gSREPS: AEMET New Mesoscale Ensemble Prediction System. First objective verification

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Ensemble prediction systems are a feasible framework and the most useful tool to improve forecasts of severe weather events (SWE). Resolution also matters, because of the effect of soil characteristics and orography, and the impact of explicitly resolve some physical processes may become very important in predicting the location and intensity of the event. AEMET, the Spanish Agency of Meteorology, has developed its new generation of ensemble prediction system. It is a multimodel-multiboundaries system using four NWP models, Harmonie (AROME and ALARO) and WRF (ARW and NMM), running at 2.5 Km (meso-gamma) of horizontal resolution several times a day. In this presentation, the first results of the objective verification are shown. LETKF is used to compute the perturbations of the initial conditions while boundaries from several global models are used as perturbations at the lateral boundaries. SPPT (Stochastic Perturbed Parameterization Tendencies) is included to sample parameterization uncertainties during the integration time increasing the ensemble spread. The system is focused on the forecast of surface parameters (precipitation, wind and 2m temperature). After several months of daily experimental runs at ECMWF we show in this presentation the first objective verification results comparing our system with ECMWF EPS, used as a proxy, and GLAMEPS (HIRLAM official EPS). Standard probabilistic scores are used in this comparison.