South Africa

Data

New Deaths

Vertical dotted lines represent the first seeding day and the epidemic start date.

Mobility Data

Vertical dotted lines represent the first seeding day and the epidemic start date.
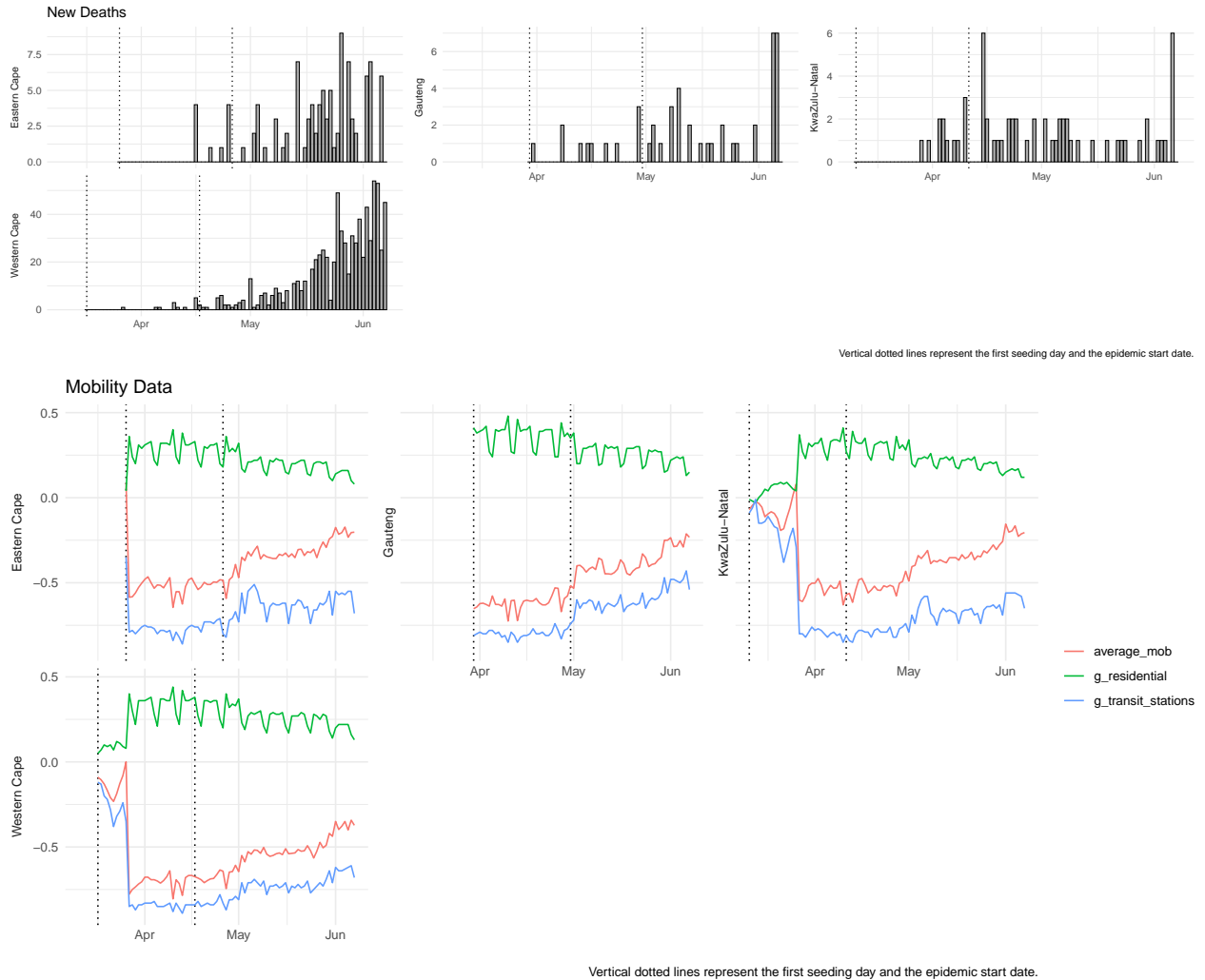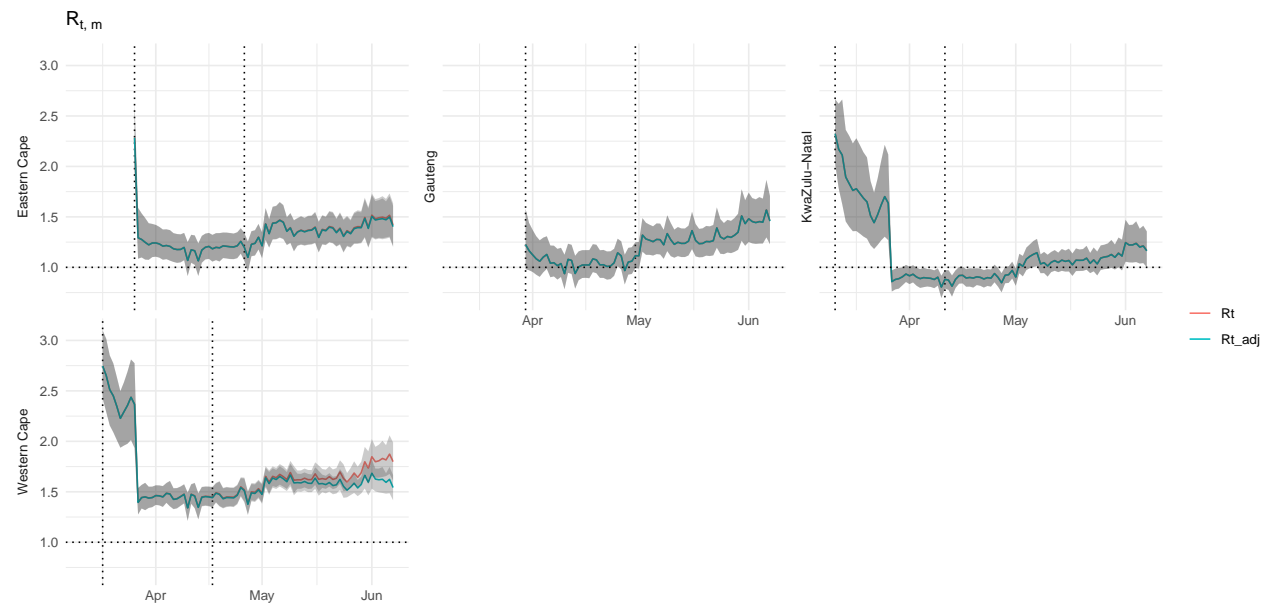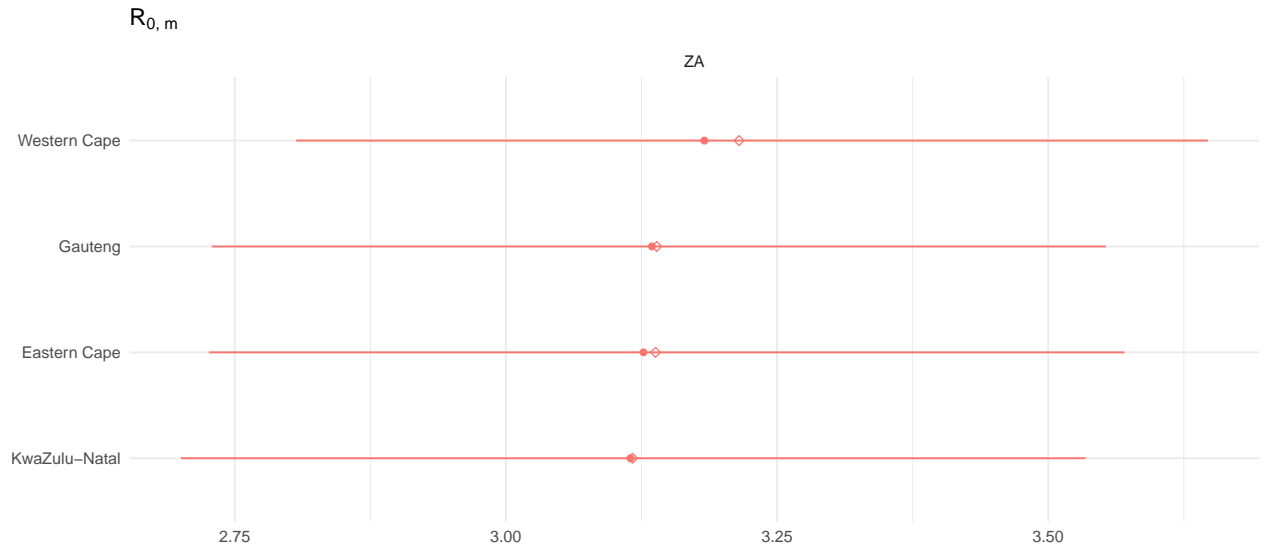
Analysis

Number of divergent transitions = 0

Maximum $\hat{R}$ = 1.005472

Minimum Bulk ESS = 1401.237

Minimum Tail ESS = 1190.201

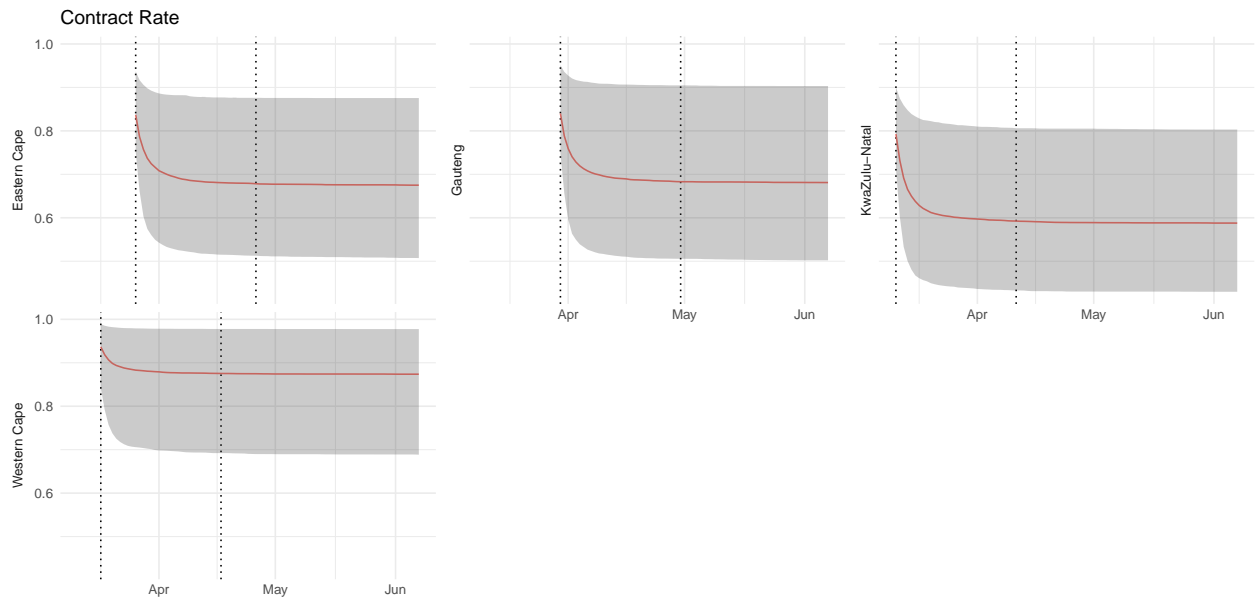Vertical dotted lines represent the first seeding day and the epidemic start date.

Contact rate function:

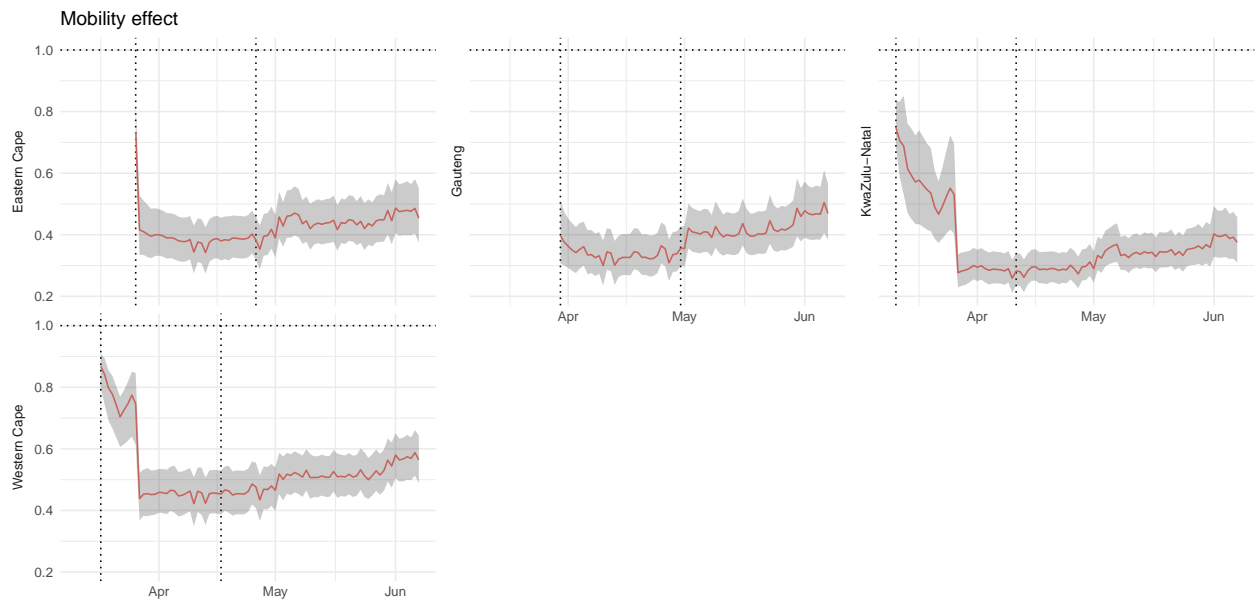$$cr(t; t^*, \lambda_j, \kappa) = \lambda_j + \frac{1 - \lambda_j}{1 + \exp(\kappa(t - t^*))}$$
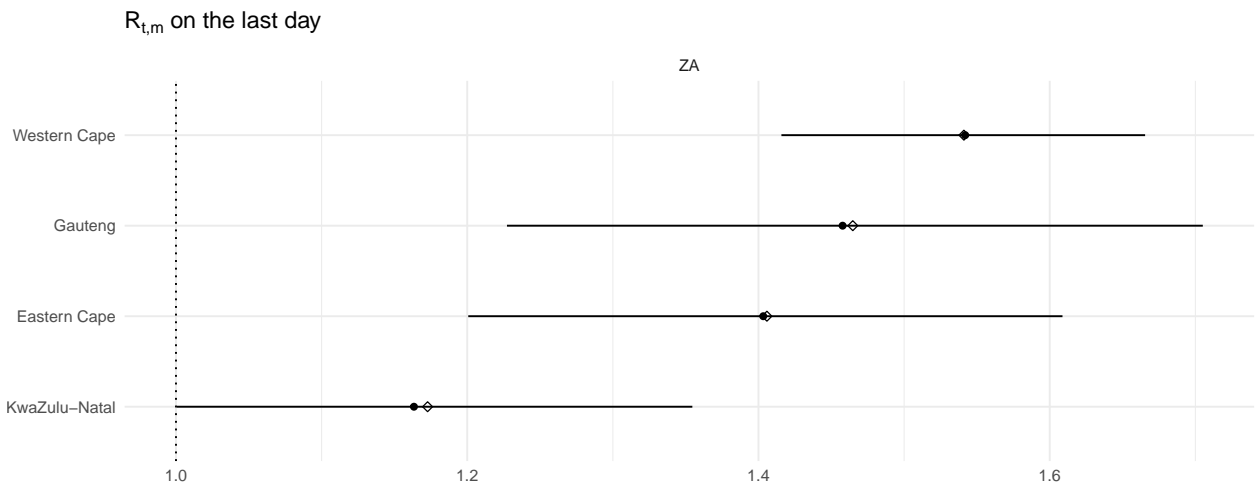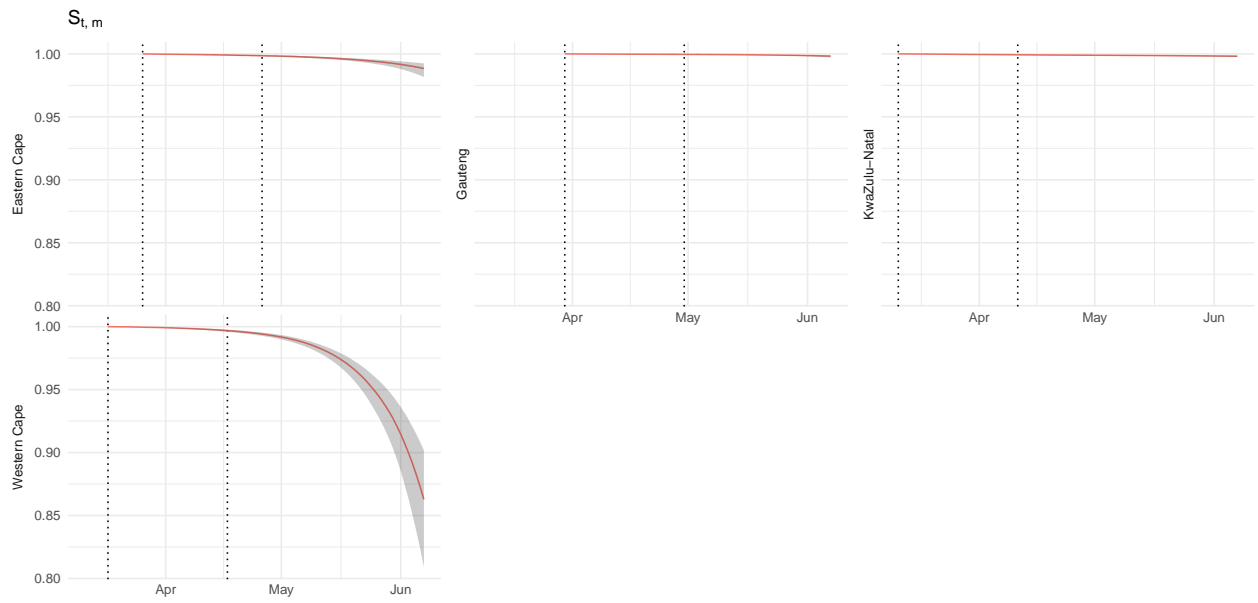
where

$$\lambda_j \sim \texttt{Beta}(3, 1)$$
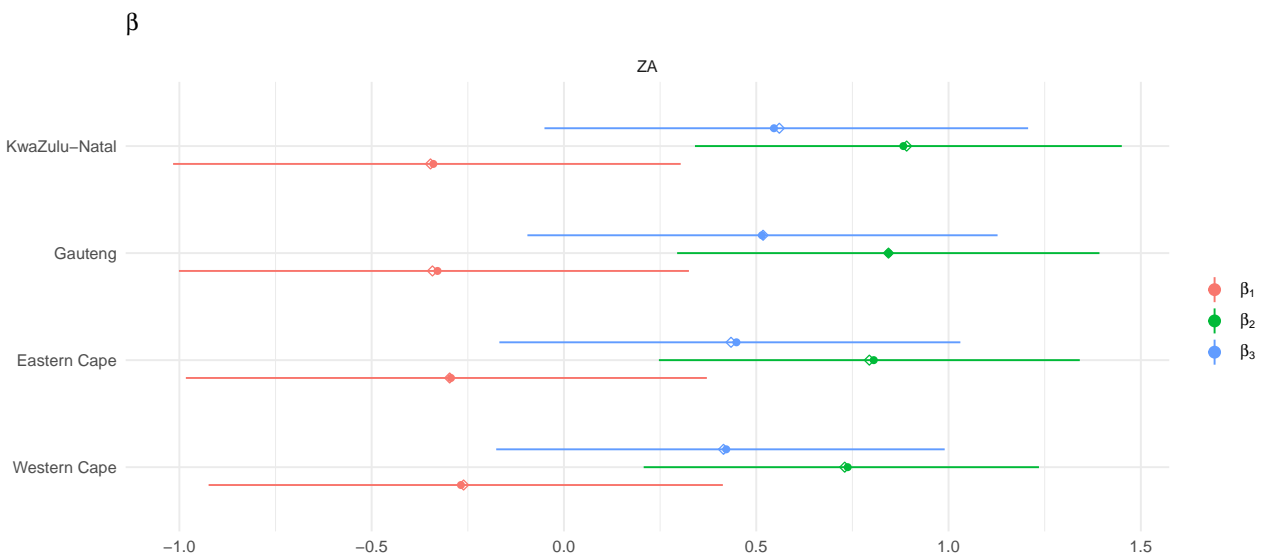$$\kappa \sim \texttt{NegHalfNormal}(0, 1).$$

Contract Rate

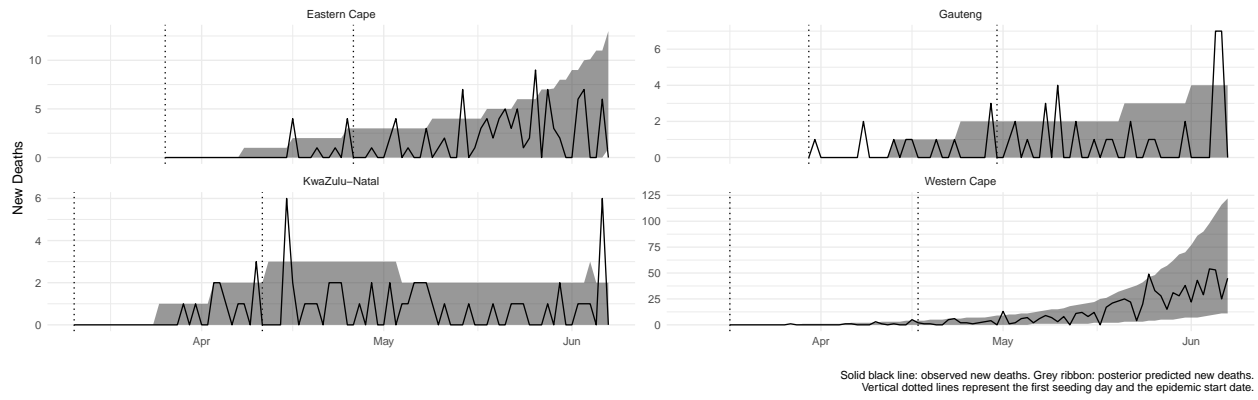Vertical dotted lines represent the first seeding day and the epidemic start date.

Mobility effect

Vertical dotted lines represent the first seeding day and the epidemic start date.

3

$S_{t, m}$

Vertical dotted lines represent the first seeding day and the epidemic start date.

$R_{t,m}$ on the last day

Mobility linear model: $\beta_1 \cdot X_{\text{residential}} + \beta_2 \cdot X_{\text{transit}} + \beta_3 \cdot X_{\text{average}}$.

β

4

Solid black line: observed new deaths. Grey ribbon: posterior predicted new deaths.
Vertical dotted lines represent the first seeding day and the epidemic start date.

Imputed Cases

IFR