

The Contribution of Rainfall from Tropical Systems Impacting Alabama

In the past decade drought has been a major issue in Alabama. The growing seasons of 2000, 2006, and 2007 rank as the 3rd, 5th, and 2nd driest statewide in the past 60 years. Furthermore, the driest part of the growing seasons in these years has been August to October. August to October corresponds with the peak of tropical activity and historical landfalls from major hurricanes in Alabama. Therefore the contribution of tropical systems to the state's growing season water budget may be an important deterrent of an exceptional drought, especially during the summer to fall transition. In this research, the contribution of rainfall from tropical systems is assessed monthly and seasonally at all reliable first order weather stations in the state. Rainfall from tropical systems is separated from rainfall caused by other mechanisms using a historical hurricane track dataset in conjunction with daily rainfall data. Monthly and seasonal rainfall is summed at each location so that tropical system rainfall may be expressed as a percentage of the total at each location. Since tropical system activity is influenced by the phase of the Atlantic Multidecadal Oscillation (AMO), the period of study includes both phases of the AMO.

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