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4-1-2024

2024 April - Tennessee Monthly Climate Report

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April 2024 Tennessee State Climate Summary

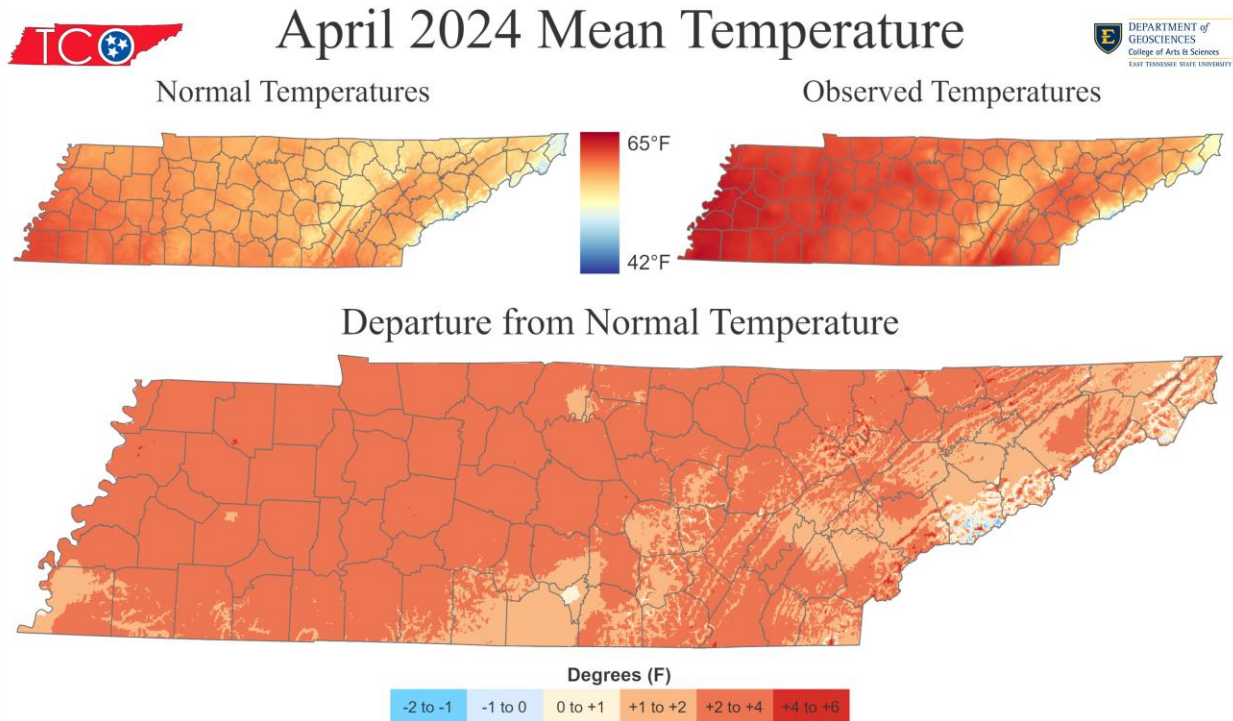
Tennessee Climate Office * East Tennessee State University

Prepared by William Tollefson and Dr. Andrew Joyner

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

Monthly Temperature Summary:

Over the month of April, the average temperature for the state was above normal, with most areas recording temperatures 2-4°F warmer than normal. The month started out with near normal temperatures before the middle two weeks of the month brought an early spring heat wave peaking the week of April 15-21, when many areas had temperatures 8-10°F warmer than normal. The final week of April brought a cool down with temperatures cooler than normal for most parts of the state, with parts of East Tennessee as much as 4-6°F below normal. Most of the above normal temperatures actually came with overnight lows, as there was only 1 record set for daily high temperatures this month, but there were 62 broken and 32 tied daily records for warmest overnight low temperatures. Of those broken low temperature records, 17 were set at stations with at least a 100-year history, and there was 1 broken and 1 tied monthly record for the warmest low temperature recorded in April. Low temperatures at climate monitoring weather stations averaged out to be the 3rd warmest at Oak Ridge, 6th warmest at Chattanooga, 7th warmest at Nashville, and tied for 10th warmest at Memphis and the Tri-Cities. There was a notable cool spell that produced some late season frost and broke the daily record for coolest high temperature at 6 weather stations, and there were two broken daily low temperature records set this month.



Stations with the highest mean temperature

Station Name	Station Type	Mean Temperature (F)
MEMPHIS INTERNATIONAL AP	WBAN	65.1
MEMPHIS WFO	WBAN	64.4
CHATTANOOGA AP	WBAN	64.3
MOUSETAIL LANDING STATE PARK	COOP	63.9
JACKSON MCKELLAR- SIPES AP	WBAN	63.9

Map Data from PRISM Climate Group,
Oregon State University.
1991-2020 Climate Normals Used.
Station Data Retrieved From xmACIS2.

Stations with the lowest mean temperature

Station Name	Station Type	Mean Temperature (F)
MT LECONTE	COOP	41.5
NEWFOUND GAP	COOP	48.6
ROAN MOUNTAIN 3SW	COOP	53.2
MOUNTAIN CITY 2	COOP	54.2
GREENEVILLE EXP STA	COOP	55.9

Monthly Precipitation Summary:

Many areas of the state recorded above normal precipitation in the first few weeks of April, but precipitation cut off for the second half of the month, leading to most areas of the state recording below normal precipitation overall. The areas with the most below normal precipitation were in East Tennessee, where some areas recorded below 40% of their normal April precipitation. There were pockets of above normal precipitation, mostly in Middle Tennessee and northern West Tennessee. Some heavy rains were also accompanied by severe storms and there were several reports of hail, especially in West Tennessee. There was also some snowfall this month from April 4-6, with measurable accumulations limited to higher elevations in the mountains of East Tennessee, but with trace amounts reported in other areas of East Tennessee and the Cumberland Plateau. Through the month, there were 7 records set and one tied for highest daily precipitation, and two records set for highest daily snowfall, at Mount LeConte on April 4 and Mountain City on April 5, but there were no monthly records set for precipitation.

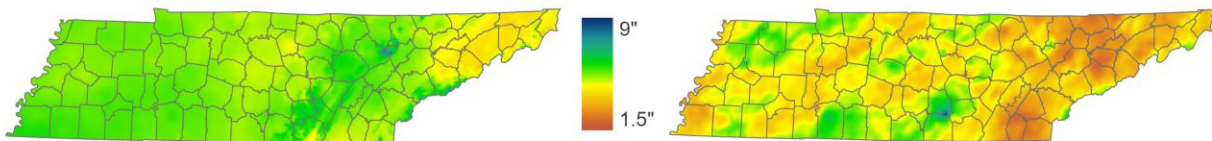


April 2024 Total Precipitation

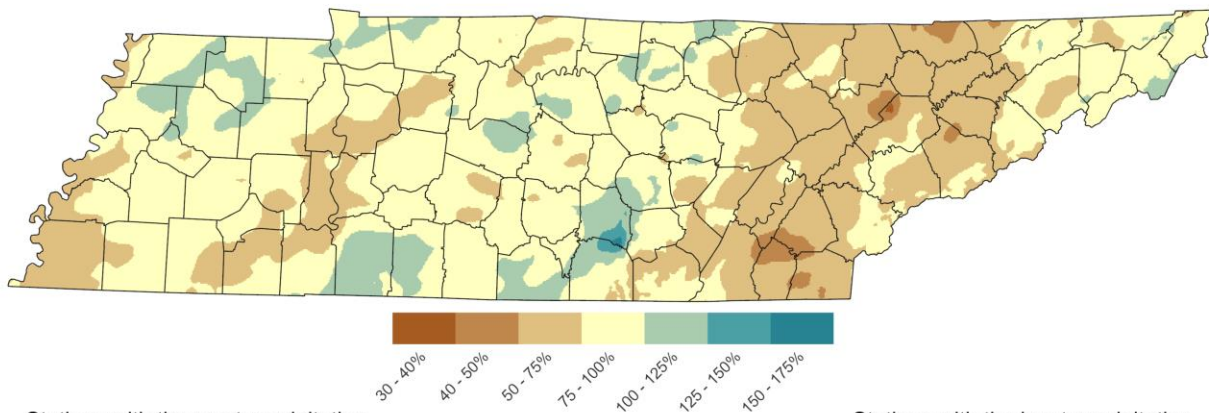


Normal Precipitation

Observed Precipitation



Percent of Normal Precipitation



Stations with the most precipitation

Station Name	Station Type	Total Precipitation (in)
MT LECONTE	COOP	6.83
MANCHESTER 2.6 WNW	CoCoRaHS	6.81
SEWANEE	COOP	6.78
CLARKSVILLE 4.9 NW	CoCoRaHS	6.76
WAYNESBORO 4.7 WSW	CoCoRaHS	6.72

Map Data from PRISM Climate Group,
Oregon State University.
1991-2020 Climate Normals Used.
Station Data Retrieved From xmACIS2

Stations with the least precipitation

Station Name	Station Type	Total Precipitation (in)
CLEVELAND 1.2 W	CoCoRaHS	0.96
CLEVELAND 8.9 SSE	CoCoRaHS	1.84
SEVIERVILLE 2.8 NNW	CoCoRaHS	1.92
CLINTON 4.9 S	CoCoRaHS	2.06
MARYVILLE 3.4 ESE	CoCoRaHS	2.22

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	73.8	56.3	65.1	+1.9	85	4/30	41	4/22	3.32	-2.55	57%
Jackson	74.6	53.2	63.9	+3.6	86	4/15	33	4/22	3.47	-1.65	68%
Clarksville	72.6	51.3	62.0	+3.6	86	4/16	33	4/6	5.00	+0.45	110%
Nashville	73.9	53.4	63.6	+2.8	87	4/18	36	4/5	4.52	-0.20	96%
Chattanooga	74.8	53.9	64.3	+2.6	86	4/16	39	4/7	3.13	-1.74	64%
Crossville	66.9	48.2	57.6	+2.2	80	4/18	30	4/6	4.05	-1.42	74%
Knoxville	71.5	51.3	61.4	+1.8	85	4/18	37	4/6	3.90	-0.81	83%
Bristol	70.9	46.1	58.5	+2.1	83	4/29	28	4/7	2.78	-1.01	73%

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
MOUSETAIL LANDING STATE PARK	COOP	89	17
GAINESBORO	COOP	89	17
CLARKSVILLE NO.2	COOP	88	30
CLARKSVILLE WWTP	COOP	88	16
TENNESSEE RIDGE	COOP	88	16
PICKETT STATE PARK	COOP	88	3
COOKEVILLE	COOP	88	17
UT MARTIN BRANCH EXP STATION	COOP	88	21
JACKSON EXP STA	COOP	88	16
SAVANNAH 6 SW	COOP	88	28
ROCK ISLAND STATE PARK	COOP	88	17

Nine stations tied for the 2nd hottest temperature (88°F)

Coldest Stations (lowest minimum temperature)

Station Name	Station Type	Lowest Temperature (F)	Date
MT LECONTE	COOP	13	8
NEWFOUND GAP	COOP	23	7
MOUNTAIN CITY 2	COOP	24	8
KINGSTON SPRINGS	COOP	25	7
ROAN MOUNTAIN 3SW	COOP	26	7
GAINESBORO	COOP	27	8
GREENEVILLE EXP STA	COOP	28	6
MONTEREY	COOP	28	20
TAZEWELL	COOP	28	7
PICKETT STATE PARK	COOP	28	22
BRISTOL AP	WBAN	28	7

Five stations tied for the 7th coldest temperature (28°F)

Warmest Stations (highest mean temperatures)

Station Name	Station Type	Mean Temperature (F)
MEMPHIS INTERNATIONAL AP	WBAN	65.1
MEMPHIS WFO	WBAN	64.4
CHATTANOOGA AP	WBAN	64.3
MOUSETAIL LANDING STATE PARK	COOP	63.9
JACKSON MCKELLAR- SIPES AP	WBAN	63.9
DYERSBURG MUNICIPAL AIRPORT	WBAN	63.9
SAVANNAH 6 SW	COOP	63.8
JACKSON EXP STA	COOP	63.8
NASHVILLE INTL AP	WBAN	63.6
CHEATHAM LOCK & DAM	COOP	63.1

Coollest Stations (lowest mean temperatures)

Station Name	Station Type	Mean Temperature (F)
MT LECONTE	COOP	41.5
NEWFOUND GAP	COOP	48.6
ROAN MOUNTAIN 3SW	COOP	53.2
MOUNTAIN CITY 2	COOP	54.2
GREENEVILLE EXP STA	COOP	55.9
MONTEREY	COOP	56.7
FALL CREEK FALLS SP	COOP	56.7
CROSSVILLE 7 NW	WBAN	56.8
TAZEWELL	COOP	57
ONEIDA	COOP	57
COALMONT	COOP	57

Three stations tied for the 9th coolest mean temperature (57°F)

Wettest Stations (highest precipitation totals):

Station Name	Station Type	Total Precipitation (in)
MT LECONTE	COOP	6.83
MANCHESTER 2.6 WNW	CoCoRaHS	6.81
SEWANEE	COOP	6.78
CLARKSVILLE 4.9 NW	CoCoRaHS	6.76
WAYNESBORO 4.7 WSW	CoCoRaHS	6.72
BRENTWOOD 0.5 SSW	CoCoRaHS	6.65
LAWRENCEBURG 8.7 WNW	CoCoRaHS	6.57
LAWRENCEBURG 8.8 SE	CoCoRaHS	6.34
WAYNESBORO	COOP	6.22
FRANKLIN 0.5 NE	CoCoRaHS	6.07

Driest Stations (lowest precipitation totals):

Station Name	Station Type	Total Precipitation (in)
CLEVELAND 1.2 W	CoCoRaHS	0.96
CLEVELAND 8.9 SSE	CoCoRaHS	1.84
SEVIERVILLE 2.8 NNW	CoCoRaHS	1.92
CLINTON 4.9 S	CoCoRaHS	2.06
MARYVILLE 3.4 ESE	CoCoRaHS	2.22
KNOXVILLE 5.7 NNW	CoCoRaHS	2.39
BULLS GAP 0.9 SSW	CoCoRaHS	2.42
WHITE PINE 2.0 NE	CoCoRaHS	2.5
BARTLETT 2.5 SW	CoCoRaHS	2.51
MORRISTOWN RADIO WCRK	COOP	2.52

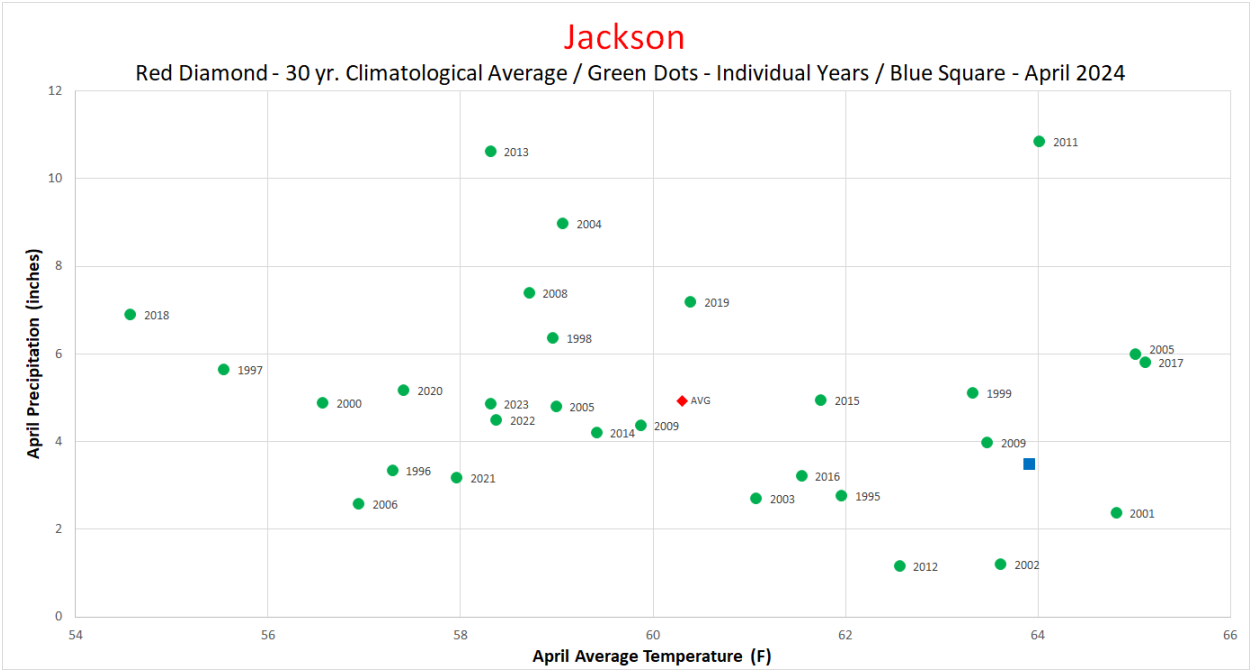
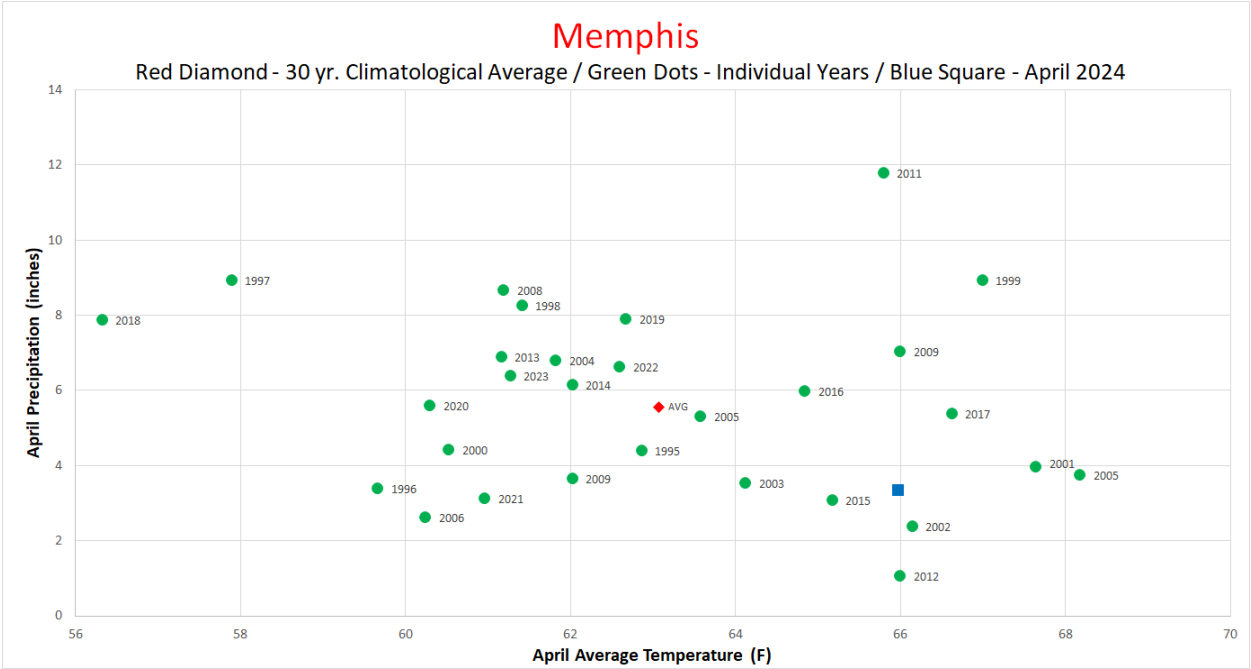
Snowiest Stations (highest snowfall totals):

Station Name	Station Type	Total Snowfall (in)
MT LECONTE	COOP	5.5
NEWFOUND GAP	COOP	0.5
MOUNTAIN CITY 2	COOP	0.5
JAMESTOWN 12.9 S	CoCoRaHS	T
CLARKRANGE 6.0 NE	CoCoRaHS	T
JAMESTOWN 3.1 SE	CoCoRaHS	T
KYLES FORD 1.0 N	CoCoRaHS	T
JONESBOROUGH 2.5 SSW	CoCoRaHS	T
BULLS GAP 0.9 SSW	CoCoRaHS	T
JONESBOROUGH 2.7 SSW	CoCoRaHS	T
MONTEREY	COOP	T
TAZEWELL	COOP	T
FALL CREEK FALLS SP	COOP	T

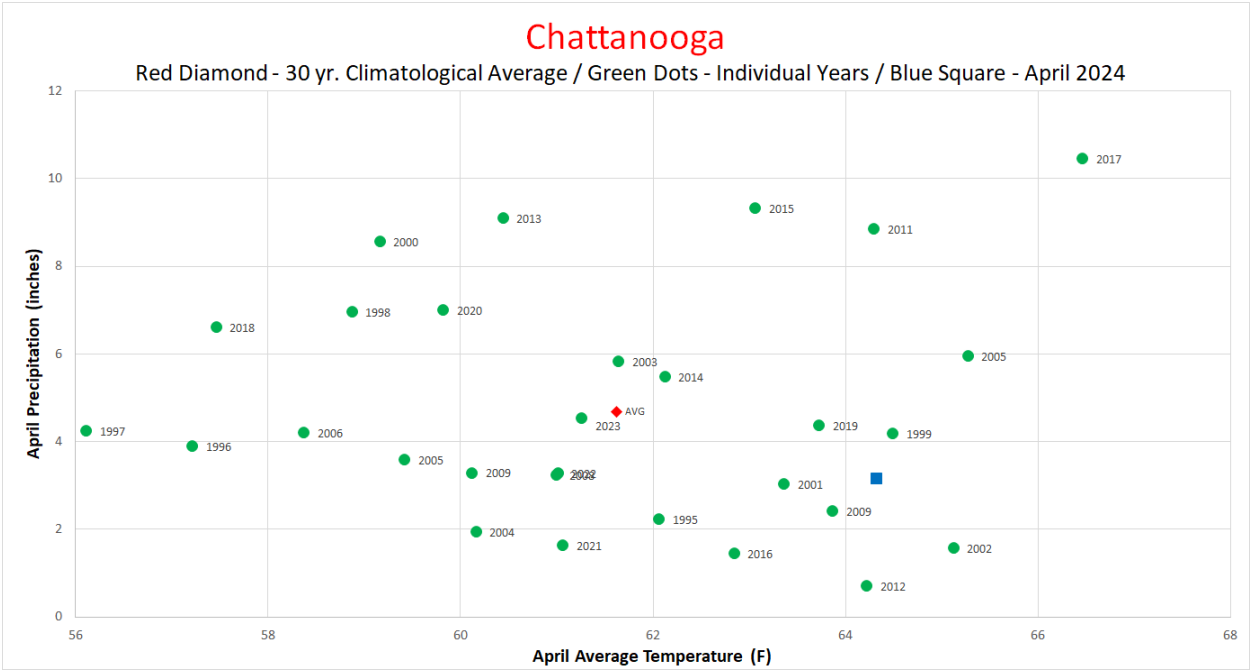
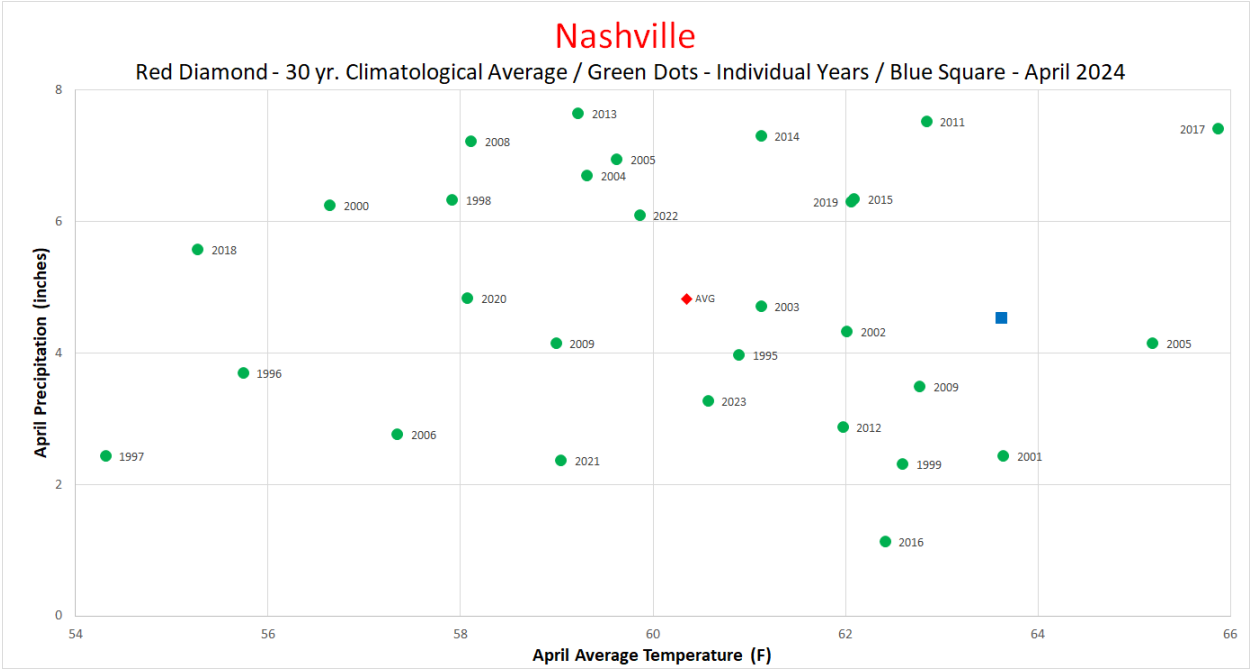
Ten stations reported a trace (<0.1") of snow during the month.

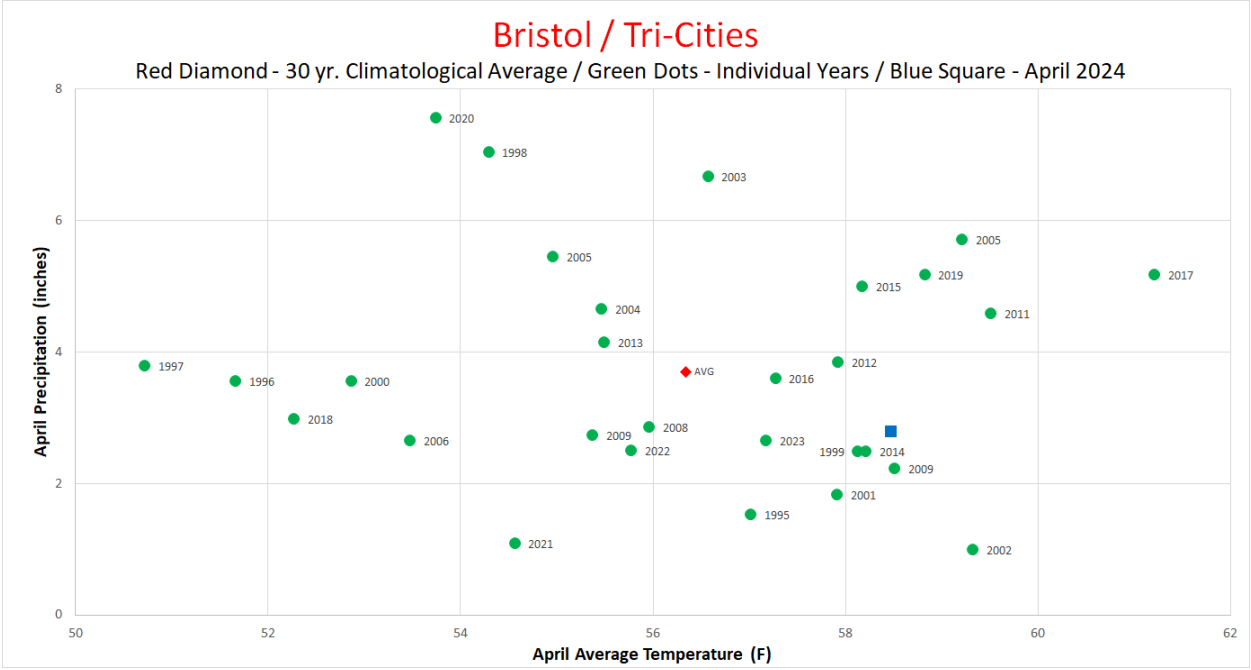
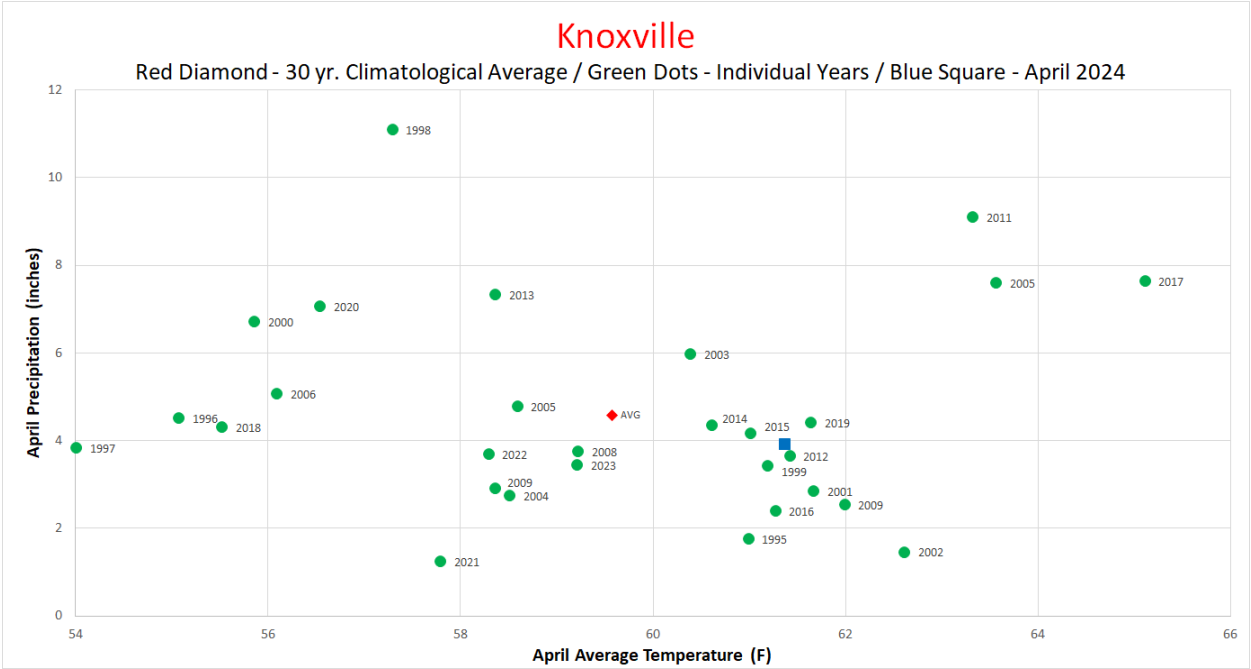
The Month in Comparison:

Comparing the mean temperature and total precipitation of April 2024 to the conditions of April over the past 30 years at select automated weather stations located at airports cross the state, all stations recorded a warmer than average April, being the 4th warmest of the past 30 Aprils in Nashville and 5th warmest of the past 30 Aprils at Jackson and Chattanooga. Each of these stations also recorded below normal precipitation, but it was not a major outlier. Looking at the longer record for climate monitoring stations in Tennessee, the mean temperature for April 2024 was tied for 7th warmest in the 150-year weather history at Nashville and tied for 9th warmest in the 144-year weather history for Chattanooga and in the 77-year history at Oak Ridge. Looking at the average of high temperatures this month, no climate monitoring station had a top-10 warmest or coolest April. But looking at the average of low temperatures this month, April 2024 was the 3rd warmest at Oak Ridge (77-year weather history), 6th warmest at Chattanooga (144-year weather history), 7th warmest at Nashville (150-year weather history), and tied for 10th warmest at Memphis (145-year weather history) and the Tri-Cities (77-year weather history).



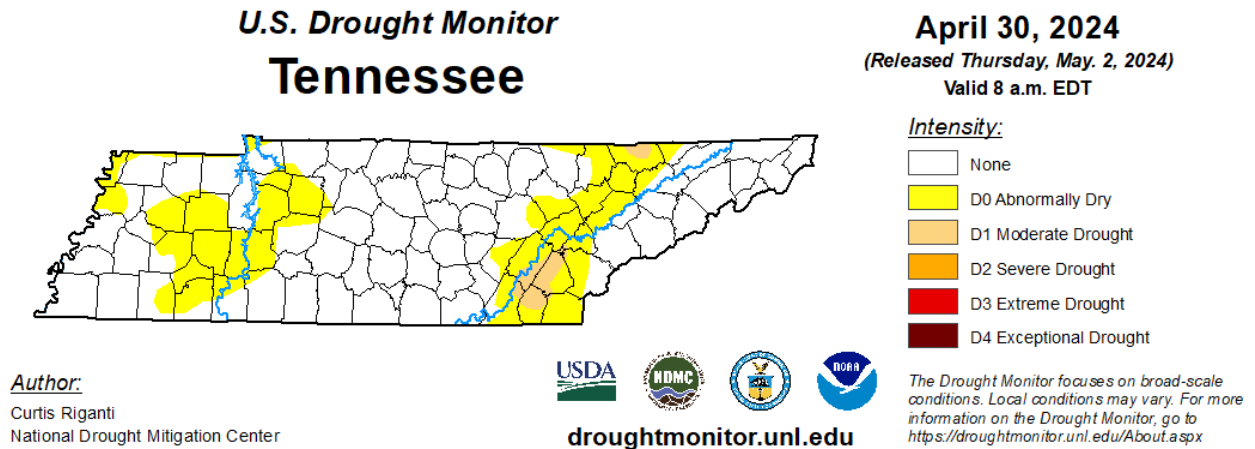
April 2024 Tennessee State Climate Summary





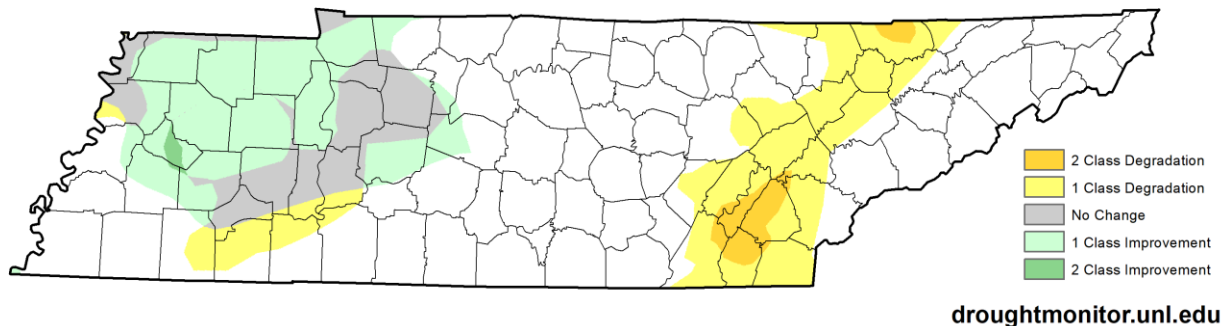
Drought Monitor:

Over the month of April 2024, the U.S. Drought Monitor averaged out to slight improvements in the areas of the state covered in Moderate Drought (dropping from 3.68% of the state on the April 2 edition to 2.01% on the April 30 edition). However, there was a slight increase in the area of Abnormally Dry conditions over the month, going from 22.82% of the state's area on April 2 to 26.24% of the state's area on April 30. The 4-week change map shows that the improvements were more widespread in the western half of the state, while the worsening in Abnormally Dry and Moderate Drought conditions happened mostly in East Tennessee.



April 30, 2024
compared to
April 2, 2024

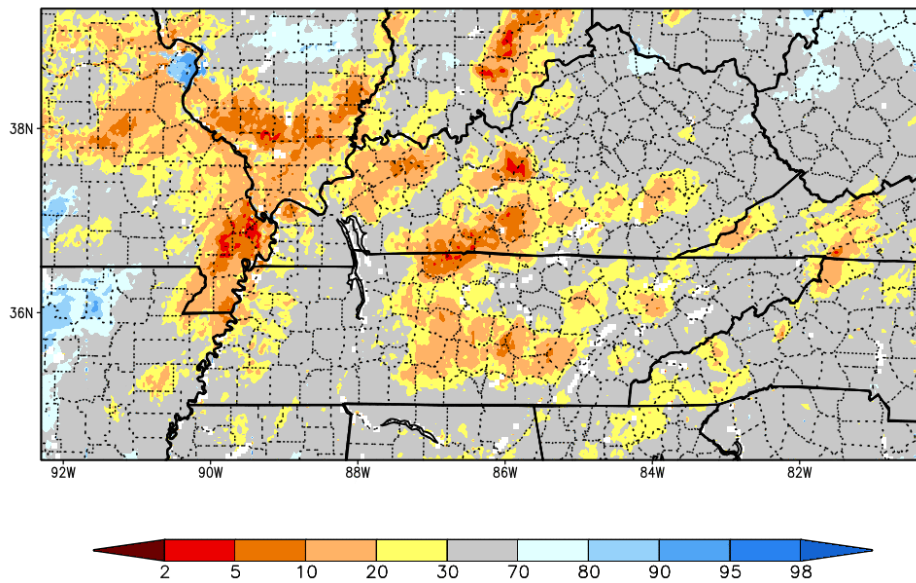
U.S. Drought Monitor Class Change - Tennessee 4 Week



Soil Moisture:

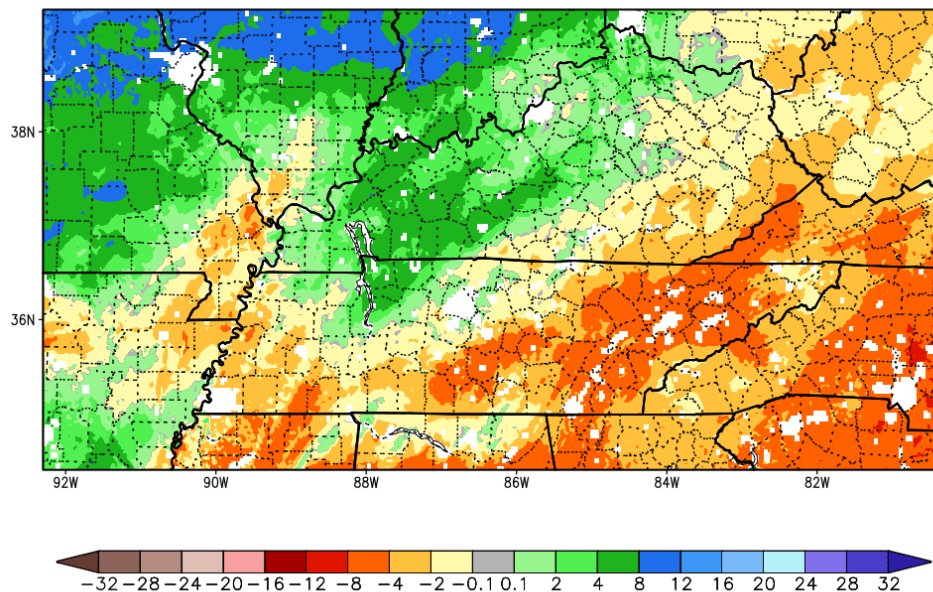
Fitting with the rainfall pattern and changes in the USDM, the NASA SPoRT-Land Information System showed many areas with soil moisture levels in the normal range, with some areas showing below normal percentiles, mostly in southern portions of Middle Tennessee. Soil moisture levels dropped in the range of 2-8 percentile points in East Tennessee and southern portions of Middle and West Tennessee. The USDA rated topsoil moisture as 1% very short, 10% short, 81% adequate, and 8% surplus, and subsoil moisture was also rated as 1% very short, 10% short, and 81% adequate, and 8% surplus.

SPoRT-LIS 0-200 cm Soil Moisture percentile valid 30 Apr 2024



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

1-Month Difference in Column Relative Soil Moisture (%) valid 12z 30 Apr 2024



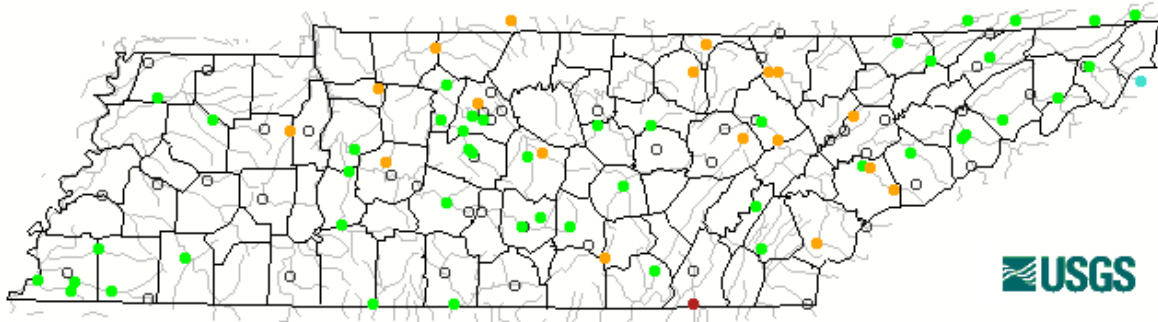
****NOTE****
****Experimental****

Streamflow:

Streamflow averaged over the month of April showed that most stream gauges reported streamflow in the normal range, however there were some reporting below normal streamflow mostly scattered in East Tennessee and in the northern portions of the Cumberland Plateau and Middle Tennessee.

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

April 2024



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:

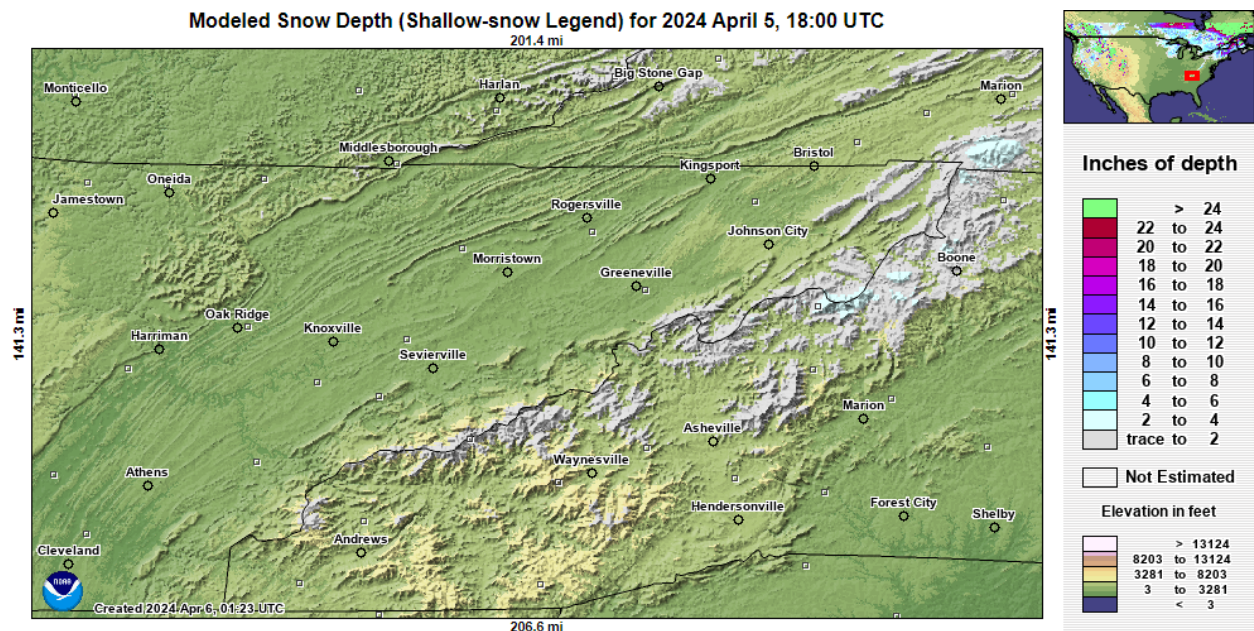
Crop Conditions from USDA: The Crop Progress Report issued for the week ending April 28 indicated that the majority of crops and agricultural products across the state are in Good to Excellent condition. Dry conditions in the second half of April allowed for ample field work and field crop progress was at or ahead of the 5-year average for Corn, Cotton, Soybeans, and Winter Wheat. Although heavy rains, cool conditions, and some reports of high winds and hail did cause some problems/crop damage earlier in the month.

CROP PROGRESS					CONDITION					
Item	This Week	Last Week	2023	5 Year Avg.	Item	Very Poor	Poor	Fair	Good	Excellent
Percent					Percent					
Apples – Blooming	83	77	82	83	Strawberries	2	4	21	58	15
Corn – Planted	49	31	57	45	Pasture	1	6	28	55	10
Corn – Emerged	18	5	20	18	Winter Wheat	1	6	17	51	25
Cotton – Planted	5	1	4	2	Cattle	1	4	23	59	13
Soybeans – Planted	28	17	21	10						
Winter Wheat – Jointing	92	86	93	92						
Winter Wheat – Headed	60	36	54	49						

Fire Danger: The Significant Wildland Fire Potential Outlook from the Interagency Fire Center shows that all of Tennessee and surrounding regions will have normal risk for significant wildland fires in May.



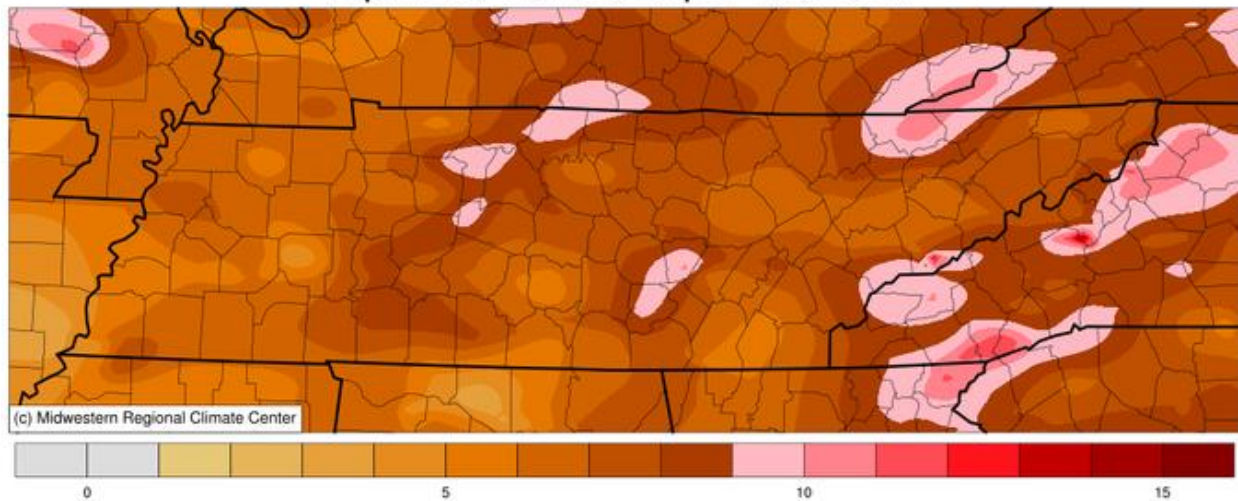
Snowfall: There was light snowfall on April 4 and 5 leading to measurable snow accumulations at high elevations of East Tennessee and trace amounts (less than 0.1") at several COOP and CoCoRaHS weather stations in the Cumberland Plateau and East Tennessee climate divisions.



Story of the Month:

The main weather and climate story of April was the record-setting warm conditions that impacted the state in the middle of the month. Both the second and third weeks of April brought warmer than normal conditions to the state, but the week of April 15-21 was the warmest with temperatures reaching the upper 80's in most locations and mean temperatures for the week running 6-10°F above normal across many areas of the state. In this two-week period there were 10 tied daily high temperature records, but no new records were set, and there were 8 broken and 14 tied daily records for warmest low temperatures, Lenoir City tied their monthly record for warmest low temperature observed in April during this period. April 1-3 also brought warm low temperatures, with a total of 63 daily records set or tied during those first few days of the month.

Average Temperature (°F): Departure from 1991-2020 Normals April 15, 2024 to April 21, 2024



This map from the NOAA Southeast Regional Climate Center's Climate Perspectives tool shows the rank for each weather station based on the average low temperatures in April 2024, the long-term climate record stations are outlined in bold. It was a top-10 warmest April, in terms of low temperatures, for almost all weather stations in the state.

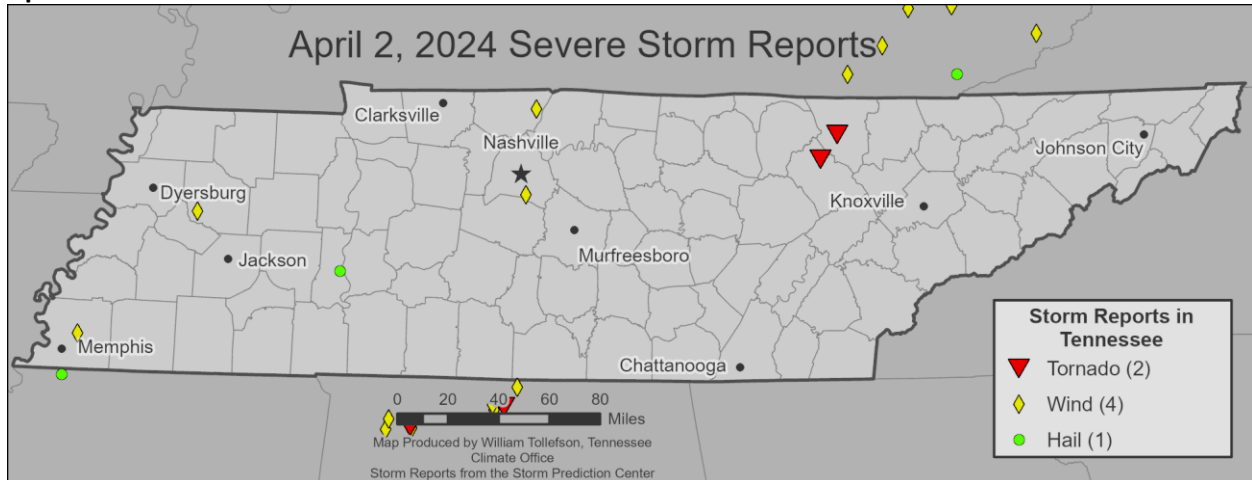


Storm Reports:

**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.*

During the month of April 2024 there were 5 days with severe storm reports, totaling 2 tornado reports, 14 reports of severe winds/severe wind damage, and 16 reports of severe hail (1" or larger).

April 2



Tornado:

Time (UTC)	Strength	Location	County	Lat	Lon	Comments
21:20	EF1	Sunbright	Morgan	36.24	-84.67	Heavy damage reported to Schuberts Funeral Home. (MRX)
21:30	--	4 WSW Huntsville	Scott	36.38	-84.55	Tornado spotted along Hwy 27. (MRX)

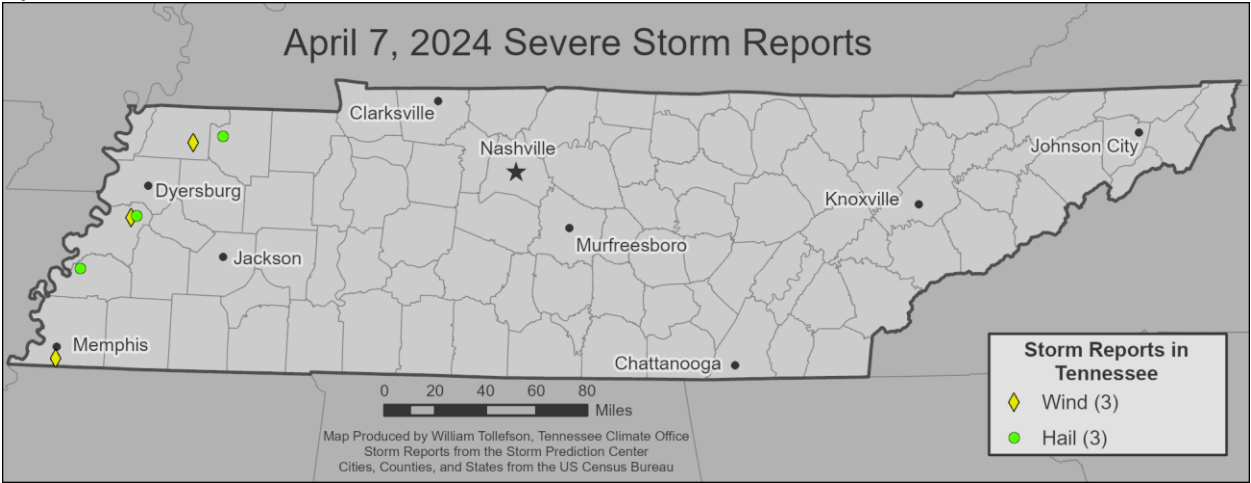
Wind:

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
13:05	--	2 WSW Bartlett	Shelby	35.2	-89.87	Tree down across road at Sycamore View Rd and Main St. (MEG)
13:55	--	5 SE Eaton	Gibson	35.92	-89.06	Large tree snapped and minor shingle damage in Brazil community. (MEG)
16:43	--	3 SE Oak Hill	Davidson	36.05	-86.75	Large trees uprooted on Hill Rd near Granbery Elementary School. (OHX)
23:30	--	Cross Plains	Robertson	36.54	-86.68	About 1...300 customers without power mainly in the Cross Plains area and west of Springfield. (OHX)

Hail:

Time (UTC)	Size (in)	Location	County	Lat	Lon	Comments
15:06	1.00	4 ENE Decaturville	Decatur	35.6	-88.05	(MEG)

April 7:



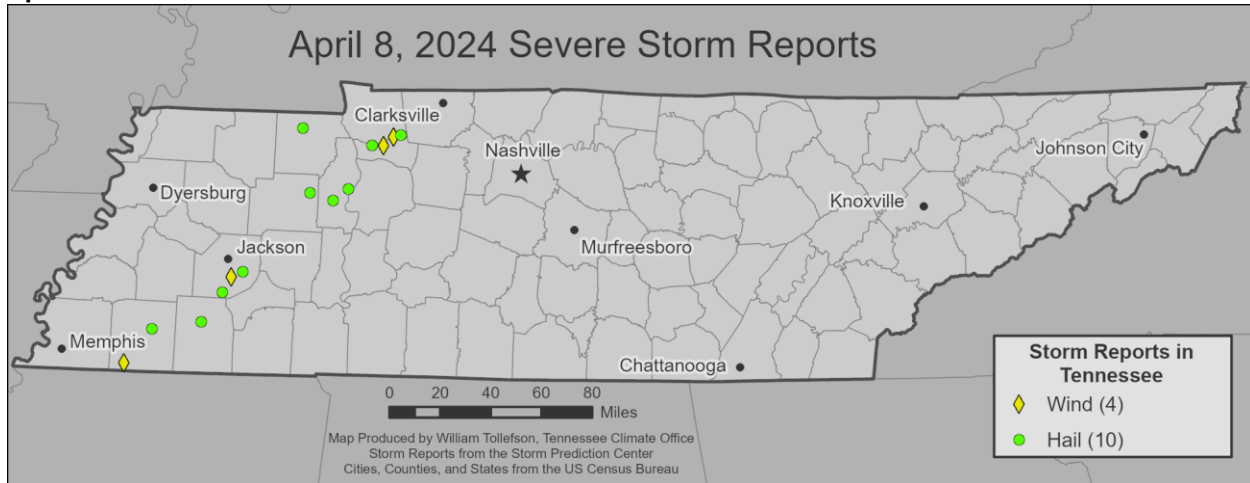
Wind:

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
21:59	63	4 SW Rives	Obion	36.3	-89.07	(MEG)
23:20	--	4 E Edith	Lauderdale	35.86	-89.49	Trees down along Needmore Road in Halls. (MEG)
0:41	60	4 ENE Whitehaven	Shelby	35.04	-89.98	60 mph at Memphis International Airport. (MEG)

Hail:

Time (UTC)	Size (in)	Location	County	Lat	Lon	Comments
22:10	1.00	Martin	Weakley	36.34	-88.86	(MEG)
23:10	1.00	3 W Halls	Lauderdale	35.87	-89.45	(MEG)
0:16	1.00	2 N Gilt Edge	Tipton	35.56	-89.83	(MEG)

April 8



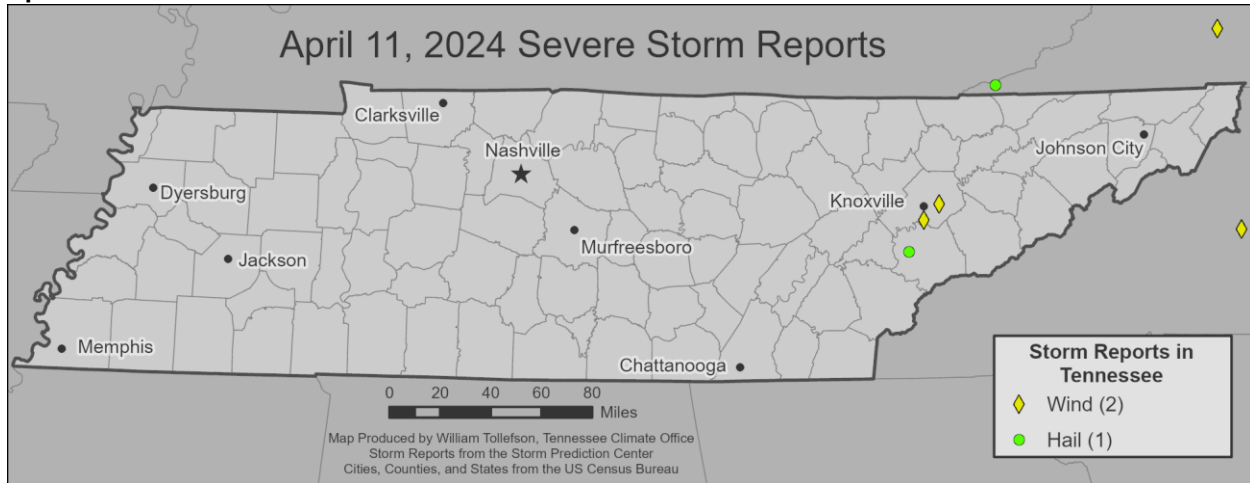
Wind:

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
21:36	--	Rossville	Fayette	35.04	-89.54	Powerlines down along HWY 57 in Rossville. (MEG)
21:56	--	2 SSE Bemis	Madison	35.55	-88.81	Damage to the roof of LendNation off HWY 45 / 18 south of Jackson. (MEG)
23:50	--	Tennessee Ridge	Houston	36.32	-87.76	Twitter photo shows small barn roof blown off in Tennessee Ridge. (OHX)
0:03	--	3 WSW Cumberland City	Stewart	36.37	-87.69	Report of power lines down on East Richview Road in Cumberland City. Time estimated via radar. (OHX)

Hail:

Time (UTC)	Size	Location	County	Lat	Lon	Comments
21:23	1.75	2 NNW Bolivar	Hardeman	35.29	-89.01	(MEG)
21:49	1.25	Medon	Madison	35.46	-88.87	(MEG)
22:00	1.75	Somerville	Fayette	35.24	-89.35	(MEG)
22:03	1.00	6 E Bemis	Madison	35.58	-88.73	(MEG)
23:04	1.25	5 S Camden	Benton	36	-88.11	(MEG)
23:07	1.00	Hollow Rock	Carroll	36.04	-88.27	(MEG)
23:24	1.75	6 E Camden	Benton	36.07	-88.00	(MEG)
23:50	1.25	4 W Tennessee Ridge	Houston	36.32	-87.84	Received a phone call of marble size hail... that was not quite ping pong size. Strong winds as well. (OHX)
0:10	1.50	Cumberland City	Stewart	36.38	-87.64	Facebook photos showed ping pong ball size hail fell in Cumberland City. (OHX)
0:36	1.25	2 S Puryear	Henry	36.41	-88.33	(MEG)

April 11



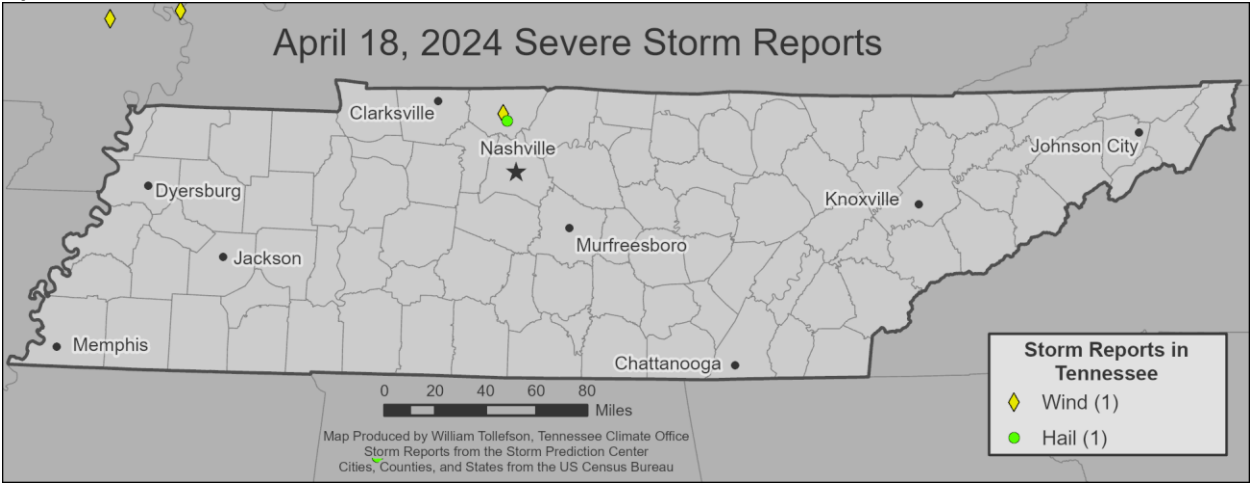
Wind:

Time (UTC)	Speed	Location	County	Lat	Lon	Comments
20:40	--	4 SE Bearden	Knox	35.89	-83.95	Few trees down. (MRX)
21:06	--	4 NNE Lake Forest	Knox	35.98	-83.84	A few trees down. (MRX)

Hail:

Time (UTC)	Size (in)	Location	County	Lat	Lon	Comments
20:25	1.00	1 NE Clover Hill	Blount	35.71	-84.06	Report from mPING: Quarter (1.00 in.). (MRX)

April 18



Wind:

Time (UTC)	Speed (mph)	Location	County	Lat	Lon	Comments
0:14	--	Springfield	Robertson	36.5	-86.88	A tree fell on a house on Shelton St causing minor to moderate damage to the house. (OHX)

Hail:

Time (UTC)	Size (in)	Location	County	Lat	Lon	Comments
0:09	1.00	3 SSE Springfield	Robertson	36.46	-86.85	(OHX)

CPC Outlooks for the Next Month:

The NOAA Climate Prediction Center Outlooks for May indicate that all of Tennessee is leaning towards above normal temperatures and precipitation.

