Probabilistic predictability of weather types in operational ensemble forecasts and the Lorenz model

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"Grosswetterlagen" (i.e. weather types) have been operationally derived for ECMWF-EPS forecasts according to James (2007). In this presentation we verify the ensemble distribution of weather types and the temporal transition probabilities from one weather type to the next. In general there is a good agreement of the distributions for the first forecast days, but later in the forecast range there is a slight model drift to some more preferred types. The rate of correct weather type forecasts decreases from 80% for day one to 30% at day 6. There is skill compared to persistence and various climatological forecasts (also taking into account climatological transition probabilities) for the full model forecast range, i.e. up to 14 days. The dependency of the predictability on the weather type of the beginning of the forecast and of the verifying day is shown. With the same methods forecasts from different parameter configurations of the Lorenz model are verified, showing different degrees of chaos.