Heavy convective precipitation forecast using COSMO-CZ-EPS

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The study presents an ensemble COSMO-CZ-EPS. This short-range ensemble prediction system is computed on the Institute of Atmospheric Physics CAS on the initial, lateral and boundary conditions from COSMO-LEPS. The COSMO-LEPS ensemble is driven by 16 selected members from ECMWF ensemble. The COSMO-CZ-EPS is integrated in 2.8km horizontal resolution on the domain covering the Czech Republic and near neighbourhood. The integration started at 0600UTC and finished at 2400UTC of the same day.

The study was performed on heavy precipitation events from 2012-2014 and shows verification results and uncertainty estimation. The uncertainity estimation is based on a spread-skill relationship among the sklil of precipitation forecasts and spread of different characteristics like forecasts of precipitation, geopotencial etc. The skill of the precipitation forecasts is computed using a traditional verification methods (e.g. RMSE) and also using spatial verification methods (e.g. Fraction skill score).