



## **Robust spring drying in the Southwestern US and seasonal migration of wet/dry patterns in a warmer climate**

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This study compares climate simulations over the United States produced by a regional climate model with the driving global climate simulations as well as a multi-model ensemble of global climate simulations to investigate robust changes in water availability (precipitation (P) – evapotranspiration (E)). A robust spring drying signal across multiple models is identified in the Southwest that results from a decrease in P and an increase in E in the future. In the boreal winter and summer, the prominent changes in P – E are associated with a north – south dipole pattern, while in spring, the prominent changes in P – E appear as an east – west dipole pattern. The progression of the north – south and east – west dipole patterns through the seasons manifests clearly as a seasonal “clockwise” migration of wet/dry patterns, which is a robust feature of water availability changes in the US consistent across regional and global climate simulations.