

CARBayes

- CARBayes is a R package that was developed to fit a variety of CAR models to spatial health data (by Duncan Lee)
- The package can be called using *glm* – like call on R
- The package allows a variety of linear predictor terms and also different CAR models :
 - BYM
 - Leroux
 - Localised cluster
- There is also a space-time extension of the package : CARBayesST

Model call(BYM)

```
library(CARBayes)
library(maps)
SCcounty<-map("county","South Carolina",plot=FALSE,fill=TRUE)
SCmap<-map2SpatialPolygons(SCcounty,IDs=SCcounty$names)
plot(SCmap)
W.nb <- poly2nb(SCmap)
W.mat <- nb2mat(W.nb, style="B")
form<-obs~1+offset(log(expe))
model.spatial<-S.CARbym(formula=form,
family="poisson",data=SCcg90, W=W.mat, burnin=10000,
n.sample=11000)
summary(model.spatial)
```