



The use of ensemble information for medium range forecasts at the Austrian Meteorological Service

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Deterministic weather forecasts have been improving during the last decades and provide nowadays a rather good representation of the actual weather. But even the best models can go wrong, especially for forecasts several days ahead due to the chaotic nature of the atmosphere. Therefore ensemble forecasts are getting more and more important to estimate the confidence of a (severe) weather event. In addition it is relevant for the forecaster to know the cost-lost ratio of the user otherwise an optimal decision can't be made. However a forecast is only beneficial if it supports the clients successfully in their decision process, which can only be reached by a reasonable combination of deterministic and probabilistic model information.

At ZAMG we are using the operational clustering system from ECMWF and a clustering algorithm of the Hungarian Meteorological Service. The ECMWF clustering system is based on the K-means method, the clustering is done over an extended European area. The Hungarian Met Service uses a multi-parameter approach and the clustering is done over Central Europe. In addition we have also an experimental version of the ECMWF clustering algorithm with our own parameter setting available, where the clustering domain is over Central Europe. The Hungarian and ECMWF system have been compared qualitatively and quantitatively. A questionnaire that has been addressed to the forecasters was evaluated. First results of these verifications will be presented to illustrate the power and weaknesses of the clustering systems used at ZAMG. Finally plans for the near future will demonstrate how the system will be implemented in the operational schedule. This leads to new tools for the forecasters and therefore to new products for our customers to help them in their decision process.