> dim(sGDs)

[1] 127094 10

> head(sGDs)

land barr mort x y N A Ae Ho

2200001 ibr40 -1.416574 -1.410426 -1.844838 -1.6766811 20 4.0 2.451443 0.5100000

2200002 ibr40 -1.416574 -1.410426 -1.844838 -1.4989415 22 4.1 2.473444 0.5227273

2200003 ibr40 -1.416574 -1.410426 -1.844838 -1.3212019 22 4.1 2.473444 0.5227273

2200004 ibr40 -1.416574 -1.410426 -1.844838 -1.1434623 23 4.0 2.511404 0.5260870

2200005 ibr40 -1.416574 -1.410426 -1.844838 -0.9657227 15 4.0 2.525498 0.5466667

2200021 ibr40 -1.416574 -1.410426 -1.755962 -1.6766811 24 4.0 2.408611 0.4875000

He

2200001 0.4912500

2200002 0.5068182

2200003 0.5068182

2200004 0.5051040

2200005 0.5108889

2200021 0.4907986

> summary(sGDs)

land barr mort x

ibr47 :14431 Min. :-1.4165735 Min. :-1.410427 Min. :-1.84484

ibr45 :14335 1st Qu.:-0.7087462 1st Qu.:-0.702925 1st Qu.:-0.77833

ibr42 :13591 Median :-0.0009189 Median : 0.004576 Median : 0.02156

ibr41 :13210 Mean : 0.0000000 Mean : 0.000000 Mean : 0.00000

ibr46 :13159 3rd Qu.: 0.7069083 3rd Qu.: 0.712077 3rd Qu.: 0.91032

ibr40 :12864 Max. : 1.4147356 Max. : 1.419578 Max. : 1.62133

(Other):45504

y N A Ae

Min. :-1.67668 Min. :15.00 Min. :1.300 Min. :1.040

1st Qu.:-0.78798 1st Qu.:34.00 1st Qu.:4.000 1st Qu.:2.256

Median :-0.07702 Median :46.00 Median :4.600 Median :2.564

Mean : 0.00000 Mean :45.38 Mean :4.635 Mean :2.579

3rd Qu.: 0.81167 3rd Qu.:58.00 3rd Qu.:5.300 3rd Qu.:2.877

Max. : 1.70037 Max. :69.00 Max. :7.700 Max. :4.404

Ho He

Min. :0.0375 Min. :0.03477

1st Qu.:0.4942 1st Qu.:0.49768

Median :0.5593 Median :0.55925

Mean :0.5486 Mean :0.54857

3rd Qu.:0.6135 3rd Qu.:0.61203

Max. :0.8029 Max. :0.77012

> lmer1 = lmer(A ~ barr \* mort + (1 | land), data=sGDs, REML=FALSE)

> summary(lmer1)

Linear mixed model fit by maximum likelihood ['lmerMod']

Formula: A ~ barr \* mort + (1 | land)

Data: sGDs

AIC BIC logLik deviance df.resid

281972.9 282031.4 -140980.4 281960.9 127088

Scaled residuals:

Min 1Q Median 3Q Max

-4.6901 -0.6409 0.0763 0.7118 3.4864

Random effects:

Groups Name Variance Std.Dev.

land (Intercept) 0.2172 0.4660

Residual 0.5379 0.7334

Number of obs: 127094, groups: land, 10

Fixed effects:

Estimate Std. Error t value

(Intercept) 4.582215 0.147377 31.09

barr -0.259166 0.002057 -125.97

mort -0.172832 0.002057 -84.01

barr:mort 0.084144 0.002059 40.87

Correlation of Fixed Effects:

(Intr) barr mort

barr 0.000

mort 0.000 -0.005

barr:mort 0.000 0.002 -0.001