

The prediction of western European summer heat waves

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We use a statistical model based on preceding winter North Atlantic Sea Surface Temperatures (SST) and preceding winter and spring precipitation as a predictor of the frequency of western European summer heat waves. In this sense precipitation is used as a proxy for soil moisture and SSTs are used a proxy for the memory in the climate system caused by ocean-atmosphere interactions. The Canonical Correlation Analysis (CCA) model has been verified using 30 years of independent data (1974-2003). Results show that there is a mean hit rate of above and below median number of heat waves of 61% over the western European domain. The spatial variability of this skill is quite high. Comparisons between the results of the statistical model and the dynamical seasonal forecasts from the Ensemble Prediction System of ECMWF will be made.