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## Decomposing the Critical Components of Flash Drought Using the Standardized Evaporative Stress Ratio

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Flash droughts occur rapidly (~1 month timescale) and have produced significant ecological, agricultural, and socioeconomical impacts. Recent advances in our understanding of flash droughts have resulted in methods to identify and quantify flash drought events and overall occurrence. However, while it is generally understood that flash drought consists of two critical components including (1) anomalous, rapid intensification and (2) the subsequent occurrence of drought, little work has been done to quantify the spatial and temporal occurrence of the individual components, their frequency of covariability, and null events. Thus, this study utilized the standardized evaporative stress ratio (SESR) method of flash drought identification applied to the North American Regional Reanalysis (NARR) to quantify individual components of flash drought from 1979 – 2019. Individual case studies were examined and the drought component was assessed using the United States Drought Monitor for 2010 – 2019. Additionally, the flash component was assessed using results of previous flash drought studies. Further, the correlation coefficient and composite mean difference was calculated between the flash component and flash droughts identified to determine what regions, if any, experienced rapid intensification but did not fall into flash drought. The results yielded that SESR was able to represent the spatial coverage of drought well for regions east of the Rocky Mountains, with mixed success regarding the intensity of the drought events. The flash component tended to agree well with other flash drought studies though some differences existed especially for areas west of the Rocky Mountains which experience rapid intensification at high frequencies but did not achieve drought designations due to hyper-aridity.