Full model using optimizer “optim” instead of “nlminb”

> summary(ibr4qA.lme.optim)

Linear mixed-effects model fit by maximum likelihood

Data: qibr4

AIC BIC logLik

7980.111 8038.944 -3983.056

Random effects:

Formula: ~1 | land

(Intercept) Residual

StdDev: 0.9304124 0.2727643

Correlation Structure: Exponential spatial correlation

Formula: ~x + y | land/road

Parameter estimate(s):

range

Inf

Fixed effects: A ~ barr \* mort

Value Std.Error DF t-value p-value

(Intercept) 4.602731 0.29474541 33000 15.615955 0.0000

barr -0.448342 0.01725373 33000 -25.985247 0.0000

mort -0.049295 0.01724501 33000 -2.858489 0.0043

barr:mort 0.007719 0.01724631 33000 0.447567 0.6545

Correlation:

(Intr) barr mort

barr 0.000

mort 0.000 0.000

barr:mort 0.000 -0.002 -0.005

Standardized Within-Group Residuals:

Min Q1 Med Q3 Max

-11.79099820 -1.63337345 -0.08542923 1.48320502 8.86917986

Number of Observations: 33013

Number of Groups: 10