

Georgia's Rainfall Variability and the Role of Teleconnections

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The persistent drought conditions across Georgia and the other southeastern states have caused \$787.2 million in the agricultural production losses in 2007 in Georgia alone. Since 2004 there has been a decreasing trend in the amount of rainfall that has been received at many locations across Georgia. The global and regional control of rainfall variability has significant importance when exploring options for the predictability of rainfall across Georgia. The spectral characteristics of both the long-term and short-term variability of rainfall across Georgia are very useful in analyzing these options. The Automated Environmental Monitoring Network (AEMN) of the University of Georgia has detailed rainfall records for over 15 years for 15 locations across the state of Georgia, which can be used for short-term analysis. For the long-term analysis, the historical data of Cooperative Observer Program (COOP) were used. Four stations from both networks were selected for spectral analysis, using wavelet analysis. Wavelet analysis can give time-frequency information that is useful in the identification of a specific event along with its periodicity. The study will present relationships between the spectral characteristics of rainfall observations and different teleconnections. Ultimately the results of this study can be used to help with the long-term predictability of rainfall.

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