



Precipitation forecast verification by stochastic downscaling

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The verification of numerical precipitation forecasts using dense networks of rain gauges requires to bridge the scale gap between the finite resolution of the forecast fields and the point-like nature of the measurements provided by each gauge. Interpolation of the numerical forecasts to the rain gauge positions or upscaling of the rain-gauge measurements by averaging are commonly used to this purpose. Both approaches present uncertainties and sampling errors due to the limited density of rain-gauge networks and to the high spatial-temporal variability of precipitation, so that an estimate of sampling errors becomes crucial. In this work, we discuss the use of a stochastic rainfall downscaling technique to quantitatively assess the significance of the results of the verification procedure in both downscaling and upscaling approaches.