



Assessing the role of atmospheric circulation on heatwaves using CMIP5 historical simulations

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It has been demonstrated that one of the impacts of climate change is an increase of temperature extremes. European heatwaves have become more frequent and intense. The atmospheric circulation is an important driver of temperature variability. We propose to investigate how its role might have evolved in the past century. We determine summer weather regimes of the North Atlantic atmospheric circulation and examine their trends since 1850. Results on reanalysis data allow to identify trends of their relation with extreme temperatures, and show the diversity of atmospheric mechanisms leading to heatwaves.

Those analyses are performed on CMIP5 simulations to assess the ability of climate models to reproduce the mechanisms that lead to European heatwaves. This analysis is meant to identify constraints for the dynamics of heatwaves for model simulations.