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2-1-2022

2022 February - Tennessee Monthly Climate Report

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February 2022 Tennessee State Climate Summary

Tennessee Climate Office * East Tennessee State University

Prepared by William Tollefson and Dr. Andrew Joyner

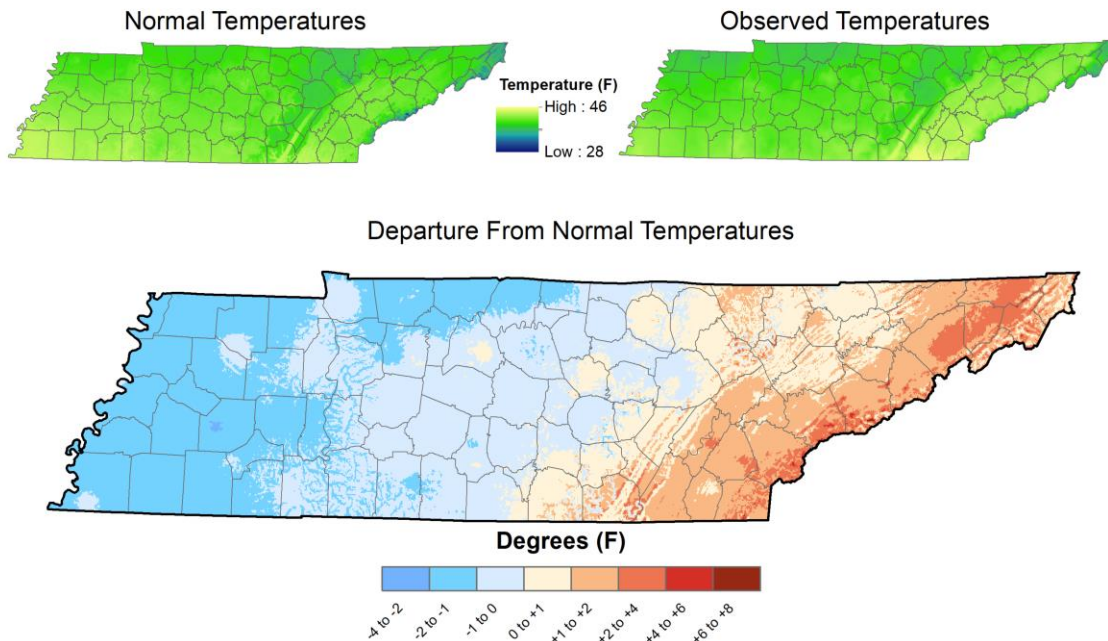
With contributions by [Climate Data Representatives](#) across the state

Monthly Temperature Summary:

Averaged for the month, mean temperatures across the state varied from 1-4°F below normal in most of West Tennessee to 2-4°F above normal in parts of East Tennessee (with some small areas even warmer). Temperatures varied widely during the month, with a cold snaps around the 5th/6th and 13th/15th sending overnight lows into the teens for most areas of the state, as well as a few warm spells that sent high temperatures into the mid-70s. Across Tennessee, there were seven broken and three tied daily record warm high temperatures, and five broken and one tied daily record warm low temperatures set at weather stations with at least a 30-year reporting history. In addition three stations set a daily record cool high temperature. Extremes for the month ranged from 3°F at Mt. LeConte on February 6 to 75°F at Memphis International Airport on February 16.



February 2022 Mean Temperature



Stations with the highest mean temperature

Station Name	Station Type	Mean Temperature (F)
CHATTANOOGA AP	WBAN	47.4
INDIAN GRAVE TENNESSEE	RAWS	46.2
COKER CREEK TENNESSEE	RAWS	45.6
KNOXVILLE AP	WBAN	45.0
CLEVELAND FILTER PLANT	COOP	44.9

Map Data From: PRISM Climate Group, Oregon State University. 1991-2020 Normals Used. Station Data retrieved from SC ACIS2

Stations with the lowest mean temperature

Station Name	Station Type	Mean Temperature (F)
MT LECONTE	COOP	29.9
NEWFOUND GAP	COOP	35.3
MILAN EXP STN	COOP	36.6
UNION CITY	COOP	37.3
TAZEWELL	COOP	37.4

Monthly Precipitation Summary:

Following in the pattern of the past several years, February brought above normal precipitation to Tennessee, with all areas of the state recording above normal precipitation for the month. Some areas of the state recorded above normal precipitation during the first, third, and fourth weeks of the month, with virtually no precipitation recorded across the state in the second week of the month. The heaviest and most wide-spread rains occurred during the last week of the month, with many areas across the state recording over 6-inches of rain from February 22 to 28. At weather stations with at least a 30-year reporting history there were 72 daily rainfall records set this month, including 24 at stations with over 100-year reporting histories.

After a very snowy January, there were few reports of snow during February, with only three stations reporting more than 1-inch of accumulation. However, a major winter storm impacted West Tennessee at the beginning of the month, bringing sleet accumulations of up to 2.5-inches and ice accumulations of up to 0.3-inches from freezing rain.

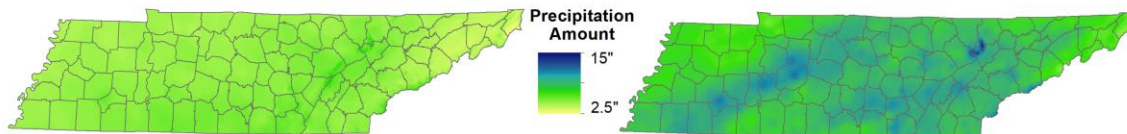


February 2022 Precipitation

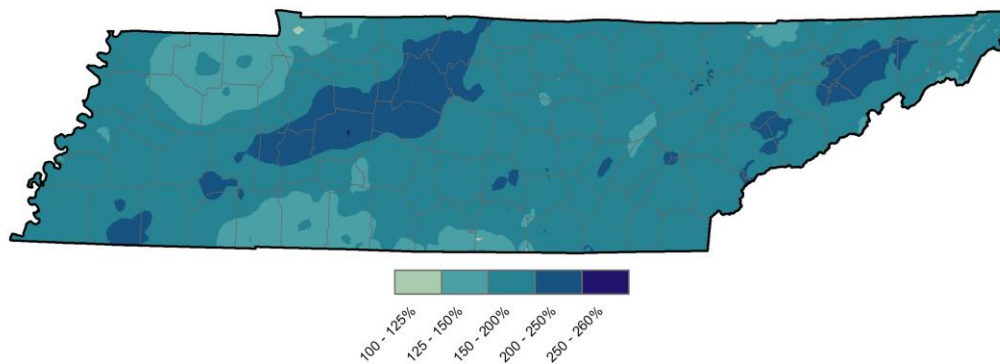


Normal Precipitation

Observed Precipitation



Percent Normal Precipitation



Stations with the most precipitation

Station Name	Station Type	Total Precipitation (in)
NEWFOUND GAP	COOP	13.45
MOUSETAIL LANDING STATE PARK	COOP	12.88
FINGER 4.1 ENE	CoCoRaHS	12.12
HENDERSON 1.1 NNW	CoCoRaHS	11.78
FAIRVIEW 1.9 ENE	CoCoRaHS	11.67

Map Data From: PRISM Climate Group, Oregon State University, 1991-2020 Normals Used
Station Data retrieved from SC ACIS2

Stations with the least precipitation

Station Name	Station Type	Total Precipitation (in)
OAK GROVE 3.0 E	CoCoRaHS	4.44
TEN MILE 2.2 NW	CoCoRaHS	4.8
COOKEVILLE 5.4 WNW	CoCoRaHS	5.22
CLARKSVILLE OUTLAW AP	WBAN	5.57
HAMPSHIRE 2.7 SW	CoCoRaHS	5.7

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

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:

Station Name	Temperatures (°F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	%Norm
Memphis	54.9	33.0	43.9	-2.2	75	2/16	22	2/6	8.02	3.47	176%
Jackson	52.9	28.4	40.6	-2.1	71	2/16	14	2/13	7.59	3.19	173%
Clarksville	52.7	29.1	40.9	+0.2	70	2/21	16	2/13	5.57	1.70	144%
Nashville	55.4	31.8	43.6	+0.2	72	2/11	20	2/13	8.63	4.16	193%
Chattanooga	59.9	35.0	47.4	+1.8	70	2/23	24	2/6	9.56	4.53	190%
Crossville	51.0	29.2	40.1	+1.3	63	2/11	17	2/5	8.93	3.80	174%
Knoxville	57.8	32.2	45.0	+2.1	72	2/17	20	2/6	8.90	4.09	185%
Bristol	56.6	29.6	43.1	+3.1	72	2/17	17	2/15	6.78	2.97	178%

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

Hottest Stations (highest maximum temperature)

Station Name	Station Type	Highest Temperature (F)	Date
MEMPHIS INTERNATIONAL AP	WBAN	75	16
NEWPORT 1 NW	COOP	74	22
BETHPAGE 1 S	COOP	74	18
DECATURVILLE	COOP	74	12
KNOXVILLE EXP STA	COOP	73	18
JACKSON EXP STA	COOP	72	17
MORRISTOWN RADIO WCRK	COOP	72	18
ELIZABETHTON	COOP	72	23
AMES PLANTATION	COOP	72	17
KINGSPORT	COOP	72	17
NASHVILLE BERRY FIELD	COOP	72	12
GERMANTOWN 4SE	COOP	72	17
MOUSETAIL LANDING STATE PARK	COOP	72	17
CAMDEN TOWER TENNESSEE	RAWS	72	16
SHILOH NMP TENNESSEE	RAWS	72	22
MEMPHIS WFO	WBAN	72	17
NASHVILLE INTL AP	WBAN	72	11
KNOXVILLE AP	WBAN	72	17
BRISTOL AP	WBAN	72	17

Fourteen stations tied for the 6th hottest temperature (72°F)

Coldest Stations (lowest minimum temperature)

Station Name	Station Type	Lowest Temperature (F)	Date
MT LECONTE	COOP	3	6
MILAN EXP STN	COOP	8	14
NEWFOUND GAP	COOP	10	6
GAINESBORO	COOP	11	7
SHELBY BOTTOMS NATURE CENTER	COOP	11	2
HOHENWALD	COOP	12	14
JAMESTOWN	COOP	12	6
WAVERLY AIRPORT	COOP	12	13
DECATURVILLE	COOP	12	13
BETHPAGE 1 S	COOP	13	6
TENNESSEE RIDGE	COOP	13	14
GLADEVILLE	COOP	13	3
CHARLOTTE	COOP	13	14

Four stations tied for the 10th coldest temperature (13°F)

Warmest Stations (highest mean temperatures)

Station Name	Station Type	Mean Temperature (F)
CHATTANOOGA AP	WBAN	47.4
INDIAN GRAVE TENNESSEE	RAWS	46.2
COKER CREEK TENNESSEE	RAWS	45.6
KNOXVILLE AP	WBAN	45.0
CLEVELAND FILTER PLANT	COOP	44.9
MORRISTOWN WFO	COOP	44.4
NEWPORT 1 NW	COOP	44.3
OAK RIDGE ASOS	WBAN	44.3
PIKEVILLE	COOP	44.0
HAMBLÉN CO HQ TENNESSEE	RAWS	44.0
LEWISBURG TOWER TENNESSEE	RAWS	44.0

Three stations tied for the 9th warmest mean temperature (44.0°F)

Coollest Stations (lowest mean temperatures)

Station Name	Station Type	Mean Temperature (F)
MT LECONTE	COOP	29.9
NEWFOUND GAP	COOP	35.3
MILAN EXP STN	COOP	36.6
UNION CITY	COOP	37.3
TAZEWELL	COOP	37.4
MOUNTAIN CITY 2	COOP	37.5
BETHPAGE 1 S	COOP	37.8
CROSSVILLE EXP STN	COOP	37.9
PULASKI WASTEWATER PLANT	COOP	38.2
JAMESTOWN	COOP	38.2

Wettest Stations (highest precipitation totals):

Station Name	Station Type	Total Precipitation (in)
NEWFOUND GAP	COOP	13.45
MOUSETAIL LANDING STATE PARK	COOP	12.88
FINGER 4.1 ENE	CoCoRaHS	12.12
HENDERSON 1.1 NNW	CoCoRaHS	11.78
FAIRVIEW 1.9 ENE	CoCoRaHS	11.67
DUNLAP 2.9 W	CoCoRaHS	11.59
AMES PLANTATION	COOP	11.57
BOLIVAR WATER WORKS	COOP	11.57
BON AQUA 3.0 ESE	CoCoRaHS	11.56
SPRING CITY	COOP	11.52

Driest Stations (lowest precipitation totals):

Station Name	Station Type	Total Precipitation (in)
OAK GROVE 3.0 E	CoCoRaHS	4.44
TEN MILE 2.2 NW	CoCoRaHS	4.8
COOKEVILLE 5.4 WNW	CoCoRaHS	5.22
CLARKSVILLE OUTLAW AP	WBAN	5.57
HAMPSHIRE 2.7 SW	CoCoRaHS	5.7
JOHNSON CITY 4.9 E	CoCoRaHS	5.75
GREENEVILLE EXP STA	COOP	5.76
MOUNTAIN CITY 2	COOP	5.77
SILVER POINT 3.0 SSE	CoCoRaHS	5.83
ERWIN 1 W	COOP	5.87

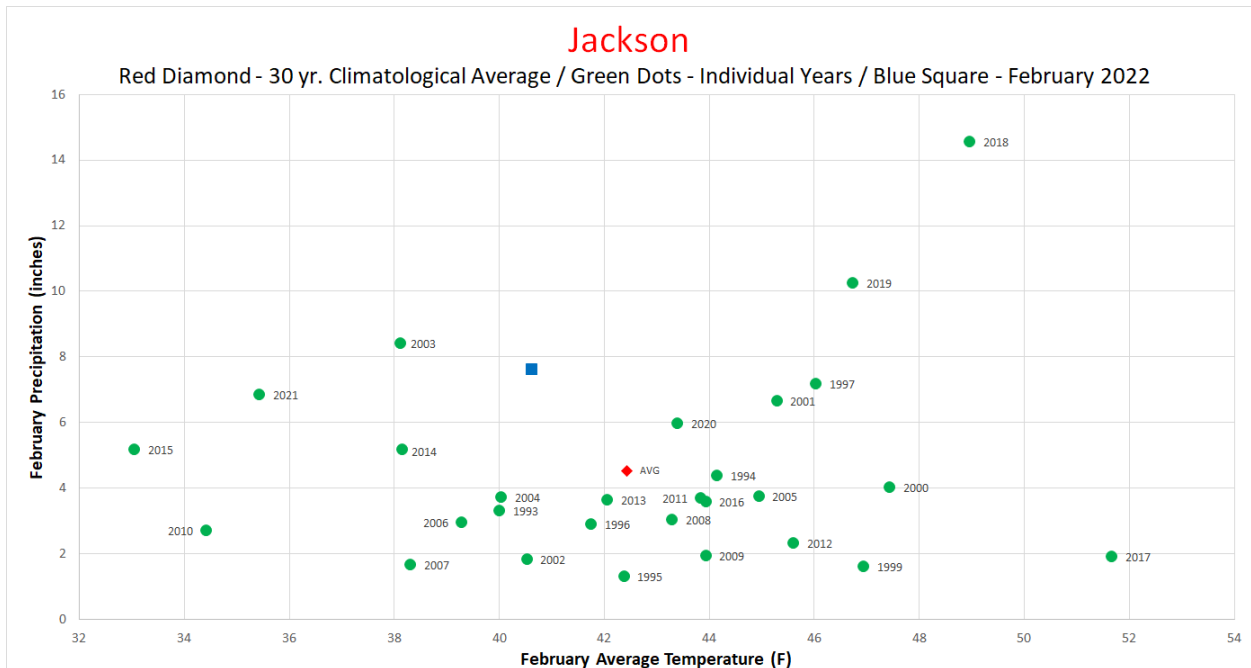
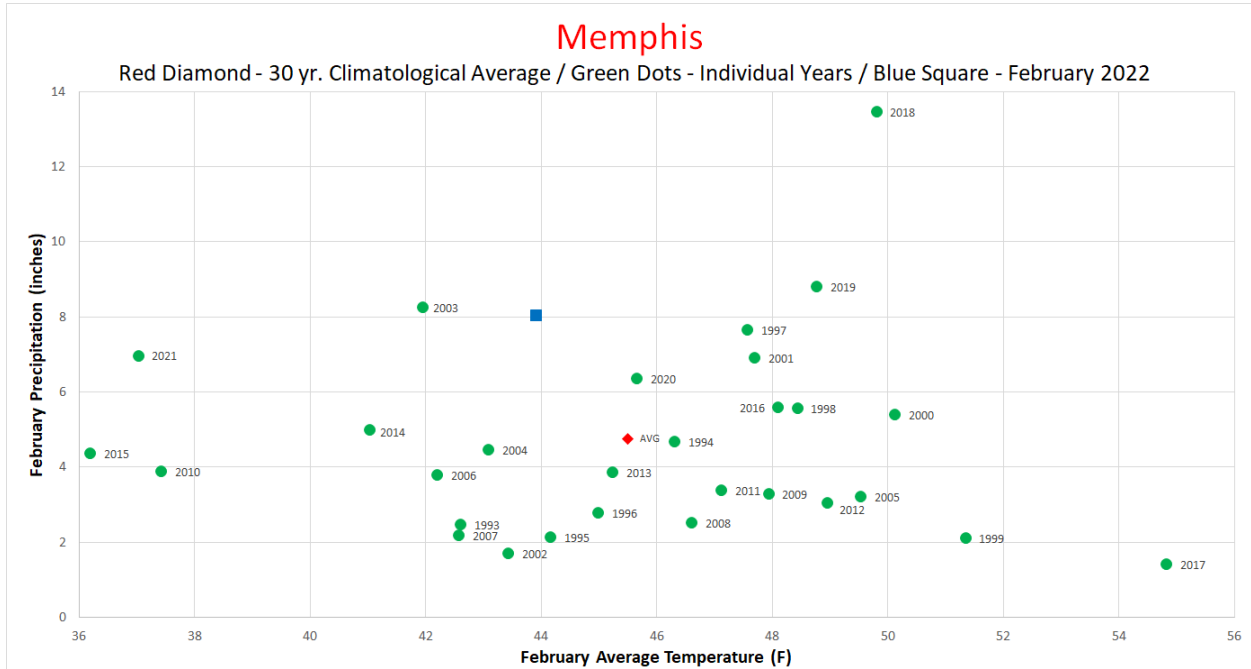
Snowiest Stations (highest snowfall accumulations)

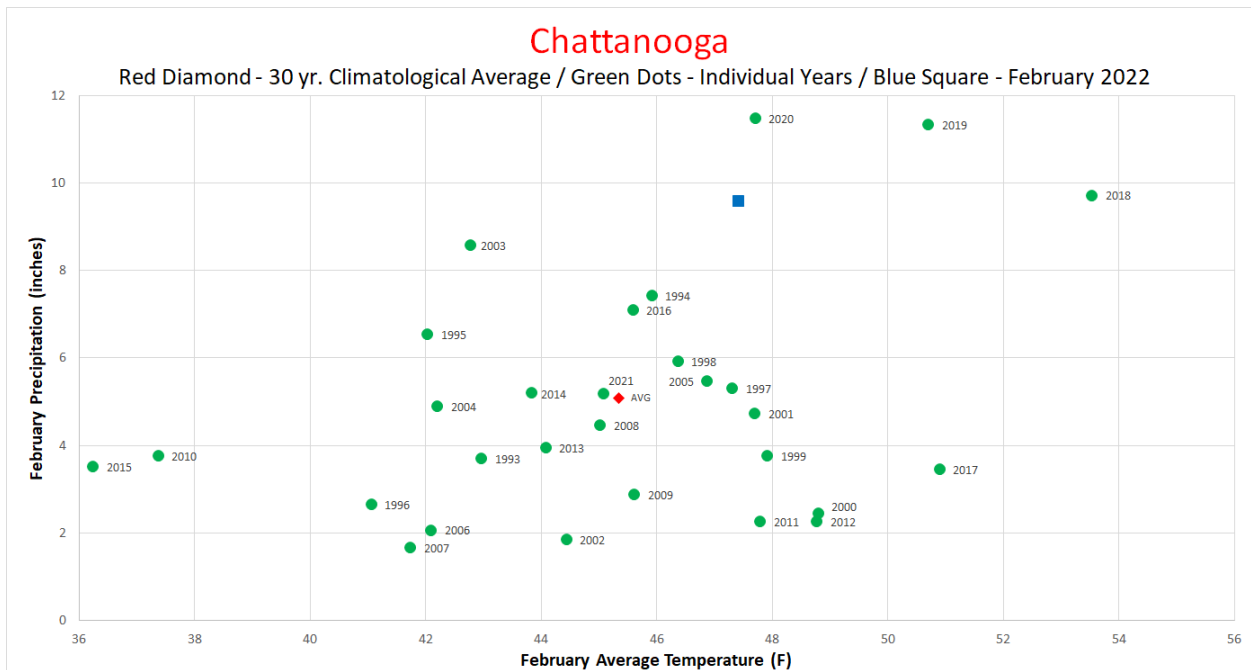
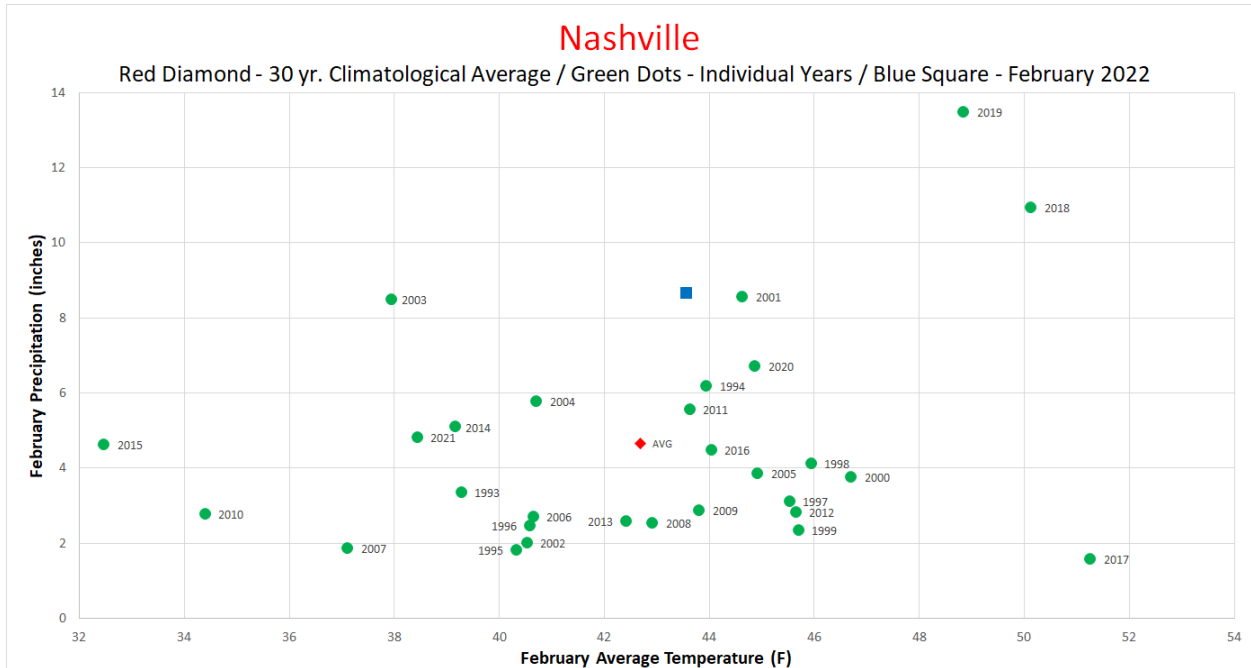
Name	Station Type	Total Snowfall (in)
ALAMO 1 N	COOP	2
MT LECONTE	COOP	1.1
ALLARDT	COOP	1
UNION CITY	COOP	0.9
GREENEVILLE 10.1 S	CoCoRaHS	0.8
ROAN MOUNTAIN 3SW	COOP	0.8
FAIRFIELD GLADE 0.1 NNW	CoCoRaHS	0.5
JONESBOROUGH 2.5 SSW	CoCoRaHS	0.5
MARYVILLE 3.4 ESE	CoCoRaHS	0.5
JOHNSON CITY 4.9 E	CoCoRaHS	0.4
UT MARTIN BRANCH EXP STATION	COOP	0.4

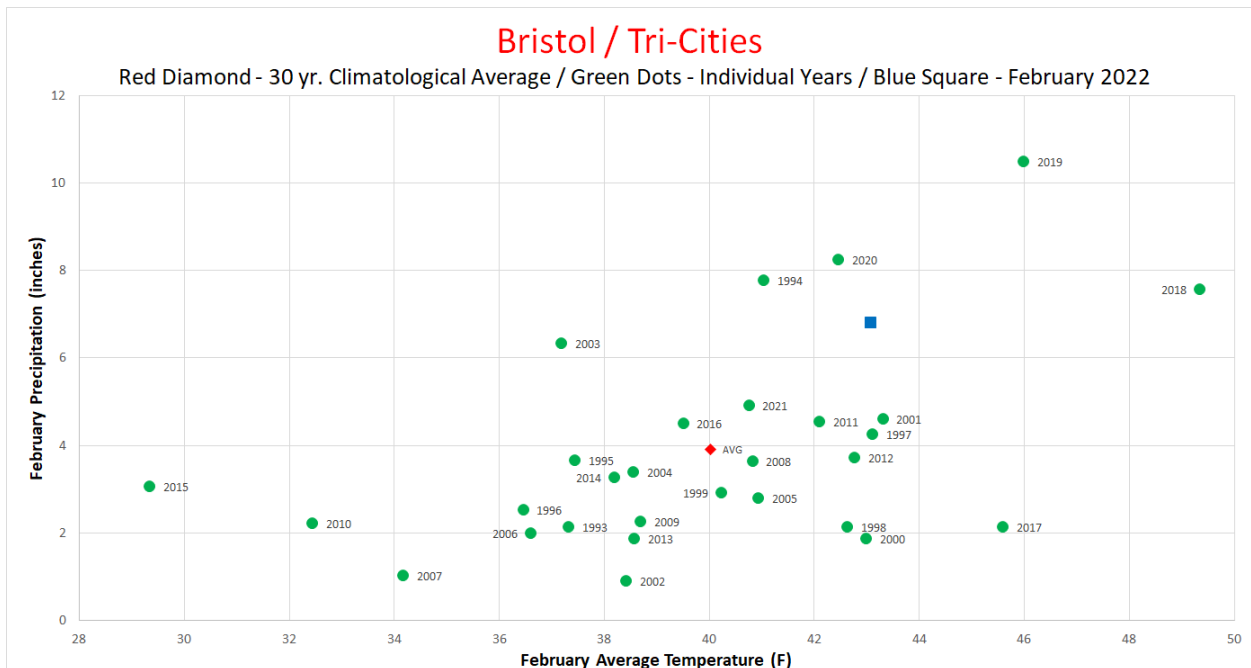
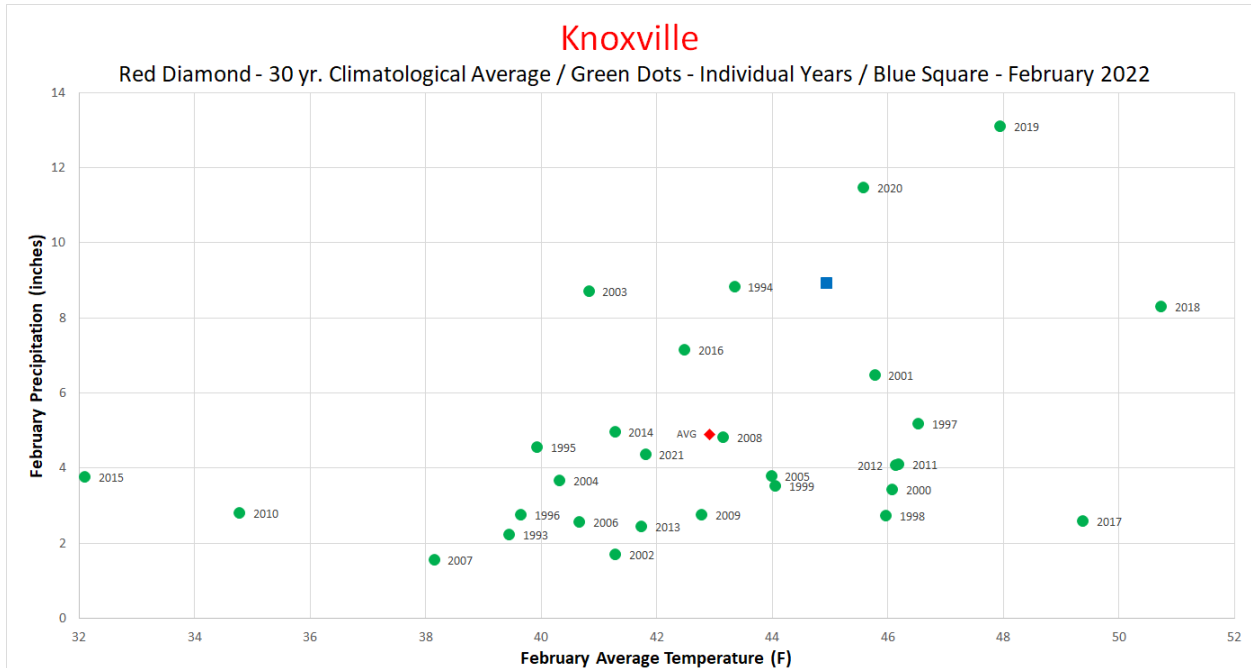
*Two weather stations tied for the 10th highest snowfall total (0.4")
 A total of 31 stations reported measurable snowfall and 95 additional
 stations reported a trace (<0.01") during February 2022*

The Month in Comparison:

While all areas of the state recorded above normal precipitation this month, when looking back at February for the past thirty years, it was not a record-setting month for any of our climate reporting stations across the state. February 2018, 2019, and 2020 all stood out as wetter Februaries for some cities. The pattern of cooler than average temperatures in the western end of the state and warmer than average temperatures in the eastern end of the state also stands out when comparing this February to February conditions of the past 30 years, but this year was not a major outlier for any area.







Drought Monitor:

The well above normal precipitation this month was able to clear all remaining areas of abnormally dry (D0) conditions from Tennessee in the US Drought Monitor. As of the March 1 release of the US Drought Monitor, Tennessee is free of all drought and abnormally dry conditions for the first time since May 18, 2021.

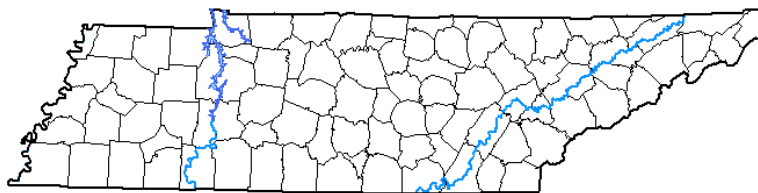
The February 1 release of the US Drought Monitor had the largest coverage of Abnormally Dry conditions for the month, with 9.43% of the state shown in D0 (spreading from the eastern Cumberland Plateau to the mountains of far east Tennessee).

Author:

Brad Rippey
U.S. Department
of Agriculture

U.S. Drought Monitor Tennessee

March 1, 2022
(Released Thursday, Mar. 3, 2022)
Valid 7 a.m. EST



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

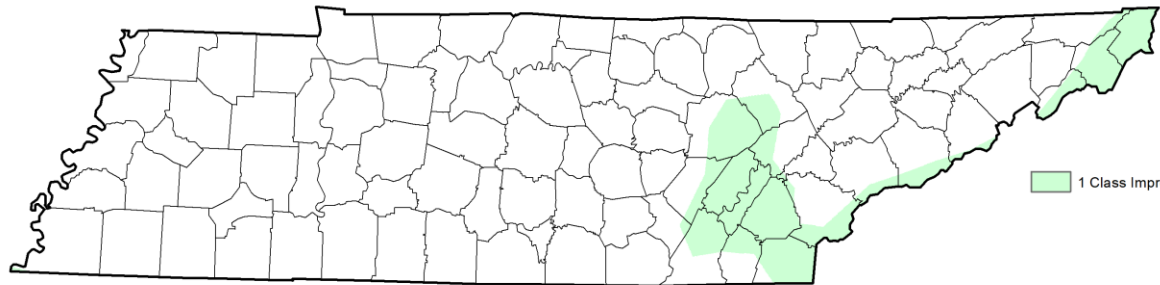
droughtmonitor.unl.edu



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <http://droughtmonitor.unl.edu/About.aspx>

March 1, 2022
compared to
February 1, 2022

U.S. Drought Monitor Class Change - Tennessee 4 Week

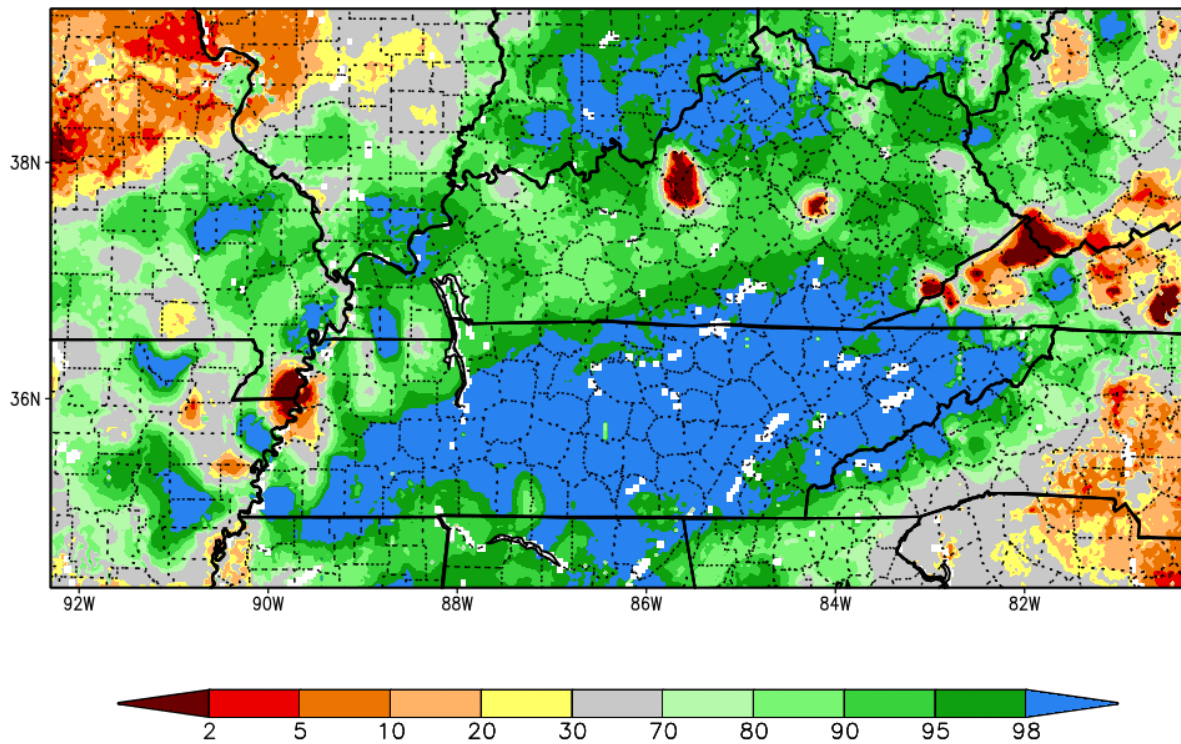


1 Class Improvement

Soil Moisture:

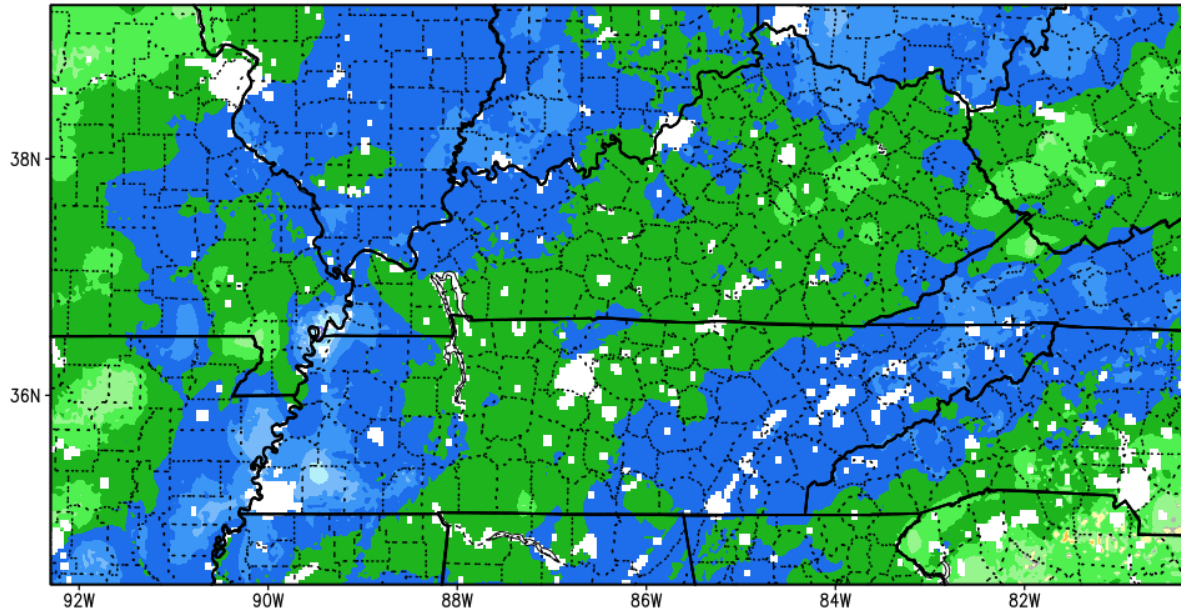
On February 22, the USDA Crop Progress report indicated that topsoil moisture in Tennessee was 6% short, 75% adequate, and 19% surplus, and subsoil moisture was 5% short, 80% adequate, and 15% surplus. However, another week of heavy rains during the last week of February will likely remove all shortages from topsoil moisture across the state. The NASA SPoRT Land Information System shows that integrated soil moisture across the top two meters of the ground is above normal in almost all areas of the state, reaching up to the 98th percentile in all areas in blue in the map below. This represents an increase of 4-20% from the end of last month.

SPoRT-LIS 0-200 cm Soil Moisture percentile valid 28 Feb 2022



****NOTE****
****Experimental****

1-Month Difference in Column Relative Soil Moisture (%) valid 12z 28 Feb 2022



****NOTE****
****Experimental****

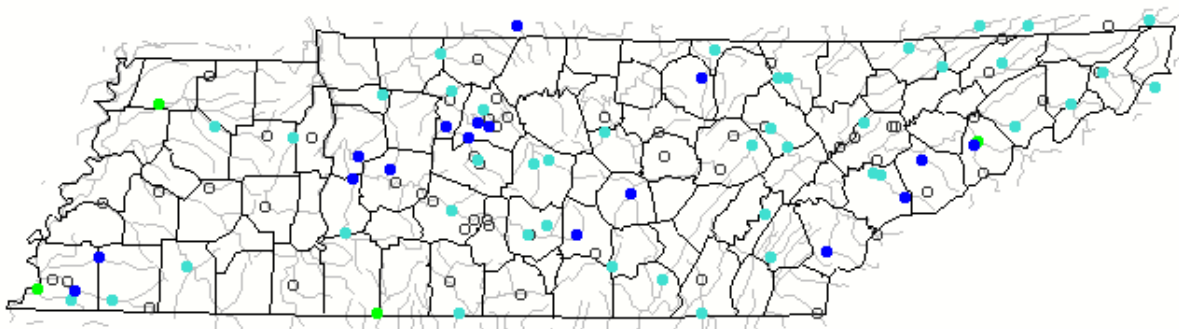
Streamflow:

In line with the heavy precipitation for the month, streamflow across the state was also largely above normal with stream gauges in most areas reporting above normal or much above normal flows for this time of year.

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

Tennessee ▼ or Water-Resources Regions ▼

February 2022



Search USGS streamgauge 🔍

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

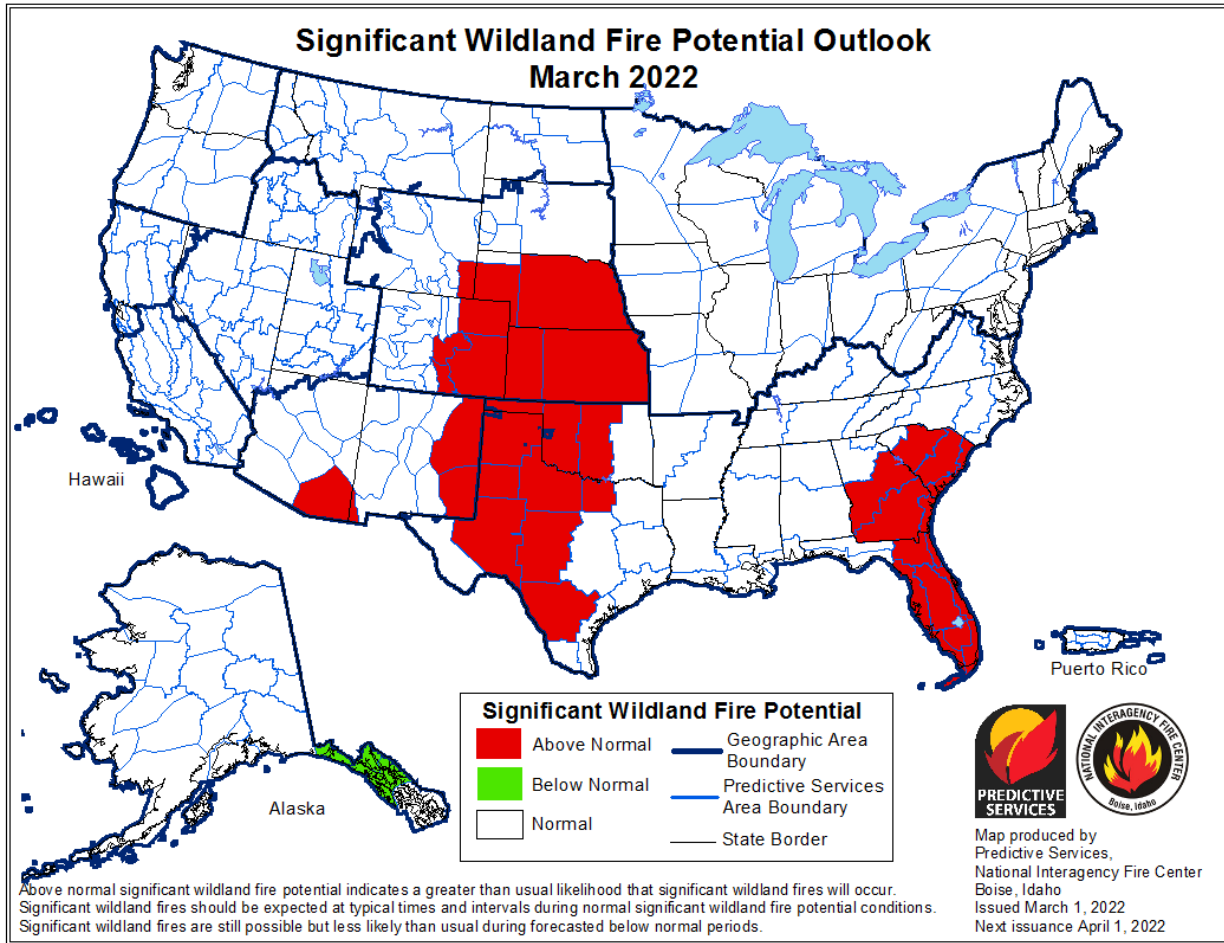
- List of all stations
- Single station
- Nearest stations
- Peak flow

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

Miscellaneous:

Crop Conditions from USDA: In the monthly crop progress report from the USDA, pastures were reported as mostly fair, winter wheat was reported as mostly good, and hay and roughage supplies appear adequate for the winter season. The hay and roughage supplies have lasted longer than expected despite the impacts on pastures from wet weather.

Fire Danger: The National Interagency Fire Center significant wildland fire outlook shows that Tennessee, as well as neighboring regions of surrounding states, will have a normal potential for wildland fires in March.



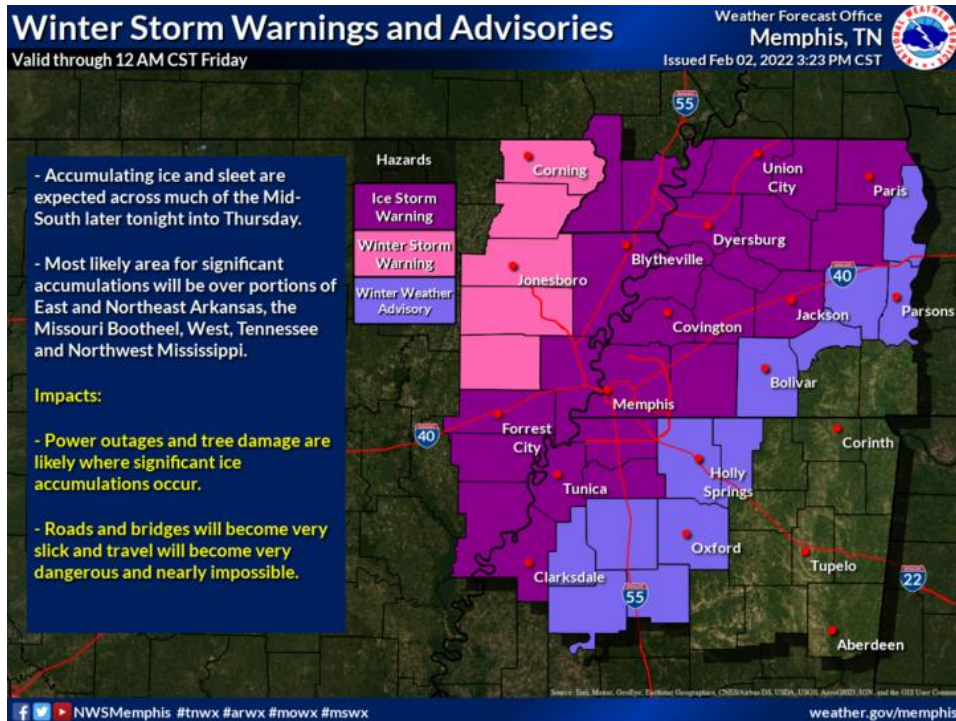
Snow: February 2022 brought very little snow to Tennessee, with only 3 stations reporting more than 1-inch of snow accumulated over the month. A total of 31 stations reported measurable snowfall and 95 additional stations reported a trace (<0.01”) during the month.

Spring Greenup: The US Phenology Network’s first leaf index for the start of spring showed that the majority of southern Tennessee counties had started their spring green-up by the end of February. This green-up period was a few days later than the average over the past 30-years in the southern counties. The data from the Phenology Network also show that the green-up has started in some East Tennessee valley locations, which is up to a week earlier than the average start date in these locations.

Story of the Month:

The top weather and climate stories for February 2022 included the major ice storm that impacted West Tennessee in the first week of the month and flooding across the state brought on by heavy rains at the end of the month.

The ice storm that impacted West Tennessee was a part of a larger winter storm that hit the central US from February 2-5. Starting February 2, Ice Storm Warnings and Winter Weather Advisories were in place for many West Tennessee counties, and parts of Middle Tennessee as well.



The storm brought heavy sleet and freezing rain to the state that downed trees and powerlines and made roads dangerous. By the morning of February 3, there were already 20,000 customers without power in Shelby County. According to the Memphis Light, Gas, and Water Division, during the storm more than 241,000 customers were impacted by a power outage! As of 9:00am CST February 4, TEMA reported 130,600 power outages across the state, and many areas of Shelby County were without power for several days as crews worked to repair lines in the sub-freezing temperatures. The Memphis Fire Department also responded to a 16-vehicle carsh that sent six people to the hospital.



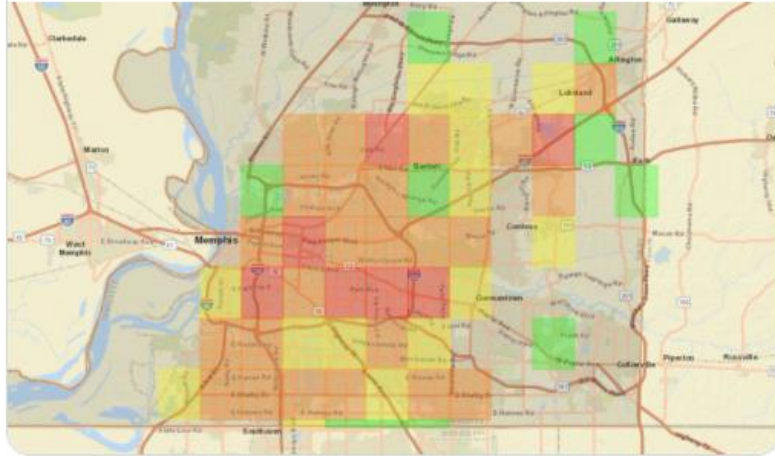
NWS Memphis @NWSMemphis · Feb 3

This is expected to worsen through the day as heavy freezing rain continues. Be prepared! #Memphis



Trevor Birchett @weathertrevor · Feb 3

Nearly 20k @MLGW customers are without power in #Memphis and Shelby County as of right now. @ABC24Memphis



NWS Memphis @NWSMemphis

NWS Memphis is back on commercial power, phone and internet has been restored. Beaten, battered, but not broken. 43 days until Spring. #TNWx #MSWx #ARWx #MOWx #MidsouthWx



12:43 PM · Feb 5, 2022 · Twitter Web App

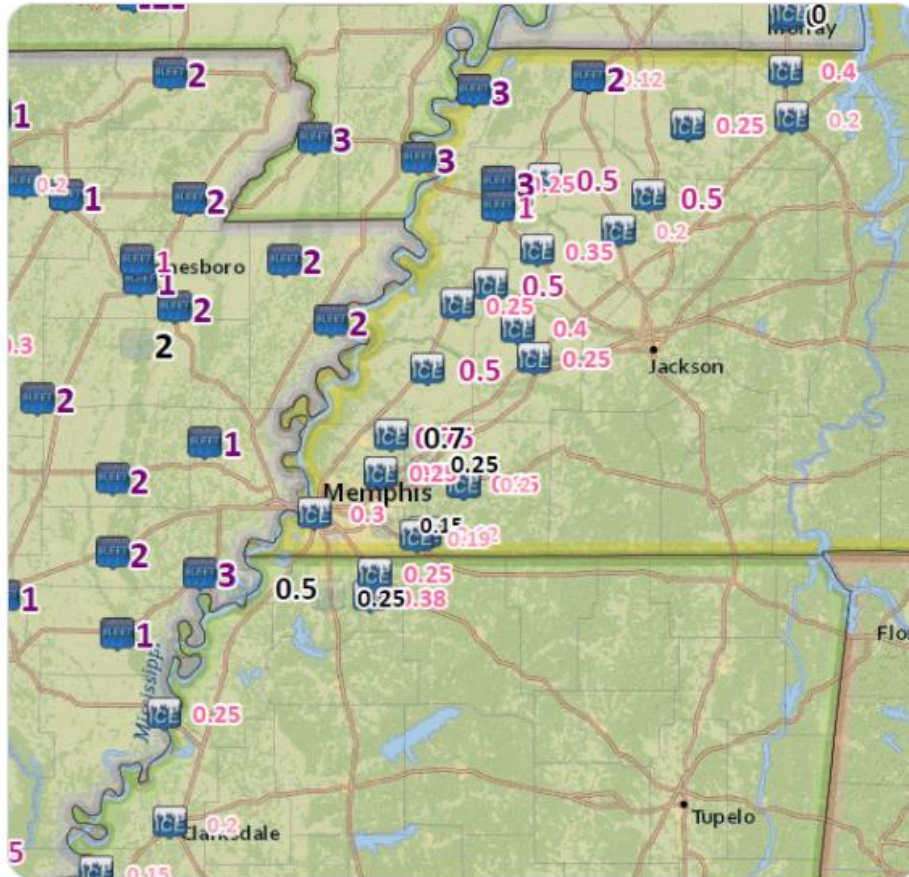


NWS Memphis
@NWSMemphis

...

Thanks to all the spotters, Emergency Managers, and social media posters that contributed to these reports. See any holes? Send along a report.

nwschat.weather.gov/p.php?pid=2022... #tnwx #mswx #mowx #arwx #midsouthwx



8:32 PM · Feb 5, 2022 · Twitter Web App



Robin Cude @rcude93 · Feb 7



Day 5 of sleet on the ground in Obion County and it is not going anywhere fast. #tnwx @NWSMemphis @wxShaley @NbergWX @NC5_LelanStatom



The sun shines on ice and sleet in Martin, TN. {photo by Dr. Mark Simpson of UT-Martin}

Widespread heavy rains of 5-6-inches during the last week of February also produced flash flooding and riverine flooding across many areas of Tennessee, closing roads and prompting a water rescue of a driver from the Harpeth River in Williamson County.



NWS Nashville ✓ @NWSNashville · Feb 24

...

Said it before, gotta say it again. When you do this, not only are you putting your own life at risk, you're also putting the lives of the people who have to rescue you at risk. [#turnarounddontdrown](#)

FIND A DIFFERENT ROUTE



Amelia Young ✓ @ameliayoung · Feb 24

If you see high water, turn around and don't risk it. This is at Arno Rd & Trinity Rd in Franklin. @WCSO_Sheriff helped to rescue the driver. @NC5

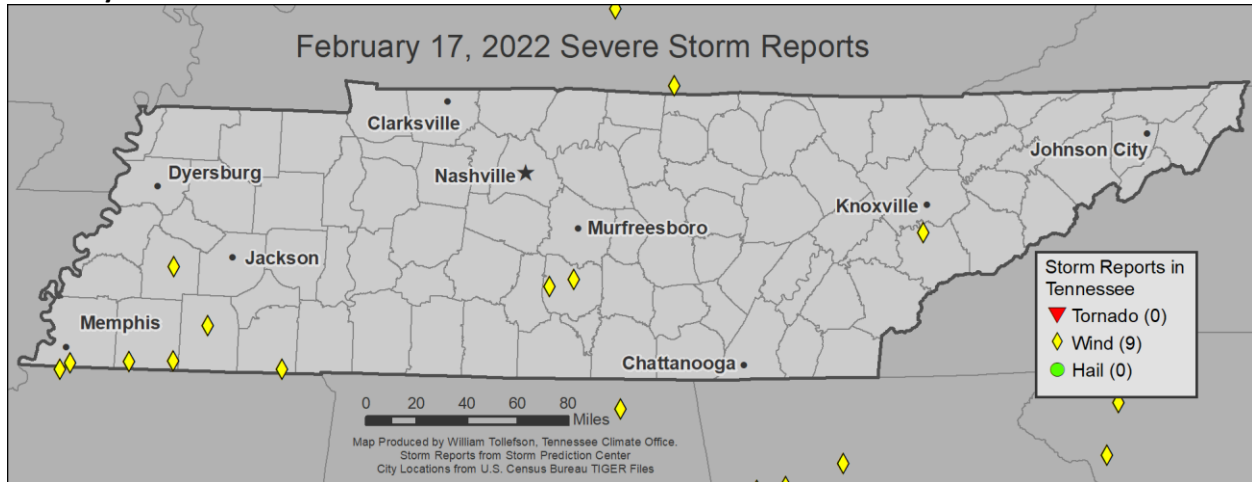


Storm Reports:

*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 two days with severe storms reported in Tennessee with a total of 0 tornadoes, 12 severe wind damage reports, and 1 severe hail report.

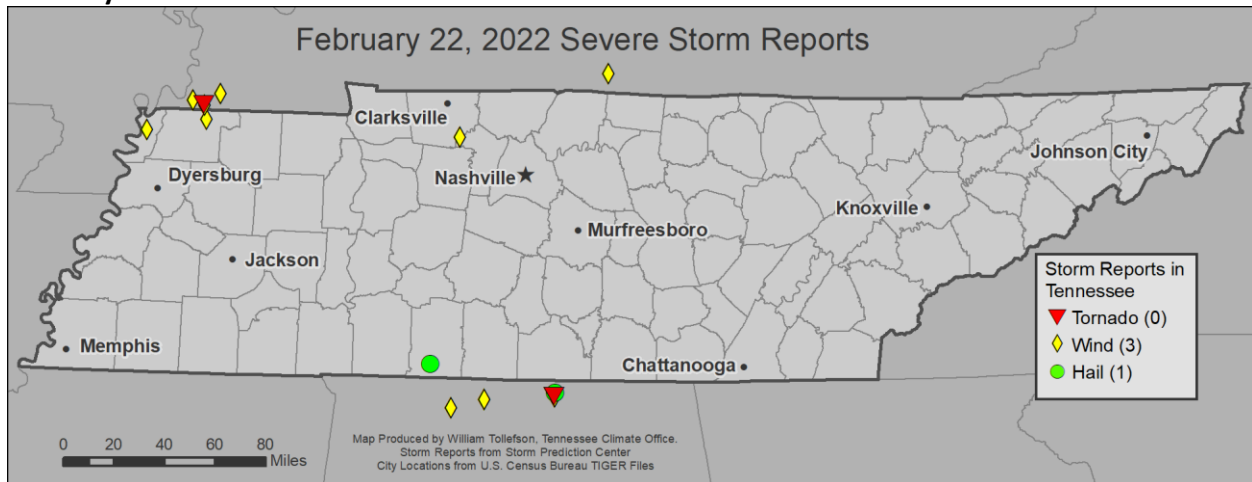
February 17:



Wind:

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
19:15	--	4 NE SOUTHAVEN	SHELBY	35.02	-89.95	MANY TREE LIMBS DOWN ONE INCH AND LARGER. (MEG)
19:32	--	BROWNSVILLE	HAYWOOD	35.59	-89.25	A COUPLE OF TREES DOWN ON HIGHWAY 54 NORTH NEAR BROWNSVILLE. (MEG)
19:49	--	ROSSVILLE	FAYETTE	35.04	-89.54	POWER LINES DOWN ON HIGHWAY 193 IN ROSSVILLE. (MEG)
20:11	--	LA GRANGE	FAYETTE	35.05	-89.23	LARGE TREE DOWN ACROSS HIGHWAY 57 BLOCKING BOTH LANES OF TRAFFIC. (MEG)
20:12	--	BOLIVAR	HARDEMAN	35.26	-89	POWER LINES DOWN AND POWER OUTAGES AS THE LINE MOVED THROUGH BOLIVAR (MEG)
21:15	--	ACTON	MCNAIRY	35.02	-88.47	1 TREE DOWN ON HWY 22. (MEG)
22:55	--	9 SSE CHAPEL HILL	BEDFORD	35.52	-86.61	SMALL TREE DOWN BLOCKING WHEEL ROAD. REPORT VIA TSPOTTER. (OHX)
23:05	58	5 N SHELBYVILLE	BEDFORD	35.56	-86.44	AWOS STATION KSYI SHELBYVILLE BOMAR FIELD. (OHX)
1:57	58	1 N ALCOA	BLOUNT	35.81	-83.98	TYS ASOS REPORTS GUST OF 58 MPH. (MRX)

February 22:



Wind:

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
12:00	--	TIPTONVILLE	LAKE	36.38	-89.47	TREE FALLEN ON SCHOOL BUILDING AND FENCES BLOWN OVER. (MEG)
12:30	--	2 N UNION CITY	OBION	36.45	-89.05	TWO BUILDINGS WERE DAMAGED ALONG GREENFIELD DR. (MEG)
14:45	--	13 NW ASHLAND CITY	MONTGOMERY	36.38	-87.25	REPORT OF DOWNED LARGE TREE BRANCHES WITH CREEKS SPILLING OVER BANKS. (OHX)

Hail:

Time (UTC)	Size (in)	Location	County	Lat	Lon	Comments
23:46	1.00	LORETTO	LAWRENCE	35.08	-87.44	QUARTER SIZE HAIL OBSERVED ON THE NORTH SIDE OF LORETTO. (OHX)

CPC Outlooks for the Next Month:

The NOAA Climate Prediction Center outlooks for March show that all of Tennessee is leaning towards a warmer than normal month, with most of the state depicted with a 40-50% chance of above normal temperatures. All of Tennessee is also depicted with chances for above normal precipitation in March, with most of West and Middle Tennessee in the 40-50% range and East Tennessee in the 33-40% range for likelihood of above normal precipitation.

