

November 2024 Tennessee State Climate Summary

Tennessee Climate Office * East Tennessee State University

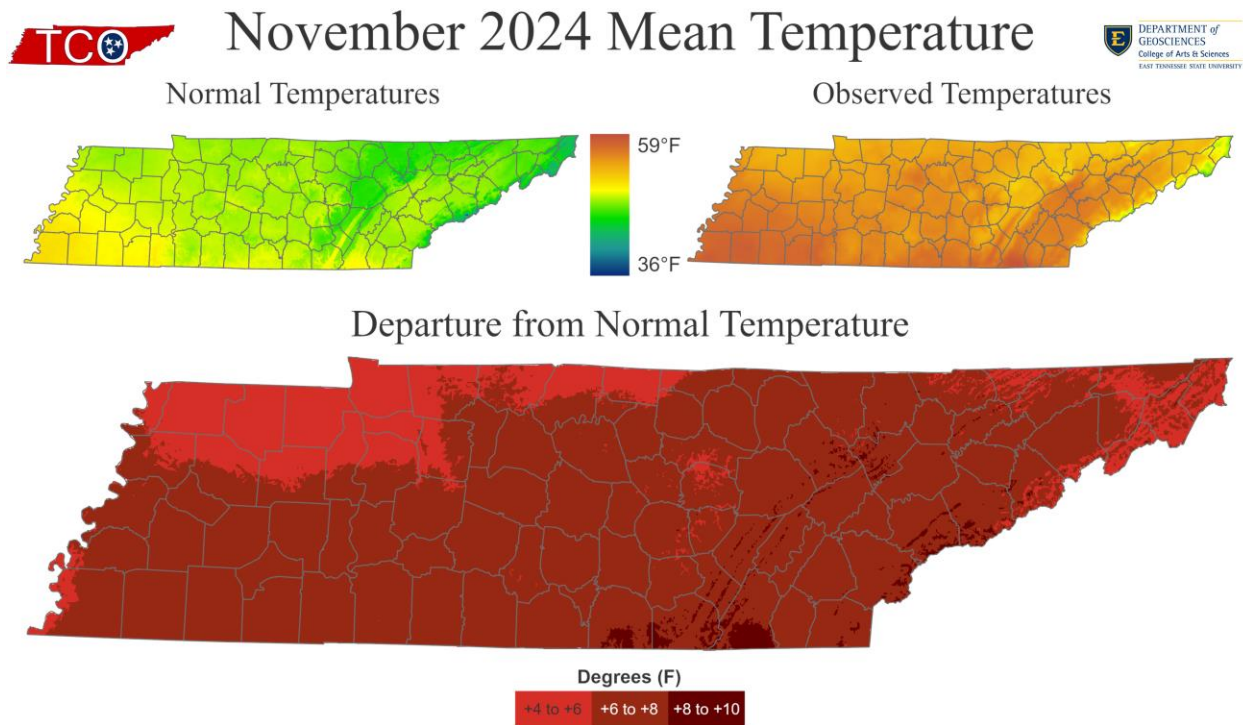
Prepared by William Tollefson and Dr. Andrew Joyner

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

Monthly Temperature Summary:

November 2024 was much warmer than normal across Tennessee, with most areas of the state averaging 6-8°F above normal for the month. The month was consistently warmer than normal through the first three weeks, with the first week of November being the warmest, bringing mean temperatures that were 12-15°F warmer than normal across most of the state. Warmer than normal conditions continued but not as strong for the next two weeks of November. A strong cold front ushered in cooler temperatures in the final days of the month, with 83 out of 114 reporting weather stations observing the coldest temperature of the month on the 29th or 30th. This colder air brought mean temperatures down for the fourth week of the month, with most areas of the state within 1-3°F of normal for the week.

There were 32 broken and 25 tied daily high temperature records set in Tennessee this month, and 99 broken and 20 tied daily records for warmest low temperature. Of the record warm low temperatures, 9 broke and 7 tied the monthly records for the warmest low temperature ever recorded at that station during the month of November. On the cold side of the record books, there were no broken but 2 tied daily low temperature records, and 3 broken daily records for coolest high temperatures, with these three each set in the Great Smoky Mountains National Park.



Stations with the highest mean temperature

Station Name	Station Type	Mean Temperature (F)
WAYNESBORO	COOP	60.8
MC MINNVILLE	COOP	58.3
MEMPHIS INTERNATIONAL AP	WBAN	58.1
AMES PLANTATION	COOP	58
CHATTANOOGA AP	WBAN	58

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	41.4
NEWFOUND GAP	COOP	46.5
ROAN MOUNTAIN 3SW	COOP	48.2
MOUNTAIN CITY 2	COOP	48.6
CHEROKEE TENNESSEE	RAWS	50.6

Monthly Precipitation Summary:

On the heels of a severely dry October West Tennessee and northwestern Middle Tennessee recorded above normal precipitation for November, while southeastern Middle Tennessee, the Cumberland Plateau, and East Tennessee recorded a drier than normal November. Heavy rains that resulted in above normal precipitation in the western half of the state occurred in the first half of the month, with rainfall totals of 2-4" common across West Tennessee and northwestern Middle Tennessee counties in the first week of November. Heavy rains continued into the second week of the month for the western half of the state, with a band of 4-5" of rainfall from parts of Wayne County northeastward into western Davidson County. Northern parts of East Tennessee saw slightly above normal precipitation in the second week of November as well, but most of the Cumberland Plateau and southern East Tennessee still recorded below normal precipitation this week. The second half of the month brought widespread light rainfall with totals generally less than 1", which is below normal for this time of year. Snowfall was reported in the northern Cumberland Plateau, northeast Tennessee, and the East Tennessee mountains on November 21-22, with the highest accumulation at Roan Mountain, with a report of 9"! There were 31 broken and 1 tied record for highest daily rainfall set in Tennessee this month, and 1 daily snowfall record set this month.

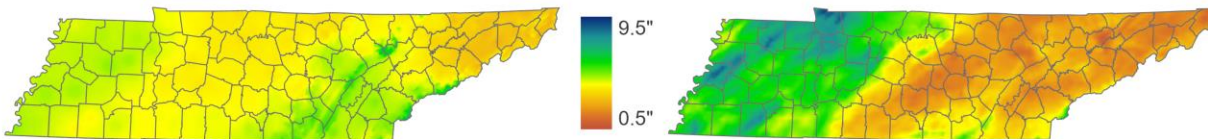


November 2024 Total Precipitation

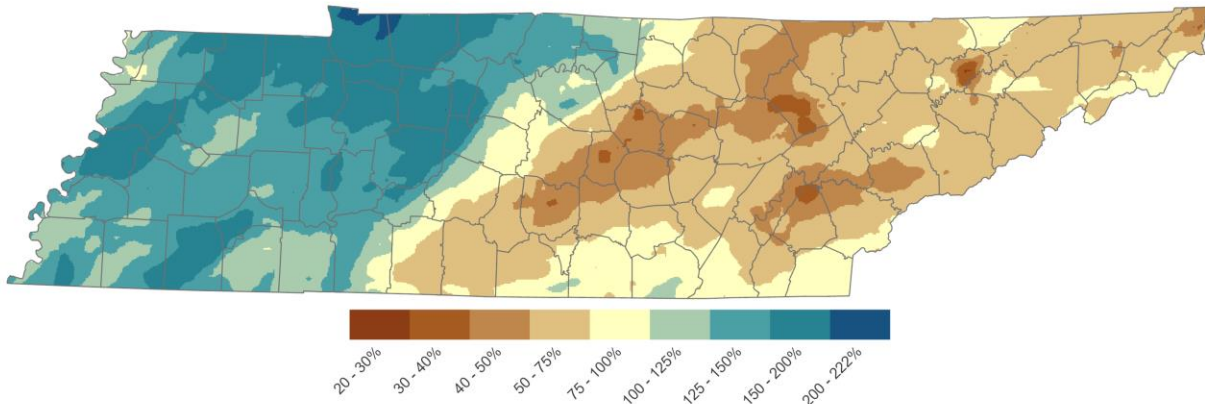


Normal Precipitation

Observed Precipitation



Percent of Normal Precipitation



Stations with the most precipitation

Station Name	Station Type	Total Precipitation (in)
DYERSBURG 7.7 E	CoCoRaHS	8.63
DOVER 7.8 NNE	CoCoRaHS	8.42
CLARKSVILLE 4.9 NW	CoCoRaHS	8.12
NEWBERN 1.0 WSW	CoCoRaHS	8.02
PARIS 3 ESE	COOP	7.92

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)
OAK GROVE 3.0 E	CoCoRaHS	1.03
SHELBYVILLE MUNI. AIRPORT	COOP	1.4
CHRISTIANA 3.4 ENE	CoCoRaHS	1.41
ROCK ISLAND STATE PARK	COOP	1.44
GRAY 3.9 S	CoCoRaHS	1.47

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	66.3	49.9	58.1	+5.4	82	11/3	27	11/30	5.46	+0.77	116%
Jackson	66.1	46.8	56.4	+7.1	81	11/3	23	11/30	4.28	-0.05	99%
Clarksville	63.2	45.3	54.2	+6.1	82	11/3	23	11/30	5.34	+1.3	132%
Nashville	65.5	47.7	56.6	+6.3	81	11/3	24	11/30	2.72	-1.14	70%
Chattanooga	67.5	48.6	58.0	+6.8	81	11/7	27	11/30	3.34	-1.46	70%
Crossville	60.9	43.2	52.0	+6.0	75	11/7	18	11/30	1.94	-2.8	41%
Knoxville	65.5	45.1	55.3	+6.3	83	11/5	22	11/30	2.14	-2.07	51%
Bristol	63.0	40.0	51.5	+5.1	82	11/7	22	11/30	1.53	-1.61	49%

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
SHILOH NMP TENNESSEE	RAWS	84	6
SAVANNAH 6 SW	COOP	83	7
WAYNESBORO	COOP	83	6
NEWPORT 1 NW	COOP	83	7
CLARKSVILLE WWTP	COOP	83	3
KNOXVILLE AP	WBAN	83	5
COLUMBIA 3 WNW	COOP	82	6
LENOIR CITY	COOP	82	8
MORRISTOWN RADIO WCRK	COOP	82	8
ELIZABETHTON	COOP	82	10
MERIWETHER LEWIS TENNESSEE	RAWS	82	6
MEMPHIS INTERNATIONAL AP	WBAN	82	3
BRISTOL AP	WBAN	82	7
CLARKSVILLE OUTLAW AP	WBAN	82	3
OAK RIDGE ASOS	WBAN	82	5

Nine stations tied for the 7th hottest temperature (82°F)

Coldest Stations (lowest minimum temperature)

Station Name	Station Type	Lowest Temperature (F)	Date
NEWFOUND GAP	COOP	14	30
MT LECONTE	COOP	14	23
TAZEWELL	COOP	16	30
ONEIDA	COOP	16	30
CROSSVILLE AREA OFFICE TN	RAWS	17	30
CHRISTIANA 5W	COOP	18	30
BETHPAGE 1 S	COOP	18	30
BIG SOUTH TENNESSEE	RAWS	18	30
BLEDSON SF TENNESSEE	RAWS	18	30
CHEROKEE TENNESSEE	RAWS	18	30
CROSSVILLE MEMORIAL AP	WBAN	18	30

Six stations tied for the 6th coldest temperature (18°F)

Warmest Stations (highest mean temperatures)

Station Name	Station Type	Mean Temperature (F)
WAYNESBORO	COOP	60.8
MC MINNVILLE	COOP	58.3
MEMPHIS INTERNATIONAL AP	WBAN	58.1
AMES PLANTATION	COOP	58
CHATTANOOGA AP	WBAN	58
SHILOH NMP TENNESSEE	RAWS	57.7
MEMPHIS WFO	WBAN	57.7
ROCK ISLAND STATE PARK	COOP	57.6
FRANKLIN SEWAGE PLANT	COOP	57.4
ATHENS	COOP	57.3
CARTHAGE	COOP	57.3

Two stations tied for the 9th warmest mean temperature (57.3°F)

Coollest Stations (lowest mean temperatures)

Station Name	Station Type	Mean Temperature (F)
MT LECONTE	COOP	41.4
NEWFOUND GAP	COOP	46.5
ROAN MOUNTAIN 3SW	COOP	48.2
MOUNTAIN CITY 2	COOP	48.6
CHEROKEE TENNESSEE	RAWS	50.6
ONEIDA	COOP	51.1
CROSSVILLE AREA OFFICE TN	RAWS	51.4
BRISTOL AP	WBAN	51.5
CROSSVILLE 7 NW	WBAN	51.8
TAZEWELL	COOP	51.9

Wettest Stations (highest precipitation totals):

Station Name	Station Type	Total Precipitation (in)
DYERSBURG 7.7 E	CoCoRaHS	8.63
DOVER 7.8 NNE	CoCoRaHS	8.42
CLARKSVILLE 4.9 NW	CoCoRaHS	8.12
NEWBERN 1.0 WSW	CoCoRaHS	8.02
PARIS 3 ESE	COOP	7.92
MOUSETAIL LANDING ST PARK	COOP	7.86
HENDERSON 2.2 SSE	CoCoRaHS	7.83
DOVER 1 W	COOP	7.61
UNION CITY 1.4 SSE	CoCoRaHS	7.45
CAMDEN 0.7 SE	CoCoRaHS	7.36

Driest Stations (lowest precipitation totals):

Station Name	Station Type	Total Precipitation (in)
OAK GROVE 3.0 E	CoCoRaHS	1.03
SHELBYVILLE MUNI. AIRPORT	COOP	1.4
CHRISTIANA 3.4 ENE	CoCoRaHS	1.41
ROCK ISLAND STATE PARK	COOP	1.44
GRAY 3.9 S	CoCoRaHS	1.47
MARYVILLE 1.8 S	CoCoRaHS	1.5
SPARTA 4.6 NE	CoCoRaHS	1.51
MC MINNVILLE	COOP	1.52
SMITHVILLE 4.9 WSW	CoCoRaHS	1.53
BRISTOL AP	WBAN	1.53

Snowiest Stations (highest snowfall totals):

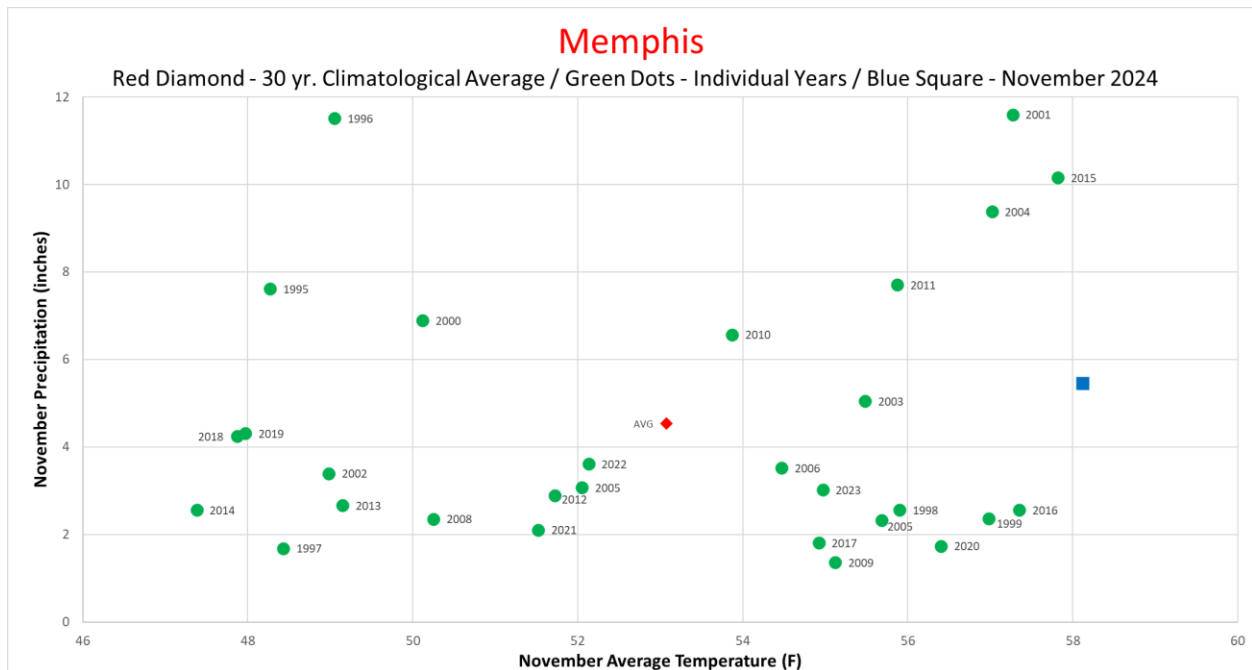
Station Name	Station Type	Total Snowfall (in)
MT LECONTE	COOP	6.3
ROAN MOUNTAIN 3SW	COOP	4
MOUNTAIN CITY 2	COOP	3.1
JONESBOROUGH 2.5 SSW	CoCoRaHS	1.5
CHURCH HILL 1.0 ENE	CoCoRaHS	1.2
NEWFOUND GAP	COOP	1.2
KYLES FORD 1.0 N	CoCoRaHS	1.1
GRAY 1.5 E	CoCoRaHS	1
GRAY 1.3 S	CoCoRaHS	1
JONESBOROUGH 2.7 SSW	CoCoRaHS	1
GRAY 3.9 S	CoCoRaHS	1

Four stations tied for the 8th snowiest station (1in)

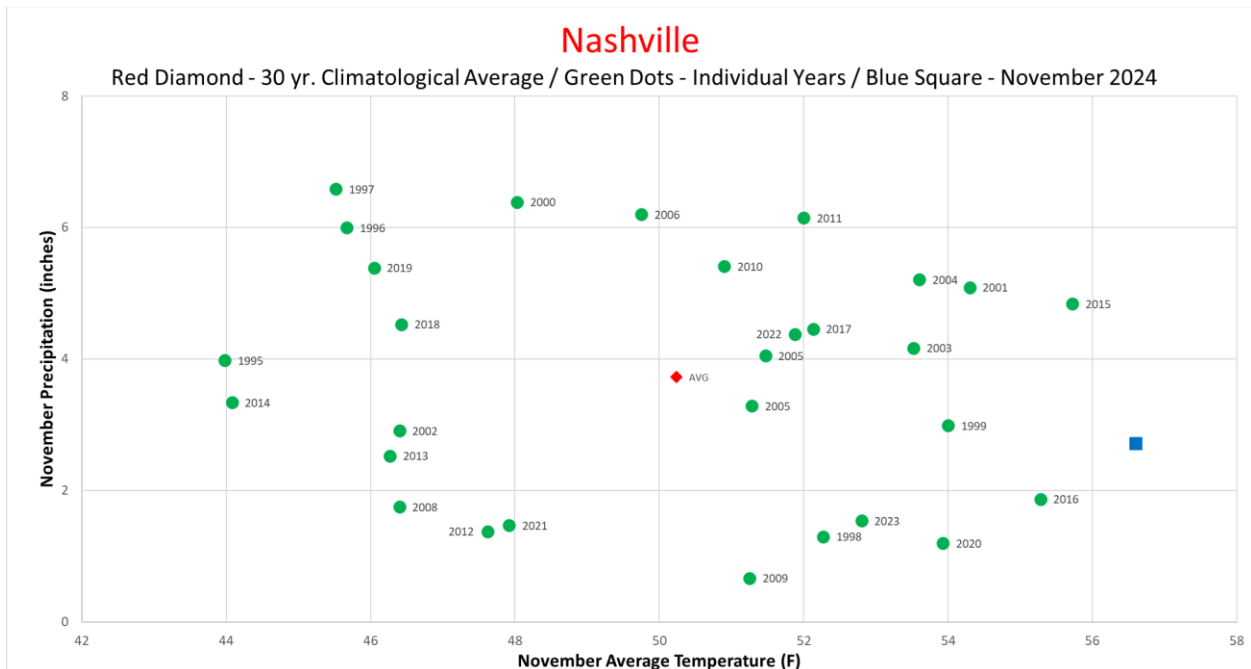
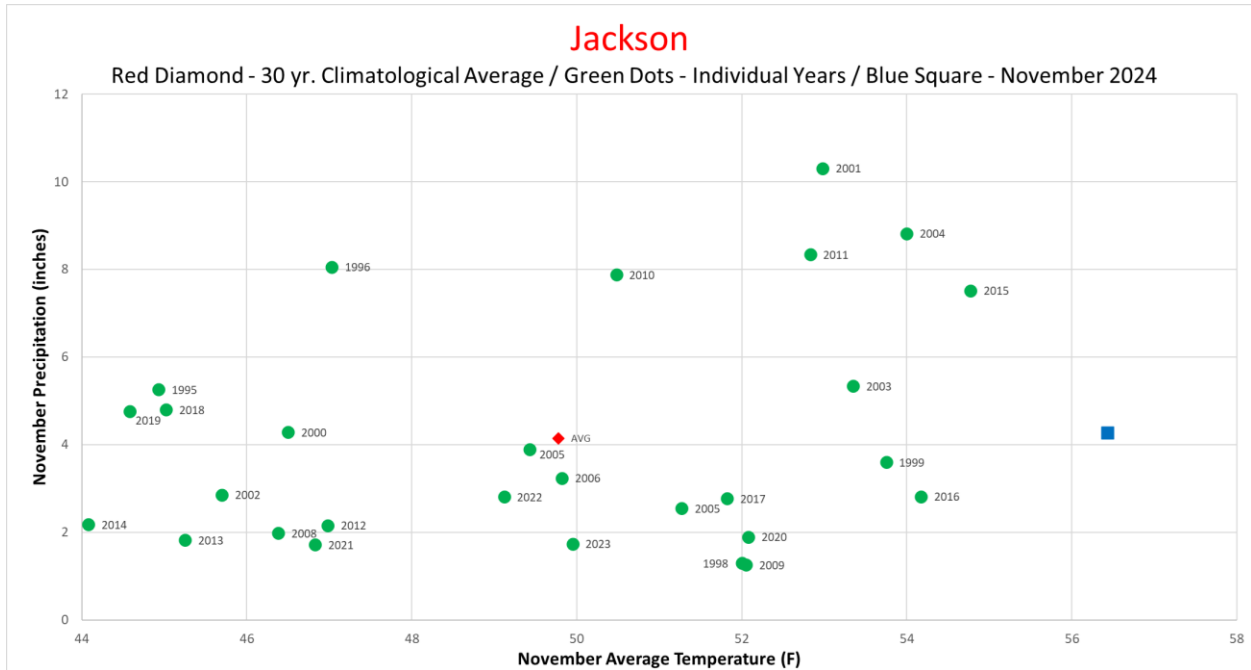
The Month in Comparison:

Comparing the mean temperature and total precipitation for November 2024 to the conditions of November for the past 30 years at select airport weather stations across the state shows that this November was the warmest of the past thirty years at each station, with Bristol/Tri-Cities beating out 2015 by just 0.02°F. Memphis recorded above average precipitation, but it was not an outlier among the wettest Novembers for the station. Jackson recorded just above the average of the past 30 years, but all other stations were below their average for November.

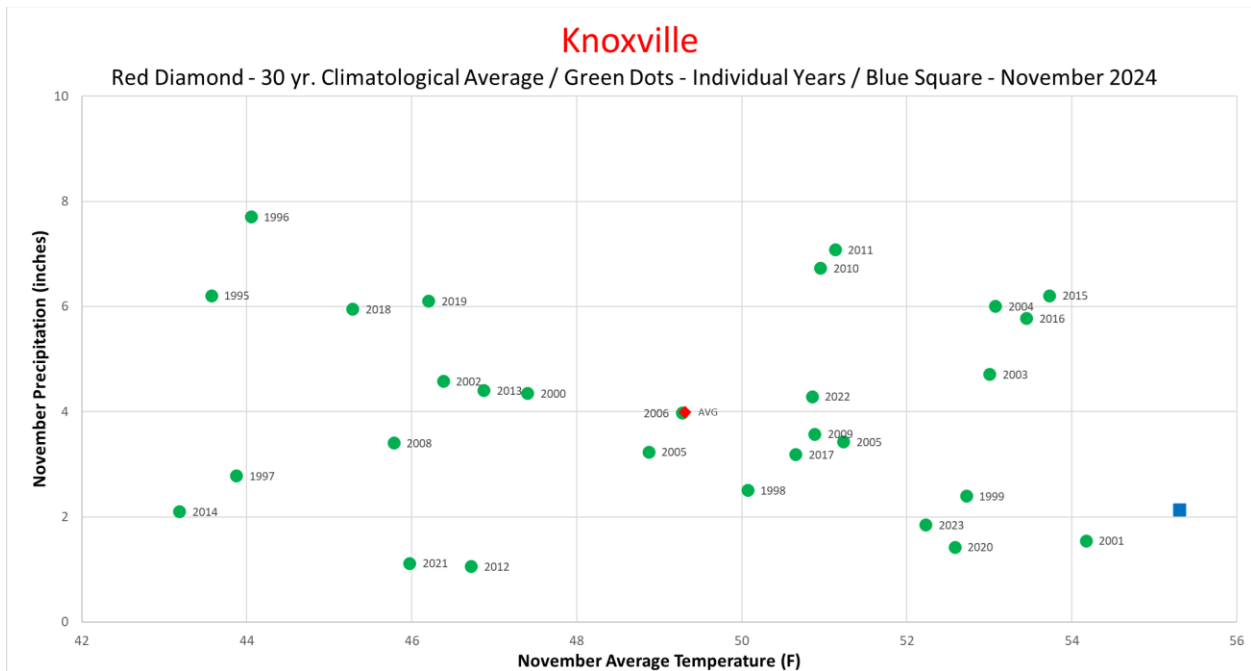
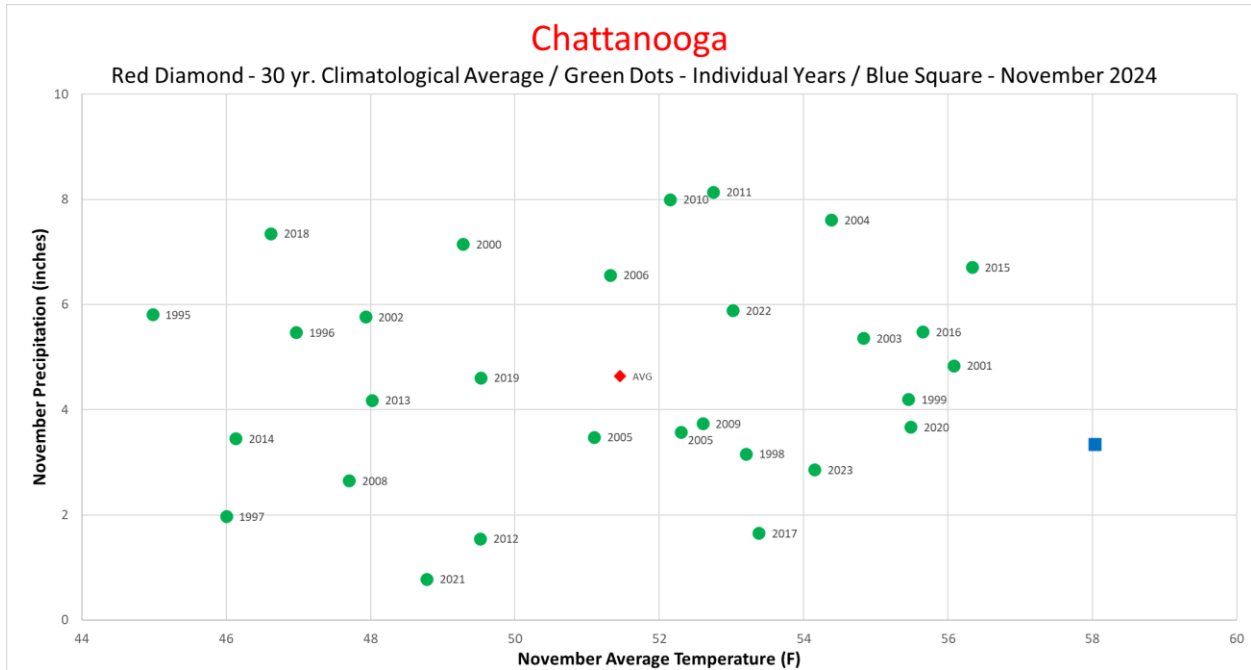
Looking at the longer-term record for these cities no station had a top-10 wettest or driest November. Based on Mean Temperatures, 2024 was the warmest November on record for the Jackson Airport, with a 75-year history, and the Oak Ridge climate station with a 78-year history. 2024 was the 2nd warmest November on record in Chattanooga’s 143-year weather history and tied for 2nd warmest November on record for the Tri-Cities’ 77-year weather history. 2024 was the 3rd warmest November on record in Knoxville’s 149-year weather history and Memphis’s 147-year weather history, and the 4th warmest on record for Nashville’s 151-year weather history.

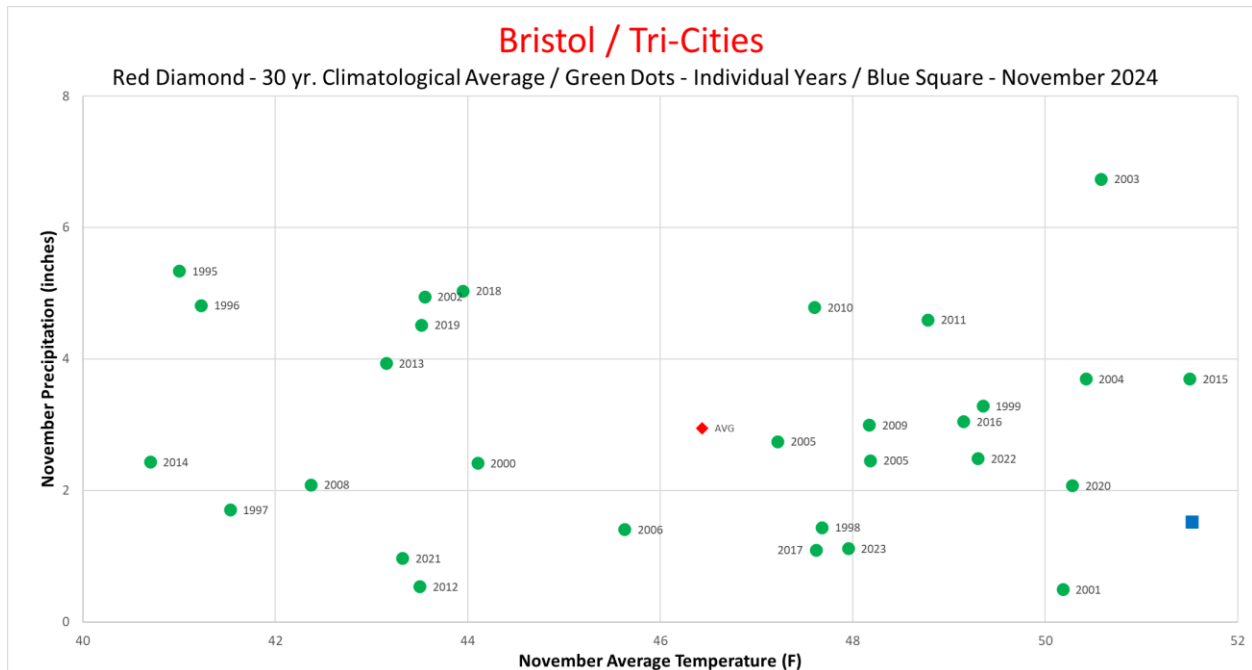


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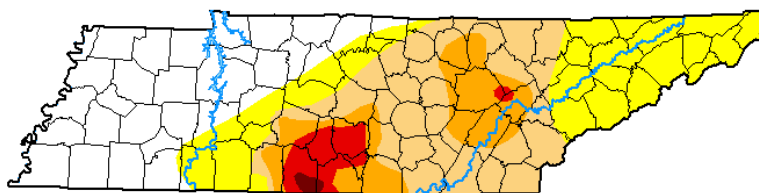


Drought Monitor:

Dry and warm conditions led to deteriorating drought conditions in the eastern half of the state (southern Middle Tennessee, the Cumberland Plateau, and most of East Tennessee) while drought conditions improved or were removed in West Tennessee and northwestern Middle Tennessee.

U.S. Drought Monitor Tennessee

November 26, 2024
(Released Wednesday, Nov. 27, 2024)
Valid 7 a.m. EST



Intensity:

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

Author:

David Simeral
Western Regional Climate Center

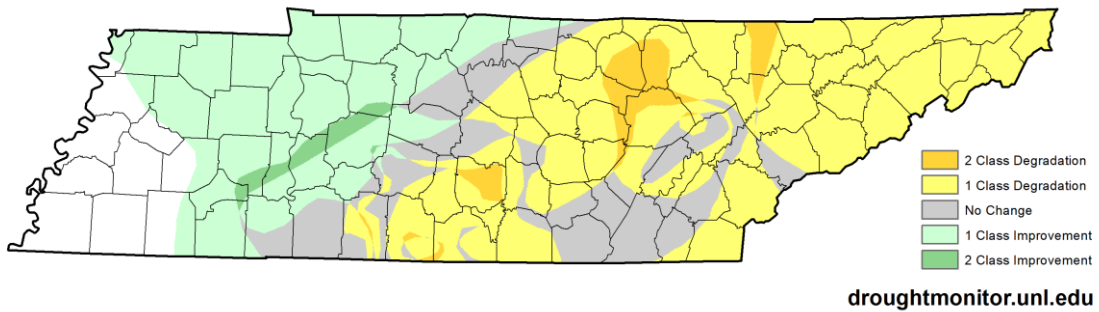


droughtmonitor.unl.edu

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>

November 26, 2024
 compared to
 October 29, 2024

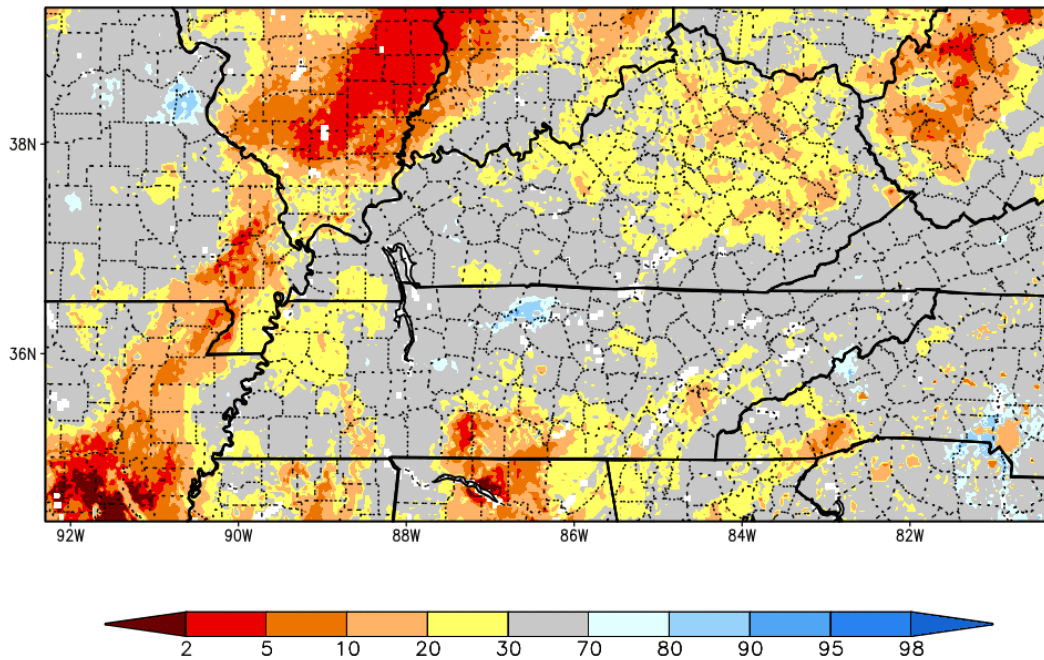
U.S. Drought Monitor Class Change - Tennessee
 4 Week



Soil Moisture:

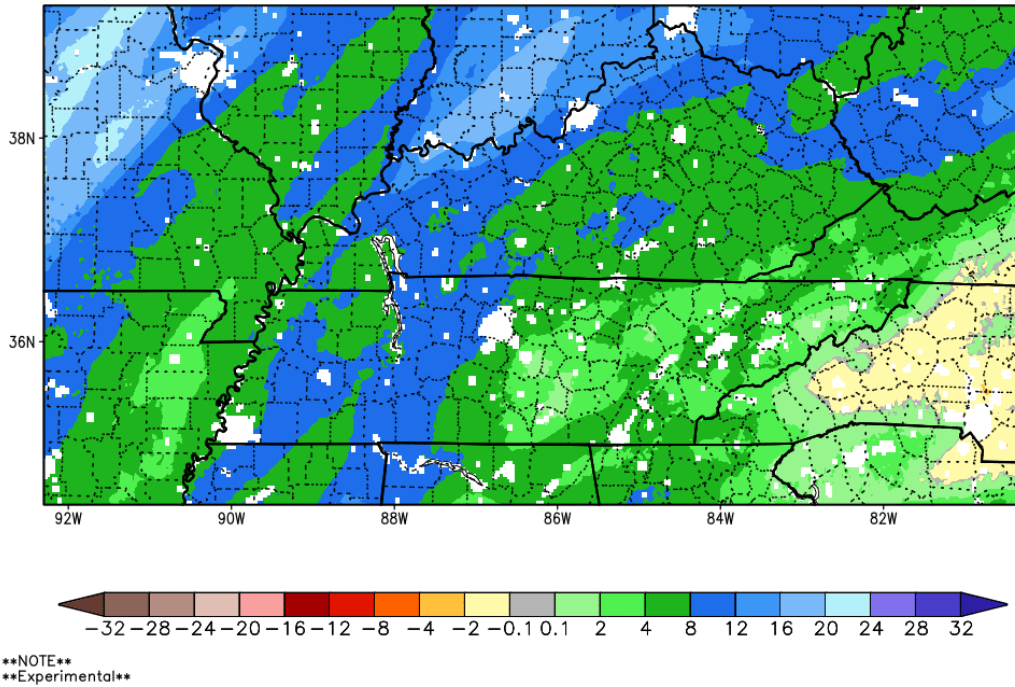
The NASA SPoRT Land Information System showed that soil moisture was below normal in parts of West Tennessee and southern sections of Middle and East Tennessee by the end of November. Most areas of the state had seen an increase in soil moisture levels over the month, after an exceedingly dry October. Western portions of the state saw the largest increases, in the 4-12 percentile range, while the eastern half of the state only had increases in the 0.1 to 4 percentile range. The USDA crop weather report for the week ending November 24 rated topsoil moisture as 11% very short, 14% short, 67% adequate, and 8% surplus, and subsoil moisture was rated as 15% very short, 16% short, 62% adequate, and 7% surplus.

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



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

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

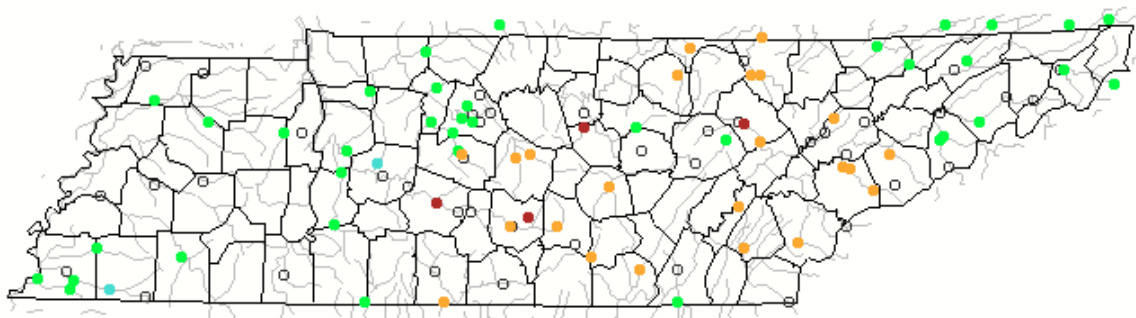


Streamflow:

Due to continued drier than normal conditions and warmer than normal temperatures through most of November, stream flows in the eastern half of the state were generally below normal, except for normal flows in northeastern Tennessee. Streamflows in the western half of the state were in the normal to above normal range.

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

November 2024



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

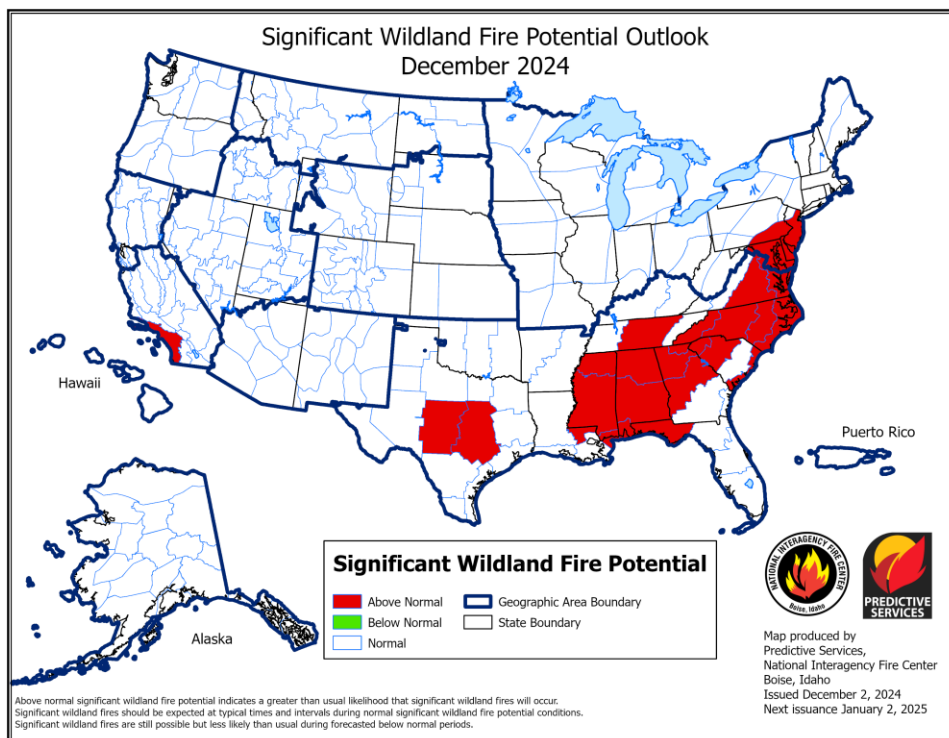


Miscellaneous:

Crop Conditions from USDA: rainfall in the beginning of the month, especially in the western half of the state, was helpful for replenishing soil moisture and stream levels in those areas that saw the most rain, however the timing slowed the final harvest for cotton and soybeans. Harvest wrapped up later in November and winter wheat planting was mostly finished as well. Pastures were still struggling after the prolonged droughts earlier this year. Rainfall and persistent warm weather were helpful for some, but at the end of the month widespread frosts put an end to the growing season across the state.

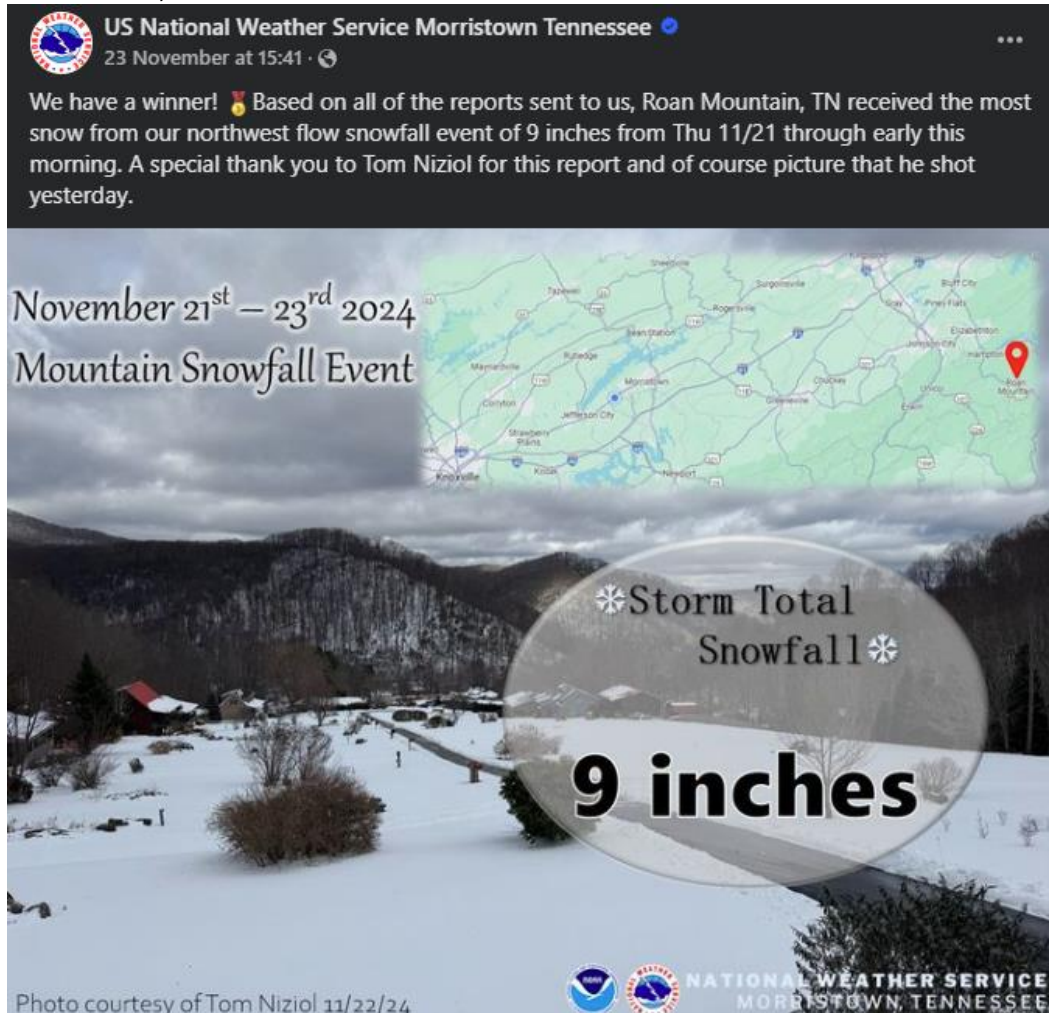
CROP PROGRESS					CONDITION					
Item	This Week	Last Week	2023	5 Year Avg.	Item	Very Poor	Poor	Fair	Good	Excellent
	Percent					Percent				
Cotton – Harvested	95	89	96	91	Winter Wheat	3	5	18	61	13
Soybeans – Harvested	95	92	96	92	Pasture	20	21	37	20	2
Winter Wheat – Planted	93	86	92	92	Cattle	2	6	39	47	6
Winter Wheat – Emerged	80	69	76	77						

Fire Danger: The Interagency Fire Center significant wildland fire potential outlook for December shows Middle Tennessee and the Cumberland Plateau will have above normal potential while West Tennessee and East Tennessee will have normal potential.



Snow: There was 1 day with accumulating snowfall in the mountains of East Tennessee, the northern Cumberland Plateau and parts of northeast Tennessee, on November 21-22. 12 weather stations reported

measurable snowfall and another 11 stations reported a trace of snow. The highest snowfall report came from Roan Mountain, TN with 9-inches of snow from the 21st to the 23rd.



Stories of the Month:

The main story of November 2024 was the prolonged warm weather for the first three weeks of the month. During the month, there were 32 broken and 25 tied daily high temperature records set in Tennessee and 99 broken and 20 tied daily records for warmest low temperature. Of the record warm low temperatures, 9 broke and 7 tied the monthly records for the warmest low temperature ever recorded at that station during the month of November. In addition to the record temperatures, the Nashville airport set a new record for the latest first freeze, not recording a temperature of 32°F or colder until November 29, beating the previous latest freeze date from 2009 by 2 days. The record heat also contributed to deterioration in drought conditions in the eastern half of the state where drier than normal weather has persisted since Hurricane Helene impacted the area at the end of September.

US National Weather Service Nashville Tennessee
29 November at 10:00 · 🌐

Nashville International Airport (BNA) STILL hasn't officially reached the freezing mark (32F) yet this fall. We were oh so close this morning falling to 33F/0.6C! Have no fear though as we have officially broken the record for the latest fall season freeze ever even though we will likely hit the freezing mark before midnight tonight.

Record November Heat
Chattanooga hit 81°, which is 2° below the daily record

Weather Forecast Office
Morristown, TN
Issued November 07, 2024 7:30 PM EDT

Knoxville (1871 – present)

- Today's high was 82°, which breaks the record of 79° set in 1996 and 2023.
- This is also only 3° below the all-time November high of 85° set in 2016.

Tri-Cities (1937 – present)

- Today's high was 82°, which breaks the record of 78° set in 2022.
- This is also only 2° below the all-time November high of 84° set in 2022.

weather.gov/mrx

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 no severe storm reports (tornado, winds, or hail) in Tennessee during November 2024.

CPC Outlooks for the Next Month:

The NOAA Climate Prediction Center outlooks for December show that northeastern portions of Tennessee are leaning towards a cooler than normal month, while the rest of the state is shown with equal chances of normal, cooler than normal, or warmer than normal conditions. The precipitation outlook shows all areas of the state with equal chances for above normal, below normal, or normal precipitation for December.

