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Sampling design optimisation for rainfall prediction using a non-stationary geostatistical model

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Highlights

- Geostatistical prediction of daily rainfall benefits from a model that includes non-stationarity in the mean and variance
- Rain-gauge networks can be optimised spatially for daily rainfall interpolation
- Sampling design optimisation of rain-gauge networks leads to a modest but significant accuracy improvement
- In a case study the number of required rain-gauges could be reduced by 10
- The optimal rain-gauge network has a fairly uniform spatial distribution with increased density in mountainous areas and far from radar stations

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