

Weather Patterns for the 2002 Growing Season

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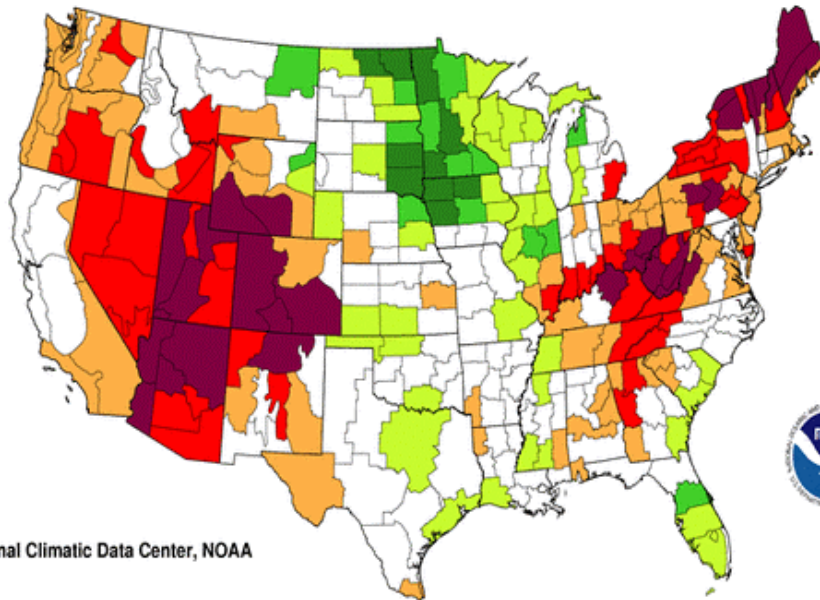
Department of Biosystems Engineering & Environmental Science

Although early spring rainfall was plentiful, there was not enough accumulated soil moisture for optimal crop yields in many parts of Tennessee due to a very dry summer. The figure below shows the Palmer Short Term Drought Conditions across the U. S. in August. Three of the four climate divisions in Tennessee experienced moderate to severe droughts. Part of West Tennessee received some timely rainfall in August, resulting in a moderately moist rating. High amounts of late season rainfall occurred across all locations, as the remnants of Tropical Storm Isidoro passed through in late September.

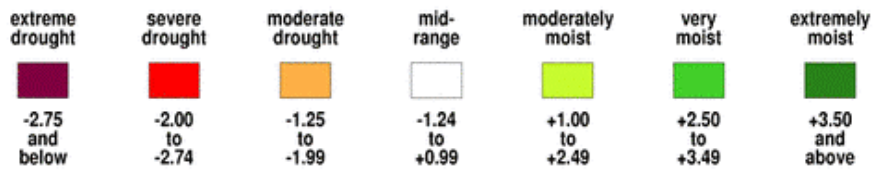
Last spring freeze (32 deg F or less) dates ranged from Mar 27 to Apr 7. There was another cold brief period in mid-May that brought freezing temperatures to many parts of Tennessee, although not to the 7 stations reported here. After a relatively cool spring, summer temperatures were several degrees above normal across the state. At Ames, there were 64 days with maximum temperature greater than 90 deg F. Even the cool Plateau Station experienced 10 days above 90 deg F during the summer of 2002.

Palmer Z Index Short-Term Conditions

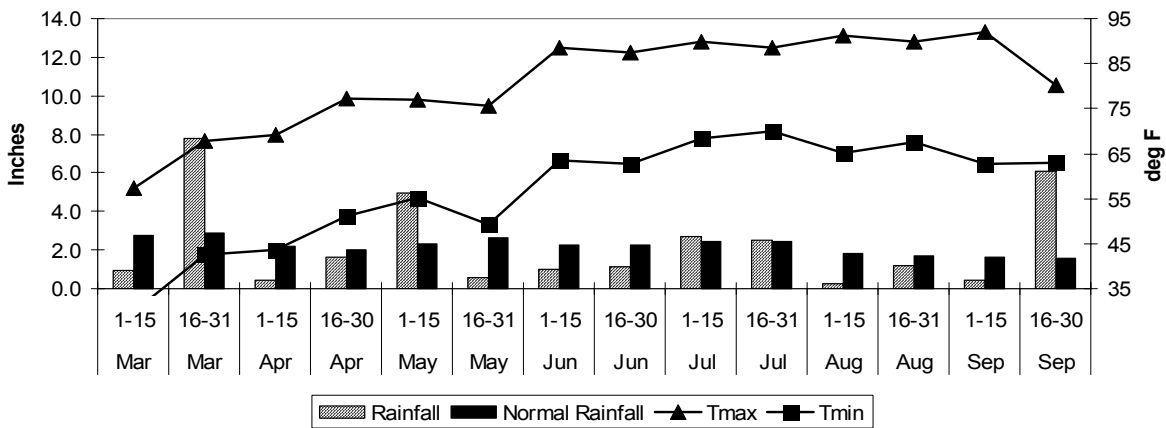
August 2002



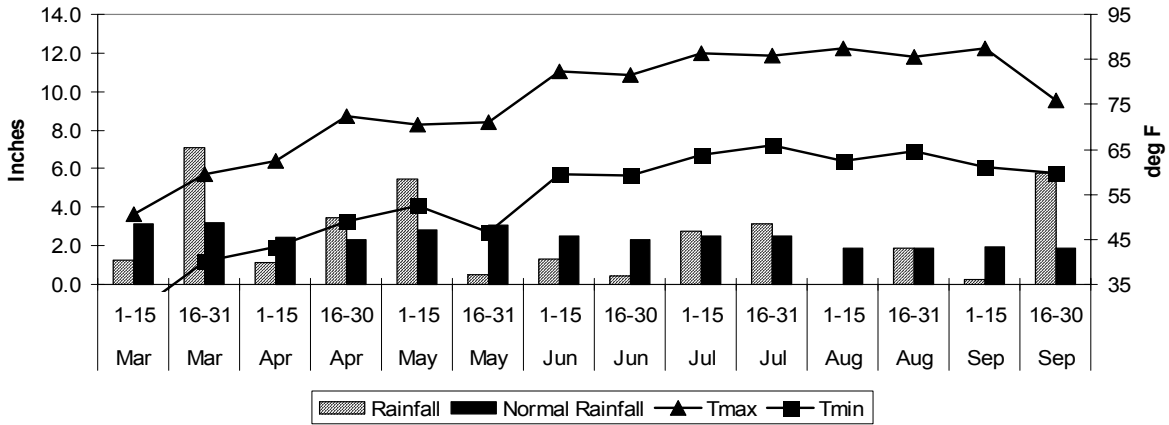
National Climatic Data Center, NOAA



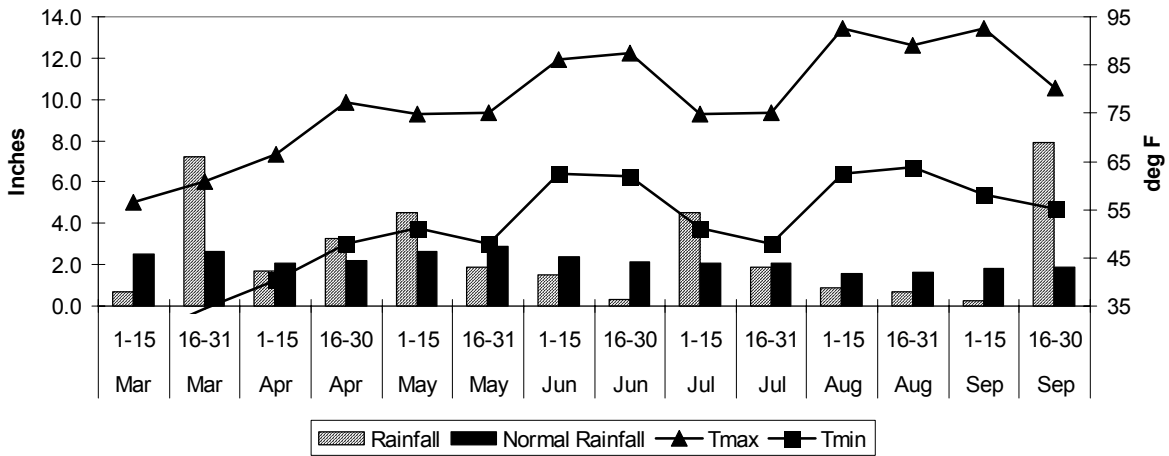
Knoxville Experiment Station



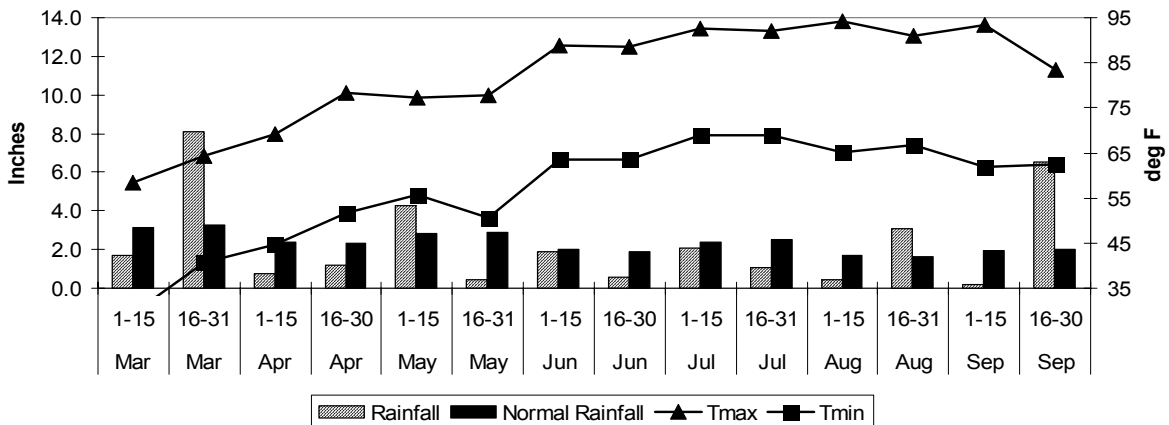
Plateau Experiment Station



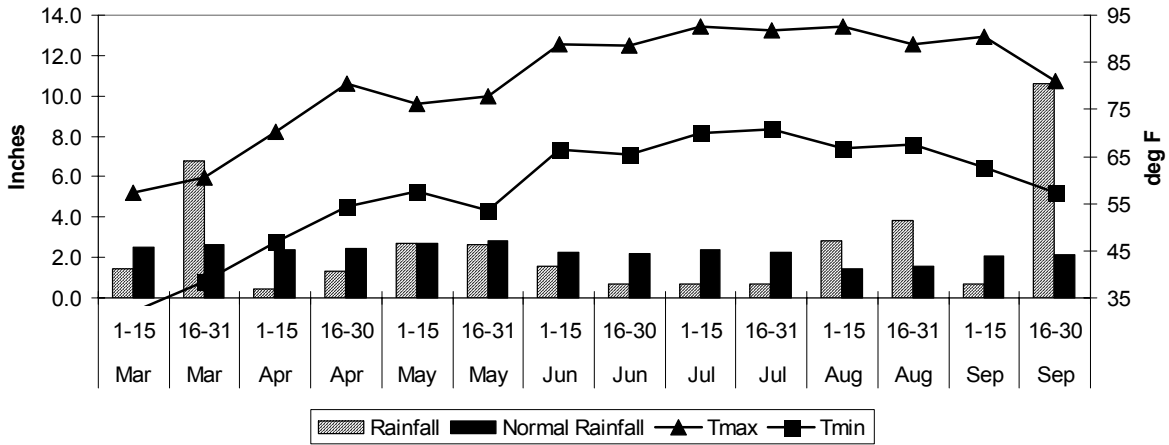
Highland Rim Experiment Station



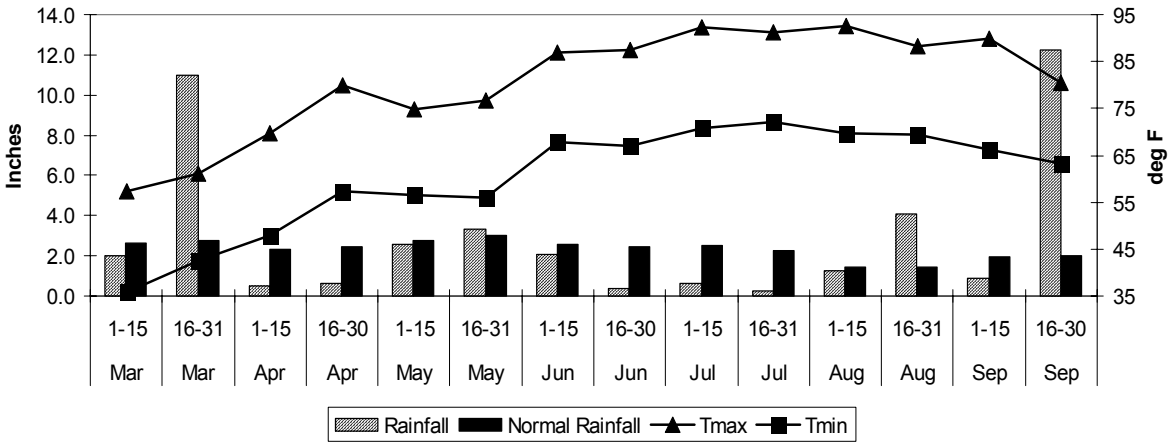
Middle Tennessee Experiment Station



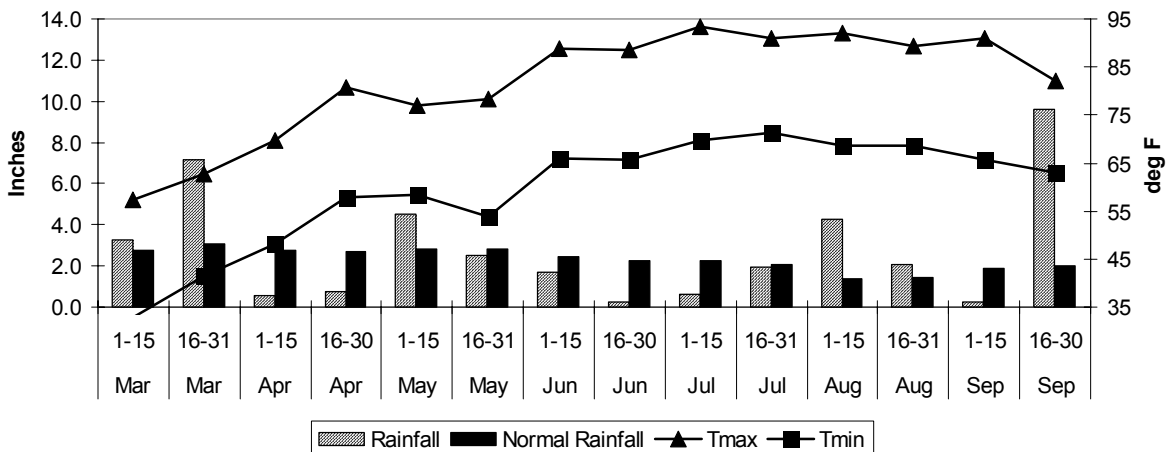
Milan Experiment Station



West Tennessee Experiment Station



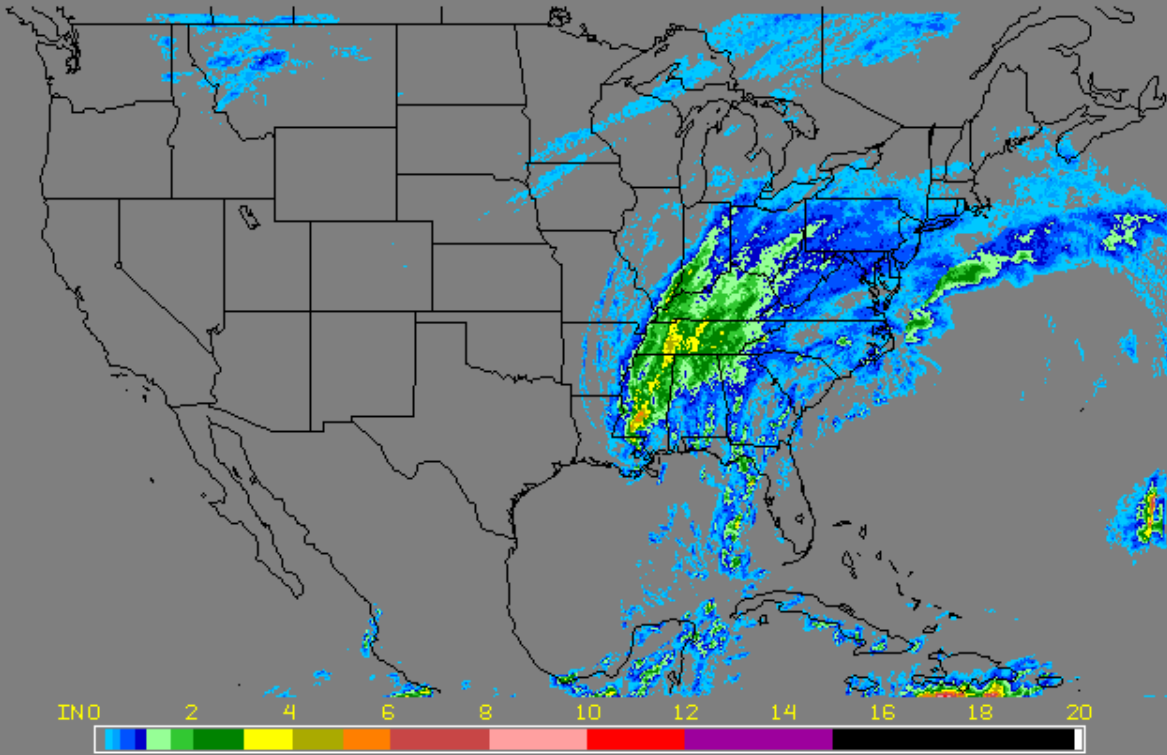
Ames Experiment Station



As can be seen in previous figures, general rainfall patterns were relatively similar at all 7 experiment stations. In the second part of **March**, rainfall was 2 to 3 times normal at all locations. West Tennessee received 11.1 inches during this 2-week period. **April** was a dry month, except for the last 2 weeks at Plateau and Highland Rim. Those two locations benefited from the passage of a cold front to the north of Tennessee. All locations had normal to above normal rainfall in **May**, although the distribution was quite variable at Middle Tennessee, Plateau, Highland Rim and Knoxville. Knoxville experienced a 16-day period of no rainfall from May 19 to June 4. **June** rainfall was several inches below normal at all stations. Rainfall picked up at Knoxville, Highland Rim and Plateau in **July**, but was below normal at the other locations. The first two weeks of **August** was particularly dry at Knoxville (0.28 inches), Plateau (0.03 inches), Highland Rim (0.87 inches) and Middle Tennessee (0.47 inches). Ames, West Tennessee, Milan and Middle Tennessee all reported a 20-day period of no rainfall from Aug 26 – Sep 15. At Highland Rim, the dry period lasted 24 days from Aug 22 to Sep 14. Knoxville experienced a 17-day period of no rainfall during the same period. Therefore, all locations reported much below rainfall for the first half of **September**. Rainfall during the second half of the month was another story. The remnants of Tropical Storm Isidoro pushed through on Sep 26-27, resulting in a deluge and flooding throughout much of our state (see figure below). This rainfall came too late for most crops, and caused significant damage and harvest delays of many crops.

NOAA/NESDIS RAINFALL HYDROESTIMATOR EXPERIMENTAL PRODUCT

24-HOUR ESTIMATED RAINFALL FOR 1200 Z 27 SEP 02



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