

Spatial Generalized Linear Mixed Models with Application to Prevalence Mapping

空间广义线性混合模型及其在预测流行病中的应用

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内容提要

引言

- 研究意义
- 文献综述
- 主要内容

模型 (SGLMM)

- 模型结构
- 计算方法
- 数据分析

结论与展望

Examples

1. radionuclide concentrations on Rongelap Island
2. childhood malaria in the gambia
3. Loa loa prevalence in Cameroon and surrounding areas

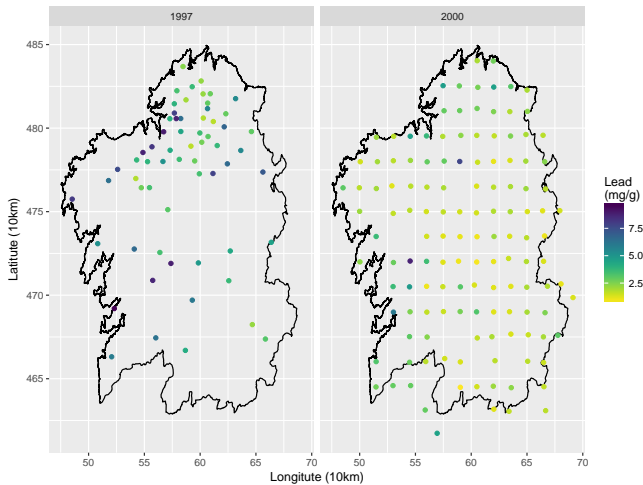
Introduction

Diggle *et al.* (2002)

- the effects of child level covariates (age and bed net use)
- village level covariates (the primary health care and greenness of surrounding vegetation)
- separate components for residual spatial
- non-spatial extrabinomial variation

\mathbb{R}^n

$$\log\{p_{ij}/(1 - p_{ij})\} = \alpha + \beta' \mathbf{z}_{ij} + U_i + S(x_i)$$



谢谢!

参考文献 I

Diggle, Peter, Moyeed, Rana, Rowlingson, Barry, & Thomson, Madeleine. 2002. Childhood malaria in the Gambia: a case-study in model-based geostatistics. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, **51**(4), 493–506.