

A REVIEW OF ENSEMBLE FORECASTING METHODS

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As errors initiating both from imperfect initial conditions and numerical models amplify due to the chaotic nature of the atmosphere, weather predictability is limited. The limits of predictability were first explored climatologically, in a time mean sense. With the advent of ensemble forecasting where a set of integrations are carried out in place of a single forecast to represent plausible scenarios given initial condition and model related errors, the case dependent assessment of predictability, in the form of ensemble-based probabilistic forecasts, became a reality. This presentation will review concepts and methods developed for the key components of ensemble forecast systems such as the estimation and sampling of initial uncertainty for the generation of initial perturbations, and the representation of model related uncertainty.