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# Idealized modelling of zonally asymmetric circulation: A dry dynamical core with orography

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The use of dry dynamical cores as simplified models of the atmospheric circulation has been fundamental to establish a basic understanding of how the extratropical circulation reacts to climate change. We understand that Arctic Amplification tends to push storm tracks equatorwards, while amplified warming of the upper tropical troposphere pushes storm tracks polewards. However, fundamental questions on the response of the Northern Hemispheric extratropical circulation remain unresolved, including why climate models project an eastward extension of the North Atlantic storm track in a warming climate.
We here suggest to introduce a realistic topography into a dry dynamical core to obtain a simplified model of the zonally asymmetric circulation, present examples of its application and discuss to what extent it can be used as a analogue to real-world Northern Hemispheric circulation in terms of mean state and variability.