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Correlation between precipitation, dust storms and Gulf of California moisture surges in the Paso del Norte region during the North American Monsoon JOSE NEGRETE, ASTRID LOZANO, ROSA FITZGERALD, UTEP, KARINA APODACA, VERNON MORRIS, Howard University — Previous statistical analyses performed by the authors have demonstrated an anti-correlation between dust storms and precipitation during the North American Monsoon. During monsoon season both precipitation and dust storms appear to be associated with a moisture inflow approaching from Gulf of California (GOC) labeled as a "moisture surge." A series of meteorological observations are presented in an effort to establish a connection between dust storms and reduced precipitation amounts in El Paso, Texas and surrounding areas in the presence of GOC moisture surges. These data sets were utilized (1) to recognize GOC moisture surges, (2) to investigate whether increased aerosol mass and number densities were responsible for decreased precipitation amounts, and (3) to evaluate atmospheric conditions during a moisture surge in the Paso del Norte region.

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