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Tennessee Climate Office Monthly Report

12-1-2017

2017 December - Tennessee Monthly Climate Report

Tennessee Climate Office, East Tennessee State University

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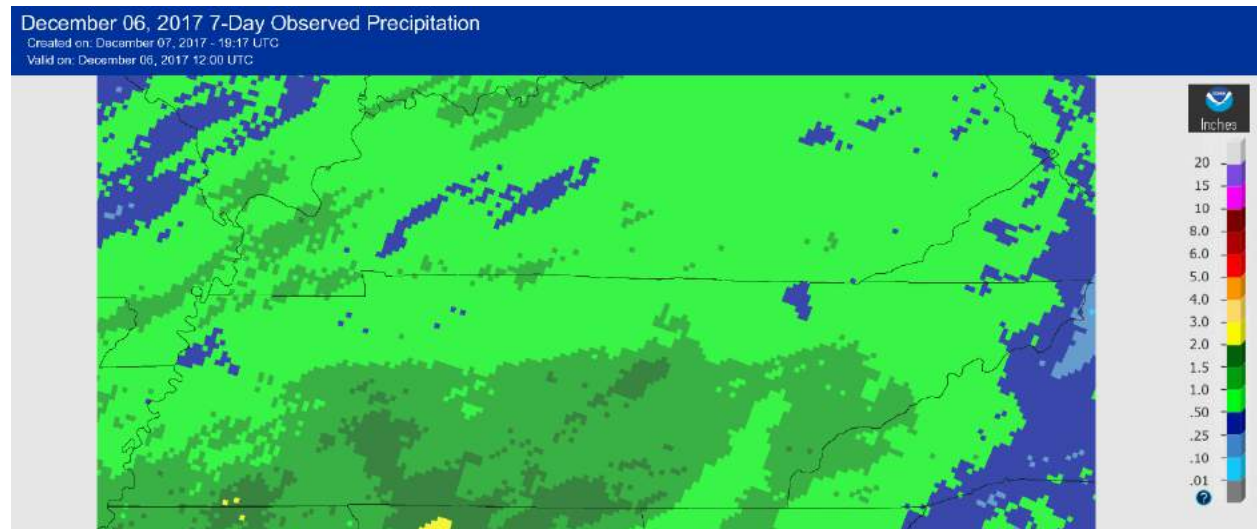
Tennessee Climate Office, East Tennessee State University, "2017 December - Tennessee Monthly Climate Report" (2017). *Tennessee Climate Office Monthly Report*. 4.
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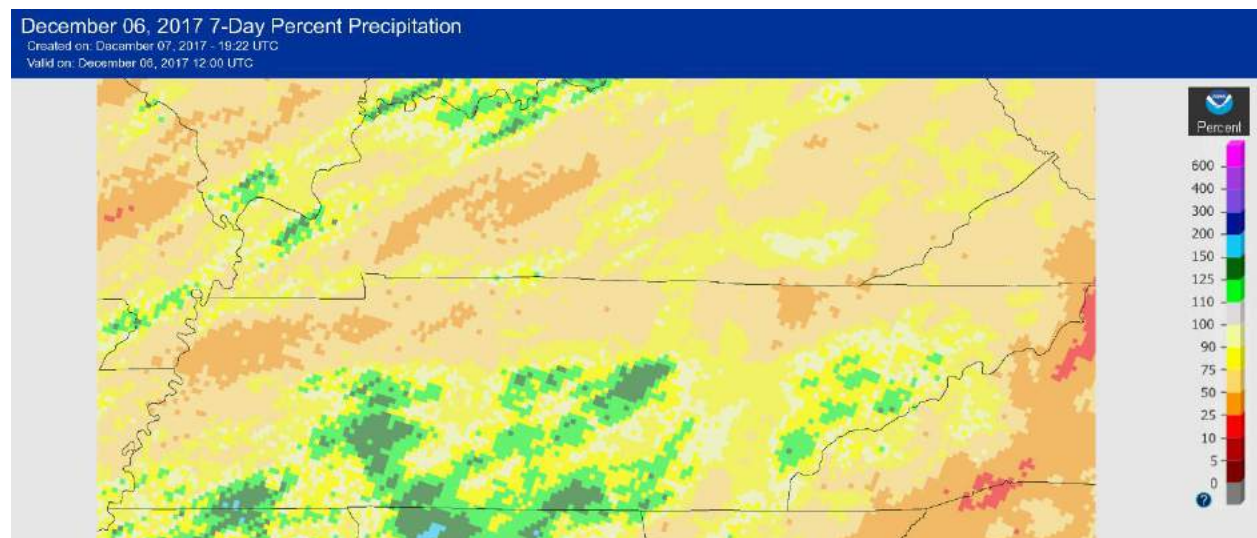
December Tennessee Weather and Climate Roundup:

Week 1: (Thursday, Nov 30th - Wed, Dec 6th)

The week started out warm, but a strong cold front on the 5th ushered in what looks to be a prolonged winter spell across Tennessee. The front produced widespread soaking rains, especially in the southern half of the state. With some places on the TN/MS border picking up an estimated 2 inches of rain. This was in the part of the state that had been in D0 drought conditions at the end of November. However, despite this rainfall, large parts of McNairy and Chester counties remain 4-6 inches below 60-day average precipitation, so D0 persists in the southern-tier counties, and a small area in extreme southern McNairy county was upgraded to D1 (moderate drought).



This was the only significant precipitation during the week, so outside the areas of heavier precipitation a large part of the state, particularly north of the I-40 corridor received less than average rainfall.



U.S. Drought Monitor
Tennessee

December 5, 2017
(Released Thursday, Dec. 7, 2017)
Valid 7 a.m. EST



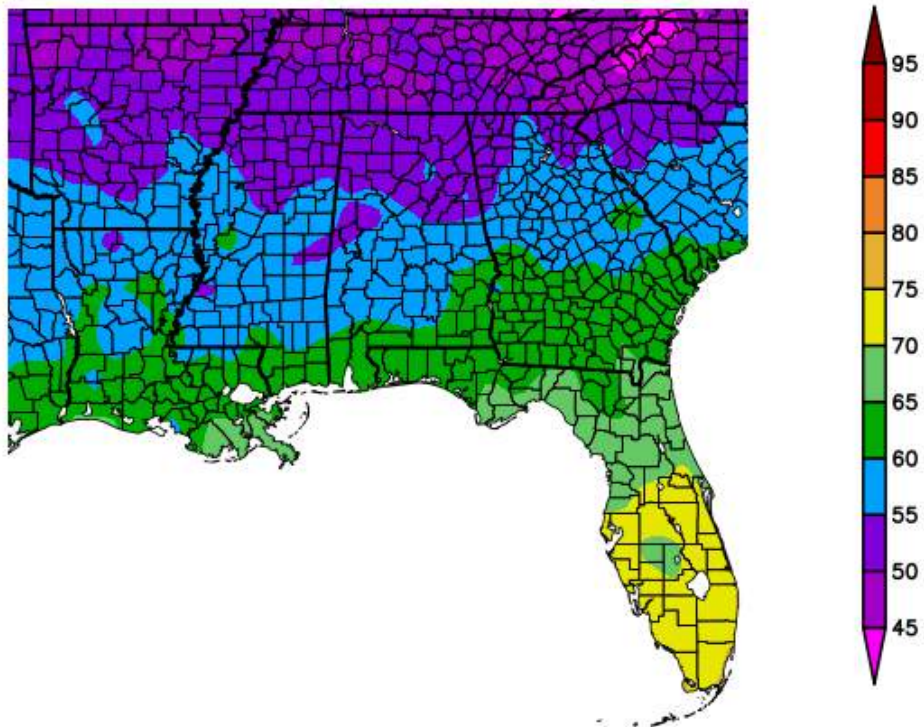
Intensity:

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

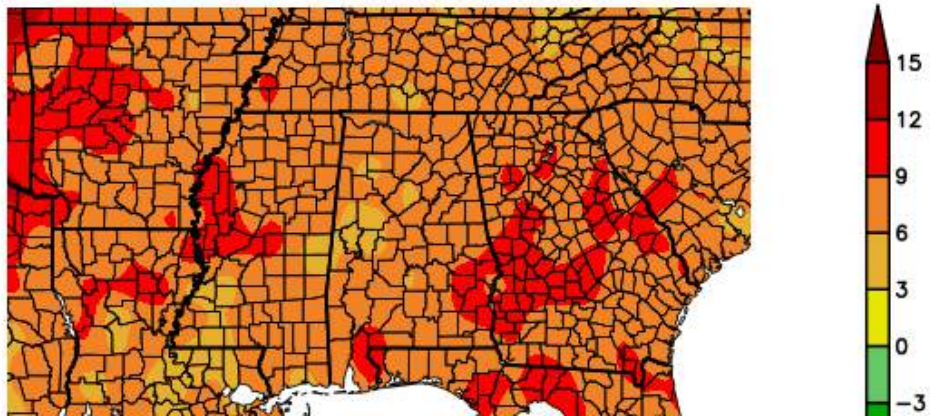
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Before the cold front on the 5th much of the state experienced seasonally mild temperatures with 60's and 70's common during the day, and overnight temperatures above freezing for the most part. As a result a majority of the state recorded temperatures 6-9 degrees above normal for the week, even as colder air advected from the north on the last day of the week.

Temperature (F)
11/30/2017 – 12/6/2017



Departure from Normal Temperature (F) 11/30/2017 – 12/6/2017



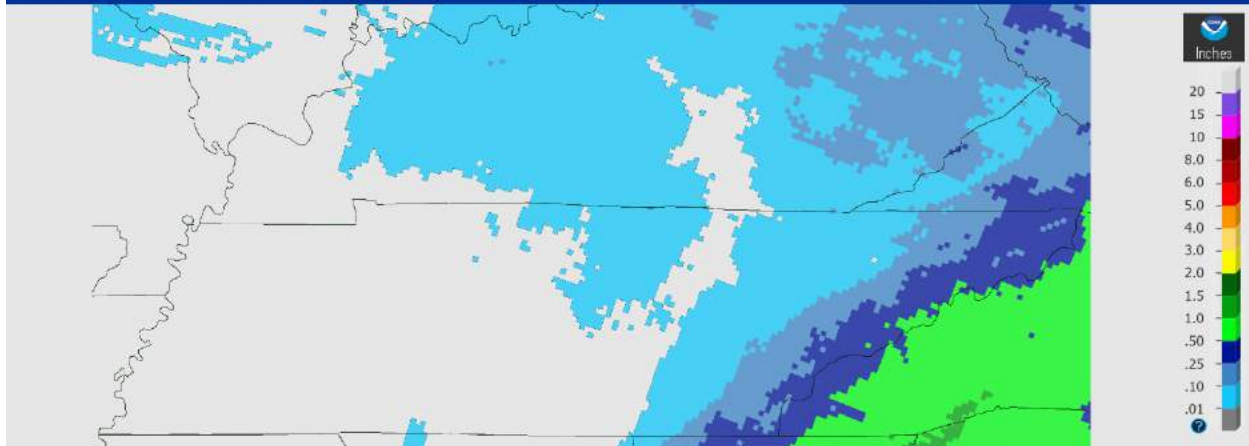
Week 2: (Thursday, Dec 7th - Wednesday, Dec 13th)

Another Dry week across most of Tennessee. An impressive winter storm developed in Mexico and then tracked along the gulf coast and up the eastern seaboard at the beginning of this week bringing accumulating snows to the Deep South! The southern and then eastern track of the storm meant that most of TN missed out on the event, although the far eastern Tennessee mountains and eastern TN valley foothills picked up some decent accumulations Friday night into Saturday, with the highest report of 8.2 inches at Roan Mountain, followed by Mt LeConte with 7 inches. The lack of rain in western TN has exacerbated drought concerns, putting the region into a deeper moisture/rainfall deficit. The US drought monitor put out on the 14th now includes almost all areas west of the Tennessee River (except for Benton and Decatur counties) in D0 drought conditions. The D0 conditions in southern Lawrence and Giles counties persists, and D0 conditions were extended south from Kentucky into the northern-tier counties of Middle TN and the Cumberland Plateau. Dry conditions combined with the winds of the passing fronts and low humidity of the colder, continental air has increased fire risks this week across the state, but especially in western and middle TN. On Wednesday sections of I-40 on the west side of Nashville were closed temporarily due to brush fires in the median.

A series of short wave troughs has kept the state cool, but with brief warm-ups in between each shot of cold air (warmest temperature recorded for the week was 69 degrees in Covington in Tipton County). Even with those brief warm periods, all areas of the state observed below normal temperatures with all but the smallest areas (round Tipton and Lauderdale counties along the Mississippi River) at least 3 to 9 degrees below normal. The Mt. LeConte COOP station even reported a 0 degree reading, and wind chill advisories were posted for the mountains on the 12th with wind chills in the 0 to -10 degree range.

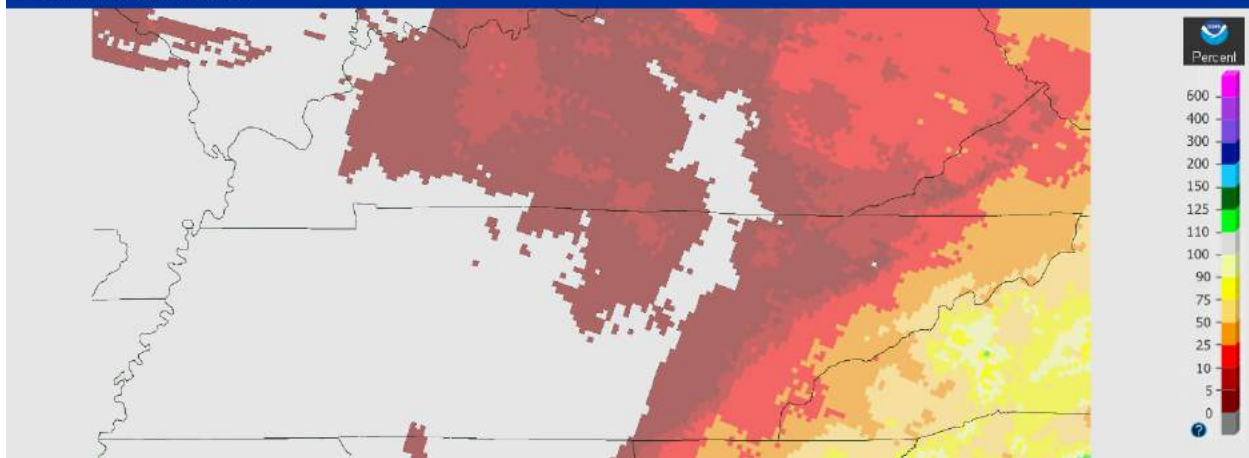
December 13, 2017 7-Day Observed Precipitation

Created on: December 14, 2017 - 13:28 UTC
Valid on: December 13, 2017 12:00 UTC



December 13, 2017 7-Day Percent Precipitation

Created on: December 14, 2017 - 13:29 UTC
Valid on: December 13, 2017 12:00 UTC









Tennessee

Map released: Thurs. December 14, 2017

Data valid: December 12, 2017 at 7 a.m. EST

Intensity:

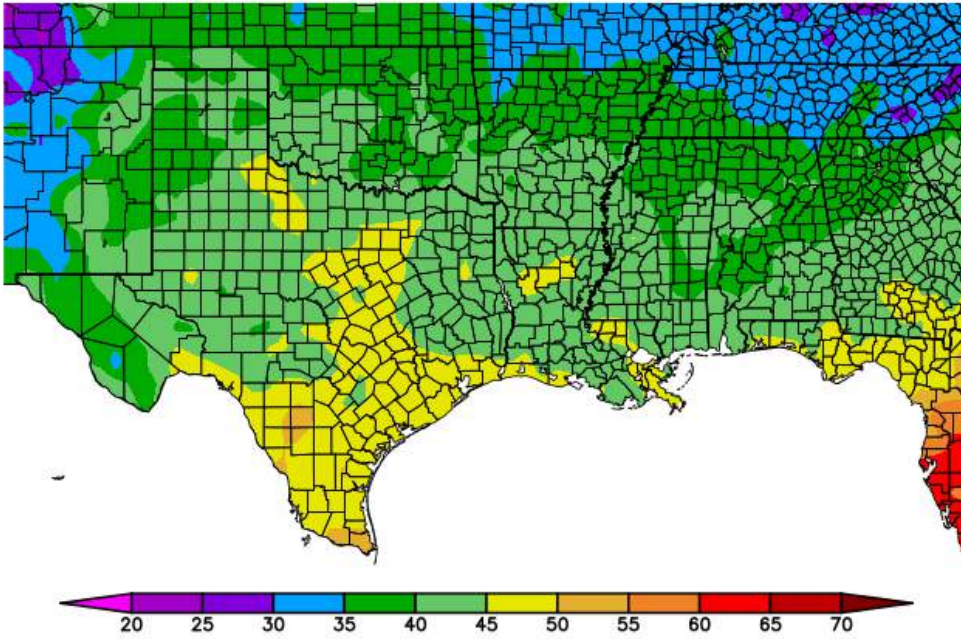
-  None
-  D0 (Abnormally Dry)
-  D1 (Moderate Drought)
-  D2 (Severe Drought)
-  D3 (Extreme Drought)
-  D4 (Exceptional Drought)



Author(s):

[Jessica Blunden](#), NOAA/NCEI

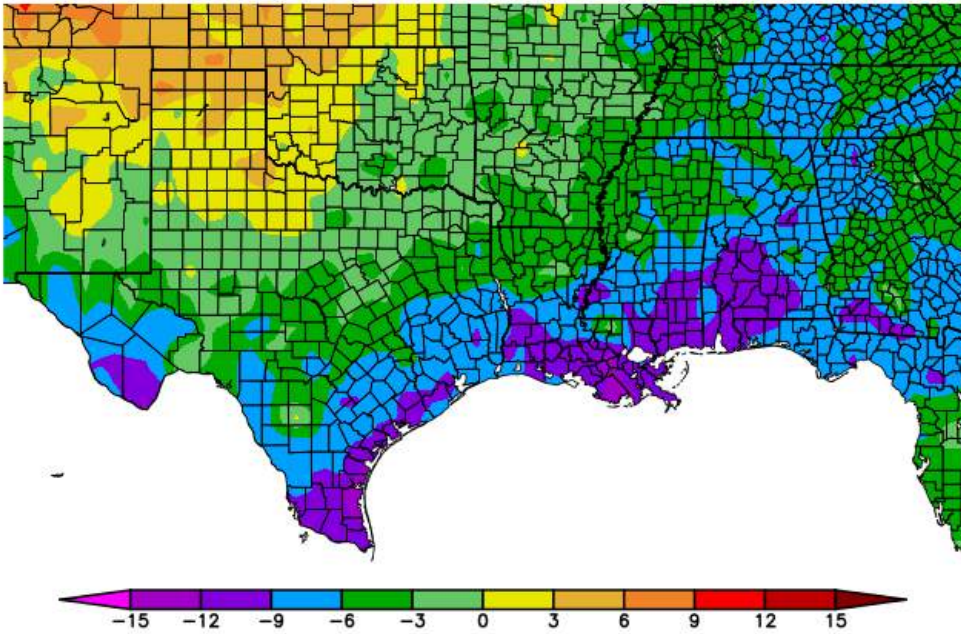
Temperature (F)
12/7/2017 - 12/13/2017



Generated 12/14/2017 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Temperature (F)
12/7/2017 - 12/13/2017

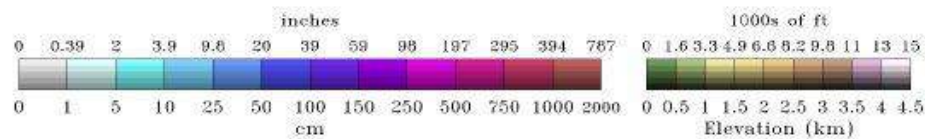
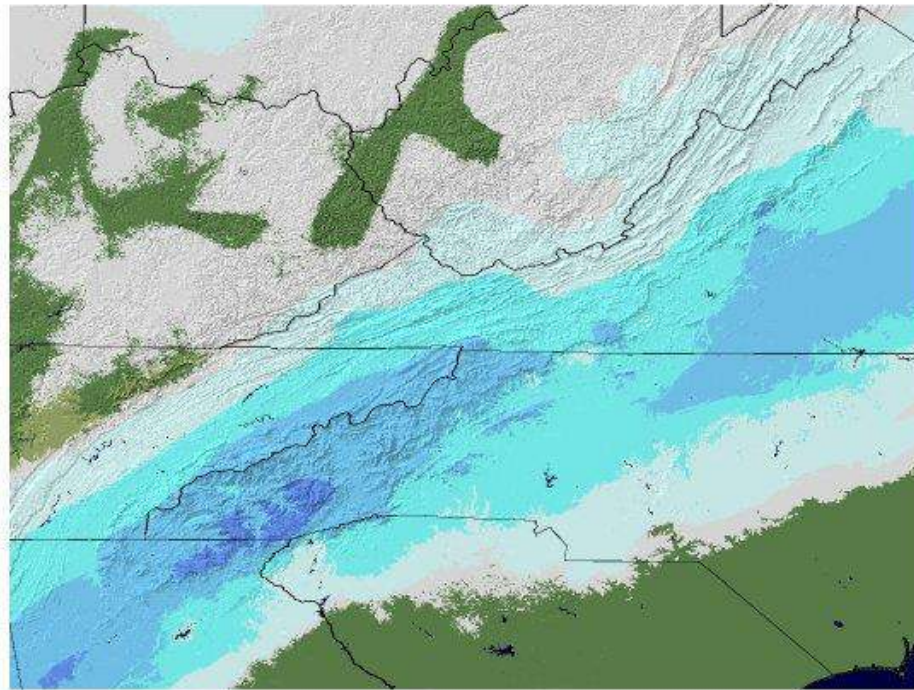


Generated 12/14/2017 at HPRCC using provisional data.

NOAA Regional Climate Centers

Snow Depth

2017-12-10 06 UTC



Week 3: (Thursday, Dec 14th – Wednesday, Dec 20th)

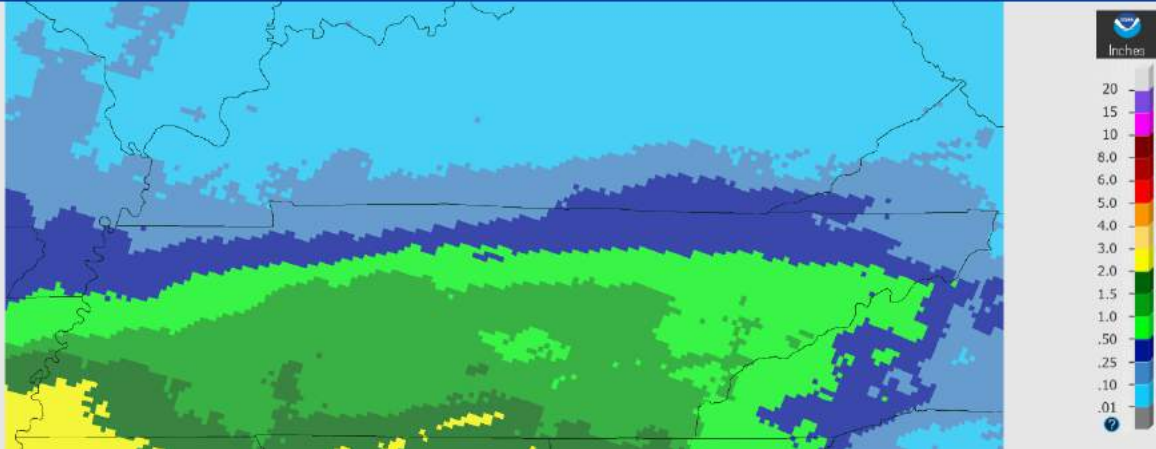
The dry spell continued for Tennessee, until the last day of the week, when a low pressure system moved in from the south west bringing widespread soaking rains to most of the state (most areas south of I-40 and west of I-75 recorded over 1 inch for the day, and week). The extreme northern portions of the state saw less than ½ an inch of rain. These rains went a little way to relieving drought conditions in the western climate region, but D0 persists into this week in region 4 and along the KY border in region 3 and 2.

Temperatures were seasonal across most of the state with the eastern 2/3 of the state ± 2 degrees of normal (region 1 for the most part was below normal) while region 2 and 3 were slightly above normal). Western TN saw temperatures 4-6 degrees above normal for the week (this make sense with the mostly sunny weather and dry conditions allowing insolation to heat up the air pretty well).

The cool temperatures in the east allowed the snowpack from last week in the eastern TN mountains to persist in the highest and northern-most peaks until the 18th.

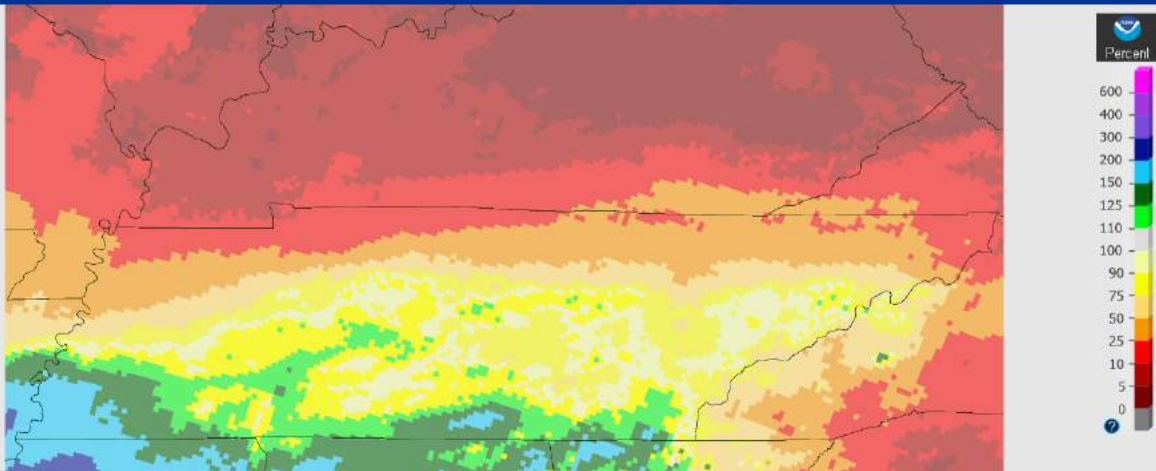
December 20, 2017 7-Day Observed Precipitation

Created on: December 21, 2017 - 14:42 UTC
Valid on: December 20, 2017 12:00 UTC



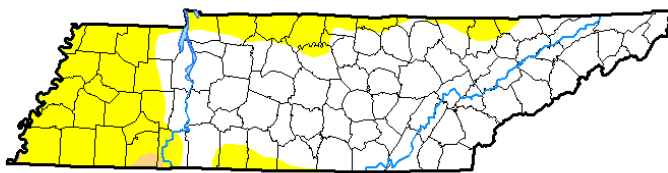
December 20, 2017 7-Day Percent Precipitation

Created on: December 21, 2017 - 14:45 UTC
Valid on: December 20, 2017 12:00 UTC



U.S. Drought Monitor Tennessee

December 19, 2017
(Released Thursday, Dec. 21, 2017)
Valid 7 a.m. EST

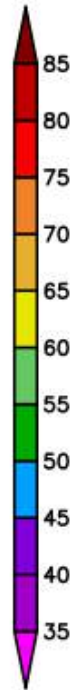
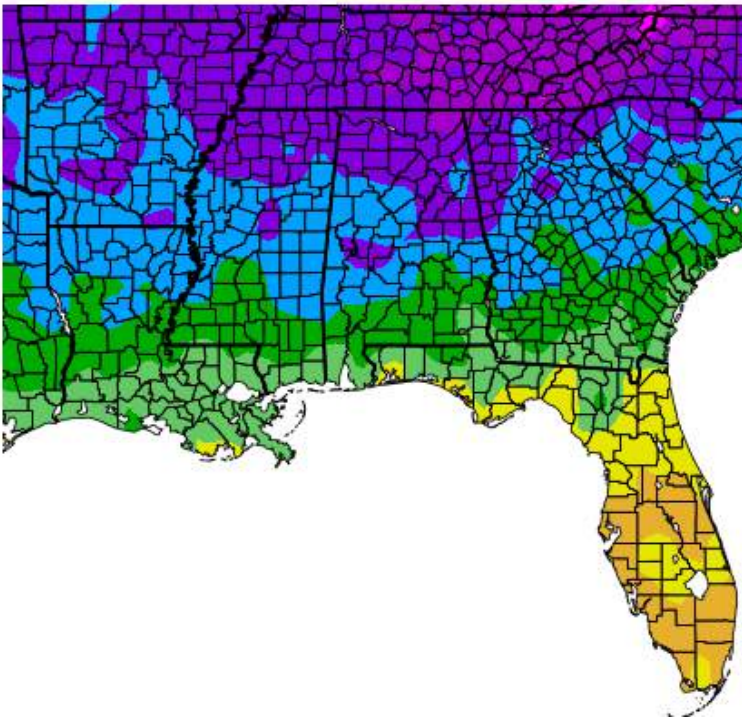


Intensity:

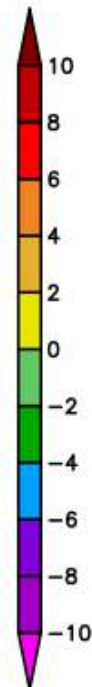
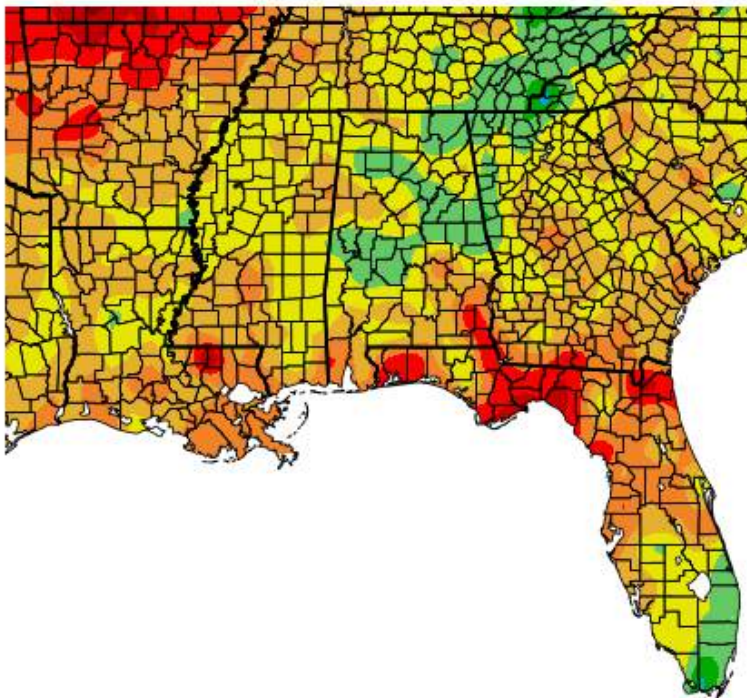
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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

Temperature (F)
12/14/2017 - 12/20/2017

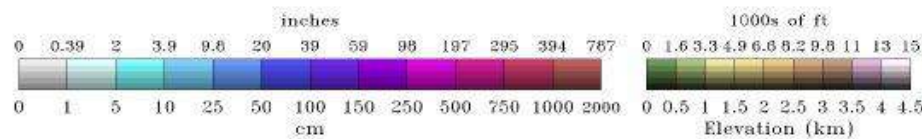
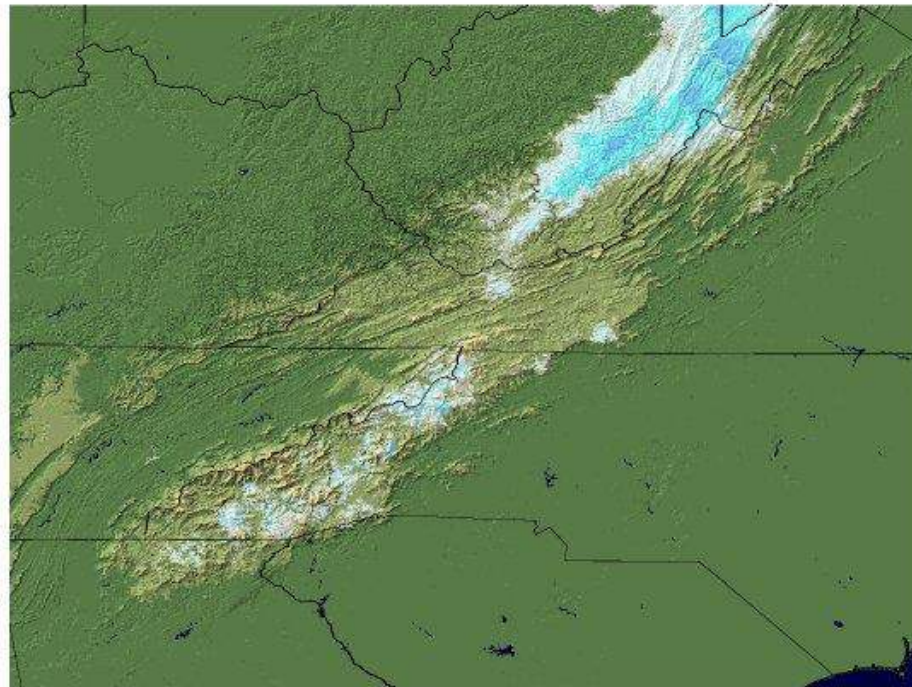


Departure from Normal Temperature (F)
12/14/2017 - 12/20/2017



Snow Depth

2017-12-18 06 UTC



Week 4: (Thursday, Dec 21st – Wednesday, Dec 27th)

The winter solstice occurred 11:28 EST (10:28 Central) on Thursday, and although the first day or two of winter were above normal temperatures, TN got a good dose of arctic air for the second half of the week!

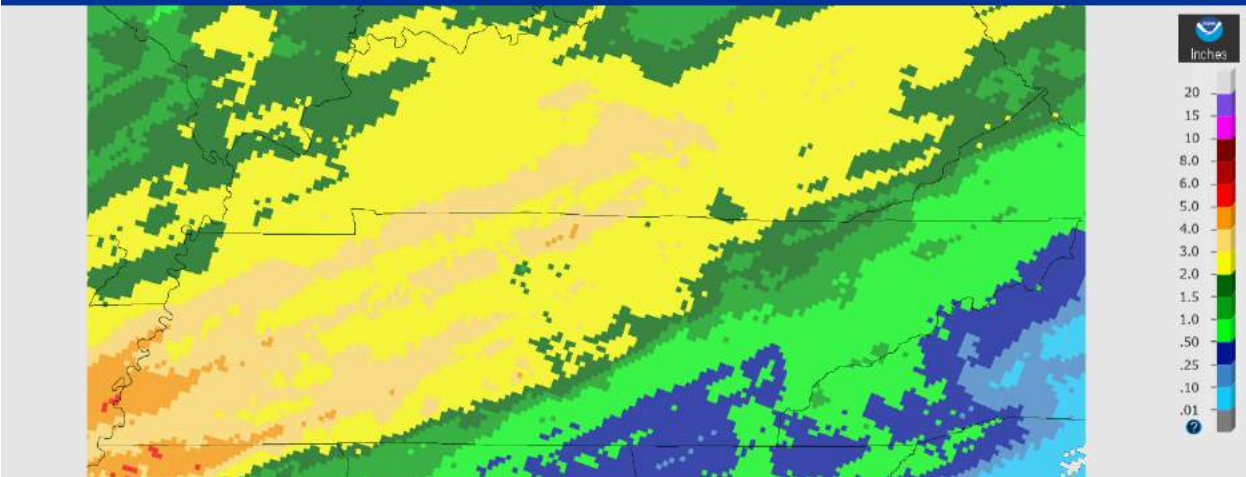
This week brought a soaker to the western and middle parts of the state on the 22nd and 23rd, with 2+ inches in all of climate division 4 and most of division 3. Some locations even saw precipitation totals for the week of 5 inches. This was a drought busting rain, as all but the smallest area of southern McNairy and southwest Hardin County were removed from D0 Drought this week. However it was fairly dry for the eastern part of the state where precip totals were generally less than 1 inch, and below normal amounts for most of climate division 1 and the southern half of division 2, and extreme southeastern areas of division 3. Chattanooga had the driest station with the airport reporting only 0.34" of rain; a COOP station in Selmer reported the most rain with 5.2"; Mt LeConte saw the most snowfall this week with 1" (the only other measurable snowfall was Roan Mountain with 0.3 inches reported).

The week started out mild with normal to above normal temperatures as warm moist air advected from the Gulf of Mexico along a frontal boundary that set up from Louisiana up through the Ohio River valley;

a couple of COOP Stations in SW-TN even recorded temperatures of 70F. On the 24th through to Christmas day a strong cold front pushed the precipitation and moisture out of the state (with a few flurries and snow showers Christmas Eve and into Christmas morning for some locations) and ushered in some frigid temps for the second half of the week. Monday-Wednesday high temperatures were in the 30's to low 40's and low temperatures in the teens and 20's were common with some places getting down to single digits, with a strong NNW wind that had single digit to sub-zero wind chills covering most of west and middle TN. The coldest observed temps were 1F and 9F in the Smokey Mountains, but UT martin and Union City both had lows of 12F this week.

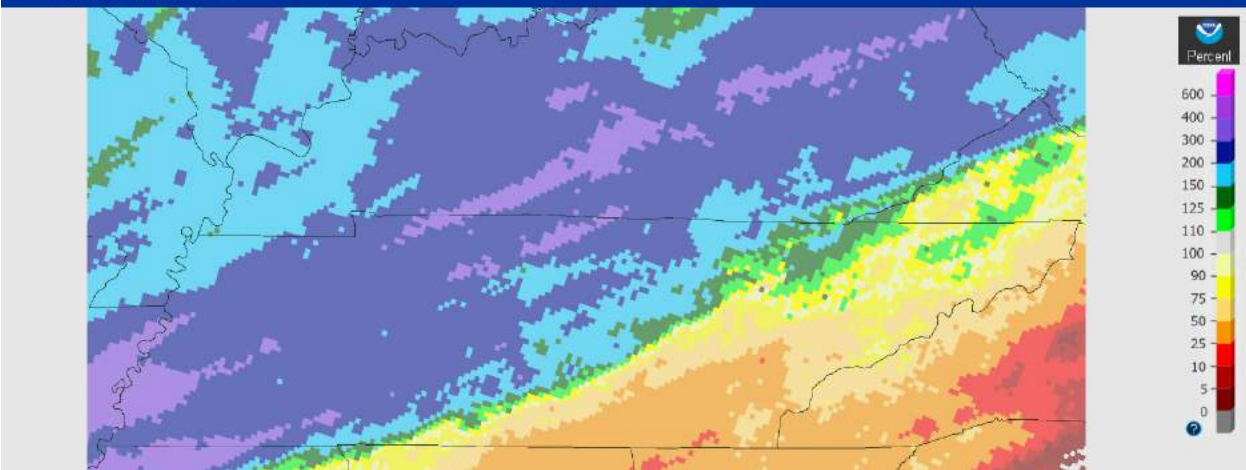
December 28, 2017 7-Day Observed Precipitation

Created on: December 29, 2017 - 14:37 UTC
Valid on: December 28, 2017 12:00 UTC



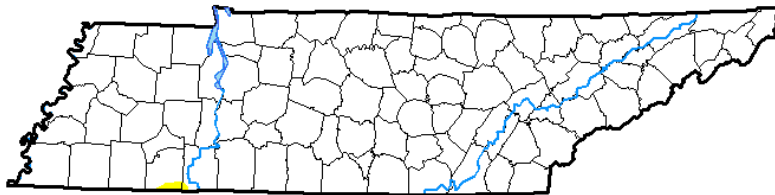
December 28, 2017 7-Day Percent Precipitation

Created on: December 29, 2017 - 14:41 UTC
Valid on: December 28, 2017 12:00 UTC



U.S. Drought Monitor
Tennessee

December 26, 2017
(Released Thursday, Dec. 28, 2017)
Valid 7 a.m. EST

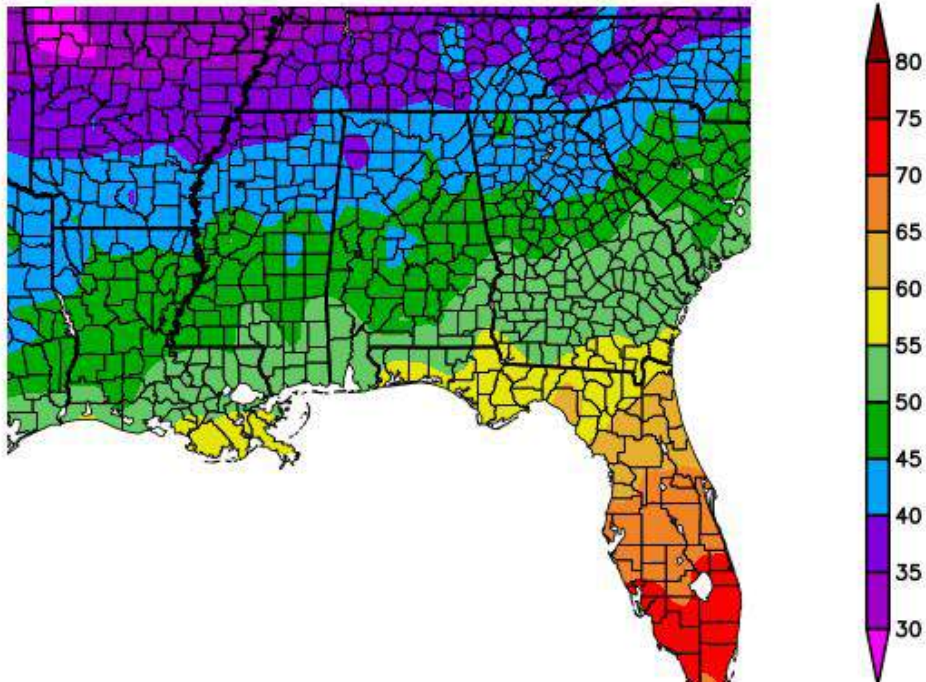


Intensity:

- 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.

Temperature (F)
12/22/2017 – 12/28/2017



Departure from Normal Temperature (F)
12/22/2017 - 12/28/2017

