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# Flash-flood producing mesoscale convective systems: A statistical analysis of precipitation efficiency

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**Flash-Flood Producing Mesoscale Convective Systems: A Statistical  
Analysis of Precipitation Efficiency**

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**ABSTRACT**

A quantitative evaluation of the precipitation efficiency (PE) of mesoscale convective systems (MCSs) is undertaken. The purpose of the study is to test the validity of the admittedly intuitive assumption that MCSs are associated with flash flooding are more efficient in terms of precipitation production than non-flash flood producers. PE computations are performed on a small sample of warm-season MCSs from the central U.S. Propagation characteristics of these MCSs are also examined to test the assumption that flash flood producers are generally regenerative and / or quasi-stationary in nature. The results reveal that while MCSs that yield flash flooding are indeed more efficient at processing ingested water vapor into (excessive) precipitation, the propagation characteristics of the MCSs are not as well correlated to flash flood occurrence.