

## **The abrupt seasonal transition of the Northern Hemisphere general circulation: mechanisms and future changes**

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The Northern Hemisphere exhibits an abrupt regime transition between winter in summer involving the organization of the flow into subtropical anticyclones and monsoons. The transition provides a useful example of how moisture and momentum transports by planetary-scale waves are coordinated to dominate the large-scale circulation. The mechanisms of the abrupt transition are explored in idealized aqua planet model simulations with a prescribed subtropical zonally asymmetric SST perturbation. Future changes in the transition will be discussed in the context of the CMIP5 simulations.