*#95% confidence ellipses*

*#Note: this method assumes a multivariate normal distribution of data*

library(ggplot2)

library(ellipse)

Chile=read.csv("ellipses.csv") #use “consumers.csv” for just humans

x <- Chile$iso1

y <- Chile$iso2

group <- Chile$group

df <- data.frame(x=x, y=y, group=factor(group))

df\_ell <- data.frame()

for(g in levels(df$group)){df\_ell <- rbind(df\_ell, cbind(as.data.frame(with(df[df$group==g,], ellipse(cor(x, y),scale=c(sd(x),sd(y)),centre=c(mean(x),mean(y))))),group=g))}

ggplot(data=df, aes(x=x, y=y,colour=group)) + geom\_point() +

geom\_path(data=df\_ell, aes(x=x, y=y,colour=group))