



Probabilistic assessment of regional climate change by ensemble dressing

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We present an approach to obtain probabilistic information on climate change signals from ensembles of global and regional climate models. Since single-integration climate models only provide one possible realisation of climate variability, ensembles are a promising way to estimate the uncertainty in climate modelling. Recently, several methods, mostly from the field of numerical weather prediction, have been developed (SKD, AKD, NGR, BMA). The approach presented here is related to kernel dressing. In opposition to BMA, the ensemble members are assumed to be indistinguishable. Hence, we attribute equal mixture weights while the dressing variance is extended to a spatio-temporal covariance matrix. The method has been applied to ensembles of coupled general circulation models, e.g. ECHAM5, as well as regional climate simulations using the CLM model. Current applications include temperature and precipitation as well as seasonal variations over Europe.