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CPS Paper

National and local population projections with Bayesian hierarchical models

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Brief Description

In this paper we describe an

approach to population projections based on Bayesian hierarchical models and implemented in open source R code. Time and age (auto-) correlations are incorporated via Gaussian process priors and/or flexible non-linear smooth terms while spatial and social-demographic characteristics are easily included. The method efficiently solves small area/population issues and allows us to incorporate qualitative and quantitative prior information and even expert assumptions.

Abstract

In this paper we describe a new approach to population projections based on Bayesian hierarchical models and implemented in open source R code.

Time and age (auto-)correlations are incorporated via Gaussian process priors and/or flexible non-linear smooth terms while spatial and social-demographic characteristics are easily included.

This method efficiently solves small area/population issues and allows us to incorporate qualitative and quantitative prior information and even expert assumptions.