



High Impact Weather Prediction by LAM EPS

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The efforts to improve the capability to forecast *severe-high impact* weather events is nowadays strongly based on Ensemble Prediction to cope with the low degree of predictability of some relevant physical phenomena. Global EPS is nowadays included in the backbone of the operational forecasting and the ongoing research on this subject can now also benefit of important opportunities related to the scientific international cooperation. TIGGE, the THORPEX Interactive Grand Global Ensemble, is probably one of the best realization of this cooperation.

During the recent years, Limited Area EPS systems have been developed to exploit the adoption of the ensemble approach also at higher horizontal resolution and on the shorter time range. Some of these systems are already running operationally or quasi-operationally. The design of a LAM EPS system can be very different going from a “simple” Dynamical Downscaling of the global EPS scenarios to the implementation of ad-hoc methodologies to generate perturbation on the LAM initial state and/or on the model trajectories. The scientific investigations related to *the best way to generate perturbations for LAM EPS* cannot be carried on regardless of the constraints imposed by lateral boundary conditions on inner domain growing perturbations.

In this presentation an overview on the ongoing LAM EPS activities will be given with a particular focus on TIGGE LAM which should allow a worldwide framework to cooperate on this subject both by supporting scientific research and by coordinating operational activities at regional level.