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Shifts in continental moisture cycling patterns

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As our global fresh water resources are becoming more and more stressed it is important to know the origin and fate of atmospheric moisture over continents. The patterns of moisture feedback between evaporation and precipitation over continents (moisture cycling) may shift due to climate change. This research investigates how moisture cycling changes in the IPCC A1B climate scenario. We perform an a posteriori analysis based on data from the ECHAM5 general circulation model. Hereby we compare the results of the control run and the A1B climate scenario. These results allow us to evaluate possible changes in water availability in the future. Moreover, because we are not only analyzing the state variables (e.g. precipitation), but also the shifts in moisture recycling patterns, we are able to show how different regions are connected through the atmosphere and rely on each other for their water resources. This knowledge can help us adapting our land and water management to contribute in a positive way to the allocation of our water resources.