```
> mA<-gamm(L50~Category+s(logRD),random=list(Location=~1),data=A,family=quasipoisson)

 Maximum number of PQL iterations:  20
iteration 1
iteration 2
iteration 3
> summary(mA$gam)

Family: quasipoisson
Link function: log

Formula:
L50 ~ Category + s(logRD)

Parametric coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept) 3.848342   0.004224 911.036   <2e-16 ***
CategoryL   0.077397   0.008526   9.078   <2e-16 ***
CategoryNL  0.103503   0.010039  10.310   <2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Approximate significance of smooth terms:
           edf Ref.df     F p-value
s(logRD) 4.945  4.945 199.7  <2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

R-sq.(adj) =  0.523
  Scale est. = 0.11524   n = 1475
> mean(A$Lat)
[1] 42.20876
> mean(A$Lon)
[1] -71.10039
> #% change L:
>   ((10^(exp(3.848342+0.077397)/10)-10^(exp(3.848342)/10))/10^(exp(3.848342)/10))*100
[1] 138.5235
> #% change NL:
>   ((10^(exp(3.848342+0.103503)/10)-10^(exp(3.848342)/10))/10^(exp(3.848342)/10))*100
[1] 224.7927
```

```
> mB<-gamm(L50~Category+s(logRD),random=list(Location=~1),data=B,family=quasipoisson)

 Maximum number of PQL iterations:  20
iteration 1
iteration 2
iteration 3
> summary(mB$gam)

Family: quasipoisson
Link function: log

Formula:
L50 ~ Category + s(logRD)

Parametric coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  3.879586   0.004783 811.133  < 2e-16 ***
CategoryL   -0.065237   0.008062  -8.092 1.54e-15 ***
CategoryNL  -0.036766   0.008571  -4.290 1.95e-05 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Approximate significance of smooth terms:
           edf Ref.df     F p-value
s(logRD) 4.973  4.973 278.6  <2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

R-sq.(adj) =  0.591
  Scale est. = 0.17938   n = 1108
> mean(B$Lat)
[1] 42.32657
> mean(B$Lon)
[1] -71.17846
> #% change L:
>   ((10^(exp(3.879586-0.065237)/10)-10^(exp(3.879586)/10))/10^(exp(3.879586)/10))*100
[1] -50.53416
> #% change NL:
>   ((10^(exp(3.879586-0.036766)/10)-10^(exp(3.879586)/10))/10^(exp(3.879586)/10))*100
[1] -33.1242
```

```
> mC<-gamm(L50~Category+s(logRD),random=list(Location=~1),data=C,family=quasipoisson)

 Maximum number of PQL iterations:  20
iteration 1
> summary(mC$gam)

Family: quasipoisson
Link function: log

Formula:
L50 ~ Category + s(logRD)

Parametric coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  3.899701   0.006609 590.078  < 2e-16 ***
CategoryL   -0.030842   0.011336  -2.721  0.00719 **
CategoryNL  -0.063170   0.011417  -5.533 1.17e-07 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Approximate significance of smooth terms:
         edf Ref.df     F p-value
s(logRD)   1      1 0.382   0.537

R-sq.(adj) =  0.144
  Scale est. = 0.17681   n = 174
> mean(C$Lat)
[1] 42.34631
> mean(C$Lon)
[1] -71.11187
> #% change L:
>   ((10^(exp(3.899701-0.030842)/10)-10^(exp(3.899701)/10))/10^(exp(3.899701)/10))*100
[1] -29.20485
> #% change NL:
>   ((10^(exp(3.899701-0.063170)/10)-10^(exp(3.899701)/10))/10^(exp(3.899701)/10))*100
[1] -50.14971
```