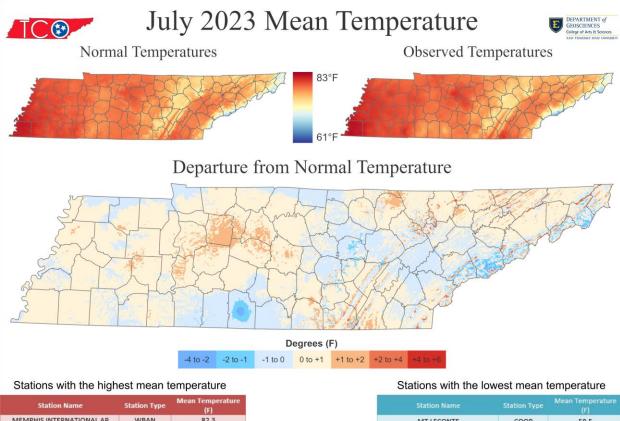
# July 2023 Tennessee State Climate Summary

Tennessee Climate Office \* East Tennessee State University Prepared by William Tollefson and Dr. Andrew Joyner With contributions by <u>Climate Data Representatives</u> across the state

#### Monthly Temperature Summary:

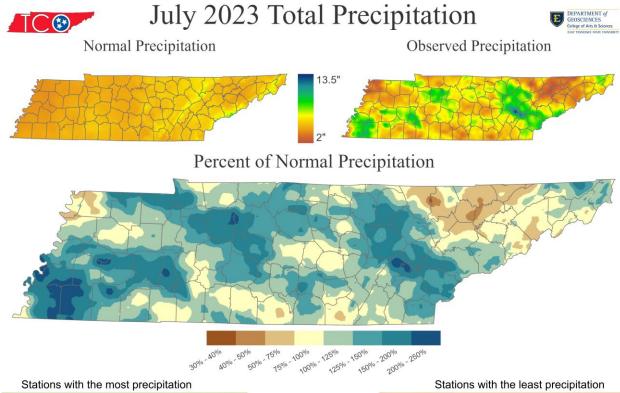
Average mean temperatures for July 2023 were close to normal (±1°F) for most areas of the state. The month started and ended hot, with most weather stations having their hottest day of the month on July 1 or 28. Through July there was only 1 record for daily high temperature, but there were 13 broken and 24 tied daily records for warmest low temperatures set. The Memphis National Weather Service Office (with a 35-year weather history) set a monthly record for warmest low temperature in July on July 1, with a low of 81°F, then they tied that new record the next day on July 2. Most areas of the state averaged 1-3°F warmer than normal for the first week of July, but then cooler conditions came in the middle of the month, with average temperatures 1-4°F below normal in the second week and 0-2°F below normal in the third week of July. Throughout the month there were 4 broken and 5 tied daily low temperature records, including a low of 39°F at the Mt LeConte COOP station in the Smoky Mountains on July 13. There were also 34 broken and 12 tied daily records for cool high temperatures set this month, with most of those recorded from July 8-10 and 19-21. Temperatures were close to normal for the 4<sup>th</sup> week of the month, before shooting up into the mid-to-upper 90s in the last days of July.



Station Name	Station Type	Mean Temperature (F)		Station Name	Station Type	Mean Temperature (F)
MEMPHIS INTERNATIONAL AP	WBAN	82.3	Man Data from DDICM Climate Crown	MT LECONTE	COOP	58.5
MEMPHIS WFO	WBAN	81.8	Map Data from PRISM Climate Group, Oregon State University.	NEWFOUND GAP	COOP	66.7
CHATTANOOGA AP	WBAN	81.3	1991-2020 Climate Normals Used.	ROAN MOUNTAIN 3SW	COOP	68.5
SHILOH NMP TENNESSEE	RAWS	81.1	Station Data Retrieved From xmACIS2.	TOWNSEND 55	COOP	70.6
CLARKSVILLE WWTP	COOP	80.9		CHEROKEE TENNESSEE	RAWS	70.6

#### Monthly Precipitation Summary:

Storm systems brought heavy rainfall to parts of the state during the first half of the month, and then a more organized system brought widespread heavy rainfall to the state in the third week of July. In this week many areas of the state recorded over 2" of rain, with parts of the Cumberland Plateau recording over 5" of rain! Then the month ended dry with only light rainfall in most areas with the exception of some repeated storms in northeast Tennessee that led to higher totals. The heavy rainfall associated with the storms through the month of July produced flash flooding in various locations around the state. There were 35 new daily rainfall records set across Tennessee this month, including 11 records at weather stations with at least a 100-year weather history. Mt LeConte, Gatlinburg, and the Memphis airport weather stations all set daily rainfall records during July, each with over 4" of rain recorded. Two stations, the Mt LeConte COOP station (with a 35-year weather history) and the Mountain City 2 COOP station (with a 67-year weather history) both set records for the largest 1-day rainfall totals recorded in the month of July.



	Station Type	Total Precipitation (in)	
DECATUR 7NE	COOP	12.77	
GLADEVILLE	COOP	11.9	Map Data from PRISM Climate Group,
MT LECONTE	COOP	11.4	Oregon State University.
FAIRFIELD GLADE 0.1 NNW	CoCoRaHS	11.11	1991-2020 Climate Normals Used. Station Data Retrieved From xmACIS2
TEN MILE 2.2 NW	CoCoRaHS	11.01	

		Total Precipitation (in)		
MAYNARDVILLE 0.6 E	CoCoRaHS	1.08		
MAYNARDVILLE	COOP	1.61		
MORRISTOWN RADIO WCRK	COOP	2.3		
BULLS GAP 0.9 SSW	CoCoRaHS	2.36		
COLONIAL HEIGHTS 0.6 SSE	CoCoRaHS	2.36		

# Station Data and Top Tenn. (warmest/wettest, coldest/driest stations of the month):

	Temperatures (°F)									Precipitation (inches)		
Station Name		Ave	erages			Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	%Norm	
Memphis	90.7	73.8	82.3	-0.5	96	7/1	68	7/23	8.62	+3.80	<b>179%</b>	
Jackson	89.1	69.5	79.3	-0.2	95	7/29	60	7/11	5.98	+1.61	137%	
Clarksville	90.6	70.1	80.4	+2.2	98	7/28	60	7/11	2.80	-0.94	75%	
Nashville	90.5	71.2	80.9	+0.2	98	7/28	63	7/11	5.98	+1.82	144%	
Chattanooga	91.0	71.5	81.3	+0.6	98	7/27	65	7/11	3.76	-1.32	74%	
Crossville	82.8	64.0	73.4	-0.4	88	7/28	54	7/11	5.56	+0.10	<b>102%</b>	
Knoxville	87.6	69.3	78.5	0.0	94	7/28	62	7/12	5.22	-0.03	<b>99%</b>	
Bristol	87.5	65.1	76.3	+0.7	95	7/28	56	7/11	3.85	-1.15	77%	

Station data for airports across the state using WBAN weather stations, compared to 1991-2020 30-year climate normals for departure from mean temperature and total precipitation:

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

Station Name	Station Type	Highest Temperature (F)	Date
TENNESSEE RIDGE	COOP	101	1
CLARKSVILLE NO.2	COOP	100	1
BROWNSVILLE	COOP	99	19
JACKSON EXP STA	COOP	99	1
LEBANON 7 N	COOP	99	29
CLARKSVILLE WWTP	COOP	99	27
LEWISBURG EXP STA	COOP	98	1
KINGSTON SPRINGS	COOP	98	2
NASHVILLE BERRY FIELD	COOP	98	29
MOUSETAIL LANDING STATE PARK	COOP	98	5
SHILOH NMP TENNESSEE	RAWS	98	29
CHATTANOOGA AP	WBAN	98	27
CLARKSVILLE OUTLAW AP	WBAN	98	28
MEMPHIS WFO	WBAN	98	29
NASHVILLE INTL AP	WBAN	98	28

Hottest Stations (highest maximum temperature)

Nine stations tied for the 7<sup>th</sup> hottest temperature (98°F)

Station Type	Lowest Temperature	Date
COOP	39	13
COOP	49	13
COOP	50	17
COOP	51	11
COOP	52	21
RAWS	52	17
COOP	53	11
COOP	54	12
RAWS	54	11
RAWS	54	11
WBAN	54	11
WBAN	54	11
	Type COOP COOP COOP COOP RAWS COOP COOP RAWS RAWS RAWS WBAN WBAN	Station TypeTemperature (F)COOP39COOP49COOP50COOP51COOP52RAWS52COOP53COOP54RAWS54RAWS54

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

Five stations tied for the 8<sup>th</sup> coldest temperature (54°F)

#### Warmest Stations (highest mean temperatures)

Station Name	Station Type	Mean Temperature (F)		
MEMPHIS INTERNATIONAL AP	WBAN	82.3		
MEMPHIS WFO	WBAN	81.8		
CHATTANOOGA AP	WBAN	81.3		
SHILOH NMP TENNESSEE	RAWS	81.1		
CLARKSVILLE WWTP	COOP	80.9		
NASHVILLE INTL AP	WBAN	80.9		
NASHVILLE BERRY FIELD	COOP	80.6		
DYERSBURG MUNICIPAL AIRPORT	WBAN	80.4		
CLARKSVILLE OUTLAW AP	WBAN	80.4		
JACKSON EXP STA	COOP	80.1		

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

•		
Station Name	Station Type	Mean Temperature (F)
MT LECONTE	COOP	58.5
NEWFOUND GAP	COOP	66.7
ROAN MOUNTAIN 3SW	COOP	68.5
TOWNSEND 5S	COOP	70.6
CHEROKEE TENNESSEE	RAWS	70.6
GATLINBURG 2 SW	COOP	71.8
MOUNTAIN CITY 2	COOP	72.2
CROSSVILLE 7 NW	WBAN	72.2
COALMONT	COOP	72.7
CROSSVILLE MEMORIAL AP	WBAN	73.4

Station Name	Station Type	Total Precipitation (in)
DECATUR 7NE	СООР	12.77
GLADEVILLE	COOP	11.9
MT LECONTE	COOP	11.4
FAIRFIELD GLADE 0.1 NNW	CoCoRaHS	11.11
TEN MILE 2.2 NW	CoCoRaHS	11.01
CLARKRANGE 6.0 NE	CoCoRaHS	10.75
ROCKWOOD 11.3 S	CoCoRaHS	10.7
GERMANTOWN 4SE	COOP	10.54
PETROS 0.2E	CoCoRaHS	10.08
ATOKA 3.2 ESE	CoCoRaHS	10.05

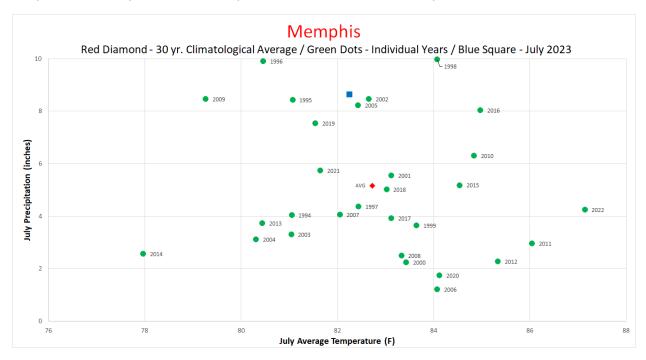
#### Wettest Stations (highest precipitation totals):

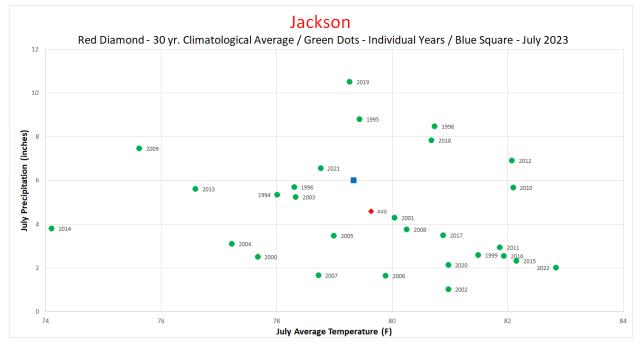
# Driest Stations (lowest precipitation totals):

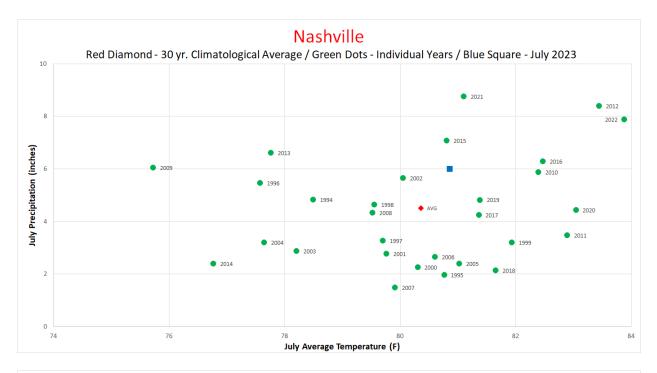
Station Name	Station Type	Total Precipitation (in)
MAYNARDVILLE 0.6 E	CoCoRaHS	1.08
MAYNARDVILLE	COOP	1.61
MORRISTOWN RADIO WCRK	COOP	2.3
BULLS GAP 0.9 SSW	CoCoRaHS	2.36
COLONIAL HEIGHTS 0.6 SSE	CoCoRaHS	2.36
LOOKOUT MTN-POINT PARK	COOP	2.46
TAZEWELL	СООР	2.6
KYLES FORD 1.0 N	CoCoRaHS	2.65
JASPER 1.7 N	CoCoRaHS	2.8
CLARKSVILLE OUTLAW AP	WBAN	2.8

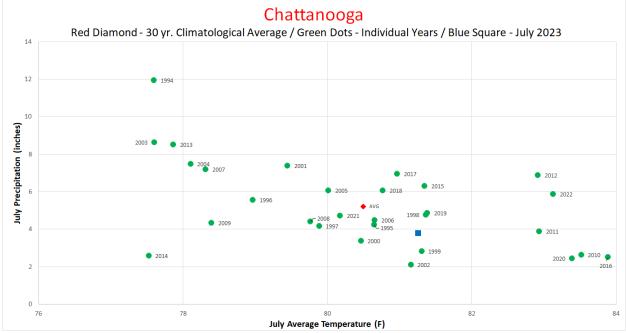
# The Month in Comparison:

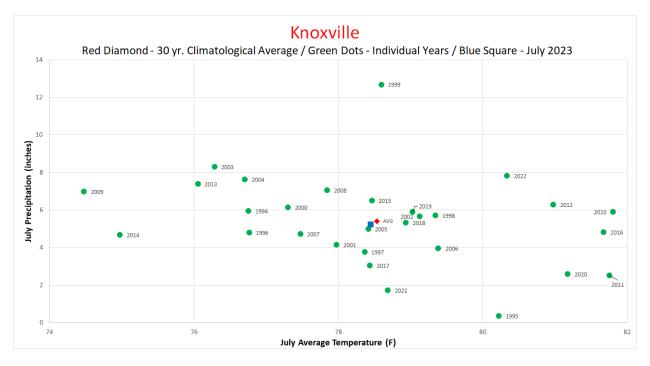
Comparing the average temperature and total precipitation for July 2023 to that of July in the previous 30 years at select automated weather stations located at airports across the state, this year's July temperature was close to average, but precipitation was a mix of above and below average. Memphis recorded their 3<sup>rd</sup> wettest July of the past 30 years and 4<sup>th</sup> wettest July in the city's 149-year weather history! Jackson and Nashville also recorded above average precipitation, while Chattanooga and Bristol/Tri-Cities recorded below average precipitation. Knoxville had an almost perfectly average July in both temperature and precipitation. Compared to the 30-year normals, Knoxville had an exactly normal temperature for July (78.5°F), and only 0.03" less than their normal July rainfall.

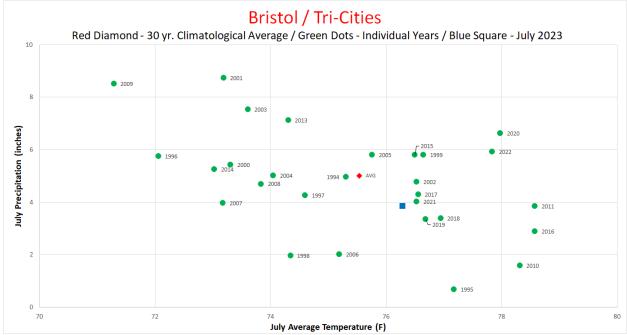






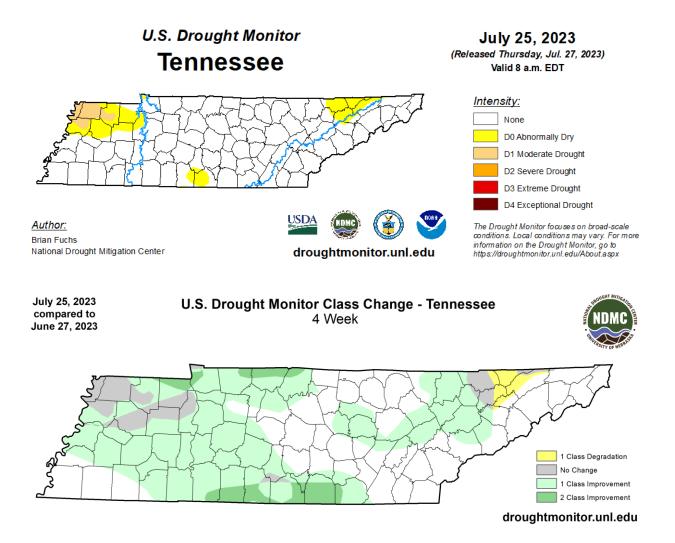






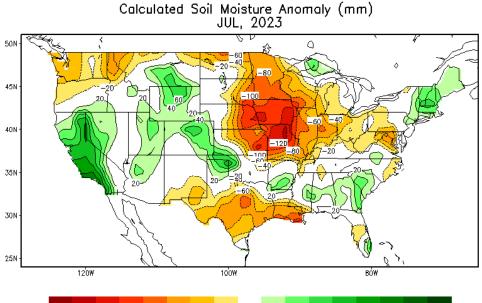
#### **Drought Monitor:**

Several weeks of above normal precipitation in parts of the state led to major improvements in the U.S. Drought monitor in Tennessee over the month of July. The July 25, 2023 edition of the U.S. Drought Monitor showed that only 2.63% of the state was in Moderate Drought (D1), located in the northwestern corner of the state. This was a reduction of approximately 8.5% of the state's area in D1 compared to the 11.15% shown in D1 in the last Drought Monitor edition in June. There were also major reductions in Abnormally Dry (D0) conditions across the state, dropping from 35.41% of the state's area in the last release in June to just 6.99% of the state's area in the last Drought Monitor release of July. The only degradation of drought conditions this month was the addition of D0 in parts of northeast Tennessee.

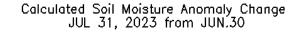


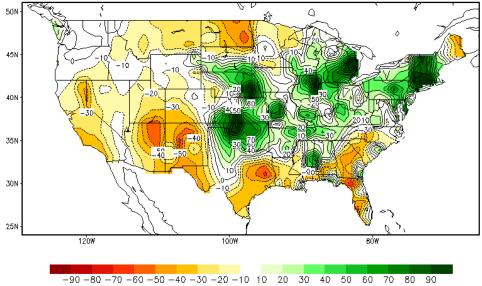
#### Soil Moisture:

Overall most areas of the state had soil moisture levels that were within the normal range, with some areas of West Tennessee and southern Middle Tennessee having a monthly anomaly of 20-40mm below normal levels. Overall most areas of Tennessee saw increasing soil moisture levels, with the exception of a small part of far eastern Tennessee that had steady or slightly lowering soil moisture levels over the month. The USDA rated topsoil moisture as 2% very short, 16% short, 76% adequate, and 6% surplus, while subsoil moisture was 2% very short, 12% short, 81% adequate, and 5% surplus.



-160-140-120-100-80-60-40-20 20 40 60 80 100 120 140 160





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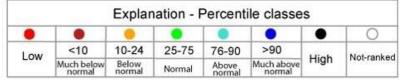
# Streamflow:

Monthly averaged streamflow for July showed similar patterns to precipitation and the US Drought Monitor with most areas of the state recording normal or above normal streamflow levels, while several gauges in northeast Tennessee where the most below average precipitation occurred had below normal or much below normal streamflow levels.

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

July 2023



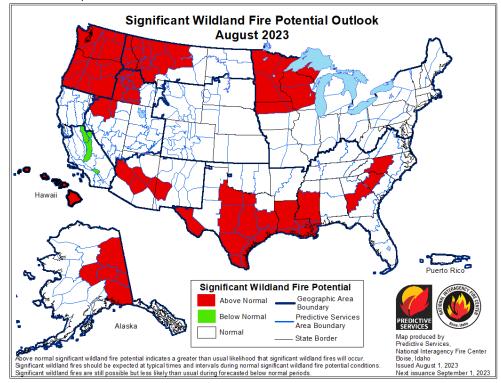


#### Miscellaneous:

**Crop Conditions from USDA:** Dry and hot conditions in the first parts of July led to stress on pastures and soil moisture, but rains in the second half of the month have improved conditions for most in the state. Most rain came in the form of storms and there was some reports of flooding and wind damage in crops across parts of the state this month. Second or even third cuttings of hay were being made in West and Middle Tennessee by the end of July. The winter wheat harvest finished by mid-July with very good to excellent yields reported. By the end of the month other crops had surpassed the 5-year average progress, and reported a majority of their crop in good or excellent condition.

					CONDITION					
CROP PROGRESS	This Week	Last Week	2022	5 Year Avg.	Item	Very Poor	Poor	Fair	Good	Excellent
	Percen	ıt					Pe	ercent		
Corn – Silking	95	91	95	94	Cotton	0	2	21	63	14
Corn - Dough	72	52	64	65	Corn	0	6	19	58	17
Corn - Dented	10	N/A	11	8	Tobacco	4	5	20	47	24
Cotton - Squaring	93	89	94	91	Soybeans	0	4	20	60	16
Cotton - Setting Bolls	64	43	64	58	Pasture	2	6	23	58	11
Cotton – Bolls Opening	1	N/A	0	0						
Soybeans - Blooming	76	73	78	75						
Soybeans - Setting Pods	55	43	46	47						
Tobacco – Topped	52	27	69	60						

**Fire Danger**: The Interagency Fire Center's significant wildland fire potential outlook for August shows that all of Tennessee and immediate surrounding areas have a normal potential for significant wildland fires in August, but the Piedmont regions of the Carolinas and central Georgia and southern Mississippi will have above normal potential for the month.



#### Story of the Month:

The main weather and climate story of July was the high number of severe thunderstorms which produced 8 reports of severe hail and 168 reports of severe wind damage. This was the highest amount of severe wind damage reports for the month of July in Tennessee since July 2016. More details on daily severe storm reports this month can be found in the Storm Reports section of this report. Also associated with these storms were numerous reports of flash flooding across the state.

An intense thunderstorm in Germantown (Shelby County) produced rainfall totals of over 3-inches in as short at 45 minutes, resulting in flash flooding on July 4.

A series of storms in the early-morning hours of July 14 impacted northeast Tennessee, with several roads closed, and bridges damaged due to flash flooding in Washington, Unicoi, and Carter counties where up to 4-inches of rain fell.

Potentially record-setting rainfall occurred in western Kentucky on July 18-19 where up to 10" of rain fell in less than 24-hours; portions of West and Middle Tennessee also received 4-6" of rainfall from the same storm system.

Several roads were closed around East Tennessee on July 20 due to flooding. Meigs and Fentress counties were heavily impacted and some roads in Pigeon Forge were closed. Highway 321/441 (The Spur) between Gatlinburg and Pigeon Forge, also in Sevier County, was closed temporarily due to a rock slide.



Flooding in Germantown, TN after intense rainfall on July 4, 2023. Source: ABC-24, localmemphis.com



Roaring water in Brush Creek at Founders Park in Johnson City, TN in the morning of July 14. Source: Facebook, Ingrid Luffman.



*Cleanup of the rockslide on the Spur in Sevier County. Source: Facebook post from Sevier County Emergency Management Agency* 

#### 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 13 days with severe storm reports during July 2023, with no reported tornadoes, 167 reports of severe wind damage, and 8 reports of severe hail (with a diameter of 1" or larger).



Wind:						
Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
15:24		2 ESE Gadsden	Crockett	35.77	-88.96	Large tree down covering a roadway. (MEG)
15:48		Martin	Weakley	36.34	-88.86	Several trees down across Martin. (MEG)
16:35		8 S Camden	Benton	35.94	-88.11	Numerous trees down from Camden TN into Holladay TN. A few roadways are blocked. Time is radar estimated. (MEG)
16:40		Bethel Springs	McNairy	35.24	-88.61	Several trees down across northern McNairy County. Additionally trees down on power lines in the community of Bethel Springs. Time is radar estimated. (MEG)
16:55		2 SSW Lexington	Henderson	35.63	-88.41	Corrects time and location for previous tstm wnd dmg report from 2 SSW Lexington. Power poles down off South Broad Street. Time is radar estimated. (MEG)
17:10		5 SSE Wildersville	Henderson	35.71	-88.34	Several trees and power poles down near Natchez Trace Drive and Alberton Road. Time is radar estimated. (MEG)
17:35		2 SSW Charlotte	Dickson	36.15	-87.36	Numerous trees down county wide. (OHX)
17:37		8 N Centerville	Hickman	35.91	-87.47	Numerous trees and powerlines down countywide. Time estimated on radar. (OHX)
17:37		8 NNE Slayden	Montgomery	36.41	-87.42	Numerous trees and powerlines down across the county. Time estimated on radar. (OHX)

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
17:56		5 SSW Forest Hills	Williamson	36	-86.89	Large limb down. Time estimated on radar. (OHX)
17:56		1 NW Kingston Springs	Cheatham	36.11	-87.12	Power outages being reported via Facebook. Time estimated on radar. (OHX)
18:08		4 W Nashville	Davidson	36.16	-86.85	Large tree down. Time estimated on radar. (OHX)
18:11		5 SSW Forest Hills	Williamson	36	-86.89	Corrects previous tstm wnd dmg report from 5 SSW Forest Hills. Large limb down near Harpeth Hills Drive and Hillsboro Road. Time estimated on radar. (OHX)
18:11		5 SW Greenbrier	Robertson	36.38	-86.87	1700 customers without power and numerous tress down across the county. Time estimated on radar. (OHX)
18:14		3 SW Antioch	Davidson	36.02	-86.71	Corrects previous tstm wnd dmg report from 3 SW Antioch. Photo received via Twitter of tree down along Gauphin Place. Time estimated on radar. (OHX)
18:16		2 NW Nolensville	Williamson	35.96	-86.67	Corrects previous tstm wnd dmg report from 2 NW Nolensville. Photo received via Twitter of tree down in driveway along Oldham Drive near Nolensville Road. Time estimate (OHX)
18:19		7 WNW Ethridge	Lawrence	35.37	-87.41	Structure fire caused by lightning. Time estimated on radar. (OHX)
18:24		1 SSE Inglewood	Davidson	36.2	-86.72	Corrects previous tstm wnd dmg report from 1 SSE Inglewood. Photo received via Twitter of tree fallen on house along Porter Avenue. Time estimated on radar. (OHX)
18:27		1 NNW La Vergne	Rutherford	36.02	-86.58	Photo received via Twitter of tree down blocking driveway. Time estimated on radar. (OHX)
18:29		2 SSE Hendersonville	Sumner	36.27	-86.59	Corrects previous tstm wnd dmg report from 2 SSE Hendersonville. Photo received via Twitter. Large tree uprooted near Glenn Hill Drive and Lake Terrace Drive. Time esti (OHX)
18:30		2 SW Lebanon	Wilson	36.19	-86.34	Corrects previous tstm wnd dmg report from 2 SW Lebanon. Tree and multiple branches down near Tuckers Gap Road and Crowell Lane. (OHX)
18:34		1 NNE Green Hill	Wilson	36.24	-86.57	Corrects previous tstm wnd dmg report from 1 NNE Green Hill. Large tree blocking Needmore Road. Time estimated on radar. (OHX)
18:43		2 NNW Smyrna	Rutherford	36.01	-86.53	Unoccupied aircraft overturned. (OHX)
18:45		2 S Inglewood	Davidson	36.18	-86.73	Corrects previous tstm wnd dmg report from 2 S Inglewood. Large limb down near Franklin Avenue and Scott Avenue. (OHX)

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
18:45		2 E Lebanon	Wilson	36.21	-86.29	Police department reports numerous trees and power lines down countywide. Time estimated on radar. (OHX)
18:46		Loretto	Lawrence	35.08	-87.44	Corrects previous tstm wnd dmg report from 1 W Loretto. Large tree and powerline down blocking Highway 43. (OHX)
18:50		1 ESE Portland	Sumner	36.58	-86.49	Corrects previous tstm wnd dmg report from 1 ESE Portland. Report via Twitter of a tree down near Deasy Lane. Time estimated on radar. (OHX)
18:52		1 W Lynchburg	Moore	35.28	-86.37	Multiple trees down in downtown Lynchburg. Kenyard Hill Road Boonville Hwy Campion Acres Road and Main Street North. Some trees down on houses. Some commercial (HUN)
18:53	67	4 N Antioch	Davidson	36.12	-86.68	ASOS station KBNA Nashville Intl Airport. (OHX)
19:06		6 W Estill Springs	Franklin	35.26	-86.23	Numerous trees reported down in the NW portion of the county. Time estimated by radar. (HUN)
19:41		3 W Baxter	Putnam	36.15	-85.7	Trees and power lines down. Time estimated on radar. (OHX)
19:53		Doyle	White	35.85	-85.51	Photos received via Twitter of large tree fallen near home. Report stated the tree pulled the electric service from the home causing a fire. Time estimated on radar. (OHX)
19:56		3 ENE Algood	Putnam	36.21	-85.4	Corrects previous tstm wnd dmg report from 3 ENE Algood. Trees and power lines down along Benson Road. Time estimated on radar. (OHX)
20:09		5 ENE Monterey	Overton	36.17	-85.16	Several power outages reported over southern parts of the county. Time estimated on radar. (OHX)
20:10		Doyle	White	35.85	-85.51	Corrects previous tstm wnd dmg report from Doyle. Photos received via Twitter of large tree fallen near home along McMinnville Highway. Report stated the tree pulled th (OHX)
20:15		1 ESE Dunlap	Sequatchie	35.37	-85.38	Trees and powerlines down across the county. (MRX)
20:30		3 NNE Soddy- Daisy	· Hamilton		-85.15	*** 1 INJ *** Family swimming at Pine Tree Park when tree fell into the water and landed on family. 1 seriously injured and transported to hospital. (MRX)
20:40		Chattanooga	Hamilton	35.06	-85.25	Trees and powerlines down county-wide. (MRX)

Hail:						
Time (UTC)	Size (in)	Location	County	Lat	Lon	Comments
15:25	1.00	2 SSW Fairview	Madiso n	35.74	-88.86	Quarter sized hail reported. (MEG)
21:55	1.00	3 E Adair	Madiso n	35.72	-88.91	Hail fell near Windy City Road and Ashport Road. (MEG)

# July 2



Mind.

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
19:09		3 N Manchester	Coffee	35.51	-86.09	Photo received via Twitter of a tree blown down onto a car in the Cracker Barrel parking lot. Time estimated on radar. (OHX)
19:20		South Pittsburg	Marion	35.02	-85.71	Trees were blown down across the southern portions of the county. (MRX)
19:20		3 S Germantown	Shelby	35.05	-89.8	Several trees down near Winchester and Hacks Cross Road. (MEG)
20:14	59	Chattanooga	Hamilton	35.07	-85.26	(MRX)
20:15		Chattanooga	Hamilton	35.07	-85.26	Numerous reports of trees and power lines blown down around Chattanooga. (MRX)
20:38		3 SSW Mcdonald	Bradley	35.08	-85	Report from mPING: 3-inch tree limbs broken; Power poles broken. Trees uprooted or snapped. Time estimated from radar. (MRX)
21:56		4 NNW Maloneyville	Knox	36.14	-83.85	Tree down at Tazewell Pike and Gibbs Road. Time estimated from radar. (MRX)
23:49		6 NE College Grove	Rutherford	35.87	-86.58	Large tree down near Stewarts Creek/Almaville. (OHX)
0:04		2 NNW Murfreesboro	Rutherford	35.88	-86.41	Photo received via Facebook of a large tree limb blown down. Time estimated on radar. (OHX)
1:19		3 SE Millington	Shelby	35.31	-89.84	Numerous trees down south of Hwy 385 resulting in power outages. (MEG)
1:37		1 SW Lakeland	Shelby	35.23	-89.74	Large tree limb down on Hwy 70 struck a vehicle. (MEG)

Time (UTC)	Speed (mph)	I OCAT	Location		County		Lon	Comments
4:30		- 1 E Germantown Sh		elby	35.09 -89.77		Corrects previous tstm wnd dmg report from 1 E Germantown. numerous trees uprooted on Dogwood between Cordes and Calkins. (MEG)	
Hail:	lail:							
Time (UTC)	Size (in)	Location	Cou	nty Lat		Lon		Comments
21:52	1.00	2 NNE Halls	Kn	ох	x 36.11 -83.9		2 Call	center employee reported nickel to quarter sized hail. (MRX)
0:04	1.25	3 SSW Smyrna	Ruthe	erford	35.95	-86.53		Photo sent in of half-dollar size hail that fell on maville Rd. in Smyrna. Time estimated on radar. (OHX)

July 5



Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
0:05		4 S Midtown Memphis	Shelby	35.08	-89.98	Power lines down on a house on Joy Lane near Airways Boulevard. Time is radar estimated. (MEG)
0:11	69	4 NE Whitehaven	Shelby	35.07	-89.98	Corrects previous non-tstm wnd gst report from 4 NE Whitehaven. ASOS station KMEM Memphis. (MEG)

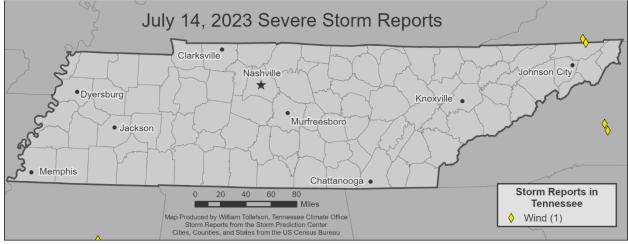


# July 8:

#### Wind:

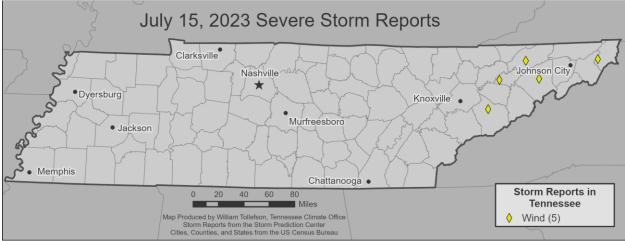
Time	Croad					
Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
20:20	60	2 E Springfield	Robertson	36.5	-86.84	Wind gust estimated at 60 mph. Alsopenny size hail. (OHX)
20:35	60	2 N White Bluff	Dickson	36.14	-87.21	Estimated wind gusts of 60 mph. (OHX)
20:50		Greenbrier	Robertson	36.43	-86.8	Roof torn off an outbuilding and landed on a truck. (OHX)
21:48		4 SSW Columbia	Maury	35.57	-87.08	*** 2 INJ *** Trees down across roadways. One tree down on Campbellsville Pike and it fell on a truck. 2 people were inside it and they sustained minor injuries. (OHX)
22:15		1 N Franklin	Williamson	35.95	-86.84	Limbs blown down along Cool Springs Blvd and Mallory Lane. (OHX)

# July 14:



Wind:						
Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
22:40		2 NNE Bristol Tn	Sullivan	36.59	-82.18	Several trees down in Bristol TN near Virginia state line. Some along Hwy 421. Time estimated by radar. (MRX)

July 15:



Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
19:20		Rogersville	Hawkins	36.41	-83.01	Multiple trees down in Rogersville. (MRX)
20:03		1 WNW Doeville	Johnson	36.4	-81.99	A few trees down. (MRX)
21:06		2 SSE Sevierville	Sevier	35.87	-83.56	Several reports of trees down. Time estimated by radar. (MRX)
21:40		2 N Alpha	Hamblen	36.2	-83.39	Tree down. 18 inch dimeter trunk of Oak tree snapped. (MRX)
22:30		2 NNW Greeneville	Greene	36.2	-82.83	Trees down across the county. Time estimated by radar. (MRX)





Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
18:40		Tiptonville	Lake	36.38	-89.47	A carport was lifted and tossed on TN 78 across from Lake County Health Dept in Tiptonville. Time is radar estimated. (MEG)
19:09		3 N Palmersville	Weakley	36.46	-88.59	Multiple trees down across Weakley County. Time is radar estimated. (MEG)
19:10		3 ENE Dresden	Weakley	36.29	-88.64	Trees down across highway 54. Time is radar estimated. Power outages in Dresden. (MEG)
19:20		3 W Dover	Stewart	36.48	-87.92	Tree on vehicle on Donelson Parkway. (OHX)
19:21		2 SE Bradleytown	Dyer	36.02	-89.4	Public reports a tree fell on two vehicles in the Lowes parking lot. Time is radar estimated. (MEG)
19:27		3 E Dyer	Gibson	36.07	-88.94	Several trees down on Keely Mill road. Time is radar estimated. (MEG)
19:40		Erin	Houston	36.32	-87.7	Handful of trees down across the county. (OHX)
19:42	63	1 NE Big Sandy	Benton	36.24	-88.08	Trained spotter measured wind gust of 63 mph. (MEG)
19:50		3 NW Middle Fork	Carroll	35.89	-88.55	Power lines down from winds causing a fire. (MEG)
19:51		2 E Huntingdon	Carroll	36.01	-88.37	Power lines down. (MEG)
19:55		2 E Clarksville	ville Montgomery		-87.31	Trees down across Clarksville including at 229 Trey Ct. 5700 without power. (OHX)
20:15		11 SE Buena Vista	Benton	35.87	-88.13	Trees down in the Holladay community. (MEG)
20:23		5 NNW Camden	Benton	36.13	-88.13	Multiple trees down north of Camden to Benton County line. A transformer was also struck by lightning. (MEG)
20:27		4 NNW Clarksburg	Carroll	35.93	-88.4	Large tree snapped near residence south of Davis Chapel. (MEG)
20:30		8 SW Ridgetop	Davidson	36.32	-86.87	Tspotter photo showed small tree snapped in Joelton. (OHX)
20:40		5 ESE Pegram	Davidson	36.08	-86.98	Tspotter report of tree down on house in Bellevue near James Lawson High School. (OHX)
20:45		2 SSW Inglewood	Davidson	36.18	-86.74	Large tree down in backyard of home in East Nashville. (OHX)
20:47		2 NW Hendersonville	Sumner	36.31	-86.63	Tspotter report of large trees down on New Shackle Road. (OHX)
20:50		Centerville	Hickman	35.79	-87.45	Facebook report of two trees snapped at a home in Centerville. (OHX)
20:55		Hohenwald	Lewis	35.55	-87.56	Facebook reports indicated a few trees down across Lewis County. (OHX)
20:55		3 SE Forest Hills	Williamson	36.04	-86.8	Tree down and power outages in Maryland Farms. (OHX)
20:55		2 N Mount Juliet	Wilson	36.23	-86.52	Corrects previous tstm wnd dmg report from 2 N Mount Juliet. Trees and power pole down across Sunset Circle at Sunset Dr. (OHX)

8:00

1.00

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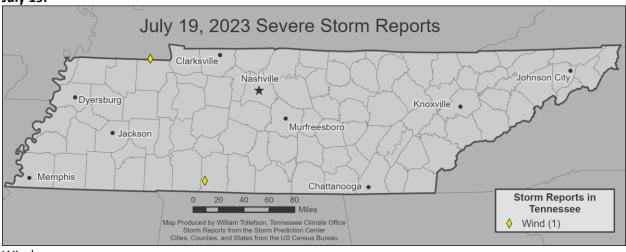
Henry

36.44

-88.33

Time (UTC)	Speed (mph)		Location	Cou	inty	Lat	Lo	n	Comments
21:05		w	/aynesboro	Wa	yne	ne 35.32		76	Facebook photo of small tree down in Waynesboro. (OHX)
21:05		4	NNE Spring Hill	Willia	Williamson		-86.	91	Tspotter video showed a tree blown down in Thompsons Station. (OHX)
21:10			Columbia	Ma	Maury		-87.	05	Numerous trees down across the county with scattered power outages. (OHX)
21:11		E	2 WSW Brentwood	Willia	mson	35.98	-86.	82	Twitter photo received of tree down blocking a portion of Holly Tree Gap Road. (OHX)
21:20		C	Collinwood	Wa	yne	35.18	-87.	74	Facebook report of large tree snapped in Collinwood. (OHX)
21:20		La	wrencebur	g Lawr	Lawrence		-87.	34	Tree down at Buffalo Road and Brink Street and another tree down at First Avenue at Pulaski St in Lawrenceburg. 500 customers without power. (OHX)
21:30		3 N	N Chapel Hil	I Mar	Marshall		-86.	69	Facebook photo of a tree down blocking Villa Way in Chapel Hill. (OHX)
21:37			Pulaski	Gil	Giles		-87.	03	Facebook reports indicate numerous trees down across Giles County with a shed overturned in Pulaski. (OHX)
21:45			9 SSW Unionville	Bed	Bedford		-86.	63	Tspotter report of tree down on Henslee Rd in Wheel. (OHX)
22:54		3	SW Bartlett	She	lby	35.18	-89.	87	Tree limbs down at Sycamore View Rd and Raleigh Lagrange. (MEG)
23:10		G	1 SSW ermantown	She	lby	35.08	-89	.8	Multiple trees have large limbs fallen/broken off. (MEG)
23:30		4	NE Jasper	Mai	rion	35.11	-85.	58	Several trees down county-wide. (MRX)
9:08		1	WSW Paris	Hei	nry	36.29	-88.	33	Powerlines down on roadway. (MEG)
9:28		11	NE Big Sand	y Ben	ton	36.24	-88.	08	Report of a power pole down lines across the road. (MEG)
Hail:									
Time (UTC)	Size (	(in)	Locatio n	County	Lat		Lon		Comments
22:40	1.0	0	Gilt Edge	Tipton	35.54	4	-89.83		uarter-sized hail and a tree down in Gilt Edge. (MEG)

(MEG)

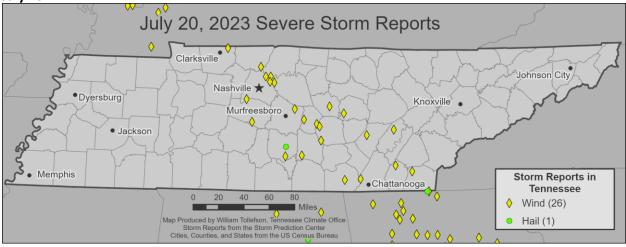


# July 19:

#### Wind:

Time (UTC)	Speed	Location	County	Lat	Lon	Comments
15:45		West Point	Lawrence	35.13	-87.53	30 to 40 trees reportedly blown down across southern Lawrence County from Westpoint Road to the Giles County line. (OHX)

#### July 20:



Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
17:20		1 NE Ridgetop	Robertson	36.41	-86.76	Photos received of large tree down near home as well as shutters blown off into the bushes on Lake Rd. in Greenbrier. Time is radar estimated. (OHX)
17:20		8 ENE Clarksville	Montgomery	36.62	-87.23	Numerous trees and power lines down across the county especially northeastern areas. (OHX)
17:40		1 W Spring City	Rhea	35.69	-84.89	Dispatch call center reported trees down throughout the county. Time Estimated from Radar. (MRX)

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
17:45		3 SSW Mount Crest	Bledsoe	35.63	-85.27	Dispatch reported trees down throughout the county. Time Estimated from radar. (MRX)
17:45		1 NE Ridgetop	Robertson	36.41	-86.76	Corrects time of previous tstm wnd dmg report from 1 NE Ridgetop. Photos received of large tree down near home as well as shutters blown off into the bushes on Lake Rd. (OHX)
17:51		2 SSE Goodlettsville	Davidson	36.3	-86.69	Power lines down and large power poles leaning near Rivergate Mall. (OHX)
17:55		1 NW Hendersonville	Sumner	36.3	-86.62	Numerous trees and power lines down across southwestern Sumner County. One tree fell onto and crushed a house on Raintree Dr. (OHX)
18:01		Green Hill	Wilson	36.23	-86.57	Several trees down along Vanderbilt Rd. (OHX)
18:20		Lakewood	Davidson	36.24	-86.63	Photo received via Facebook of large tree that went through roof of home off of Lakeshore Drive in Old Hickory. Time is radar estimated. (OHX)
18:25		7 WSW Belle Meade	Davidson	36.04	-86.96	Tspotter photo of large tree down blocking Hwy 100 at Old Harding Pike. (OHX)
18:27		4 NE Hopewell	Bradley	35.28	-84.87	Dispatch reported trees down throughout county. Time estimated from Radar. (MRX)
18:30		6 ESE Walterhill	Rutherford	35.93	-86.28	Trees down and dugout damaged in Lascassas. (OHX)
18:42		2 SE Readyville	Cannon	35.81	-86.15	Photo received via Twitter of tree down on Bradyville Road. Time is radar estimated. (OHX)
18:55		3 NE Tullahoma	Coffee	35.4	-86.18	Corrects previous tstm wnd dmg report from 3 NE Tullahoma. Trees down and power poles snapped with multiple power outages in the Short Springs/Ovoca area. Time is radar (OHX)
18:57		4 NW Centertown	Cannon	35.76	-85.97	10 inch diameter pine tree snapped on Hwy 70 near the Cannon and Warren County line. (OHX)
18:58		2 E Smithville	De Kalb	35.96	-85.79	Twitter video showed large tree blown down on Midway Road near Terrell Road. Other scattered trees and power lines reported down across the county. (OHX)
19:00		4 NE Spring Hill	Williamson	35.78	-86.88	20 trees snapped on Buckner Rd at Mt View Ln. (OHX)
19:05		5 WNW Doyle	White	35.88	-85.59	Tree down and outbuilding damaged on Old Kentucky Rd near Central View Market. (OHX)
19:15		2 NNE Benton	Polk	35.21	-84.64	Dispatch reported tree down near Patty Road. (MRX)

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
19:17		1 NW Centertown	Warren	35.73	-85.93	Photo received via Twitter of a large pine tree down in Centertown off of Hwy 70- South near the Warren/Cannon county line. Time is radar estimated. (OHX)
19:29		3 NE Tullahoma	Coffee	35.4	-86.18	Trees down with multiple power outages in the Short Springs/Ovoca area. Time is radar estimated. (OHX)
19:35		7 SSE Shelbyville	Bedford	35.39	-86.41	Roads flooded in the Flat Creek area. (OHX)
19:38		2 SSE Morrison	Warren	35.57	-85.91	Multiple photos received of barn destroyed large tree uprooted and smaller trees blown down along McClain Road. Time estimated on radar. (OHX)
19:45		3 NE Tullahoma	Coffee	35.4	-86.18	Corrects time of previous tstm wnd dmg report from 3 NE Tullahoma. Trees down with multiple power outages in the Short Springs/Ovoca area. Time is radar estimated. (OHX)
19:46		4 SW Martin Springs	Marion	35.12	-85.58	Dispatch reported numerous trees and powerlines down across the county. Time estimated by radar. (MRX)
20:05 Hail:		1 W Signal Mountain	Hamilton	35.13	-85.36	County dispatch reported numerous trees and powerlines down across the county. Mentioned that the worst area seemed to be around Signal Mountain. Time estimated by rada (MRX)

Hail:

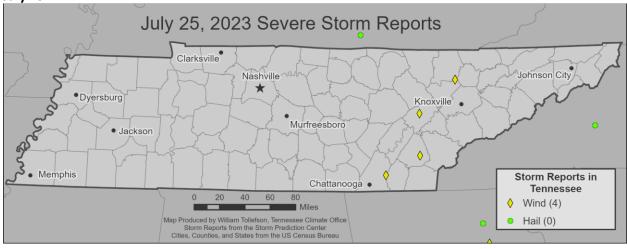
Time (UTC)	Size (in)	Location	County	Lat	Lon	Comments
19:42	1.00	3 E Shelbyville	Bedford	35.5	-86.4	Photo received via Twitter of quarter size hail at Titan Transfer off of Stanley Blvd. Time estimated on radar. (OHX)

#### July 21:



Wind:						
Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
18:40		2 ENE Midtown Memphis	Shelby	35.15	-89.96	Tree on two vehicles on Allison Ave in Binghampton. Time is radar estimated. (MEG)
18:52		1 W Atoka	Tipton	35.45	-89.79	Numerous trees down across the southern half of Tipton County. (MEG)
18:55		6 SSE Germantown	Shelby	35.01	-89.77	Tree down on powerline on Holmes Road west of Forest Wind Dr. (MEG)
18:58	76	2 N Collierville	Shelby	35.08	-89.68	Measured Wind Gust. Snapped 3 inch flag pole. (MEG)
19:11		4 WSW Stanton	Haywood	35.44	-89.46	Powerline down on Greenleaf Cemetery Road. (MEG)
19:14		4 E Rossville	Fayette	35.05	-89.48	Tree down blocking both lanes across hwy 57 in the 11200 block east of Rossville. Time is radar estimated. (MEG)
19:24		2 WNW Germantown	Shelby	35.1	-89.83	Tree on house in Germantown. (MEG)
19:28		Whiteville	Hardeman	35.32	-89.15	Tree on house on College St. in Whiteville. Widespread trees and powerlines down across the county. (MEG)
20:20		1 WNW Henderson	Chester	35.45	-88.67	Tree on house on woodland dr in henderson. Relayed by media. Time is radar estimated. (MEG)
20:25		3 ESE Savannah	Hardin	35.2	-88.19	trees down a possible vehicle accident due to trees down power outages across Hardin County. Time is radar estimated. (MEG)
20:25	60	1 WNW Savannah	Hardin	35.23	-88.25	60 mph wind gust measured on weather station. (MEG)
21:21		1 E St. Joseph	Lawrence	35.04	-87.48	A tree was blown down across road near the intersection of S Old Military Road and Fairview Road. (OHX)
21:25		1 E Lawrenceburg	Lawrence	35.25	-87.32	A tree fell on power lines on 3rd Street in Lawrenceburg. (OHX)





Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
19:40		2 W Kingston	Roane	35.87	-84.54	1 tree down on Bluff Rd. (MRX)
20:42		3 NE Norris	Anderson	36.25	-84.03	Corrected time on previous tstm wnd dmg report from 3 NE Norris. Dispatch reported a few trees down near the intersection of Park Lane and Forgety Road. Time estimated (MRX)
21:41		4 NNW Etowah	McMinn	35.39	-84.54	Dispatch received a call for a few trees down near County Road 561 and 552. (MRX)
22:20		5 NNW Mcdonald	Hamilton	35.17	-85.02	Dispatch reported 1 tree and 1 wire down along Mahan Gap road. Time estimated by radar. (MRX)

#### Wind:

#### July 28:



Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
0:55		Church Hill	Hawkins	36.53	-82.72	Several trees down around the area. (MRX)

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Time (UTC)	Size (in)	Location	County	Lat	Lon	Comments
1:10	1.00	1 SE Mount Carmel	Hawkins	36.55	-82.64	Hail lasted for almost 10 minutes. (MRX)



Wind:						
Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
19:15		Kingston	Roane	35.87	-84.51	Dispatch reported multiple trees and powerlines down in Kingston and Harriman. Time estimated from Radar. (MRX)
19:40		2 SW Loudon	Loudon	35.72	-84.38	Dispatch reported multiple trees down across the county. Time estimated from Radar. (MRX)
20:20		1 NNE Tariffville	Monroe	35.51	-84.17	Dispatch reported tree down and some power outages. Time estimated from radar. (MRX)
20:20		1 ENE Rogersville	Hawkins	36.41	-82.99	Multiple trees down across the county. Time estimated from radar. (MRX)
20:28		5 W Westmoreland	Sumner	36.56	-86.34	Facebook report of flagpole snapped and several tree tops blown off in the Oak Grove area. (OHX)
20:30		5 SSW Portland	Sumner	36.52	-86.56	Tspotter report of a downed tree at a residence in the New Deal area. Pictures shared also show that the tree destroyed a fence. Time estimated based on radar. (OHX)
20:45		1 ESE Maloneyville	Кпох	36.08	-83.82	Report of tree down blocking road near Ellistown Rd and Shipe Rd. Time estimated from radar. (MRX)
21:15		1 WNW Mosheim	Greene	36.2	-82.97	Dispatch reported numerous trees and lines down across the county. time estimated from radar. (MRX)
21:15		1 NE Kingsport	Sullivan	36.54	-82.54	Report of multiple stoplights/lines down in Kingsport near Wilcox Dr and East Center Street. Time estimated from Radar. (MRX)
21:20		2 ESE Caney Branch	Greene	36.04	-82.95	Dispatch reported numerous trees down across the county. Time estimated from radar. (MRX)

# July 29

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
21:40		1 NNW Hampton	Carter	36.29	-82.18	Dispatch reported numerous trees and powerlines down across the county. Time estimated from radar. (MRX)
21:45		2 ESE Johnson City	Washington	36.32	-82.34	Dispatch reported several trees and powerlines down county wide. Time estimated from radar. (MRX)
21:50		3 NNE Green Hill	Wilson	36.27	-86.55	Corrects previous tstm wnd dmg report from 3 NE Green Hill. A small but intense microburst struck far north Mount Juliet. Dozens of trees were snapped and uprooted in a (OHX)
21:57		9 NE Dowelltown	De Kalb	36.09	-85.82	Several trees down throughout the county with multiple trees down in the Edgar Evans State Park / Center Hill Dam area. Minor metal roof damage to the Marina as well. T (OHX)
22:00		2 N Clarkrange	Fentress	36.22	-85.01	Several trees down near South Fentress Park with Highway 127 blocked and closed. Roof damage to Clarkrange Baptist Church. (OHX)
22:18		2 ENE Oak Hill	Davidson	36.09	-86.74	Twitter pictures of tree/limbs down near the Nashville Zoo. Time estimated via radar. (OHX)
22:20		Springdale	Claiborne	36.42	-83.69	Dispatch reported multiple trees and a few powerlines down across the county. Time estimated from radar. (MRX)
22:31		2 NNW Walterhill	Rutherford	35.98	-86.39	Twitter report of a tree down off Cut Off Road in Walterhill. Time estimated by radar. (OHX)
22:45		1 ENE Jacksboro	Campbell	36.34	-84.17	Dispatch reported multiple trees down in the Jacksboro area. Time estimated from radar. (MRX)
22:50		1 WNW Maynardville	Union	36.25	-83.83	Dispatch reported multiple trees and powerlines down across the county and trees and lines across some roadways. Time estimated from radar. (MRX)
23:15		2 NE Farragut	Knox	35.9	-84.16	Multiple reports of trees down across the county. Report of tree down blocking the road near Turkey Cove Lane and Parkside Drive. (MRX)
23:25		2 NW Knoxville	Кпох	36	-83.97	Multiple tree and power line reports across the county. Tree partially blocking roadway near Harmony Rd and Tillery Rd. Time estimated from radar. (MRX)
4:10		4 WNW Sparta	White	35.95	-85.54	Tspotter photos of roof blown off barn on Old Smithville Highway North. (OHX)

# CPC Outlooks for the Next Month:

The NOAA Climate Prediction Center outlooks for August show that almost all of Tennessee is leaning towards warmer than normal conditions, with higher confidence for western and southern parts of the state. The far northeast corner of the state has equal chances for a normal, warmer, or cooler month. The northern and eastern portions of the state are also leaning towards a wetter than normal August, while the rest of the state has equal chances for normal, drier, or wetter than normal conditions.

