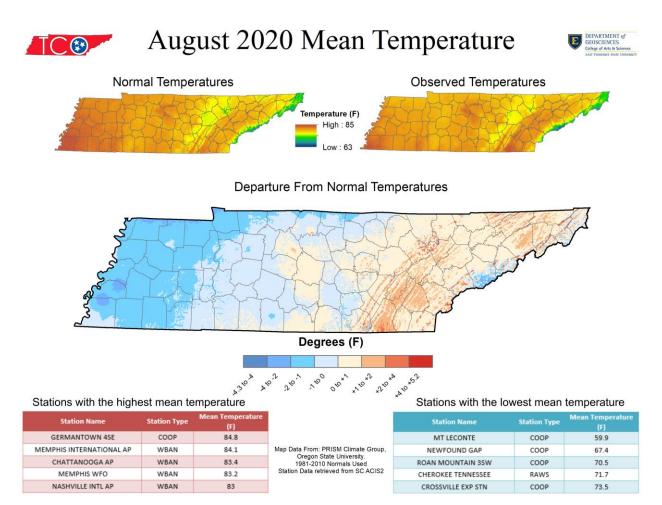
## August 2020 Tennessee State Climate Summary

Tennessee Climate Office \* East Tennessee State University Prepared by William Tollefson and Dr. Andrew Joyner With contributions by Climate Data Representatives at University of Memphis, University of Tennessee-Martin, University of Tennessee-Knoxville, Vanderbilt University, and University of Tennessee-Institute of Agriculture

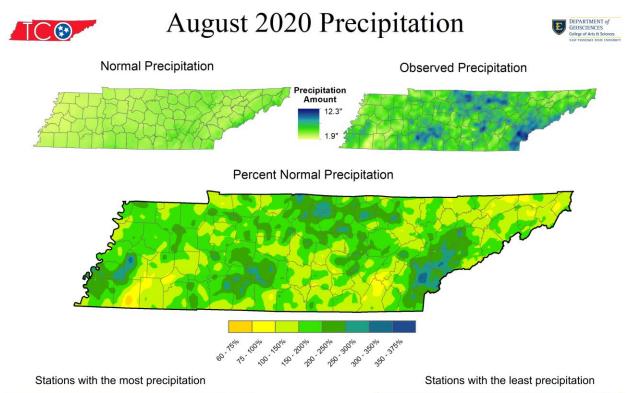
## Monthly Temperature Summary:

Mean temperatures for the month averaged to within one degree of our thirty-year climate normal for many areas in the state. West Tennessee recorded a mean temperature that was a bit cooler than normal. Jackson set a record low temperature of 58°F on the fifth. Meanwhile the Tennessee River Valley in East Tennessee and much of northeast Tennessee recorded temperatures a bit above normal. Chattanooga was one of the warmest parts of the state, with a mean temperature of 2.1°F above normal. Much of the warmth in East Tennessee was driven by warmer than normal low temperatures. At least one long-term weather station set a record warm low temperature from the 26<sup>th</sup> to the 29<sup>th</sup>, with Chattanooga recording the 5<sup>th</sup> warmest average minimum temperature in the 142-year record.



## Monthly Precipitation Summary:

August brought above normal precipitation to most areas of the state, with a combination of heavy thunderstorm rains and more widespread soaking rain events. A few areas did miss out on the best rains, with some areas in southeastern Fayette County only recording 60% of normal rainfall. However, Fayette County also provides an example of how localized the rainfall pattern was, with the Somerville 1.3E CoCoRaHS rain gauge reporting only 2.27" of rain for the month, while the Somerville 10N gauge recorded 6.14" of rain. Some of the heaviest rain occurred in the southern sections of the East Tennessee mountains, with the Newfound Gap COOP weather station in the Smoky Mountains recording 13.06" of rain for the month! The Knoxville airport recorded 8.33" of rain for the month, which was more than five inches above normal and resulted in the fifth wettest August in the 149-year weather record for the city.



Station Name	Station Type	Total Precipitation (in)				Total Precipitation (in)
NEWFOUND GAP	COOP	13.06		OLD HICKORY DAM	COOP	1.09
BENTON 2.3 ESE	CoCoRaHS	11.06	Map Data From: PRISM Climate Group,	JACKSON 5.9 NW	CoCoRaHS	1.37
MARYVILLE 5.8 ESE	CoCoRaHS	10.48	Oregon State University. 1981-2010 Normals Used	CHEATHAM LOCK & DAM	COOP	2.1
JAMESTOWN	COOP	10.48	Station Data retrieved from SC ACIS2	SOMERVILLE 1.3 E	CoCoRaHS	2.27
COOKEVILLE 4.6 WNW	CoCoRaHS	10.35		DOVER 1 W	COOP	2.39

				Precipitation (inches)							
Station Name		A۱	verages			Extr	emes		Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	%Norm
Memphis	89.6	71.7	80.7	-1.3	97	8/11	65	8/5	4.56	+1.68	158%
Jackson	86.5	66.9	76.7	-1.9	96	8/10	58	8/5	4.80	+1.8	<b>160%</b>
Clarksville	86.2	67.3	76.7	-0.5	93	8/10	61	8/5	4.01	+0.9	129%
Nashville	89.0	70.2	79.6	+0.9	97	8/10	66	8/17	5.87	+2.7	185%
Chattanooga	90.4	72.7	81.5	+2.1	97	8/12	68	8/18	6.67	+3.19	<b>192%</b>
Crossville	81.5	64.5	73.0	-0.8	87	8/12	58	8/18	5.01	+1.02	<b>126%</b>
Knoxville	86.8	69.3	78.0	+0.2	92	8/9	63	8/18	8.33	+5.06	255%
Bristol	85.9	65.7	75.8	+2	91	8/26	59	8/18	2.61	-0.86	75%

# Station Data and Top Tenn. (warmest/wettest, coldest/driest stations of the month): Station data for airports across the state using WBAN weather stations:

Departures and %Norm Key: Warmer than Normal, Cooler than Normal; Wetter than Normal, Drier than Normal

Station Name	Station Type	Highest Temperature (F)	Date
GERMANTOWN 4SE	COOP	99	12
SELMER	COOP	98	11
JACKSON EXP STA	COOP	98	11
SHILOH NMP TENNESSEE	RAWS	98	10
AMES PLANTATION	COOP	97	12
SAVANNAH 6 SW	COOP	97	11
WOODBURY 1 WNW	COOP	97	11
NASHVILLE BERRY FIELD	COOP	97	11
CHATTANOOGA AP	WBAN	97	12
MEMPHIS INTERNATIONAL AP	WBAN	97	11
MEMPHIS WFO	WBAN	97	11
NASHVILLE INTL AP	WBAN	97	10

#### Hottest Stations (highest maximum temperature)

Three stations tied for the second warmest temperature (98°F) and eight stations tied for the third warmest temperature (97°F).

Station Name	Station Type	Lowest Temperature (F)	Date
MT LECONTE	COOP	40	16
PORTLAND SEWAGE PLANT	COOP	51	5
WAYNESBORO	COOP	52	25
ROAN MOUNTAIN 3SW	COOP	53	18
MILAN EXP STN	COOP	54	5
NEWFOUND GAP	COOP	54	18
PICKETT STATE PARK	COOP	54	19
CHEROKEE TENNESSEE	RAWS	55	18
CLARKSVILLE NO.2	COOP	56	24
COALMONT	COOP	56	18

## **Coldest Stations (lowest minimum temperature)**

## Warmest Stations (highest mean temperatures)

Station Name	Station Type	Mean Temperature (F)
CHATTANOOGA AP	WBAN	81.5
MEMPHIS INTERNATIONAL AP	WBAN	80.7
GERMANTOWN 4SE	COOP	80.5
NASHVILLE INTL AP	WBAN	79.6
NASHVILLE BERRY FIELD	COOP	79.5
SHILOH NMP TENNESSEE	RAWS	79.1
MEMPHIS WFO	WBAN	78.9
SHELBYVILLE WATER DEPT	COOP	78.6
ATHENS	COOP	78.4
OAK RIDGE ASOS	WBAN	78.4

## **Coolest Stations (lowest mean temperatures)**

Station Name	Station Type	Mean Temperature (F)
MT LECONTE	COOP	58.3
NEWFOUND GAP	COOP	65.6
ROAN MOUNTAIN 3SW	COOP	68.6
CHEROKEE TENNESSEE	RAWS	70.3
GATLINBURG 2 SW	COOP	71.5
TOWNSEND 5S	COOP	71.7
CROSSVILLE 7 NW	WBAN	71.7
COALMONT	COOP	72.3
CROSSVILLE MEMORIAL AP	WBAN	73
FALL CREEK FALLS SP	COOP	73.3

Station Name	Station Type	Total Precipitation (in)
NEWFOUND GAP	COOP	13.06
BENTON 2.3 ESE	CoCoRaHS	11.06
MARYVILLE 5.8 ESE	CoCoRaHS	10.48
JAMESTOWN	COOP	10.48
COOKEVILLE 4.6 WNW	CoCoRaHS	10.35
TOWNSEND 5S	COOP	10.09
SUNBRIGHT 1.2 SW	CoCoRaHS	9.72
MARYVILLE 4.9 S	CoCoRaHS	9.55
HERMITAGE 3.2 SSW	CoCoRaHS	9.53
MOUNT JULIET 5.2 SSW	CoCoRaHS	9.41
LEBANON 2.7 SSE	CoCoRaHS	9.41

## Wettest Stations (highest precipitation totals):

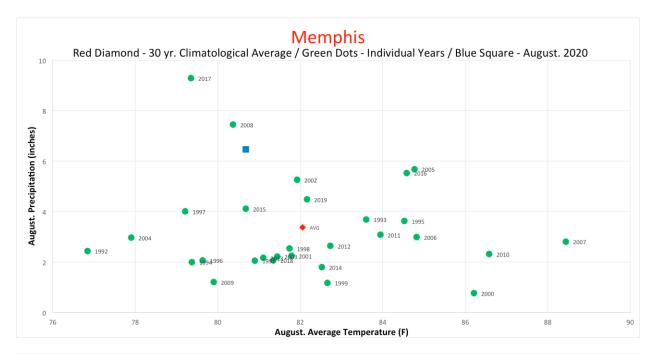
Two stations tied for the tenth highest precipitation total (9.41")

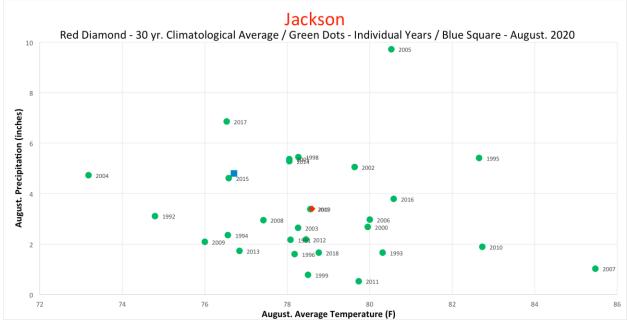
Difest Stations (lowest precipitation totals).									
Station Name	Station Type	Total Precipitation (in)							
OLD HICKORY DAM	COOP	1.09							
JACKSON 5.9 NW	CoCoRaHS	1.37							
CHEATHAM LOCK & DAM	COOP	2.1							
SOMERVILLE 1.3 E	CoCoRaHS	2.27							
DOVER 1 W	COOP	2.39							
BRISTOL AP	WBAN	2.61							
KINGSPORT	COOP	2.62							
KINGSPORT 4.3 ENE	CoCoRaHS	2.63							
SHELBYVILLE WATER DEPT	COOP	2.72							
FAIRVIEW 1.8 W	CoCoRaHS	2.82							

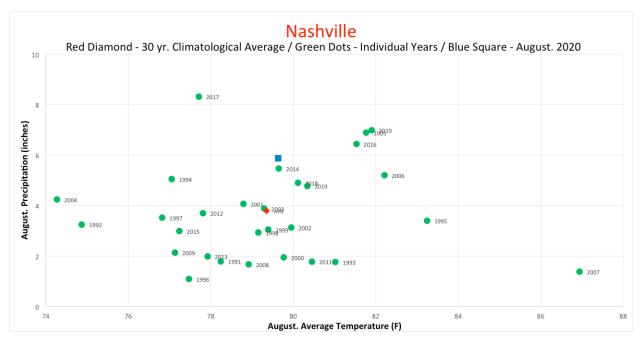
#### **Driest Stations (lowest precipitation totals):**

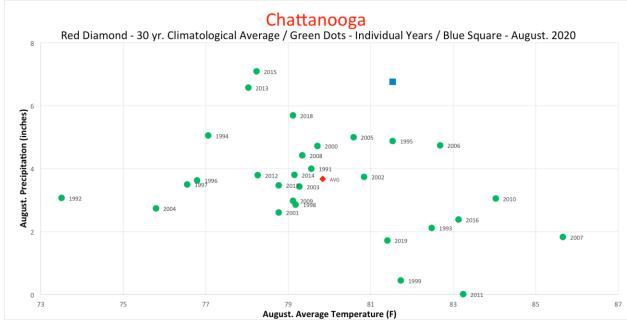
## The Month in Comparison:

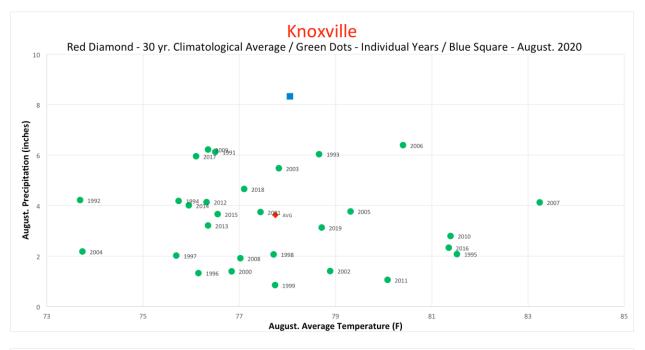
When looking at the temperature and precipitation scatter plots for cities across the state the wide variation in weather conditions becomes apparent. With Knoxville recording the wettest August in the past 30 years and Chattanooga and Memphis recording their 2<sup>nd</sup> and 3<sup>rd</sup> wettest Augusts in that time. Memphis and Jackson recorded temperatures a couple of degrees below the average of the past 30 years, while Nashville and Knoxville were close to their averages, and Chattanooga and Bristol recorded temperatures a couple of degrees.

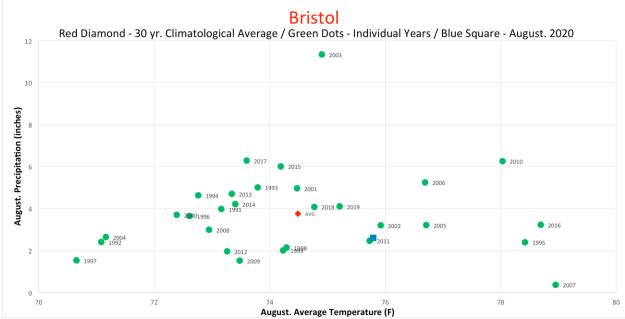






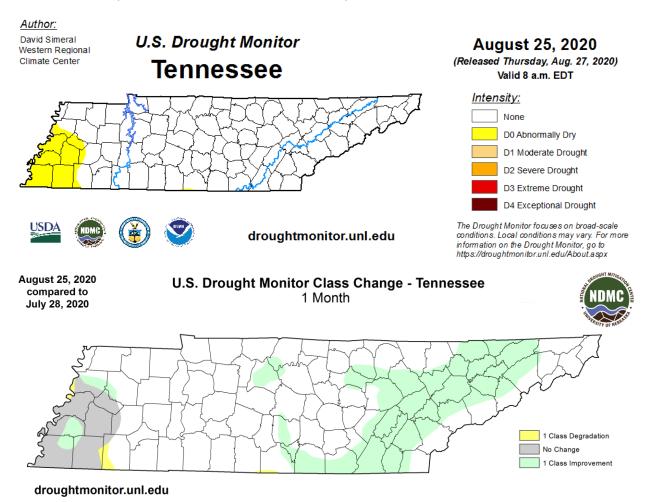






## **Drought Monitor:**

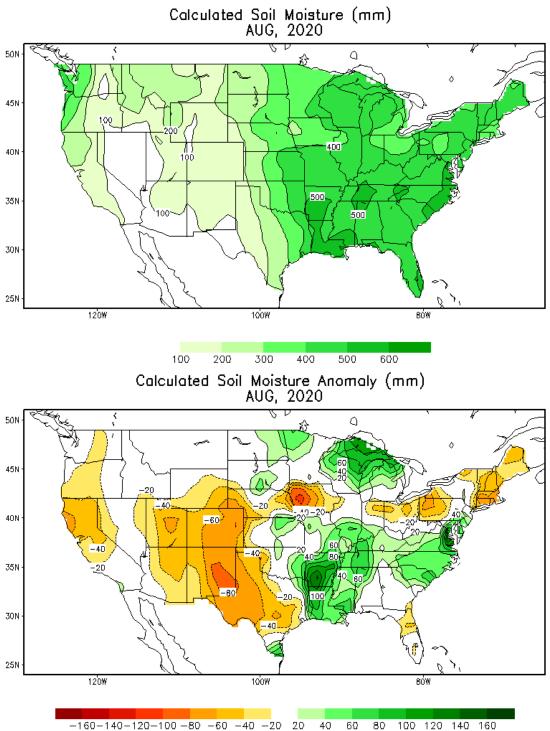
By the end of August, D0 drought conditions had been removed from East Tennessee and the Nashville area. There was some improvement in drought conditions in West Tennessee, with reduction from D1 (Moderate Drought) to D0 (Abnormally Dry) in Shelby County and Tipton County. A small area of D1 remained along the Mississippi River. There was a small expansion of D0 into western sections of Hardeman County and extreme southern Lincoln County.

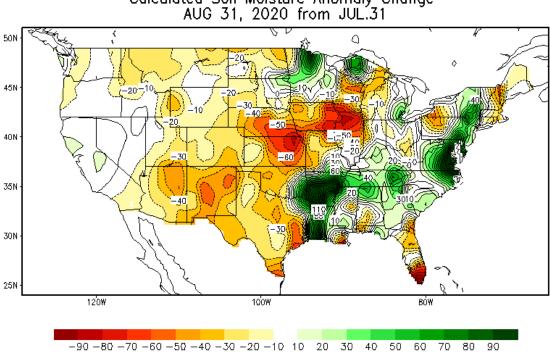


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#### Soil Moisture:

Rainfall this month combined with normal to below normal temperatures in many parts of the state helped recharge soil moisture. Calculated soil moisture was near to above 500mm in many parts of the state, which was 20 to 60mm above normal. At the end of the month, subsoil moisture rated 1% very short, 14% short, 75% adequate and 10% surplus. Topsoil moisture rated 9% short, 71% adequate, and 20% surplus. This represented an improvement in subsoil and topsoil moisture ratings from the end of July.

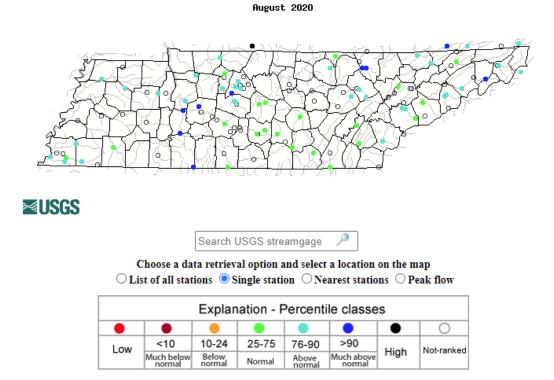




## Calculated Soil Moisture Anomaly Change

## Streamflow:

Excess rainfall, recharging soil moisture, and decreased evaporative demand due to the seasonable temperatures allowed most stream gauges in the state to report normal, to much above normal stream flow.

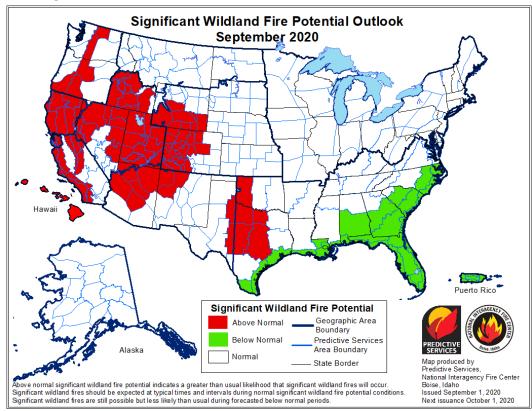


## Miscellaneous:

**Crop Conditions from USDA:** High temperatures and low rainfall at the beginning of the month put stress on livestock, but cooler and wetter conditions later in the month were welcome. Rains across the state improved crop and pasture conditions this month, and many hay producers are hopeful that they will get another cutting in before fall. Corn harvesting began at the end of the month, with good yields reported. The cotton is also shaping up for a good harvest, and soybeans were in good condition.

CROP PI	ROGRE	SS	1			COND	ITION			
Сгор	This Week	Last Week	2019	5 Year Avg.	Item	Very Poor	Poor	Fair	Good	Excellent
	Percent						Per	cent		
Corn – Dough	97	94	97	98	Corn	2	4	23	59	12
Corn – Dented	77	62	85	88	Cotton	6	11	17	54	12
Corn - Mature	22	6	36	40	Pasture	1	5	32	51	11
Corn – Harvested for Grain	1	N/A	4	4	Soybeans	2	5	19	60	14
Cotton - Setting Bolls	97	95	99	98	Tobacco	4	11	27	49	9
Cotton – Bolls Opening	9	2	12	19						
Soybeans – Setting Pods	91	82	87	92						
Soybeans – Dropping Leaves	8	2	13	7						
Tobacco – Topped	95	89	90	N/A						

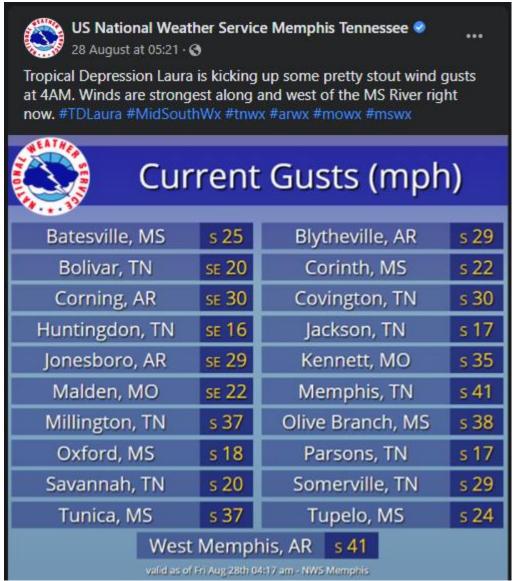
**Fire Danger**: The Interagency Fire Center significant wildland fire outlook for September shows all of Tennessee having normal risk.



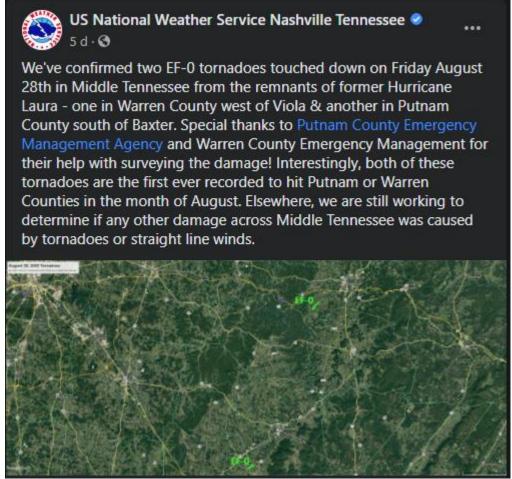
## Story of the Month:

August was a relatively quiet and normal weather month for most of Tennessee. Besides the overall return to a rainy pattern, the biggest story of the month was the impact of Hurricane Laura's remnants on the state as it tracked through neighboring Arkansas and Kentucky.

Most of the heavy rains stayed to the west of Tennessee, but some rain bands did set up across the state and produce 3-day rainfall totals of over three inches in some locations from the 28<sup>th</sup> to the 30<sup>th</sup>. There were also 18 severe wind damage reports and two EF-0 tornadoes reported from storms related to the remnants of Laura.



Wind gusts in the Memphis NWS Office Forecast Area on August 28<sup>th</sup>, via Facebook.



Map of the two EF-0 tornadoes produced by the remnants of Hurricane Laura in Middle Tennessee, via the NWS Nashville Office Facebook page.

## Storm Reports:

\*Storm Reports are based on filtered NOAA Storm Prediction Center data or local NWS storm reports. Future quality control checks may change the official record of severe events, please see spc.noaa.gov for any updates.

There were eleven days with severe storm reports during August, with a total of 2 tornadoes and 33 severe wind damage reports.

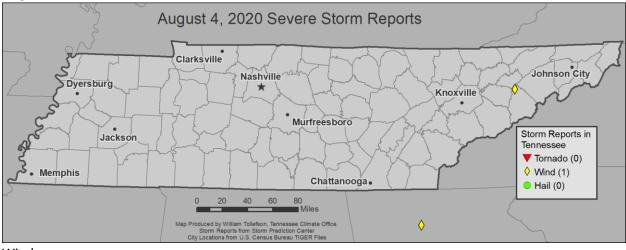




#### Wind:

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
	2 SE				PHOTO SHOWED A TREE BLOWN DOWN ONTO	
23:00		HERMITAGE	DAVIDSON	36.17	-86.59	A HOUSE ON CENTRAL PIKE EAST OF TULIP
		HERIVITAGE				GROVE ROAD IN HERMITAGE (OHX)

#### August 4



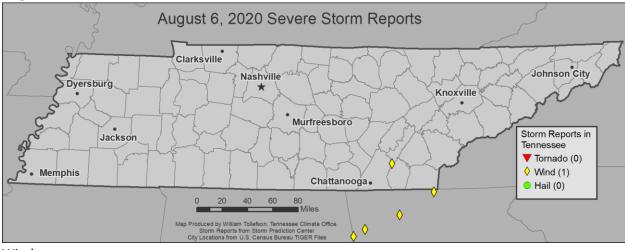
Time (UTC)	Speed	Location	County	Lat	Lon	Comments
20:56		3 S LOWLAND	COCKE	36.11	-83.2	TREE DOWN ON POINT PLEASANT RD. (MRX)



Wind:

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
23:05		3 WSW MASCOT	KNOX	36.05	-83.81	TREE DOWN ON POWER LINES LED TO AN ESTIMATED 3607 KUB CUSTOMERS WITHOUT POWER. (MRX)

#### August 6



Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
18:30		GEORGETOWN	HAMILTON	35.29	-84.95	LARGE TREES UPROOTED DAMAGE TO OUTBUILDINGS AND ROOF DAMAMGE TO STRUCTURES. (MRX)



#### Wind:

winu.						
Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
20:03		RED BOILING SPRINGS	MACON	36.53	-85.85	REPORT OF 3 OR 4 TREES DOWN. TIME ESTIMATED VIA RADAR. (OHX)
20:25		5 NNE CARTHAGE	SMITH	36.33	-85.9	MULTIPLE TREES AND POWER LINES DOWN IN THE AREA OF DEFEATED CREEK (OHX)
20:51		5 NNW BUFFALO VALLEY	SMITH	36.2	-85.82	BRANCH DOWN ON POWER LINE (OHX)
21:00		3 NE BUFFALO VALLEY	PUTNAM	36.18	-85.75	LARGE HOLLOW TREE SNAPPED AND FELL ON POWER LINE. US 70 BETWEEN ROCK SPRINGS RD AND STANTON RD. (OHX)
23:09		MOUNT CREST	BLEDSOE	35.67	-85.24	A COUPLE TREES DOWN. (MRX)

#### August 12



Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
18:24		1 ENE EAST NASHVILLE	DAVIDSON	36.18	-86.74	TREE DOWN ON EASTLAND AVE NEAR 16TH AND 17TH ST (OHX)
18:24		2 S INGLEWOOD	DAVIDSON	36.19	-86.74	POWER LINE DOWN ON GREENWOOD AVE (OHX)
18:57		CLARKSVILLE	MONTGOMERY	36.56	-87.35	TWITTER TSPOTTER REPORT OF POWER LINES DOWN ON MADISON STREET IN CLARKSVILLE (OHX)
19:40		BLACKMAN	RUTHERFORD	35.88	-86.5	FENCE BLOWN DOWN AND PEA SIZE HAIL REPORTED IN THE BLACKMAN AREA (OHX)

Wind:

### August 13



#### Wind:

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
18:00		LIVINGSTON	OVERTON	36.39	-85.33	TREES DOWN IN LIVINGSTON AROUND NORTH SPRING STREET MEDICAL DRIVE 1ST
						STREET AND HIGH STREET. (OHX)

#### August 27



Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
21:44		6 E LORETTO	LAWRENCE	35.08	-87.33	MULITPLE TREES DOWN AROUND EVANS ROAD AREA IN FIVE POINTS (OHX)
21:45		7 ESE LORETTO	LAWRENCE	35.05	-87.31	TREE ON HOUSE ON EVANS ROAD IN FIVE POINTS (OHX)
21:58		5 SW LAWRENCEBURG	LAWRENCE	35.19	-87.4	TREES ON POWERLINES ON SPRING CREEK RD. IN THE GANDY COMMUNITY (OHX)
22:06		2 W ETHRIDGE	LAWRENCE	35.32	-87.34	TREE ACROSS REDHILL CENTER ROAD AND BIG SPRINGS ROAD (OHX)
22:21		13 E HOHENWALD	LEWIS	35.55	-87.33	TREE BLOCKING MT. JOY RD. AT BAPTIST BRANCH RD. (OHX)
22:53		1 SSE DICKSON	DICKSON	36.06	-87.37	POWER LINES DOWN ON MARSHALL STUART DRIVE IN DICKSON (OHX)

Wind:

## August 28

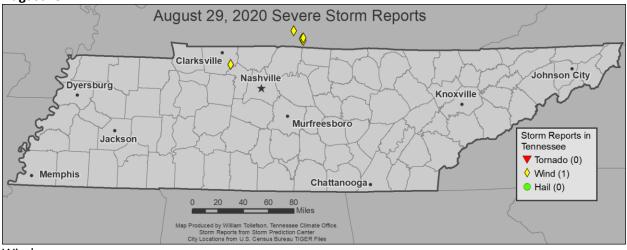


Tornadoes:
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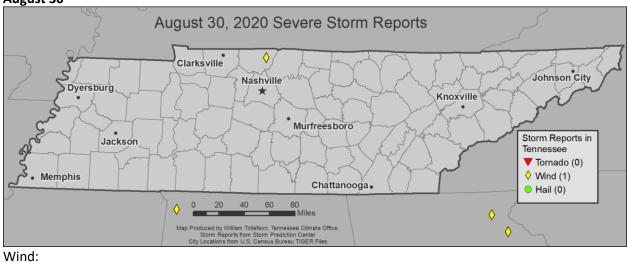
Time (UTC)	Strength	Location	County	Lat	Lon	Comments
22:27	EFO	3 WNW VIOLA	WARREN	35.55	-85.9	A DAMAGE SURVEY BY WARREN COUNTY EMA ALONG WITH VIDEO BY NEARBY RESIDENTS INDICATE A VERY BRIEF WEAK EF-0 TORNADO TOUCHED DOWN IN EXTREME SOUTHWEST WARREN COUNTY BETWEE (OHX)
0:24	EFO	4 SSE BAXTER	PUTNAM	36.1	-85.61	A DAMAGE SURVEY BY PUTNAM COUNTY EMA ALONG WITH RADAR DATA INDICATE A BRIEF EF-0 TORNADO TOUCHED DOWN SOUTH OF BAXTER. ONE HOME ON PALMER LN SUFFERED GARAGE DOOR DAMAGE (OHX)

www.ma.						
Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
17:05		CENTERVILLE	HICKMAN	35.79	-87.45	PICTURES OF TREES DOWN REPORTED IN EAST HICKMAN COUNTY. (OHX)

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
17:11		PRIMM SPRINGS	HICKMAN	35.82	-87.25	TREES DOWN AND A FEW POWER OUTAGES IN THE PRIMM SPRINGS AREA (OHX)
17:19		4 WSW FAIRVIEW	WILLIAMSON	35.96	-87.19	TREES DOWN ON OLD FRANKLIN ROAD (OHX)
17:30		KINGSTON SPRINGS	CHEATHAM	36.1	-87.1	REPORT OF TREES DOWN ON POWERLINES. TIME ESTIMATED VIA RADAR. (OHX)
17:35		MOUNT PLEASANT	MAURY	35.55	-87.19	TWO TREES DOWN ON DRY CREEK ROAD (OHX)
17:42		ASHLAND CITY	CHEATHAM	36.28	-87.06	REPORT OF TREES DOWN ON POWERLINES. TIME ESTIMATED VIA RADAR. (OHX)
18:10		5 SW GOODLETTSVILLE	DAVIDSON	36.27	-86.78	TREES DOWN (OHX)
22:27		3 WNW VIOLA	WARREN	35.55	-85.9	REPORT OF BARN DESTROYED ON CECIL LAXSON RD. (OHX)
23:10		9 ENE MCMINNVILLE	WARREN	35.75	-85.63	LARGE TREE DOWN BLOCKING ROAD AT 1621 COPENHAVER ROAD. TIME ESTIMATED. (OHX)
23:54		10 E SPARTA	WHITE	35.94	-85.3	LARGE TREE LIMBS DOWN ON OLD RAILROAD GRADE ROAD (OHX)
0:25		5 S BAXTER	PUTNAM	36.08	-85.64	ROOF DAMAGE TO A HOME AT 6207 CHEYENNE TRAIL (OHX)



Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
22:10		11 SE CLARKSVILLE	MONTGOMERY	36.44	-87.22	TWITTER TSPOTTER REPORT OF A TREE DOWN OVER A ROAD ON HWY 12 NEAR SHADY GROVE ROAD BY THE FREDONIA ONESTOP MARKET. (OHX)



Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
		3 WNW				REPORT OF MULTIPLE TREES DOWN ALONG HWY
22:15		CROSS	ROBERTSON	36.55	-86.73	25 NEAR COUTS CARR ROAD IN CROSS PLAINS
		PLAINS				(OHX)

## CPC Outlooks for the Next Month:

The Climate Prediction Center outlooks for September shows West Tennessee has slightly better than average chance for a cooler than normal month. The rest of the state is forecast to have equal chances of cooler than normal, or warmer than normal conditions. All of Tennessee is shown as having above average precipitation for September, with higher confidence in West Tennessee.

