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Dynamic spatio-temporal models for spatial data

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Abstract

Analyzing spatial data often requires modeling dependencies created by a dynamic spatio-temporal data generating process. In many applications, a generalized linear mixed model (GLMM) is used with a random effect to account for spatial dependence and to provide optimal spatial predictions. Location-specific covariates are often included as fixed effects in a GLMM and may be collinear with the spatial random effect, which can negatively affect inference. We propose a dynamic approach to account for spatial dependence that incorporates

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