



## Geostatistical Mixed Beta Regression: A Bayesian approach

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This paper is based on recent research that focuses on regression modeling for geostatistical bounded data, with emphasis in proportions measured on a continuous scale. Specifically, it deals with beta regression models with a mixed effect in order to control the spatial variability from a Bayesian approach. Until now, various studies have been performed for geostatistical models, primarily restricted to response variable with support in the real line. However, variables with limited-range are common in practice, and is necessary have a model with bounded support, and flexible in the sense that it can model asymmetries.

We use a suitable parameterization of the beta distribution in terms of its mean and the precision parameter, which allows for both parameters to be modeled through regression structures that may involve fixed and random effects. Specification of prior distributions is discussed, computational implementation via Gibbs sampling is provided, finally it is illustrated using simulated data.

**Keywords:** Bayesian analysis; Beta distribution; Mixed regression models; Geostatistical models.