



## **Towards an upgraded version of ALADIN-LAEF**

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After some years of running pre-operational the single model Limited Area Ensemble System (LAMEPS) of ZAMG (ALADIN-LAEF) is now operational for more than one year. The initial perturbations are generated by a Breeding-Blending cycling and surface initial conditions are created by a non-cycling surface breeding method. ALADIN-LAEF consists of 16 perturbed member and one control run. The resolution is approximately 18km in the horizontal with 37 levels in the vertical. For lateral boundary conditions the first 16 member of ECMWF-EPS are used.

A revised version of ALADIN-LAEF will be implemented by the end of the year which will run on an increased horizontal resolution of about 11km, with 45 levels in the vertical and on a larger domain. The multiphysics, already used in the operational ALADIN-LAEF will be revised and optimized for the higher resolution. To account for errors in the forecasts due to uncertainties in the parameterization of surface fields, a stochastic physics scheme is implemented in the surface scheme of the ALADIN model. The parameterized tendencies of surface physical parameter are perturbed with multiplicative noise. To improve the representation of the surface and its uncertainties in the initial conditions an ensemble surface data assimilation will be incorporated in ALADIN-LAEF.

In the presentation the performance of the new ALADIN-LAEF will be investigated and the benefit of the single components will be highlighted. A comparison with the global ensemble system of ECMWF will point out the benefit of the LAMEPS against its global counterpart.