High resolution climatology
- towards climate change services

Recent changes of the ECMWF Ensemble Prediction System

R. Buizza, R. Hagedorn, L. Isaksen, M. Leutbecher, T. N. Palmer, M. Steinheimer, and F. Vitart
ECMWF, Research, Reading, United Kingdom (buizza@ecmwf.int, 00441189869450)

Since its implementation in 1992, the ECMWF Ensemble Prediction System (EPS) has been continuously upgraded to provide users with top quality probabilistic forecasts. In this communication, the most recent changes implemented since March 2008 will be briefly reviewed. In March 2008, the 15-day variable-resolution ensemble and the coupled monthly ensemble were merged into a seamless, 32-day probabilistic forecasting tool. At the same time, the re-forecast suite became part of the operational ensemble suite to improve the quality of ensemble calibrated products. In September 2009, a revised version of the operational stochastically perturbed parameterization tendency scheme used to simulate model uncertainties was implemented. In January 2010, the resolution of the 32-day EPS has been increased to TL639L62 resolution ($\sim$ 35 km grid-point spacing) up to day 10, and to TL319L62 resolution ($\sim$ 50 km grid-point spacing) thereafter. In the spring of 2010, the evolved singular vectors will be replaced with a set of perturbations defined by an Ensemble Data Assimilation (EDA) system. In this new configuration, the EPS initial conditions will be generated using a combination of EDA-based perturbations and initial-time singular vectors. In the near future, further revisions of the stochastic approach used to simulate model error and the inclusion of initial perturbations in the surface variables are expected.