

1159-62-198

**Noelle I. Samia\*** (n-samia@northwestern.edu), 2006 Sheridan Road, Evanston, IL 60208.

*Climate-driven context-dependent structure of vole population: Analysis using Bayesian Mixture Model.*

We develop a Bayesian mixture model for analyzing data on grey-sided voles derived from a monitoring program in Hokkaido, Japan. The number of voles caught at a given location and time is assumed to follow a binomial distribution that depends on the number of traps and probability of being trapped. This probability depends on a latent time series modeled as a mixture that accommodates covariates. Estimation and inference are performed using Markov chain Monte Carlo techniques.

This is based on a joint work with Michael Bertolacci, Ori Rosen, Osnat Stramer, Takashi Saitoh, and Nils Chr. Stenseth. (Received August 05, 2020)