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Poster
Drought is a prolonged dry period that can have severe impacts on the environment, human health, economies, agriculture, and energy resources. It can lead to water shortages, ruin crops, dry out forests, and reduce the availability of food and water for wildlife and livestock. The primary objectives of this study are to: 1) quantify the variability and distributions of drought patterns in Arkansas, United States (US), 2) use remotely sensed indices to investigate the correlation between drought and vegetation cover in the area, and 3) develop a cloud-based framework (user-friendly app) to facilitate the assessment of drought impact in Arkansas over the past decades. A correlation analysis was also performed between the Vegetation Health Index (VHI) and meteorological indices to better understand the impact of meteorological drought on vegetation stress. In addition, Mann-Kendall trend analysis was used to assess trends in meteorological drought indices. The results indicate that drought is most prevalent during March and August months. The results of this study revealed that approximately 31% of the study area fell under the four drought classes (i.e., 1% Extreme drought, 4% Severe drought, 9% moderate drought, and 19% mild drought), with spring and the growing season experiencing moderate drought, particularly in agricultural areas, most notably within the Mississippi Alluvial Valley Plain at both state and county levels. In August, approximately 31% of the study area fell under the Four drought classes (i.e., 1% Extreme drought, 4% Severe drought, 9% moderate drought, and 19% mild drought), with spring and the growing season experiencing moderate drought, particularly in agricultural areas, most notably within the Mississippi Alluvial Valley Plain at both state and county levels. This study provides an essential foundation for policymakers, environmental scientists, and agricultural stakeholders aiming to mitigate drought impacts and safeguard against future climate uncertainties.
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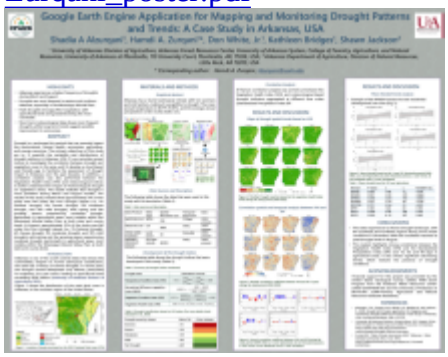

Meeting homepage
Drought and Aquatic Ecosystems in the Southeast Workshop
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