

P8160 - Bayesian Modeling of Hurricane Trajectories

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Introduction

Data Preparation

- ▶ Self-join was performed to generate data for Gibbs sampling
- ▶ For each hurricane, 80% record was randomly selected and assigned to the train dataset, and the rest are in the test dataset. Hurricanes with less than 5 records were removed.

Discussion

Strength

- ▶ Unlike classical modeling methods, the MCMC approach bypass coefficient optimization process and directly sample coefficients from their distributions
- ▶ Optimization methods may vary from models to models, while we only need to derive posterior conditional distribution for each coefficients when using Gibbs Sampling.

Limitation

- ▶ MCMC approaches are often computationally expensive since they involve thousands of rounds of sampling and updating.