

Stochastic Ensemble Climate Forecast with an Analogue Model

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We present a stochastic model to perform large ensembles climate forecasts. The model is based on analogue sampling of sea-level pressure data from the NCEP reanalysis. It is tested to forecast an NAO index and the daily average temperature in five European stations. We simulated 100 member ensembles of averages over lead times from 5 days to 80 days in a hindcast mode, i.e. from a meteorological to a seasonal forecast. We tested the hindcast simulations with usual forecast skill scores (CRPSS or correlation), against persistence and climatology. We find significantly positive skill scores for all time scales. Although this model cannot outperform numerical weather prediction, it presents an interesting benchmark that could complement climatology or persistence forecast.