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Tennessee Climate Office Monthly Report

2-1-2018

2018 February - Tennessee Monthly Climate Report

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Tennessee State Climate Summary: February 2018

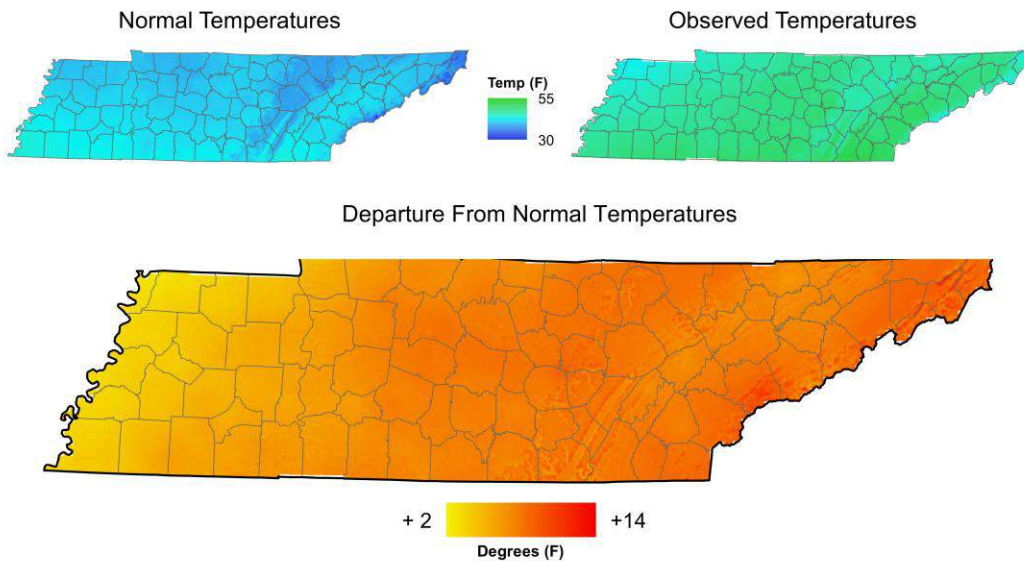
Prepared by:
William Tollefson & Dr. Andrew Joyner

Monthly Temperature Summary:

The first week of February experienced a carryover of cold conditions observed in January with average temperatures at or below 40°F across the state (2-6 degrees below average for the week). However, a major warming trend brought record-breaking warmth and spring-like conditions to much of the state in the second, third, and fourth weeks of February. That warmth was a little slower to arrive for the west/northwest portions of the state where the second week was still 1-4 degrees below average. For the second half of the month, most of the state recorded average temperatures 10-15 degrees above normal! For the month as a whole, all areas of the state recorded above normal temperatures, with 4-12 degrees above normal reported everywhere but the western-most counties, where cooler than normal conditions persisted for the first half of the month. In those counties the monthly average was only 1-4 degrees above normal.



February 2018 Mean Temperature



Warmest Stations of the Month

Station Name	Station Type	Mean Temperatures (F)
CHATTANOOGA AP	WBAN	53.6
MC MINNVILLE	COOP	52.7
COKER CREEK TENNESSEE	RAWS	52.3
ROCK ISLAND STATE PARK	COOP	52.2
CLEVELAND FILTER PLANT	COOP	51.8

Map Data From: PRISM Climate Group,
Oregon State University.
1980-2010 Normals Used
Station Data retrieved from SC ACIS2

Coldest Stations of the Month

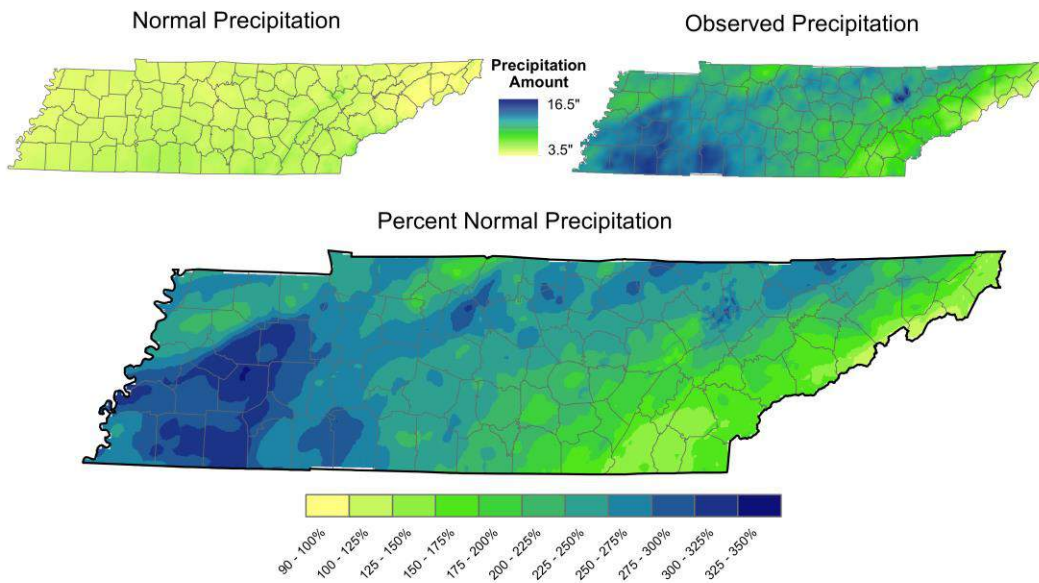
Station Name	Station Type	Mean Temperatures (F)
MT LECONTE	COOP	36.6
NEWFOUND GAP	COOP	41.9
UNION CITY	COOP	42
MARTIN U OF T BRANCH EXP STATION	COOP	43
COVINGTON 3 SW	COOP	43.5

Monthly Precipitation Summary:

February was also a flip-flop from January in terms of precipitation, with the very dry conditions giving way to a sustained wet pattern over most of the state. Weekly storm systems brought heavy rains (in the range of 2- 6 inches per week) to large swaths of middle and western Tennessee, while eastern Tennessee observed less rainfall during the second half of the month, but still all areas of the state recorded at least 4 inches of rainfall during the month, giving all areas above normal precipitation totals.



February 2018 Precipitation



Wettest Stations of the Month

Station Name	Station Type	Total Precipitation (in)
WINCHESTER SSE	COOP	17.78
HENDERSON 4 W	COOP	15.81
AMES PLANTATION	COOP	15.12
JACKSON EXP STA	COOP	14.92
LEXINGTON	COOP	14.66

Map Data From: PRISM Climate Group,
Oregon State University,
1980-2010 Normals Used
Station Data retrieved from SC ACIS2

Driest Stations of the Month

Station Name	Station Type	Total Precipitation (in)
ROAN MOUNTAIN 3SW	COOP	5.06
GREENEVILLE 3.0 S	CoCoRaHS	5.41
GREENEVILLE 10.1 S	CoCoRaHS	5.45
GREENEVILLE EXP STA	COOP	5.57
JEFFERSON CITY 2.1 NE	CoCoRaHS	5.58

Top Tenn. (Warmest/Coldest, Wettest/Driest stations):

Stations with the highest temperatures:

Station Name	Station Type	Hottest Temperature (F)
LANCASTER EDGAR EVINS MARINA	COOP	84
SAVANNAH 6 SW	COOP	83
NEWPORT 1 NW	COOP	83
CHEATHAM LOCK & DAM	COOP	83
SHILOH NMP TENNESSEE	RAWS	83
WOODBURY 1 WNW	COOP	82
KNOXVILLE EXP STA	COOP	82
BRISTOL TRI CITY AP	WBAN	82
BURNS TENNESSEE	RAWS	82
LEWISBURG EXP STA	COOP	82
KINGSPORT	COOP	82
NASHVILLE INTL AP	WBAN	82
NASHVILLE BERRY FIELD	COOP	82

*13 stations listed, as the 6th-13th spots all recorded highs of 82 degrees. An additional 26 stations recorded a temperature of 80 or 81 during the month of February.

Stations with the lowest temperatures:

Station Name	Station Type	Coldest Temperature (F)
MT LECONTE	COOP	1
NEWFOUND GAP	COOP	7
ROAN MOUNTAIN 3SW	COOP	8
OLD HICKORY DAM	COOP	10
TAZEWELL	COOP	11
CROSSVILLE 7 NW	WBAN	12
CROSSVILLE EXP STN	COOP	13
MONTEREY	COOP	13
ALLARDT	COOP	13
BIG SOUTH TENNESSEE	RAWS	13

Stations with the warmest mean temperatures:

Station Name	Station Type	Mean Temperatures (F)
CHATTANOOGA AP	WBAN	53.6
MC MINNVILLE	COOP	52.7
COKER CREEK TENNESSEE	RAWS	52.3
ROCK ISLAND STATE PARK	COOP	52.2
CLEVELAND FILTER PLANT	COOP	51.8

FAYETTEVILLE WATER PLANT	COOP	51.7
INDIAN GRAVE TENNESSEE	RAWS	51.7
PIKEVILLE	COOP	51.5
SHELBYVILLE WATER DEPT	COOP	50.8
KNOXVILLE AP	WBAN	50.8

Stations with the coolest mean temperatures:

Station Name	Station Type	Mean Temperatures (F)
MT LECONTE	COOP	36.6
NEWFOUND GAP	COOP	41.9
UNION CITY	COOP	42
MARTIN U OF T BRANCH EXP STATION	COOP	43
COVINGTON 3 SW	COOP	43.5
PARIS 2 SE	COOP	43.9
TAZEWELL	COOP	44.1
MONTGOMERY BELL STATE PARK	COOP	44.4
CROSSVILLE EXP STN	COOP	45.5
LEBANON	COOP	45.8

Wettest Stations:

Station Name	Station Type	Total Precipitation (in)
WINCHESTER 5SE	COOP	17.78
HENDERSON 4 W	COOP	15.81
AMES PLANTATION	COOP	15.12
JACKSON EXP STA	COOP	14.92
LEXINGTON	COOP	14.66
JACKSON MCKELLAR- SIPES AP	WBAN	14.54
MILAN EXP STN	COOP	14.31
JACKSON 4 NE	COOP	14.14
LINDEN WATER PLANT	COOP	13.76
BOLIVAR WATER WORKS	COOP	13.7

*an additional 161 stations reported more than 10 inches of rain for the month.

Driest Stations:

Station Name	Station Type	Total Precipitation (in)
ROAN MOUNTAIN 3SW	COOP	5.06
GREENEVILLE 3.0 S	CoCoRaHS	5.41
GREENEVILLE 10.1 S	CoCoRaHS	5.45
GREENEVILLE EXP STA	COOP	5.57

JEFFERSON CITY 2.1 NE	CoCoRaHS	5.58
CLEVELAND 4.7 S	CoCoRaHS	5.67
ELIZABETHTON	COOP	5.98
JONESBOROUGH 2.5 SSW	CoCoRaHS	5.98
MOSHEIM 7.5 WSW	CoCoRaHS	6.13
BAILEYTON 1.0 NW	CoCoRaHS	6.33

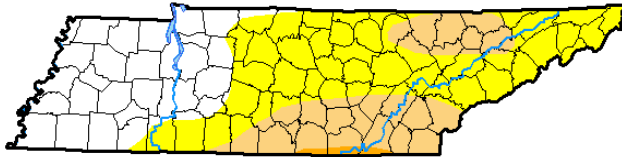
Snowiest Stations:

Station Name	Station Type	Total Snowfall (in)
NEWFOUND GAP	COOP	6.5
ROAN MOUNTAIN 7.1 W	CoCoRaHS	4.5
MT LECONTE	COOP	4
ROAN MOUNTAIN 3SW	COOP	1.5
FALL BRANCH 1.2 ENE	CoCoRaHS	1.1
MONTEREY	COOP	1
ALLARDT	COOP	1
ROGERSVILLE 1 NE	COOP	1
JAMESTOWN 3.1 SE	CoCoRaHS	1
MORRISTOWN 5.3 W	CoCoRaHS	1

*The top 10 include all stations that recorded 1 inch or more of snow, an additional 29 stations reported between 0.1 and 0.9 inches of snow for the month.

Drought:

Drought conditions of D0 and D1 covered large portions of middle and east Tennessee at the end of January, but the wet pattern that set up during February led to major reductions in drought conditions. The area in southeast Tennessee still reporting D0 conditions did see major rainfall this month, but it was closer to normal amounts, and those were the driest areas during December and January.



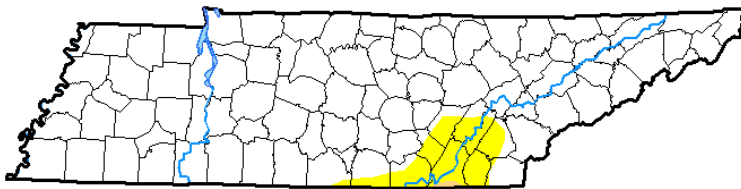
Drought Conditions on January 30, 2018

Author:
Deborah Bathke
National Drought Mitigation Center
<http://droughtmonitor.unl.edu/>



**U.S. Drought Monitor
Tennessee**

February 27, 2018
(Released Thursday, Mar. 1, 2018)
Valid 7 a.m. EST



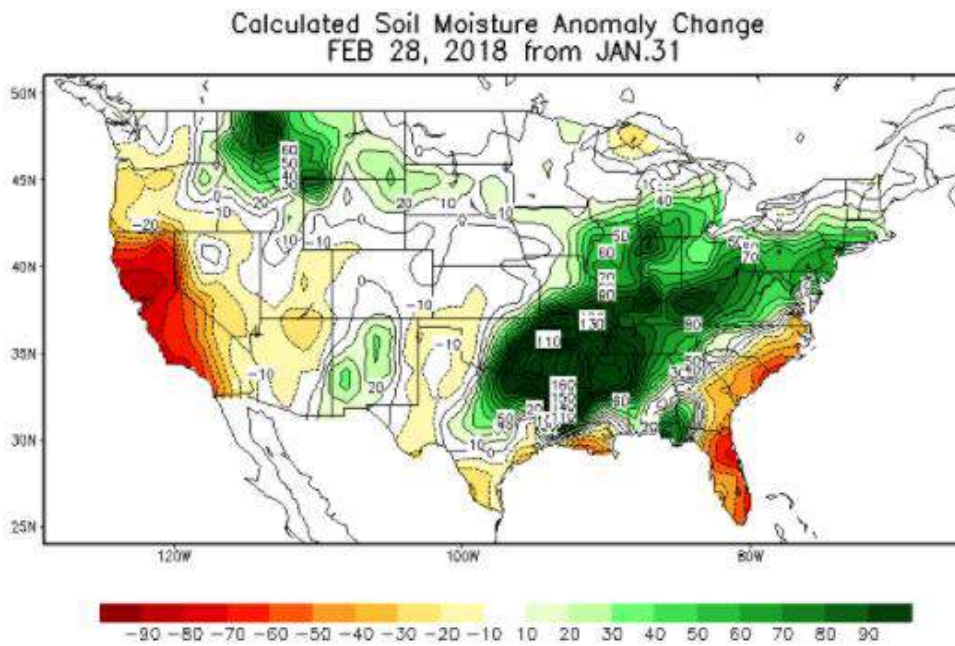
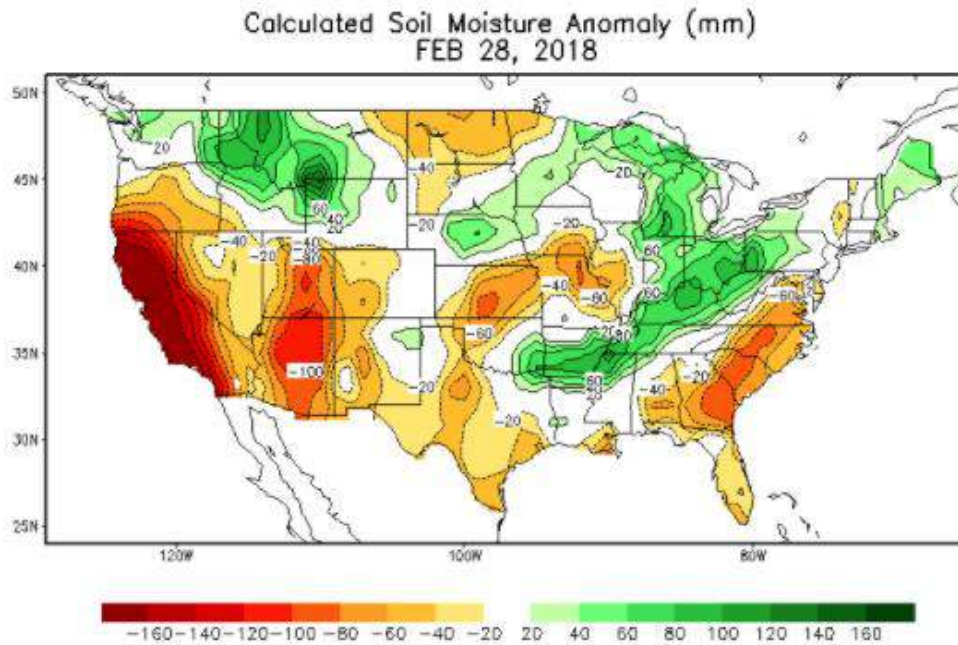
- Intensity:*
- D0 Abnormally Dry
 - D1 Moderate Drought
 - D2 Severe Drought
 - D3 Extreme Drought
 - D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
2018-02-27	93.54	6.46	0.18	0.00	0.00	0.00	7
2018-02-20	93.41	6.59	0.18	0.00	0.00	0.00	7
2018-02-13	83.74	16.26	0.93	0.00	0.00	0.00	17
2018-02-06	33.89	66.11	22.68	1.04	0.00	0.00	90
2018-01-30	33.66	66.34	22.85	1.04	0.00	0.00	90

Soil Moisture:

The well-above normal rainfall resulted in an eradication of negative soil moisture anomalies across the state. Climate divisions 4, 3, and most of 2 all have positive anomalies at the end of February (above normal soil moisture). Large increases in soil moisture can be seen from the end of last month.

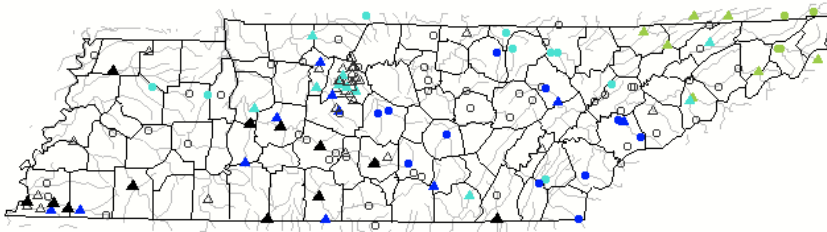


Streamflow:

At the end of the month all Tennessee stream gauges on the Mississippi River were reporting flood stages, and several Tennessee River stations were also at flood stage.

Heavy rainfall at the end of the month, and into the 1st of March also have most rivers in southern middle Tennessee reporting flood stage conditions.

Thursday, March 01, 2018 14:31ET



Search USGS streamgage

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

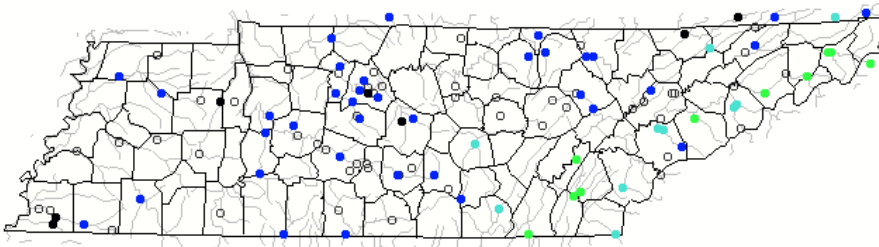
- List of all stations
 Single station
 Nearest stations
 Peak flow

Explanation - Percentile classes

<95	95-98	>= 99	River above flood stage	Not ranked
△ Streamgage with flood stage		○ Streamgage without flood stage		

The monthly streamflow rates for Tennessee were all at or above normal conditions with only rivers in Climate Division 1 reporting normal conditions.

Wednesday, February 28, 2018



Search USGS streamgage

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

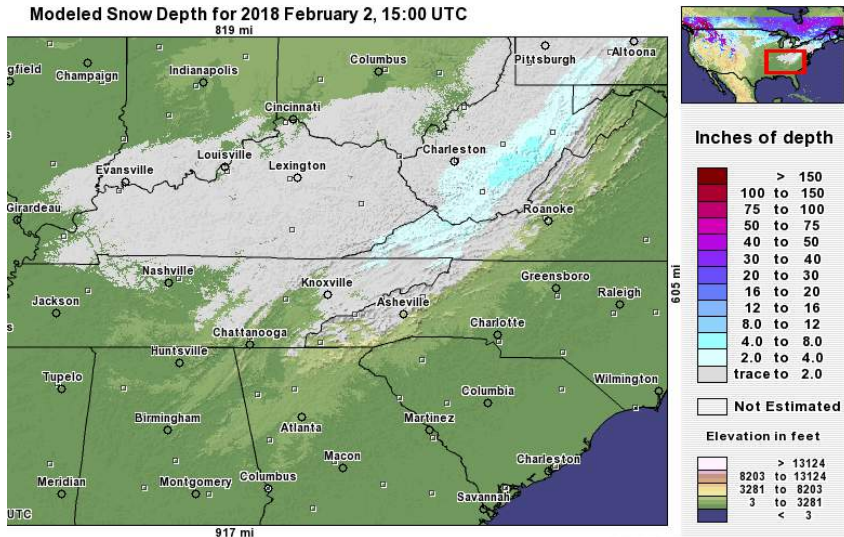
- List of all stations
 Single station
 Nearest stations

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

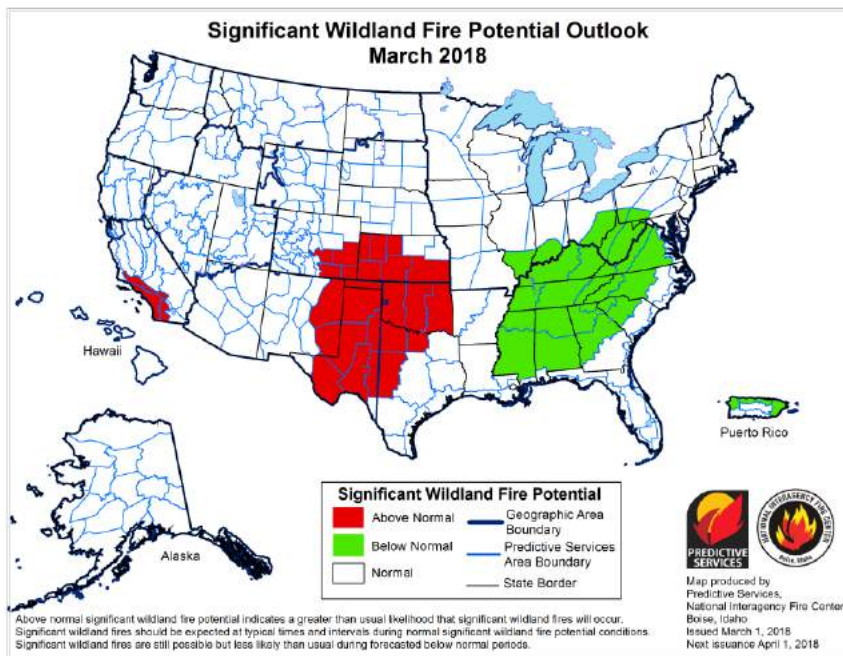
Miscellaneous (snowpack, crop conditions, fire danger):

Snow: February 2018 was a very warm month, with a distinct lack of snow cover for the state. Peak snow cover occurred on the 2nd where a good portion of the Cumberland Plateau, Eastern Mountains, Northern Tennessee Valley, and the northern highland rim in Middle Tennessee reported traces to 2 inches with some of the highest elevation northern mountains in the 2-4 inch range.



Some additional trace amounts were recorded in West Tennessee on the 5th.

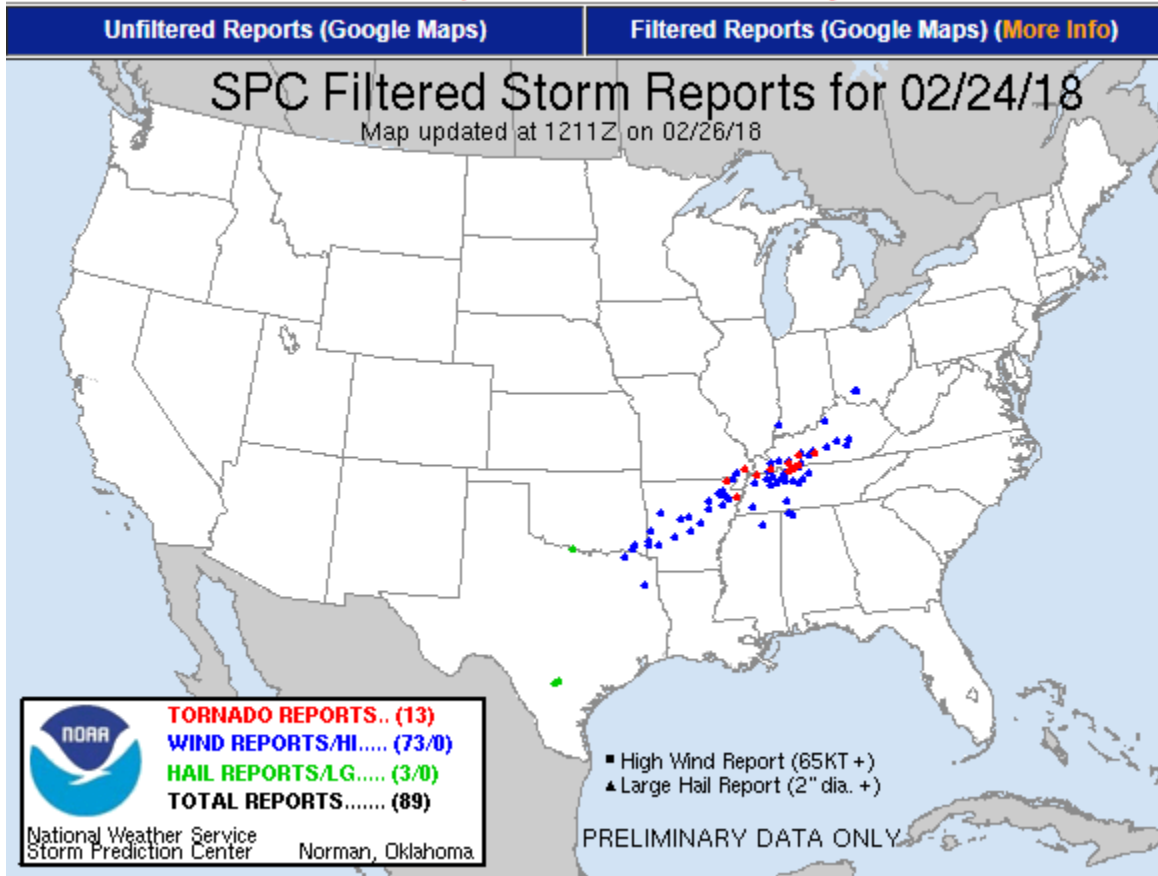
Fire Danger: Fire danger is very low across the state due to heavy rains during the month.



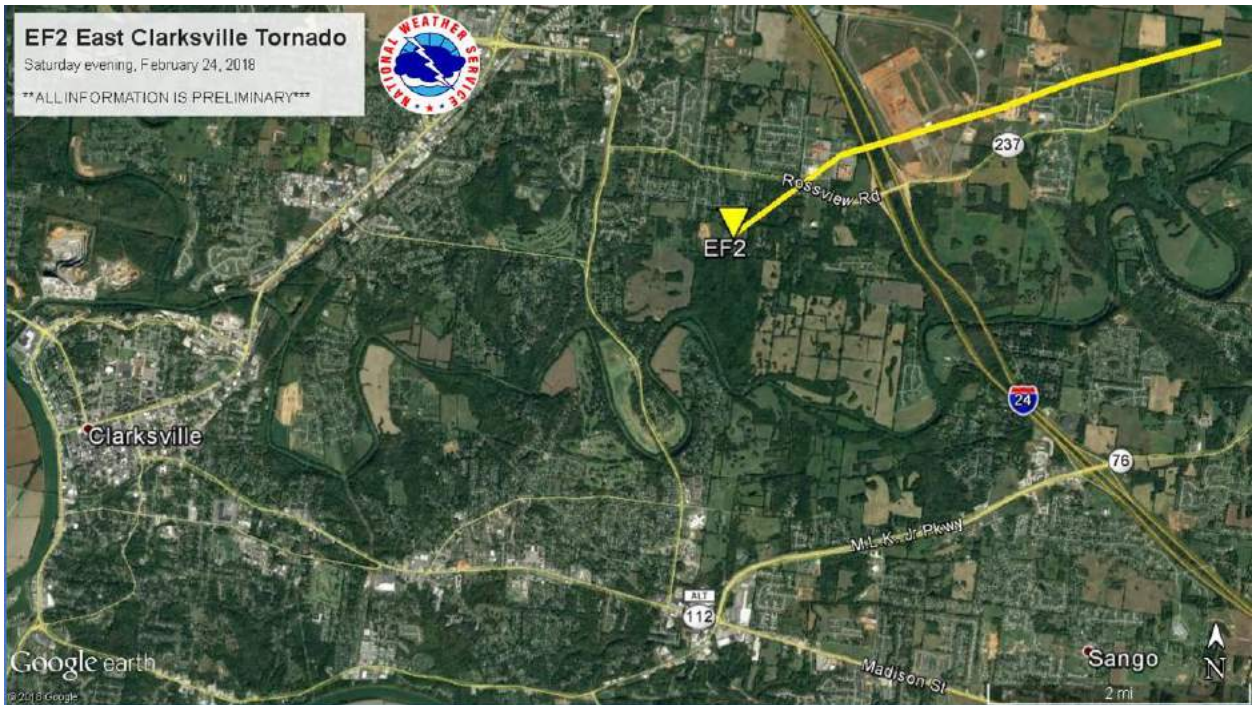
Storm of the Month:

Among the many reports of flooding during the month of February, the most notable event was a small severe weather outbreak that occurred on Saturday the 24th. This event produced 4 tornadoes in the state and several reports of high winds. There were no fatalities in Tennessee, however there were tornado fatalities in northeastern Arkansas and southern Kentucky, and several injuries were reported in Tennessee.

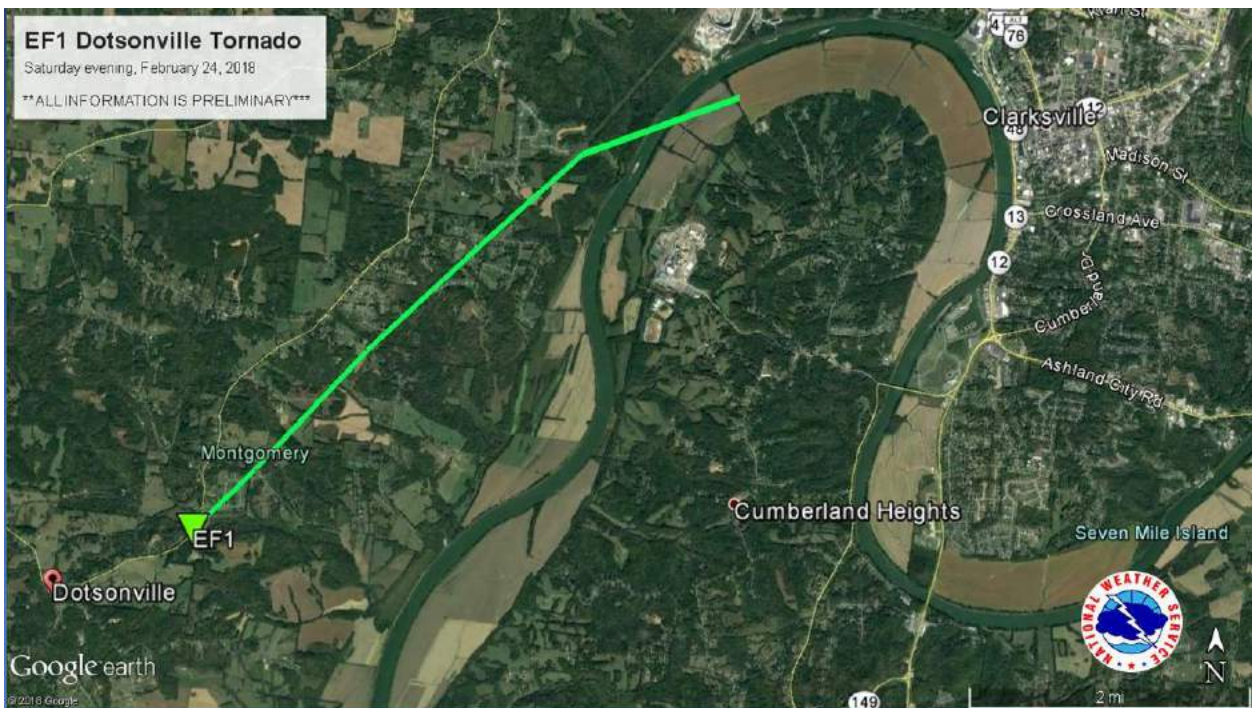
Note: All Reports Are Considered Preliminary



From the National Weather Service in Nashville: *“Updated preliminary information from our storm survey team as of 1pm indicates an EF-2 tornado with max winds of 125 mph struck east Clarksville, TN on Saturday evening, February 24, 2018. The tornado began on Dunbar Cave Road and ended on Kirkwood Road. Path length 4.05 miles, path width 300 yards. 2 people were injured.”*



Storm Path from NWS Nashville Survey (via Facebook)



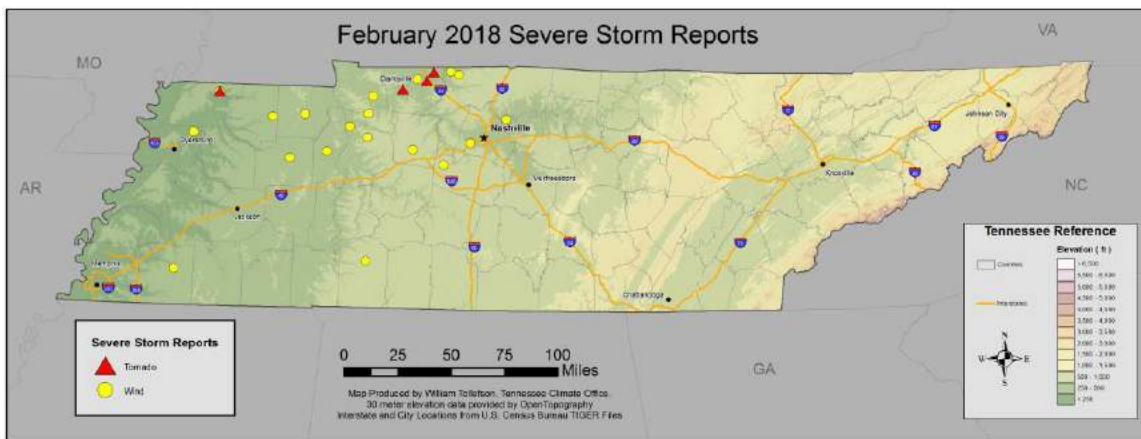
Storm Path from NWS Nashville Survey (via Facebook)



Tornado damage in Robertson County (via NWS Nashville Facebook Page)

Storm Reports:

All severe storm reports were related to the storm system that moved through the state on the 24th of the month.



Tornado Reports:

Location	County	Comments
3 NE UNION CITY	OBION	*** 3 INJ *** POSSIBLE TORNADO. 10 PEOPLE WERE RESCUED FROM SEVERAL DAMAGED STRUCTURES AROUND THE AREA. THREE INDIVIDUALS WERE TRANSPORTED TO HOSPITAL WITH UNKNOWN INJU (MEG)
8 SW CLARKSVILLE	MONTGOMERY	AN EF-1 TORNADO TOUCHED DOWN NEAR THE DOTSONVILLE COMMUNITY AND MOVED NORTHEAST ENDING ALONG THE CUMBERLAND RIVER JUST WEST OF CLARKSVILLE. A FEW HOMES SUFFERED ROOF DA (OHX)
4 E CLARKSVILLE	MONTGOMERY	*** 2 INJ *** AN EF2 TORNADO TOUCHED DOWN IN EAST CLARKSVILLE ON DUNBAR CAVE RD THEN MOVED ENE ACROSS I-24 BEFORE ENDING ON KIRKWOOD RD. TREES WERE BLOWN DOWN N OF DUNB (OHX)
8 ENE CLARKSVILLE	MONTGOMERY	*** 2 INJ *** SIGNIFICANT HOME DAMAGE IN THE FARMINGTON SUBDIVISION EAST OF CLARKSVILLE. HEAVY DAMAGE TO A CHURCH. AT LEAST 2 INJURED. (OHX)

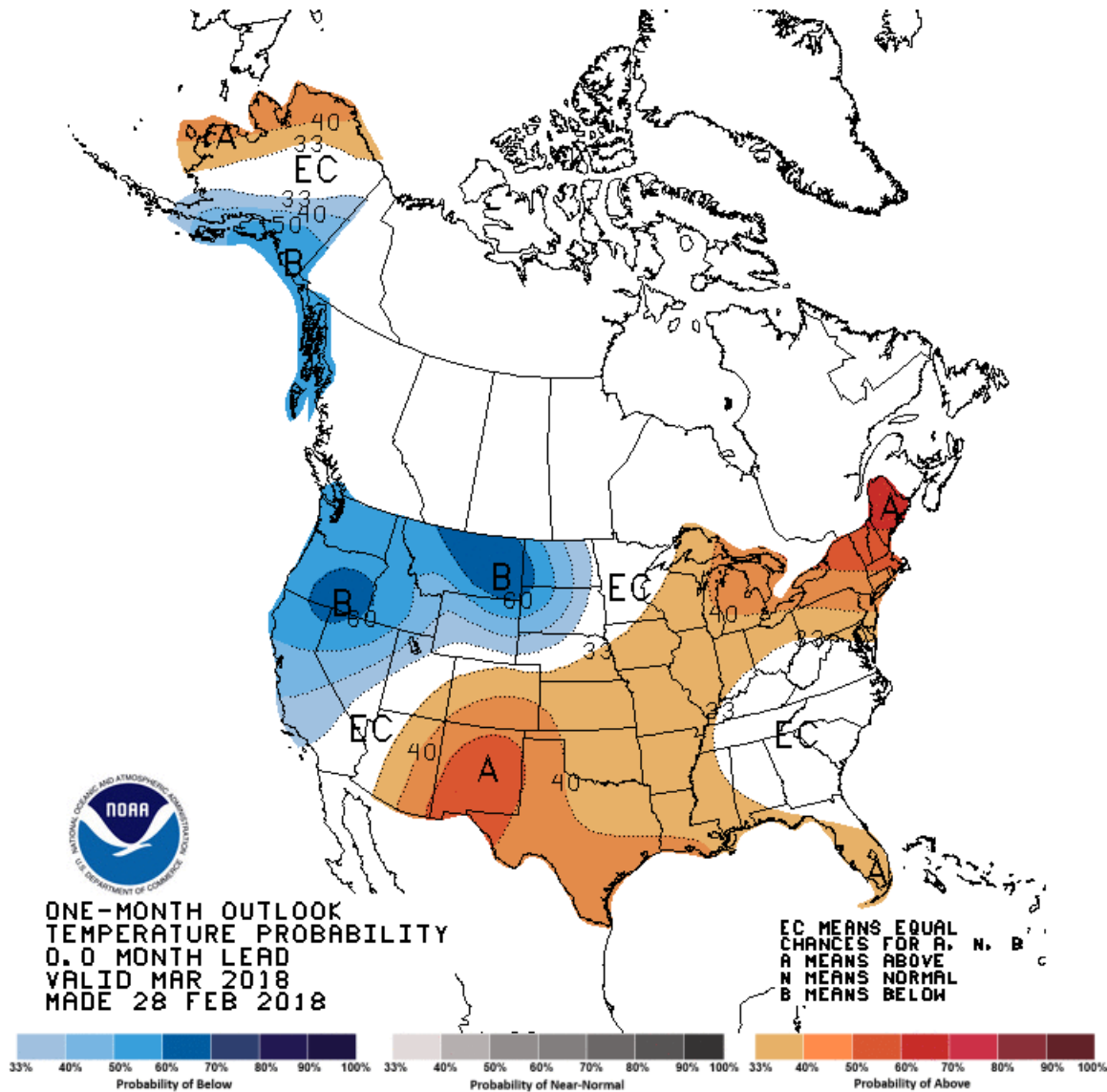
Severe Wind Reports:

Location	County	Comments
2 N ADAMS	ROBERTSON	SIGNIFICANT DAMAGE TO AT LEAST 1 HOME NEAR KEYSBURG ROAD AND HUGH GILL ROAD FROM POSSIBLE TORNADO. (OHX)
1 NE PARIS	HENRY	POWER POLES AND TREES DOWN ALONG INDIA AND MCINTOSH ROADS. (MEG)
3 NE UNION CITY	OBION	SEVERAL HOMES DAMAGED AND POWER LINES DOWN. TIME ESTIMATED BY RADAR. (MEG)
3 SW TRIMBLE	DYER	MULTIPLE TREES DOWN ACROSS ROAD BETWEEN NEWBERN AND TRIMBLE. (MEG)
SOMERVILLE	FAYETTE	SOME TREES DOWN AROUND THE COUNTY. (MEG)
6 NNE GLEASON	WEAKLEY	4 FOOT DIAMETER TREE DOWN ACROSS HIGHWAY 190... BLOCKING BOTH LANES. TIME ESTIMATED BY RADAR. (MEG)
10 E BIG SANDY	HUMPHREYS	TREE DOWN AT 7600 GREENBRIER CREEK ROAD IN FAR NORTHWEST HUMPHREYS COUNTY (OHX)
TENNESSEE RIDGE	HOUSTON	TREE DOWN ON HIGHWAY 147 (OHX)
HUNTINGDON	CARROLL	TREES AND POWER LINES DOWN ACROSS THE COUNTY. TREE DOWN ON HOUSE. (MEG)
N CAMDEN	BENTON	SEVERAL TREES DOWN AND A FEW POWER POLES CAUSING POWER OUTAGES. (MEG)
6 NW CUMBERLAND CITY	STEWART	TREE DOWN ON HIGHWAY 233 (OHX)

5 NNE WAVERLY	HUMPHREYS	TREE DOWN ON HIGHWAY 13 (OHX)
CLARKSVILLE	MONTGOMERY	GROCERY STORE WINDOWS BLOWN OUT AND ROOF DAMAGE AT AUSTIN PEAY STATE UNIVERSITY IN CLARKSVILLE. AUSTIN PEAY/MURRAY STATE GAME IN CLARKSVILLE DELAYED BY SOME MINOR ROOF (OHX)
3 N CEDAR HILL	ROBERTSON	SEVERAL BARNS HAD SIGNIFICANT DAMAGE NEAR 5700 BUZZARD CREEK ROAD. (OHX)
DICKSON	DICKSON	SEVERAL REPORTS OF TREES DOWN COUNTY WIDE. (OHX)
FAIRVIEW	WILLIAMSON	WIND GUSTS 65 MEASURED BY A HOME WEATHER STATION NEAR THE INTERSECTION OF HIGHWAY 100 AND BRUSH CREEK ROAD. (OHX)
3 NW BELLE MEADE	DAVIDSON	WSMV NEWS CREW REPORTED TREE DOWN IN WEST NASHVILLE (OHX)
WAYNESBORO	WAYNE	NUMEROUS TREES DOWN (OHX)
HENDERSONVILLE	SUMNER	LARGE TREE DOWN ACROSS POWER LINES (OHX)

CPC Outlooks for March:

Climate Prediction Center 1-month outlook for March 2018 shows most of Tennessee in equal chances for temperatures, meaning that there is no strong signal to indicate whether we will be above, below, or at average for the month, however extreme Western Tennessee is trending slightly towards warmer than normal conditions.



For precipitation patterns, wet conditions from February are expected to continue into March, with the highest confidence area being in southwestern Tennessee. If the wetter than normal pattern continues for March, we will have to closely monitor flooding, and it could set up a major spring flood on the Mississippi River.

