



## The global ICON Ensemble at DWD

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Since October 2015 DWD runs an experimental ICON ensemble suite with 40 members and approx. 40km horizontal resolution on the global scale up to +168h lead time twice a day (00/12UTC). The global grid contains a 20km two-way nested area over Europe. The ensemble is initialized by analyses from our ensemble data assimilation system (ICON EDA) which is a combination of a Local Ensemble Transform Kalman Filter (LETKF) with a hybrid ensemble/3D-Var variational system for the high-resolution deterministic model. The LETKF analysis is updated every 3 hours.

Kalman filters in data assimilation (DA) require covariance inflation to prevent the collapse of the uncertainty in the analysis ensemble. The climatological background error covariance from the 3dVar system (NMC Method) is added with a weight of 0,25 to the flow dependent Background error covariance from the LETKF and a multiplicative inflation factor is applied throughout the atmosphere. Moreover, the analysis states are to some extent relaxed to their priors and the SST's are perturbed by 1°K random perturbations with spatial correlations of 100km/1000 km and correlations in time of 1 day. We show verification results of the ICON-EPS forecasts against analysis and observations and outline possible future developments.