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10-1-2018

2018 October - Tennessee Monthly Climate Report

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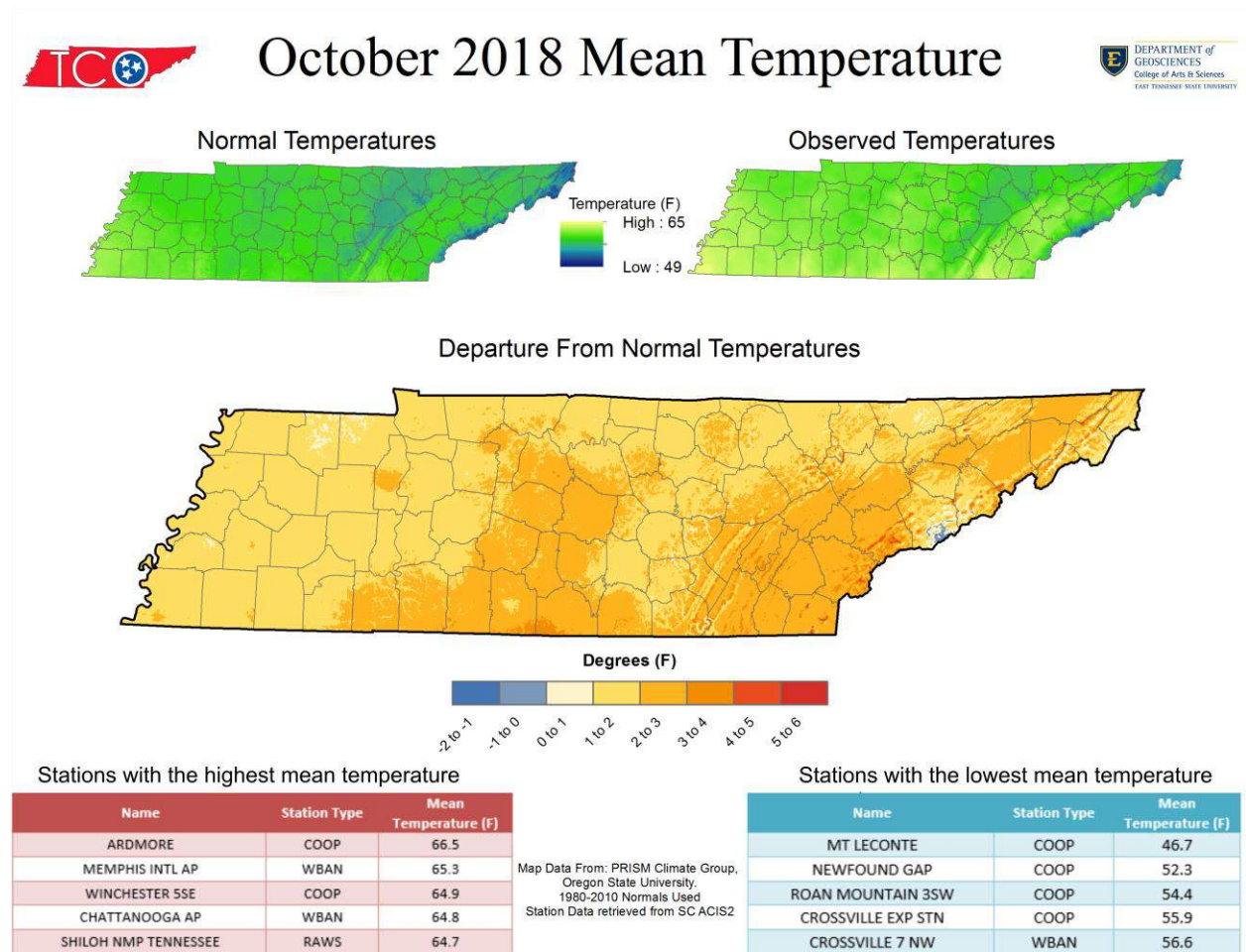
October 2018 Tennessee Climate Summary

Prepared by William Tollefson and Dr. Andrew Joyner

Tennessee Climate Office * East Tennessee State University

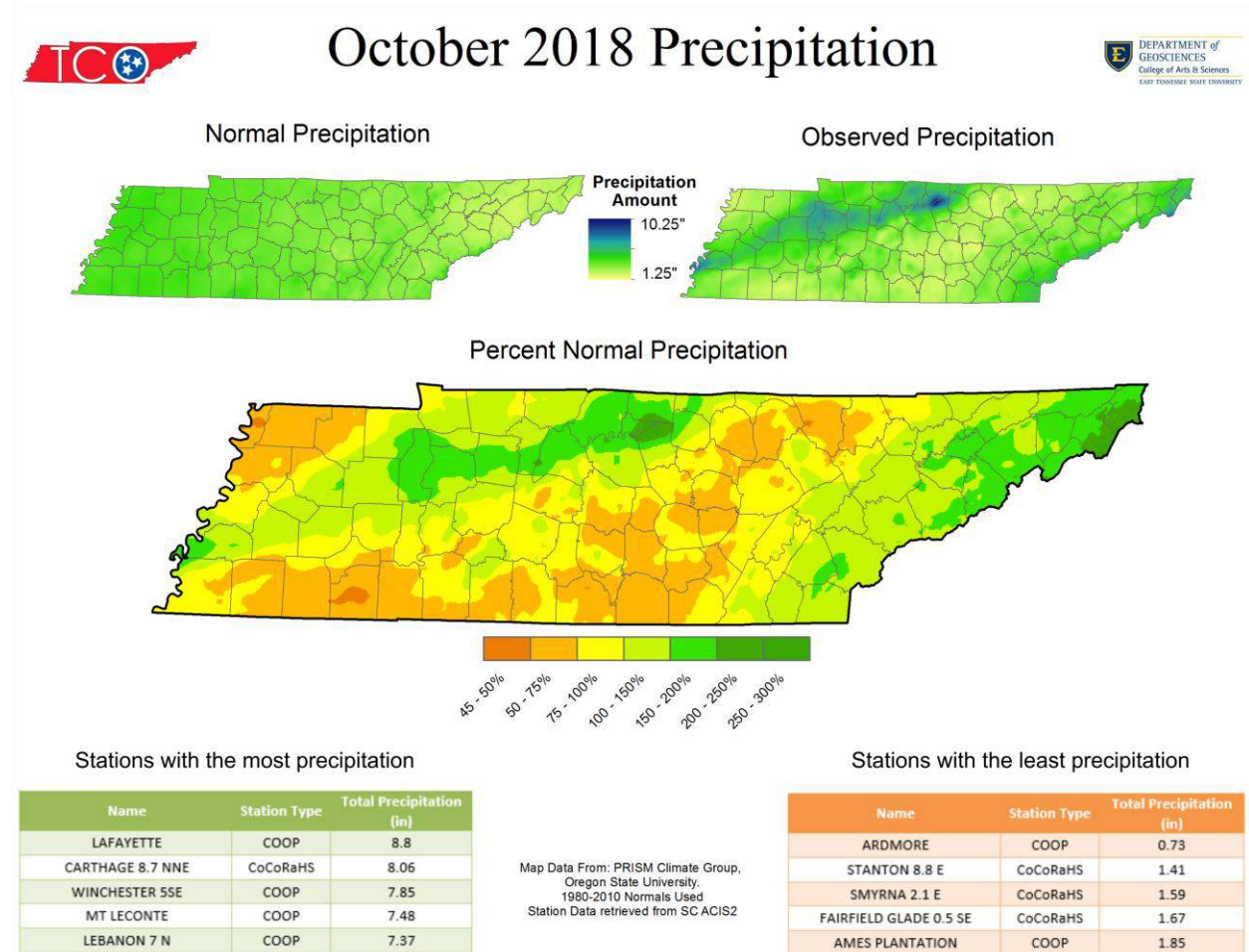
Monthly Temperature Summary:

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.

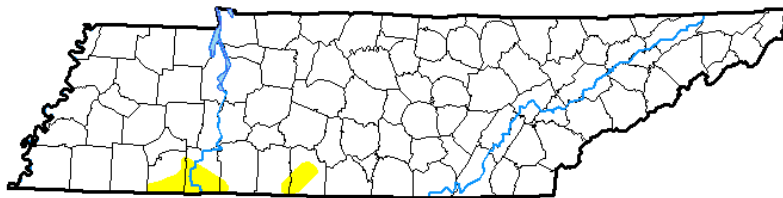
Drought Monitor:

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:

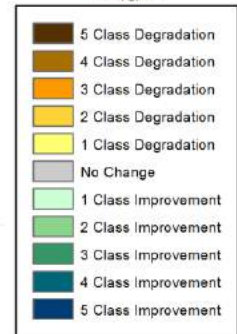
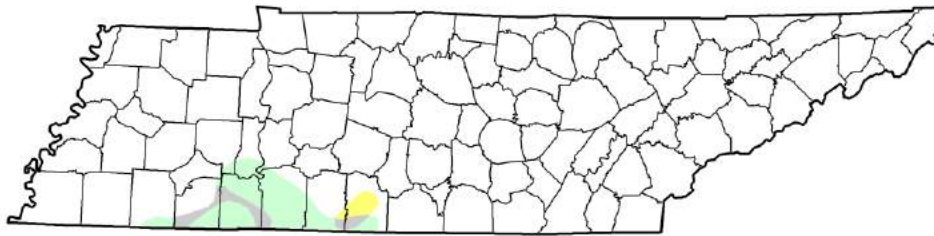
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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



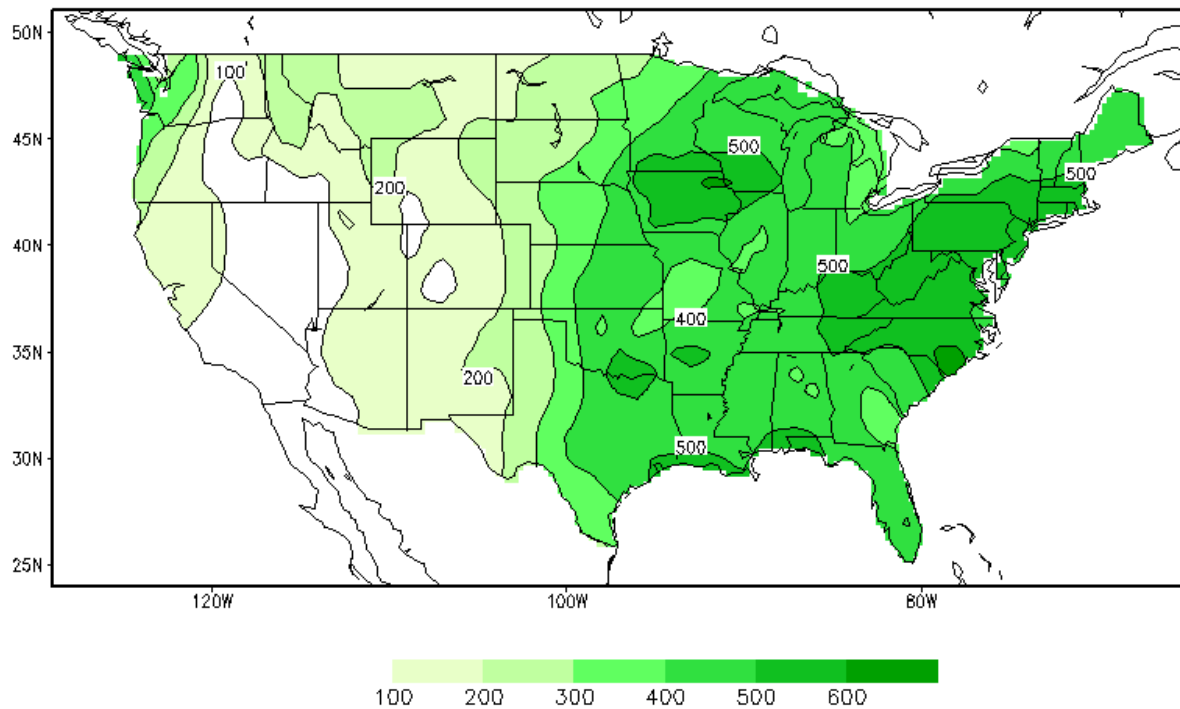
October 30, 2018
compared to
October 2, 2018

<http://droughtmonitor.unl.edu>

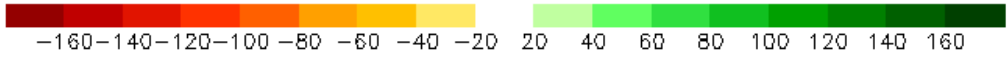
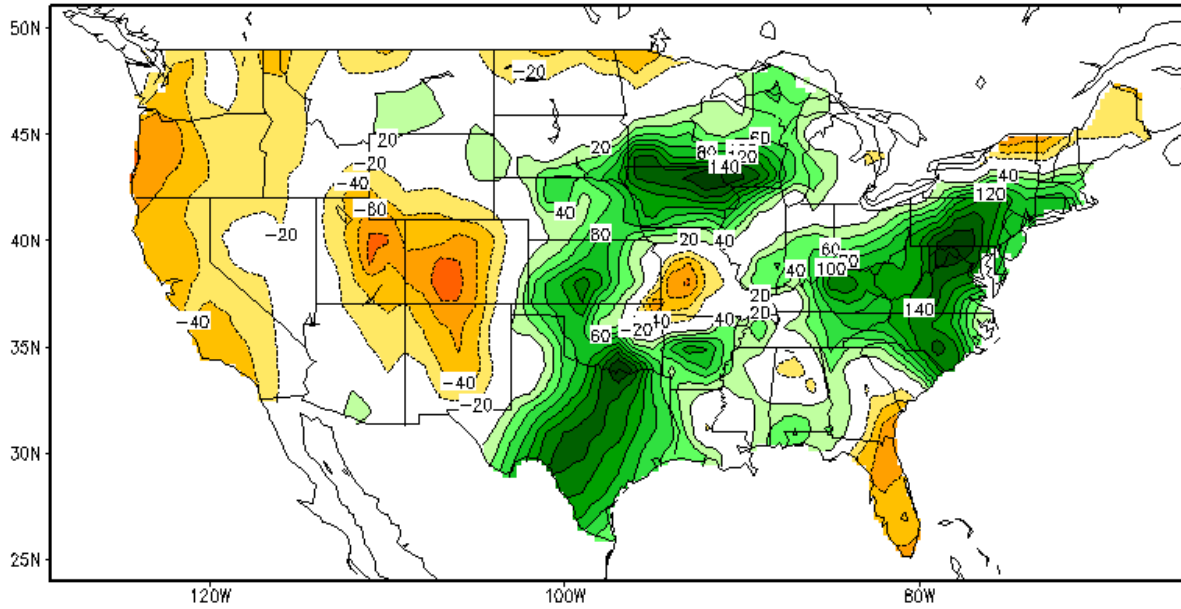
Soil Moisture:

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



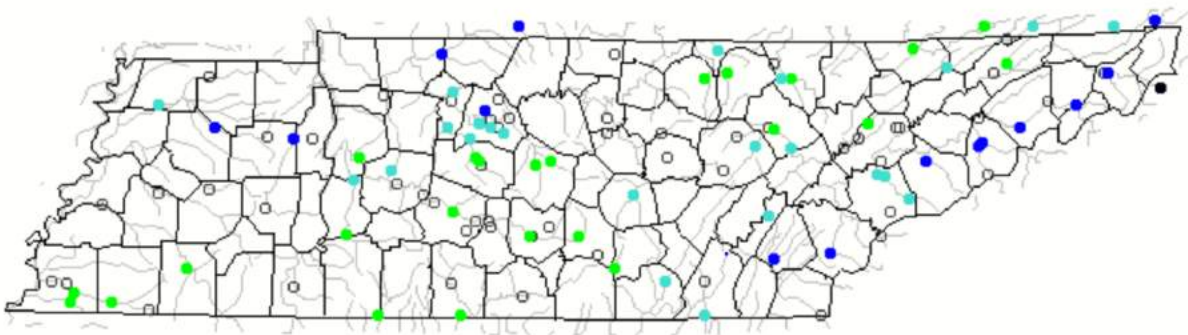
Streamflow:

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		

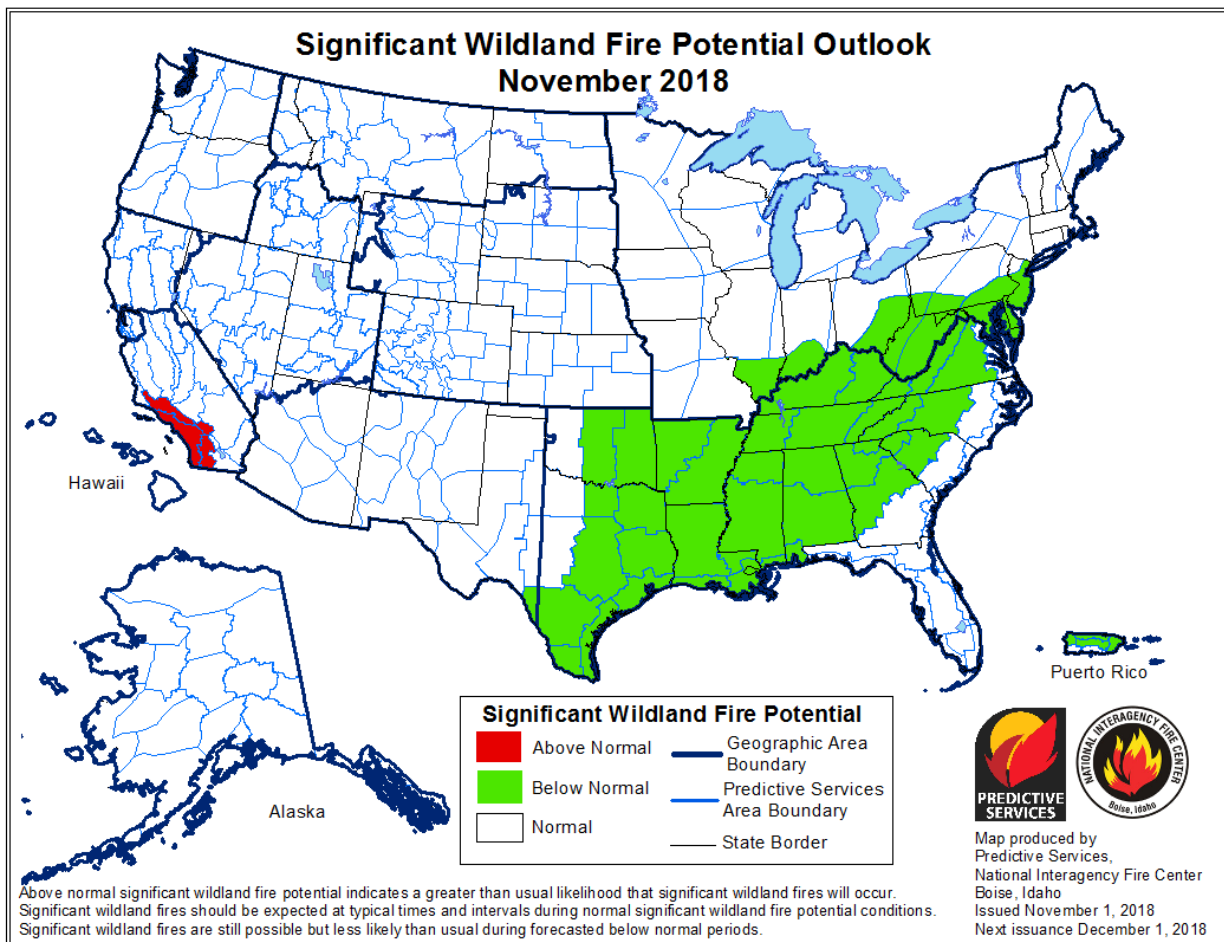
Miscellaneous:

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.

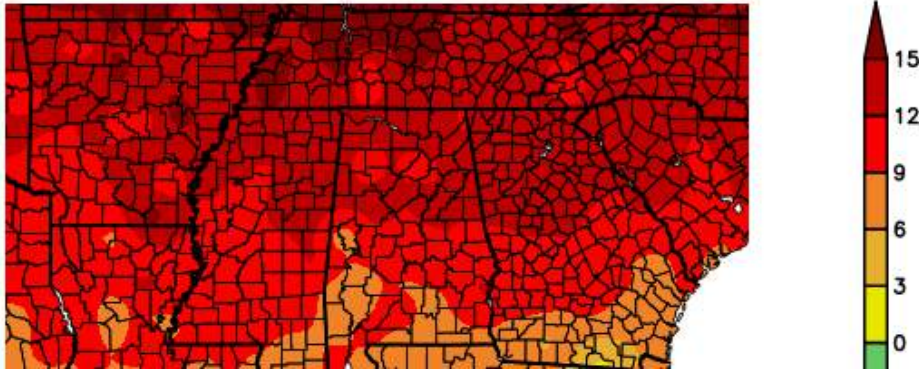


Story of the month:

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 · 🌐

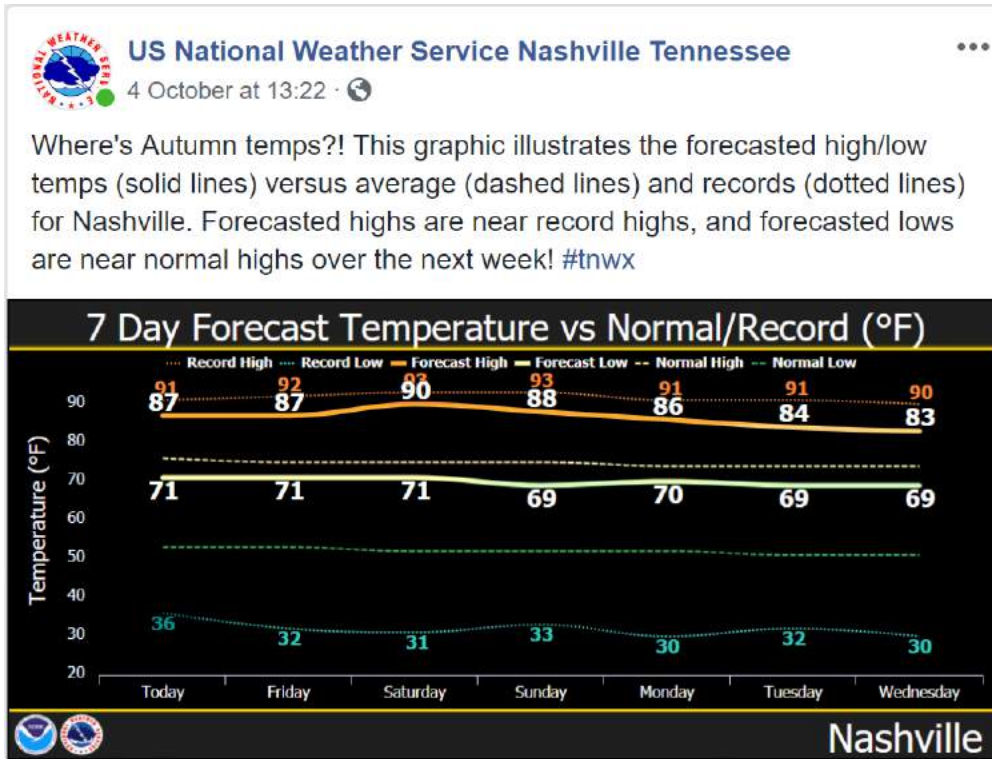
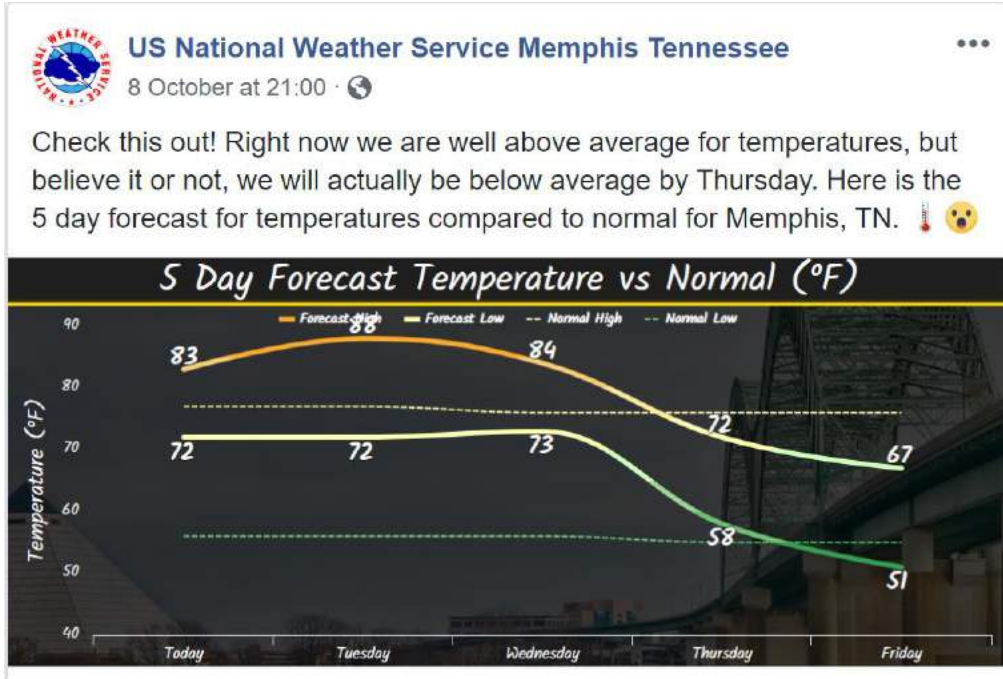
Just how hot 🔥 has it been? It has been the 2nd warmest start to October on record at Memphis. In other news, Who's ready for Fall to arrive on Thursday?

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.



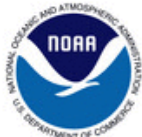
Tri Cities October Averages				TODAY	
	high	low	mean	OCT 3	82°/64°
3	73	48	60	THU	84°/66°
4	73	48	60	OCT 4	
5	72	47	60	FRI	85°/66°
6	72	47	59	OCT 5	
7	72	46	59	SAT	84°/65°
8	72	46	59	OCT 6	
9	71	46	58	SUN	85°/65°
10	71	45	58	OCT 7	
11	71	45	58	MON	83°/64°
12	70	45	57	OCT 8	
13	70	44	57	TUE	81°/63°
14	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:

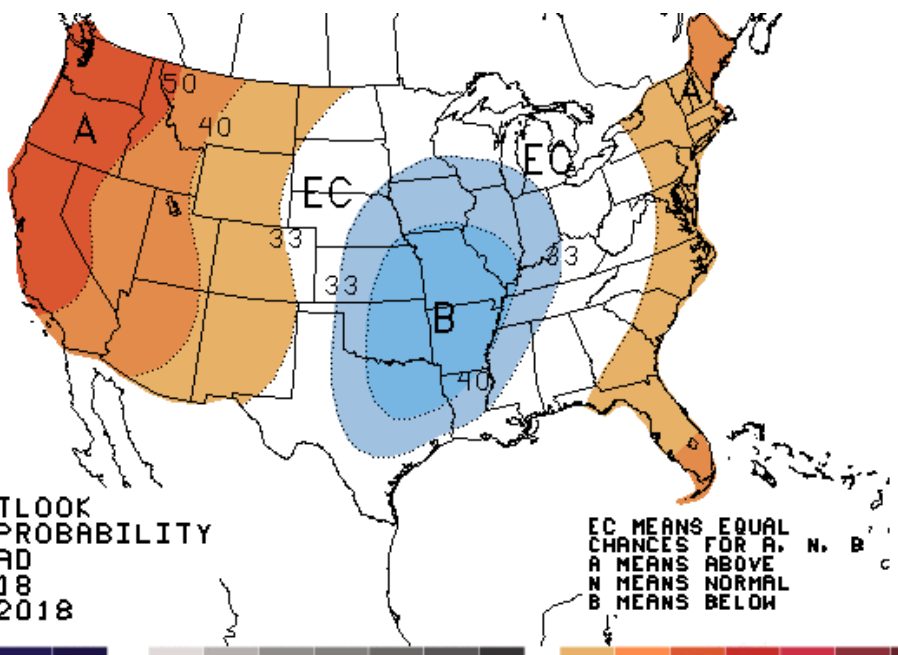
There were no reports of severe weather in the state of Tennessee during the month of October.

CPC outlooks for the next month:

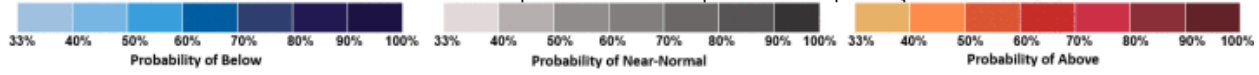
Climate Prediction Center outlooks for the month of November indicate that the wetter and cooler conditions of the second half of October will continue into November. Below normal temperature forecasts are more confident in the western portions of the state, and the eastern half of the state has equal 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.



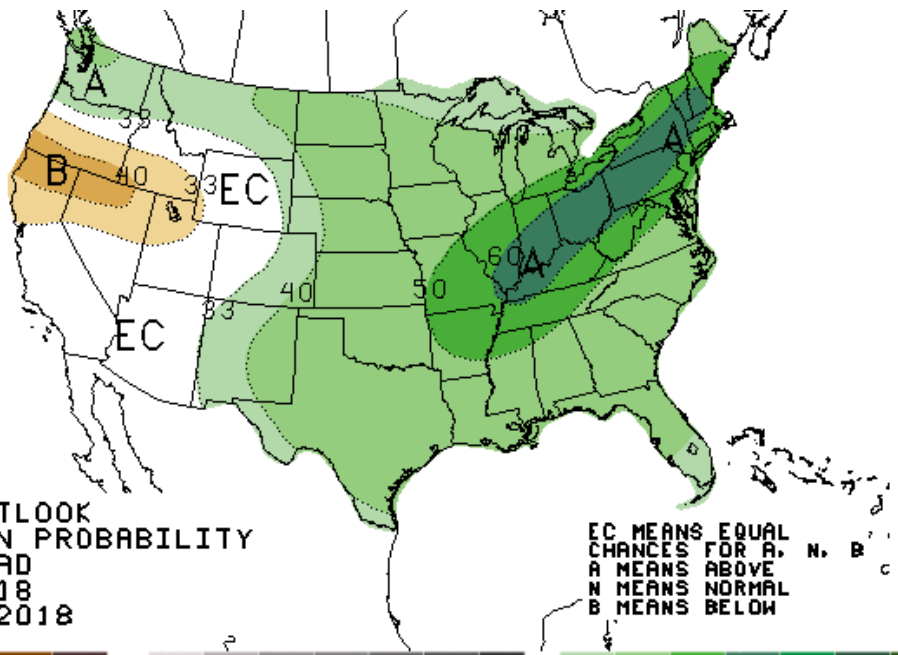
ONE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.0 MONTH LEAD
VALID NOV 2018
MADE 31 OCT 2018



EC MEANS EQUAL
CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW



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



EC MEANS EQUAL
CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

