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Climate change projections over the Western Mediterranean. Driving conditions or physical procesess: what is introducing more uncertainty in regional climate change projections?

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In this work we present two ensembles of climate change projections over the Iberian Peninsula performed with a climate version of th MM5regional model. The physics ensemble consists on 8 members coming from the change of Cumulus, Planetary Boundary Layer and Microphysics parametrization schemes under the A2 SRES scenario. The other ensemble is formed by 7 experiments using the same physical configuration of the RCM but changing the driving conditions. This change consists on 3 different GCMs under different scenarios.

The results show that the uncertainty in regional climate projections derived from the physics ensemble is of the same order of magnitude as the uncertainty introduced by changing the driving conditions.

On the other hand the large variety of regional climate projections obtained permits us to identify some consistent signal of change across all experiments, giving some confidence on the projections.