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## Drought Monitoring using the Enhanced Complementary Relationship of Evapotranspiration and Remote Sensing

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Many operational drought indices use precipitation and temperature data together with vegetation conditions obtained with advanced remote sensing technologies. However, there are only a few indices that use actual evapotranspiration (ET) but still do not address the effect of precipitation. In this work, we brought actual ET using enhanced complementary relationship method to include precipitation and vegetation conditions when depicting drought conditions. We compared the proposed drought index with the U.S. Drought Monitor (USDM) which is widely used within the United States. The results of this study showed that the drought patterns from the proposed drought index are consistent with USDM, and the use of an accurate ET method improved its performance as a drought index. The key strengths of this study are that the proposed index can serve as an indicator of rapid droughts developing over a few weeks, and uniquely describes the drought conditions with vegetation conditions which have large impacts on predictions compared to other drought indices.