Space-Time Modelling of Coupled Environmental Variables

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Abstract: This article proposes a dynamic model for spatio-temporal coupled environmental variables. The model is discussed in a state-space framework which results useful to provide full probabilistic inference for the model parameters, interpolation and forecast of the variables of interest. The role of the measurement matrix in spatial interpolation is also considered and both the use of deterministic and stochastic spatial patterns is discussed.

Keywords: Geostatistics, spatio-temporal models, state-space models, spatial patterns.