) |
|--------------------|--------------|----------------------|
| MT LCONTE | COOP | 46.7 |
| NEWFOUND GAP | COOP | 52.3 |
| ROAN MOUNTAIN 3SW | COOP | 54.4 |
| CROSSVILLE EXP STN | COOP | 55.9 |
| CROSSVILLE 7 NW | WBAN | 56.6 |
| CHEROKEE TENNESSEE | RAWS | 57.1 |
| TAZEWELL | COOP | 57.3 |
| NORRIS | COOP | 57.4 |
| JAMESTOWN | COOP | 57.4 |
| TOWNSEND 5S | COOP | 57.5 |

Wettest Stations (highest rainfall totals):

| Name | Station Type | Total Precipitation (in) |
|-------------------|--------------|--------------------------|
| LAFAYETTE | COOP | 8.8 |
| CARTHAGE 8.7 NNE | CoCoRaHS | 8.06 |
| WINCHESTER 5SE | COOP | 7.85 |
| MT LCONTE | COOP | 7.48 |
| LEBANON 7 N | COOP | 7.37 |
| GALLATIN 5.7 SSE | CoCoRaHS | 7.22 |
| ROAN MOUNTAIN 3SW | COOP | 7.03 |
| BETHPAGE 1 S | COOP | 6.65 |
| DICKSON 5.8 NW | CoCoRaHS | 6.54 |
| LEBANON 10.5 ENE | CoCoRaHS | 6.51 |

Driest Stations (lowest rainfall totals):

| Name | Station Type | Total Precipitation (in) |
|------------------------|--------------|--------------------------|
| ARDMORE | COOP | 0.73 |
| STANTON 8.8 E | CoCoRaHS | 1.41 |
| SMYRNA 2.1 E | CoCoRaHS | 1.59 |
| FAIRFIELD GLADE 0.5 SE | CoCoRaHS | 1.67 |
| AMES PLANTATION | COOP | 1.85 |
| SELMER | COOP | 1.87 |
| CLARKRANGE 6.0 NE | CoCoRaHS | 1.9 |
| FRANKLIN 3.6 NW | CoCoRaHS | 1.92 |
| ROCK ISLAND STATE PARK | COOP | 1.94 |
| SPARTA 4.6 NE | CoCoRaHS | 1.96 |

There were no stations that reported measureable snowfall during the month, but there were a few reports of snow at the highest elevations of the mountains.

Drought Monitor:

As of the end of the month, D0 (Abnormally Dry) conditions persisted in southern parts of the state (McNairy, Hardin, and Giles counties). This was an improvement from last month.

U.S. Drought Monitor Tennessee

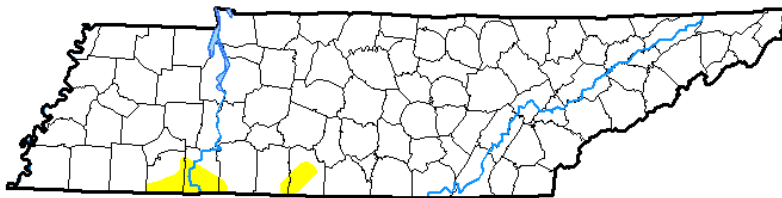
Author:

Deborah Bathke
National Drought Mitigation Center






October 30, 2018

(Released Thursday, Nov. 1, 2018)

Valid 8 a.m. EDT



Intensity:

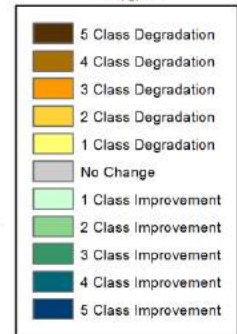
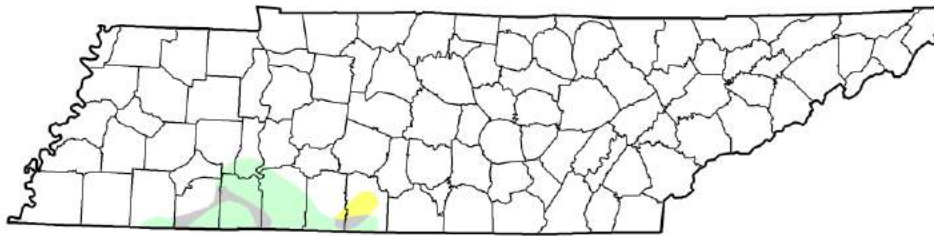
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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



U.S. Drought Monitor Class Change - Tennessee 1 Month



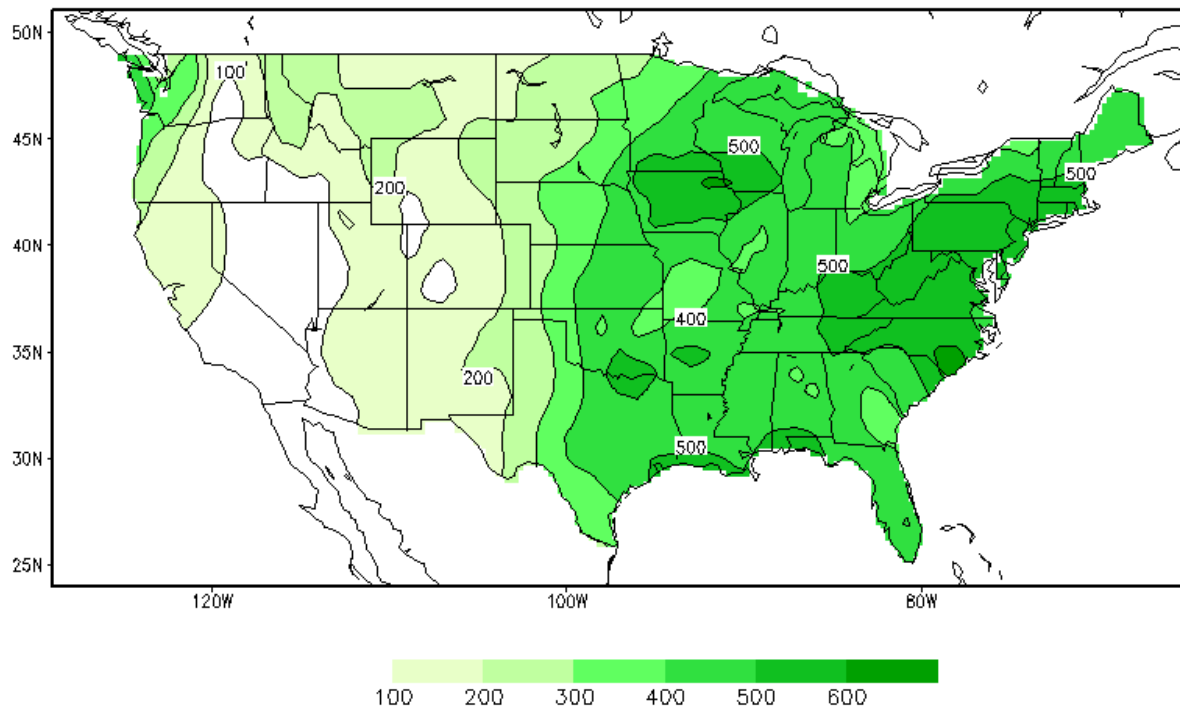
October 30, 2018
compared to
October 2, 2018

<http://droughtmonitor.unl.edu>

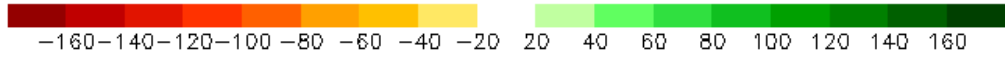
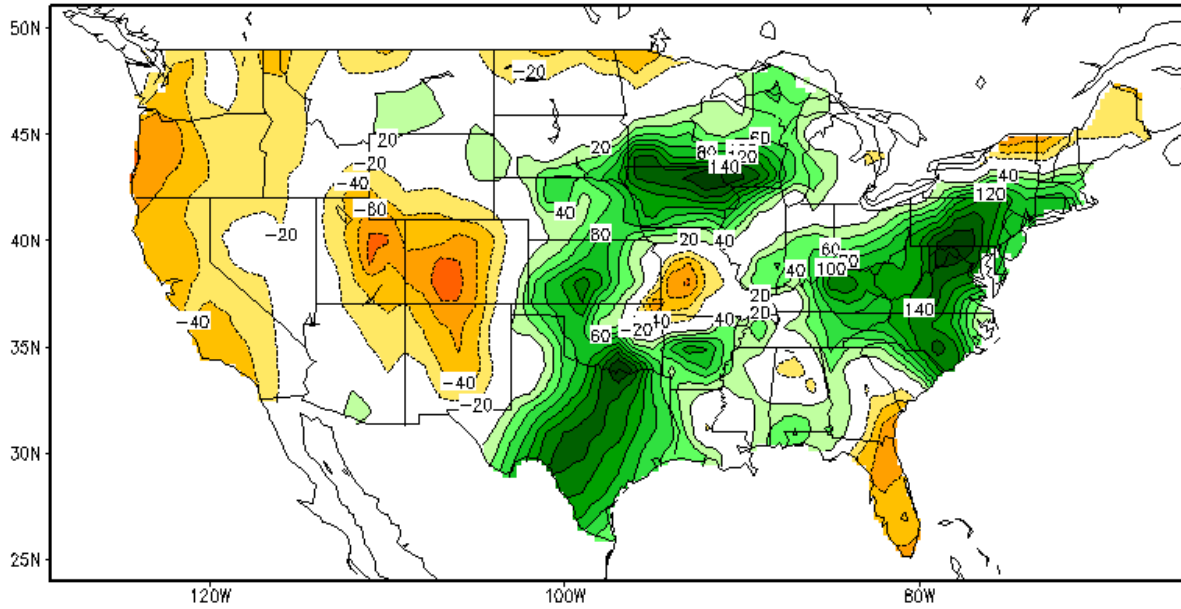
Soil Moisture:

Soil moisture observations ranged from 400-500 mm across the state. Almost all areas were above average for this time of year, but some areas in southern Middle Tennessee, that were in minor drought conditions, were normal to slightly below normal.

Calculated Soil Moisture (mm) OCT, 2018



Calculated Soil Moisture Anomaly (mm) OCT, 2018



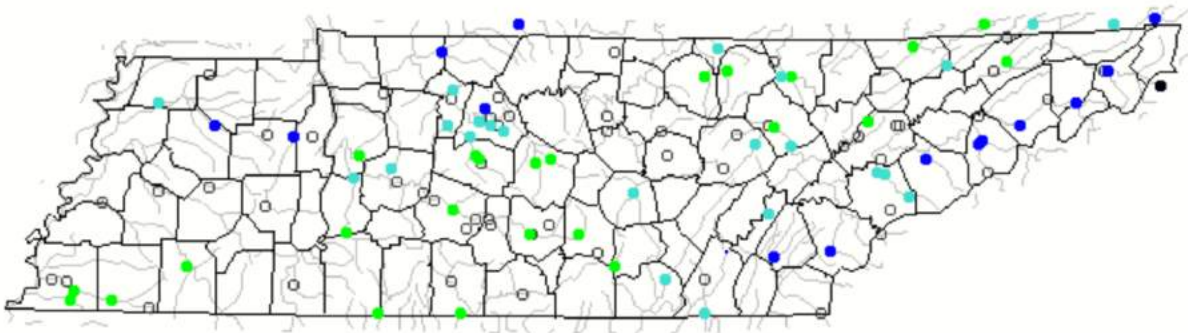
Streamflow:

Streamflow in the state averaged out to be at or above normal for all stream gauges, with the above normal conditions mainly in the eastern and northern parts of the state.

Map of monthly streamflow compared to historical streamflow for the month of the year (Tennessee)

Tennessee ▼ or Water-Resources Regions ▼

October 2018



Search USGS streamgage 🔍

Choose a data retrieval option and select a location on the map

List of all stations Single station Nearest stations Peak flow

| Explanation - Percentile classes | | | | | | | |
|----------------------------------|-------------------|--------------|--------|--------------|-------------------|------|------------|
| | | | | | | | |
| Low | <10 | 10-24 | 25-75 | 76-90 | >90 | High | Not-ranked |
| | Much below normal | Below normal | Normal | Above normal | Much above normal | | |

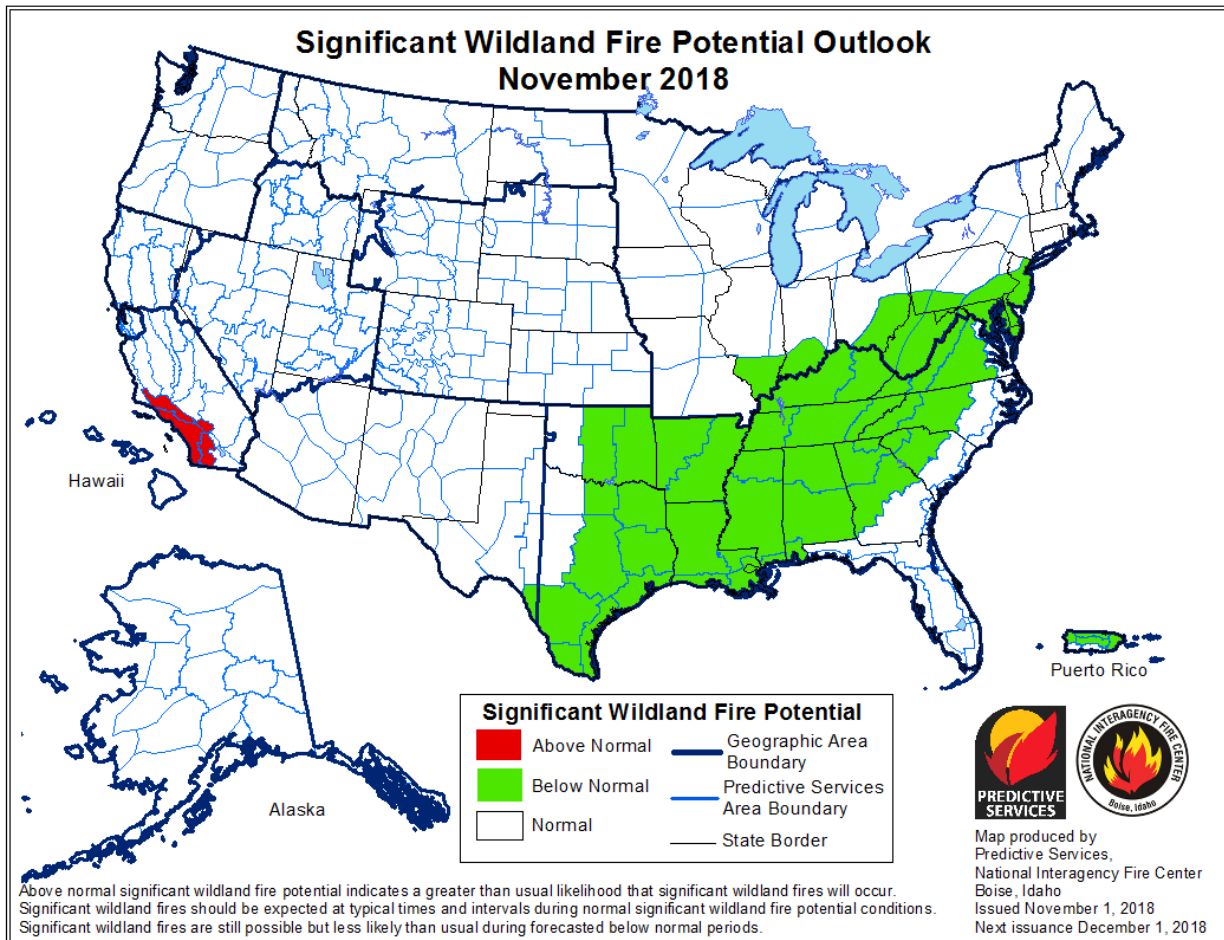
Miscellaneous:

Crop Conditions from USDA: Continued summer-like conditions in the beginning of the month were good for most crops and pastures. During the month, almost all corn was harvested, and over half of the cotton has been harvested as well. Heavy rains in some areas in Western Tennessee were worrisome for the cotton crop harvest, but over half of the crop is in good to excellent condition. Soil moisture was good, and improved during the month. Some colder conditions and frosts started to show signs of stress in pastures, indicating the end of summer, but it has been a good year for most hay producers, so the state is in good condition heading into the winter.

| CROP PROGRESS | | | | | CONDITION | | | | | |
|------------------------|-----------|-----------|------|-------------|--------------|-----------|------|------|------|-----------|
| Crop | This Week | Last Week | 2017 | 5 Year Avg. | Item | Very Poor | Poor | Fair | Good | Excellent |
| | Percent | | | | | | | | | |
| Corn – Harvested | 95 | 92 | 97 | 94 | Cotton | 6 | 8 | 22 | 49 | 15 |
| Cotton – Bolls Opening | 100 | 99 | 100 | 96 | Pasture | 1 | 11 | 29 | 51 | 8 |
| Cotton – Harvested | 68 | 60 | 64 | 48 | Soybeans | 2 | 7 | 21 | 50 | 20 |
| Soybeans – Harvested | 60 | 52 | 61 | 61 | Winter Wheat | 1 | 6 | 22 | 59 | 12 |
| Winter Wheat – Planted | 51 | 36 | 53 | 50 | | | | | | |
| Winter Wheat - Emerged | 32 | 20 | 26 | 24 | | | | | | |

Crop progress and condition as of October 28th

Fire Danger: The Interagency Fire Center outlook for November shows below normal fire chances for the entire state for the month.

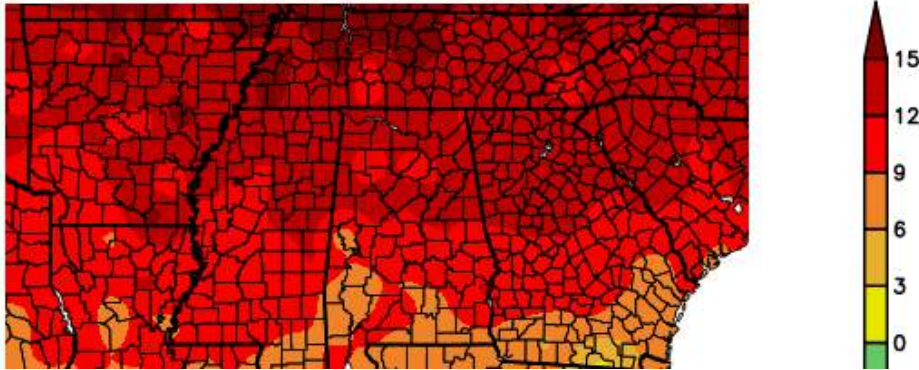


Story of the month:

The main climate/weather story of the month for Tennessee, would have to be the extraordinarily warm first half of the month. In the two-week period from October 1st to the 15th many weather stations

across Tennessee recorded temperatures that put them in the top-10 warmest years for this time period. This warm-spell peaked in the period from the 4th to the 10th, with all but the highest mountain elevations having a mean temperature above 70°F, which was 9 to 15°F above normal.

Departure from Normal Temperature (F) 10/4/2018 – 10/10/2018



US National Weather Service Memphis Tennessee

9 October at 09:45 · 🌐

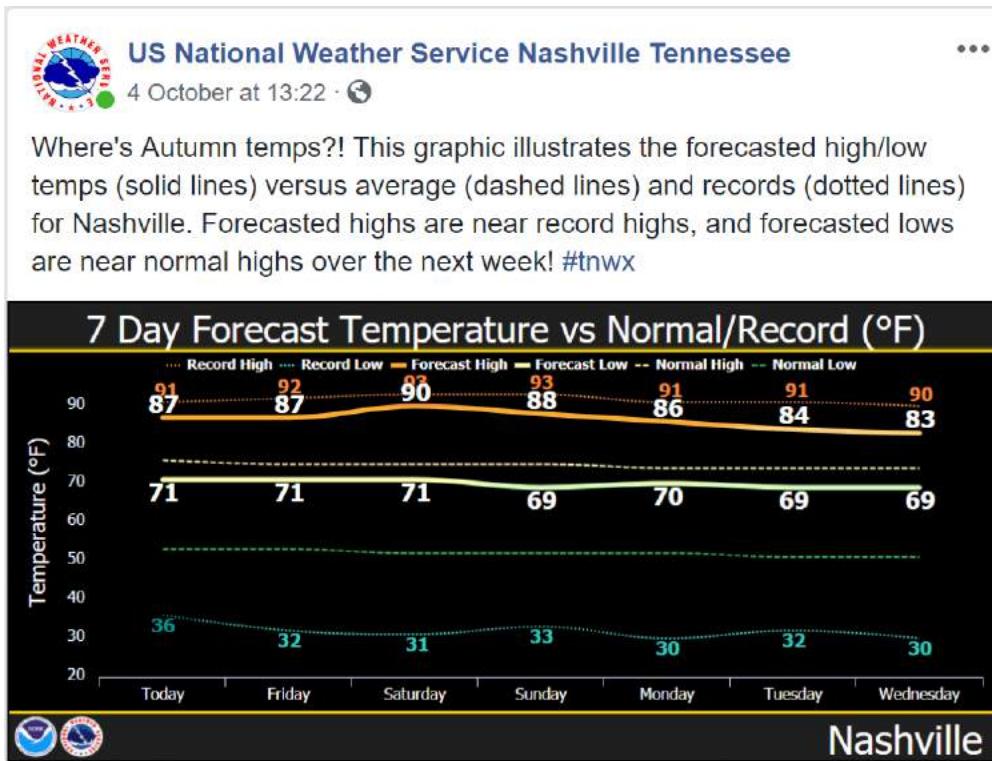
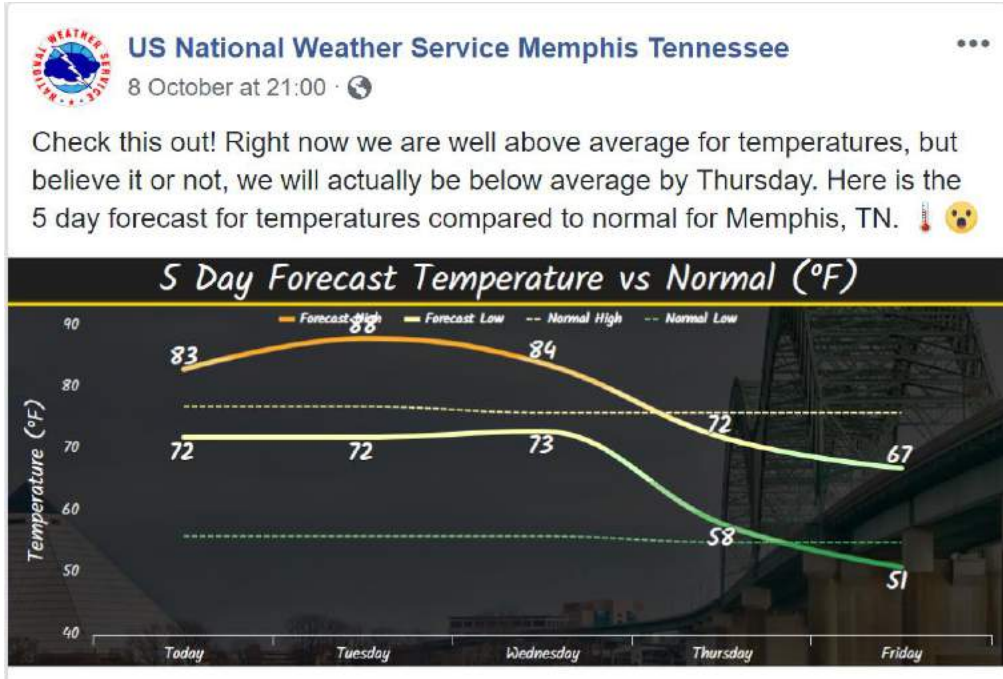
Just how hot 🔥 has it been? It has been the 2nd warmest start to October on record at Memphis. In other news, Who's ready for Fall to arrive on Thursday?

Maximum 8-Day Mean Avg Temperature for Memphis Area, TN (ThreadEx)

[Click column heading to sort ascending, click again to sort descending.](#)

| Rank | Value | Ending Date | Missing Days |
|--|-------|-------------|--------------|
| 1 | 81.0 | 2007-10-08 | 0 |
| 2 | 80.4 | 2018-10-08 | 0 |
| 3 | 79.6 | 1941-10-08 | 0 |
| 4 | 79.3 | 1884-10-08 | 0 |
| 5 | 77.2 | 1879-10-08 | 0 |
| 6 | 76.9 | 1898-10-08 | 0 |
| 7 | 76.0 | 2017-10-08 | 0 |
| - | 76.0 | 1954-10-08 | 0 |
| - | 76.0 | 1931-10-08 | 0 |
| 10 | 75.8 | 1881-10-08 | 0 |
| Period of record: 1875-01-01 to 2018-10-08 | | | |

Additionally, many locations had low temperatures that were closer to their normal high temperatures for the period, below are forecast graphics from Memphis and Nashville Weather Service Office, and Tri-Cities 2-week forecast from The Weather Channel, and normals from the Morristown NWS Office.



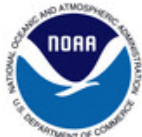
| Tri Cities October Averages | | | | TODAY | |
|-----------------------------|------|------|------|--------|---------|
| | high | low | mean | OCT 3 | 82°/64° |
| 3 | 73 | 48 | 60 | THU | 84°/66° |
| 4 | 73 | 48 | 60 | OCT 4 | |
| 5 | 72 | 47 | 60 | FRI | 85°/66° |
| 6 | 72 | 47 | 59 | OCT 5 | |
| 7 | 72 | 46 | 59 | SAT | 84°/65° |
| 8 | 72 | 46 | 59 | OCT 6 | |
| 9 | 71 | 46 | 58 | SUN | 85°/65° |
| 10 | 71 | 45 | 58 | OCT 7 | |
| 11 | 71 | 45 | 58 | MON | 83°/64° |
| 12 | 70 | 45 | 57 | OCT 8 | |
| 13 | 70 | 44 | 57 | TUE | 81°/63° |
| 14 | 70 | 44 | 57 | OCT 9 | |
| 15 | 69 | 44 | 56 | WED | 82°/63° |
| 16 | 69 | 43 | 56 | OCT 10 | |
| 17 | 69 | 43 | 56 | THU | 80°/63° |
| 18 | 69 | 43 | 56 | OCT 11 | |
| 19 | 68 | 42 | 55 | FRI | 80°/62° |
| 20 | 68 | 42 | 55 | OCT 12 | |
| 21 | 68 | 42 | 55 | SAT | 75°/59° |
| 22 | 68 | 41 | 54 | OCT 13 | |
| 23 | 67 | 41 | 54 | SUN | 72°/52° |
| 24 | 67 | 41 | 54 | OCT 14 | |
| 25 | 67 | 40 | 54 | MON | 70°/50° |
| 26 | 66 | 40 | 53 | OCT 15 | |
| 27 | 66 | 40 | 53 | | |
| 28 | 66 | 40 | 53 | | |
| 29 | 65 | 39 | 52 | | |
| 30 | 65 | 39 | 52 | | |
| 31 | 65 | 39 | 52 | | |
| MO | 69.2 | 43.4 | 56.3 | | |

Storm reports:

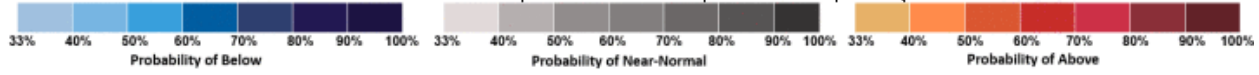
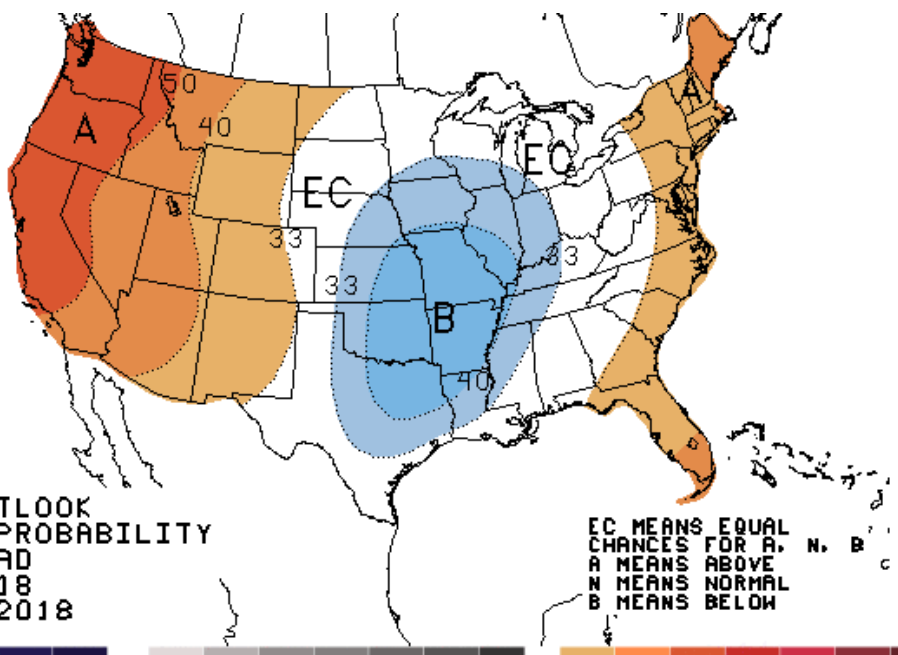
There were no reports of severe weather in the state of Tennessee during the month of October.

CPC outlooks for the next month:

Climate Prediction Center outlooks for the month of November indicate that the wetter and cooler conditions of the second half of October will continue into November. Below normal temperature forecasts are more confident in the western portions of the state, and the eastern half of the state has equal chances to have temperatures above, below, or normal. The confidence in the precipitation forecast is higher, with all but the eastern-most portion of the state, having above 50% chances to be above normal.



**ONE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.0 MONTH LEAD
VALID NOV 2018
MADE 31 OCT 2018**



**ONE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.0 MONTH LEAD
VALID NOV 2018
MADE 31 OCT 2018**

