



Ensemble prediction and data assimilation at ECMWF

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Since March 2008, the ECMWF 15-day variable-resolution ensemble and the coupled monthly ensemble have been merged into a seamless, 32-day Ensemble Prediction System (EPS). 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 this 32-day EPS will be increased to TL639L62 resolution (~ 35 km grid-point spacing) up to day 10, and to TL319L62 resolution (~ 50 km grid-point spacing) thereafter. Apart for the resolution change, the EPS will continue to run twice a-day with 50 perturbed and one unperturbed members, at 12 UTC with persisted Sea-Surface-Temperature (SST) anomalies up to day 15, and at 00 UTC with persisted SST-anomalies up to day 10 and a coupled ocean model from day 10 (to day 15 daily and to day 32 on Thursdays). In the spring of 2010, a second major change will be introduced in the operational EPS, when 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 this talk, the operational EPS will be described, and the rationale and the impact on the EPS performance of the three latest changes will be discussed.