Calibration of probabilistic forecast of temperature in Pyeongchang area using statistical postprocessing methods

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In this study, homogeneous and non-homogeneous regression models as well as Bayesian model averaging (BMA) were used to reduce the bias and dispersion existing in ensemble prediction and to provide probabilistic forecast. The forecast performances such as reliability and accuracy are evaluated by rank histogram, residualquantile-quantile plot, mean absolute error, root mean square error and continuous ranked probability score.
To correct biases, statistical post-processing methods were applied using fixed and sliding windows. BMA exhibited better prediction skill than the other methods in most observation stations under the fixed window,and homogeneous and non-homogeneous regression models with positive regression coefficients exhibited better prediction skill than BMA under the sliding window. In particular, the homogeneous regression model with positive regression coefficients exhibited the best prediction skill.