

# MISSPECIFIED SPATIAL STRUCTURE OF RESIDUALS IN ECOLOGICAL POISSON REGRESSION

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In the context of ecological studies, the bayesian hierarchical Poisson model is of prime interest when studying rare diseases. But it appears that adding some spatial structure to residuals may lead to underestimation of ecological association between covariates and relative risks. Thus, we conduct a simulation study to assess the impact of a misspecification of the residuals spatial structure. Potential autocorrelation structures for both covariates and residuals were considered as well as cross-correlation between covariates and residuals.