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## Will post-processing always improve my forecasts?

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Different statistical techniques are frequently employed to post-process the outcome of ensemble forecasting models. The main reason is to compensate for biases due to errors in model structure or initial conditions, and as a correction for under- or overdispersed ensembles.

Here we present analyses of the results from one these methods. We use the Ensemble Model Output Statistics method (EMOS; Gneiting et al., 2005) to post-process the ensemble output from a continental scale hydrological model - LISFLOOD (Van Der Knijff et al., 2010; De Roo et al., 2000). The model was calibrated at approximately 700 stations based on long term observations of runoff and meteorological variables. We use the same locations for calibration and verification of the 1-10 days forecasts of the model, based on ensemble and deterministic meteorological forecasts from ECMWF (51 ensemble members + 1 high-resolution), DWD (1 member) and COMSO-LEPS (16 ensemble members).

We calibrated the EMOS-parameters using the Continuous ranked probability score (CRPS). Whereas the post-processing improved the results for the first 1-2 days lead time, the improvement was less for increasing lead times of the verification period. As the post-processing is based on assumptions about the forecast errors, we will here present analyses of the ensemble output that can give some indications of what to expect from the post-processing.

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