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## **Exploring Influence of Tropical Storm Frequency over the Gulf of Mexico - Caribbean Sea Basin on Summer Season Rainfall over the U.S.**

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It is well-known that the Gulf of Mexico - Caribbean Sea (GM-CS) basin plays an important role in the summertime hydrologic cycle over the continental U.S.. The GM-CS basin is also a major zone where tropical cyclones form and/or intensify, primarily during June to November. These cyclones, with intense precipitation and latent heat release over the basin and surrounding coastal areas, play a major role in regional water balance. The present study is guided by the hypothesis that such storms over the GM-CS basin, because of increased precipitation, alter seasonal water balance over the GM-CS, result in more convergence over the GM-CS, subsequently influencing moisture transport and summer season rainfall over the central US. A combination of observations (TRMM -3B42) and operational model analysis (North American Regional Analysis) are used to explore this hypothesis. Results of this study will be presented in the EGU meeting