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Progress in American monsoon research: Climatological forecasting of the North American monsoon system

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Relationships between global sea surface temperatures and warm season precipitation activity over the United States are explored. Analyses of PRISM precipitation fields for a 60-year record (1950-2010) and National Climate Data Center sea surface temperatures provides credence for potentially skillful climate forecasts for the North American Monsoon (NAM). Through the use of a combination of oceanic indices, such as the Pacific Decadal Oscillation and the El Niño Southern Oscillation via the use of rotated empirical orthogonal functions (REOFs), a statistically significant correlation with summer precipitation during the critically important months of June and July over the southwestern United States are found. Work is presently under way to determine the viability of utilizing oceanic indices to forecast the North American Monsoon, potentially pointing to the important role that sea surface temperatures can play in modulating the summer precipitation events during the North American Monsoon season.