Lab3: Correlation plot

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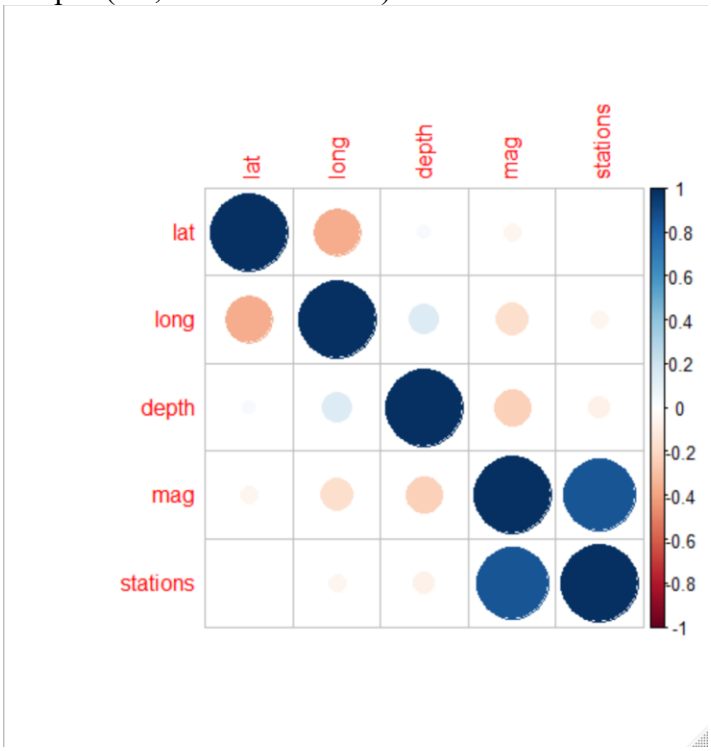
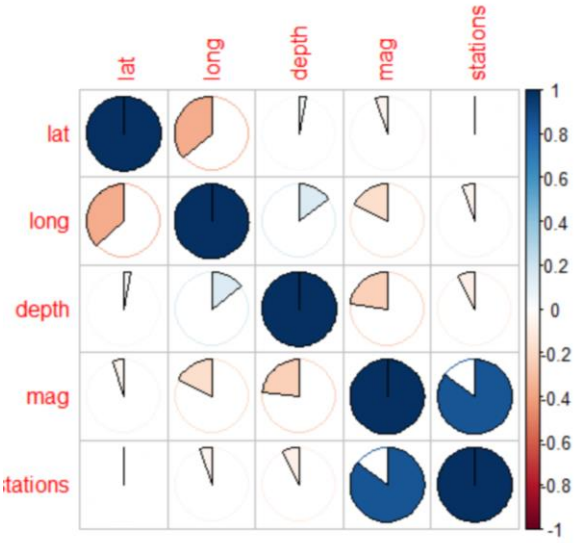
Code:

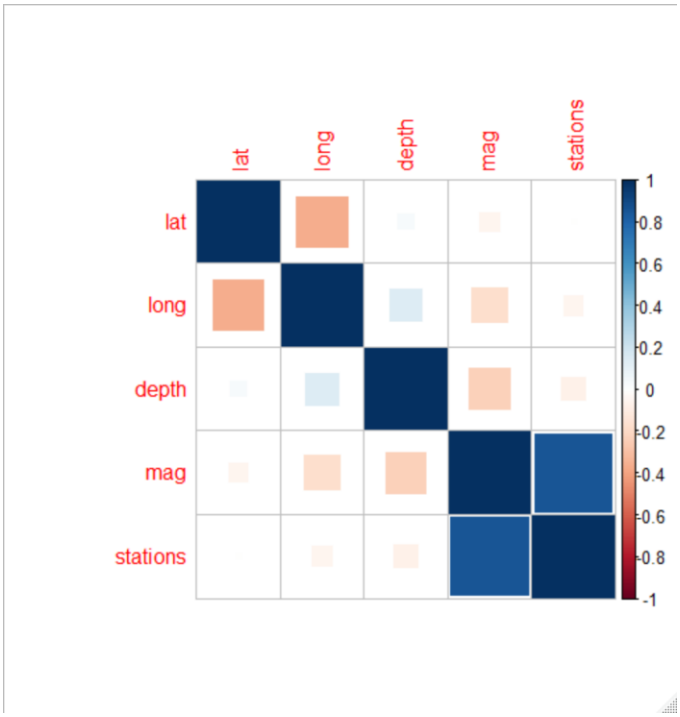
```
install.packages("corrplot")
library(corrplot)
dataset=quakes
cm=cor(dataset)
corrplot(cm, method="circle")
```



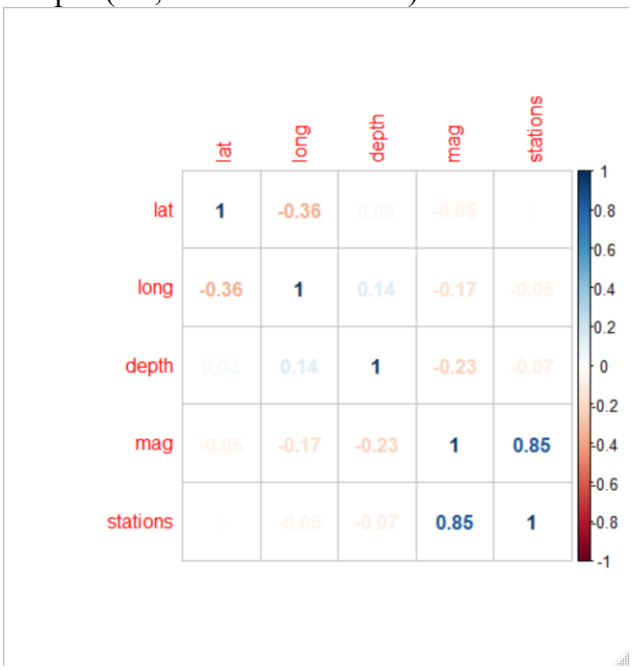

```
corrplot(cm, method="pie")
```



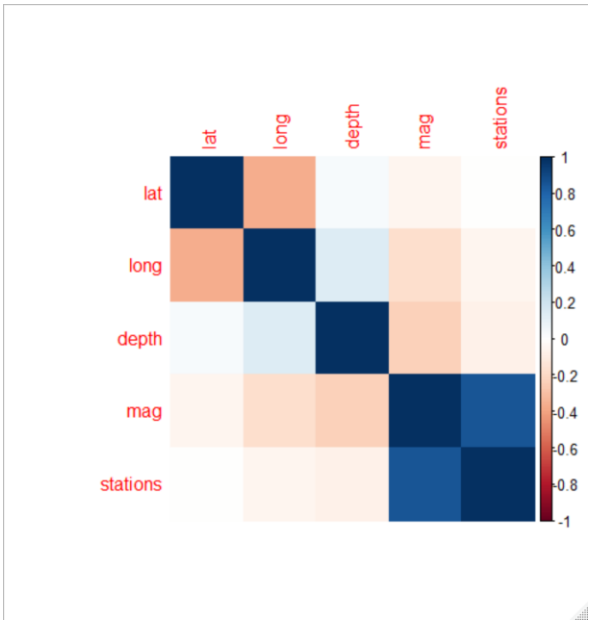

```
corrplot(cm, method="square")
```



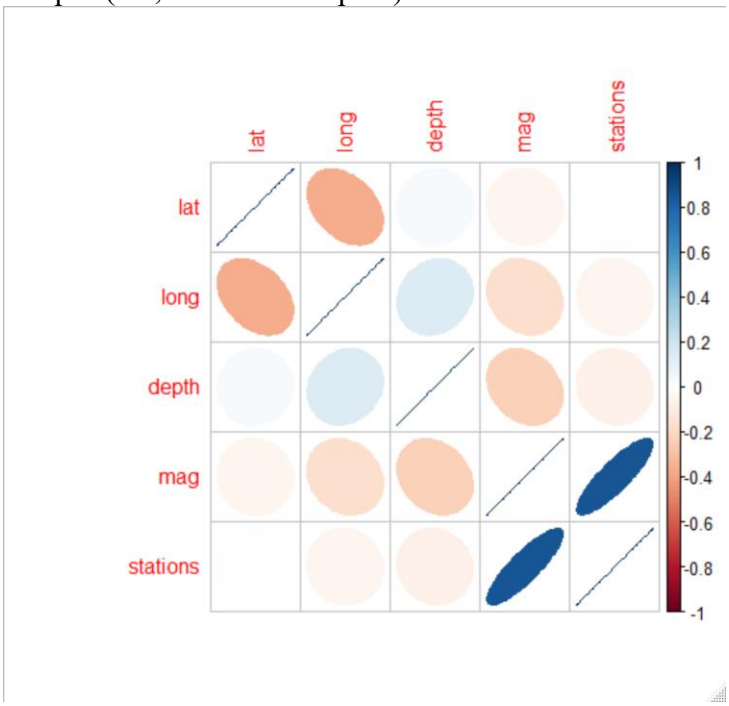
corrplot(cm, method="number")



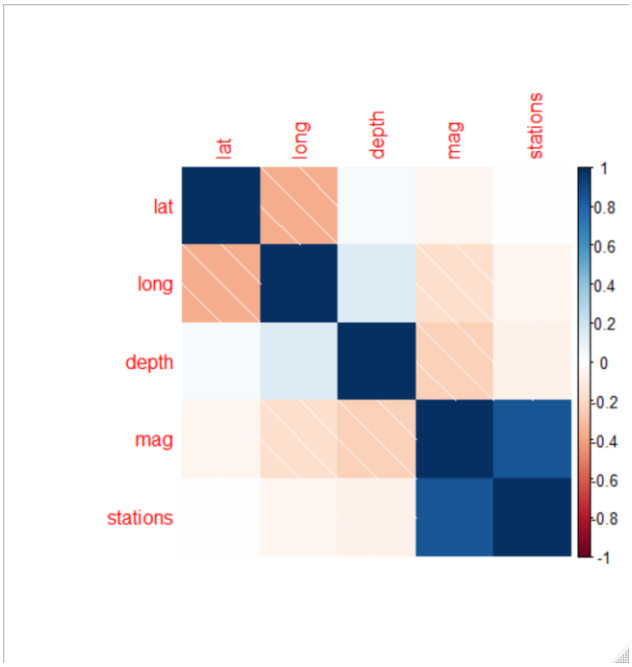
corrplot(cm, method="color")



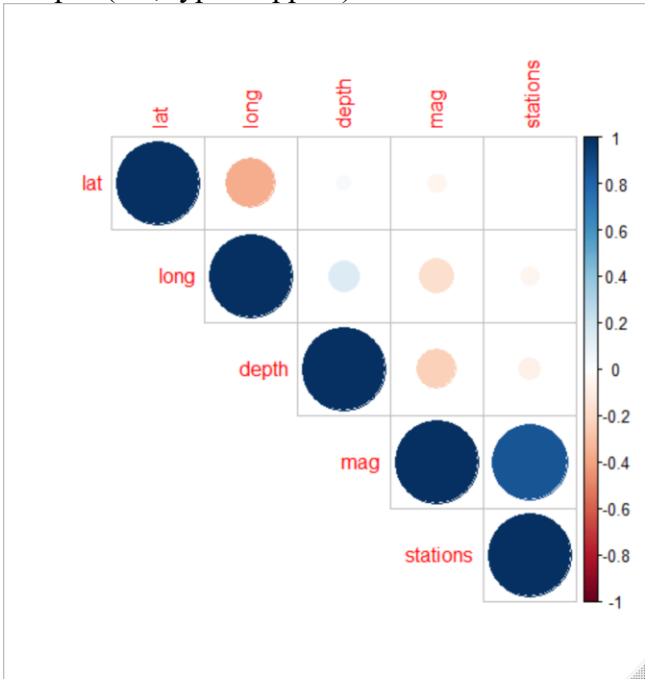
corrplot(cm, method="ellipse")



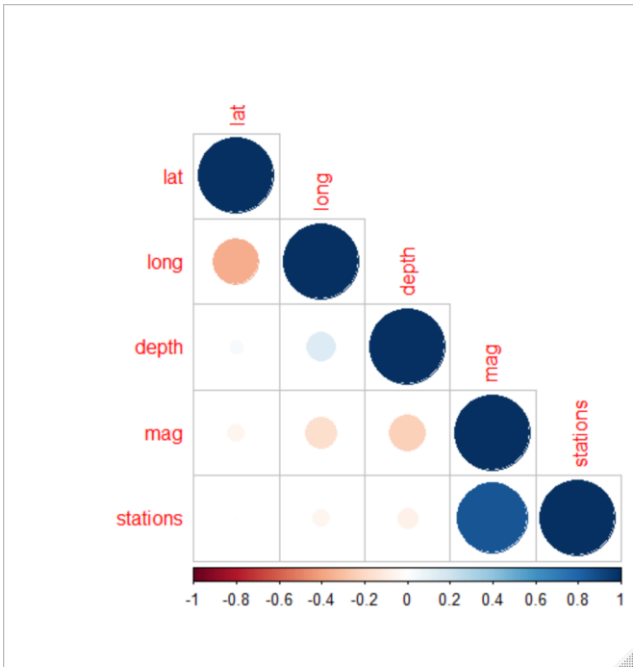
corrplot(cm, method="shade")



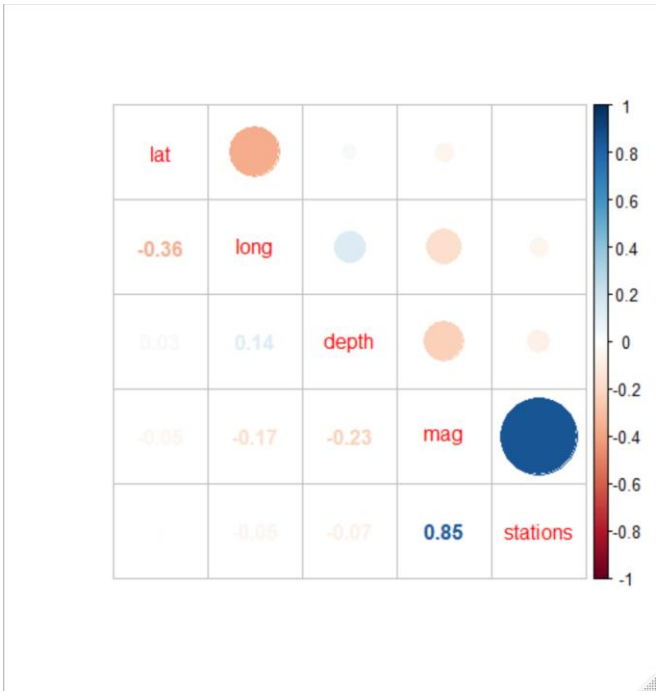
corrplot(cm, type="upper")



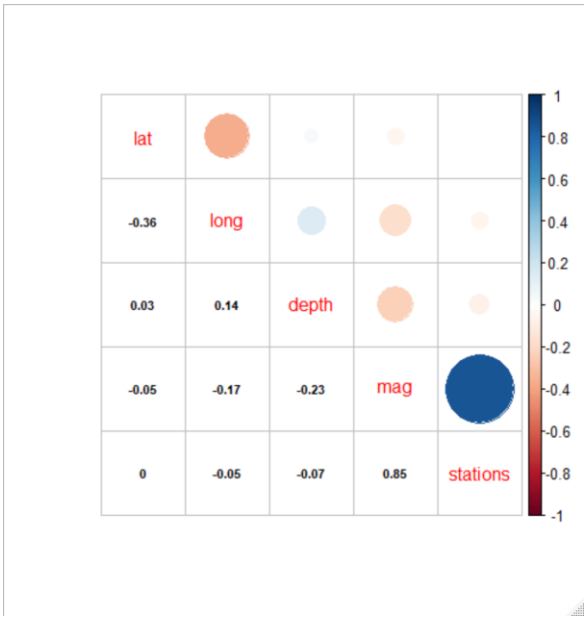
corrplot(cm, type="lower")



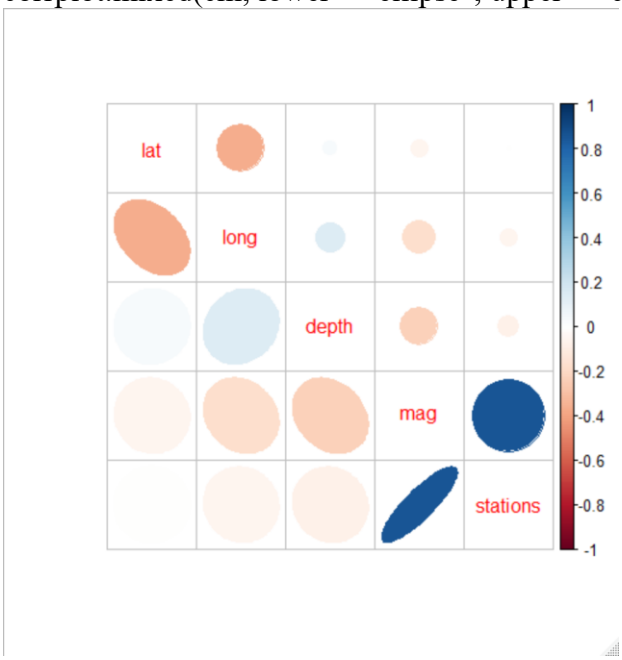
corrplot.mixed(cm)



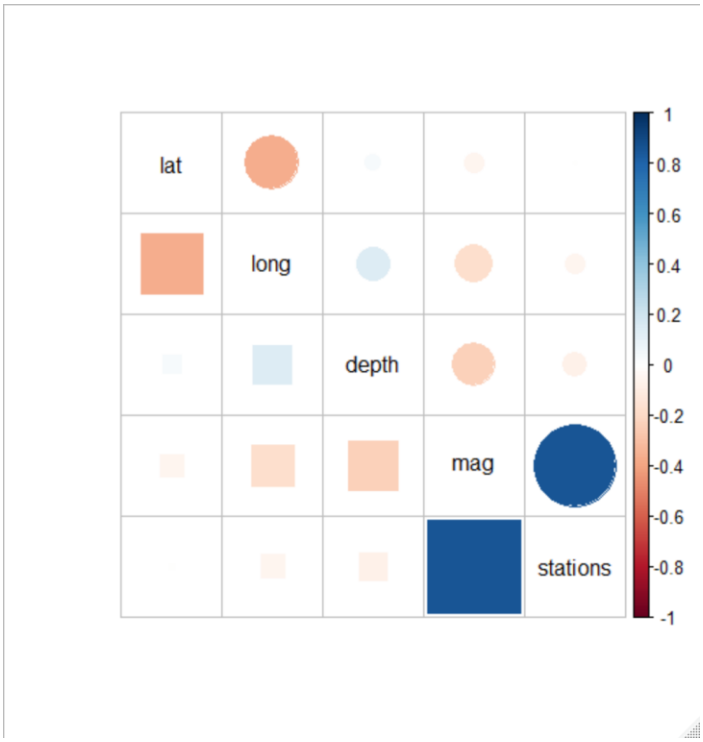
corrplot.mixed(cm, lower.col = "black", number.cex = .7)



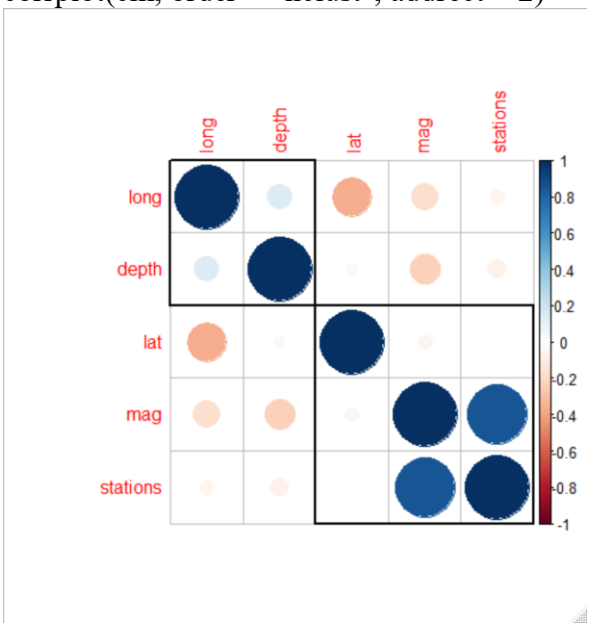
corrplot.mixed(cm, lower = "ellipse", upper = "circle")



corrplot.mixed(cm, lower = "square", upper = "circle", tl.col = "black")



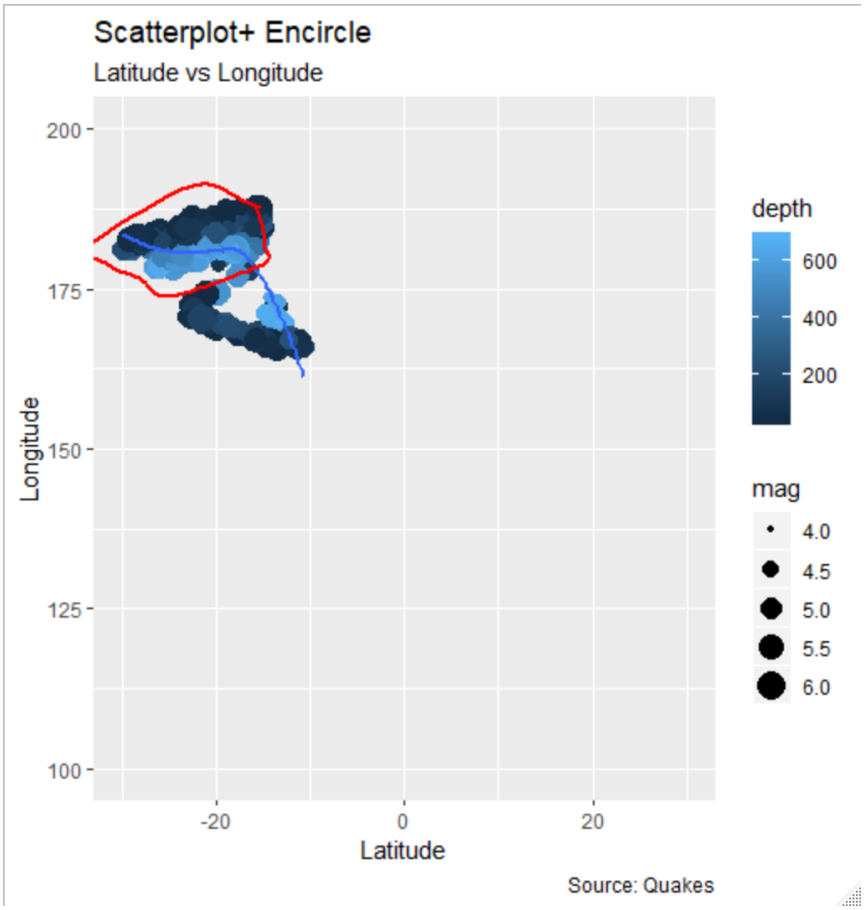
corrplot(cm, order = "hclust", addrect = 2)



Positive correlations are displayed in blue color and negative correlations are displayed in red color.

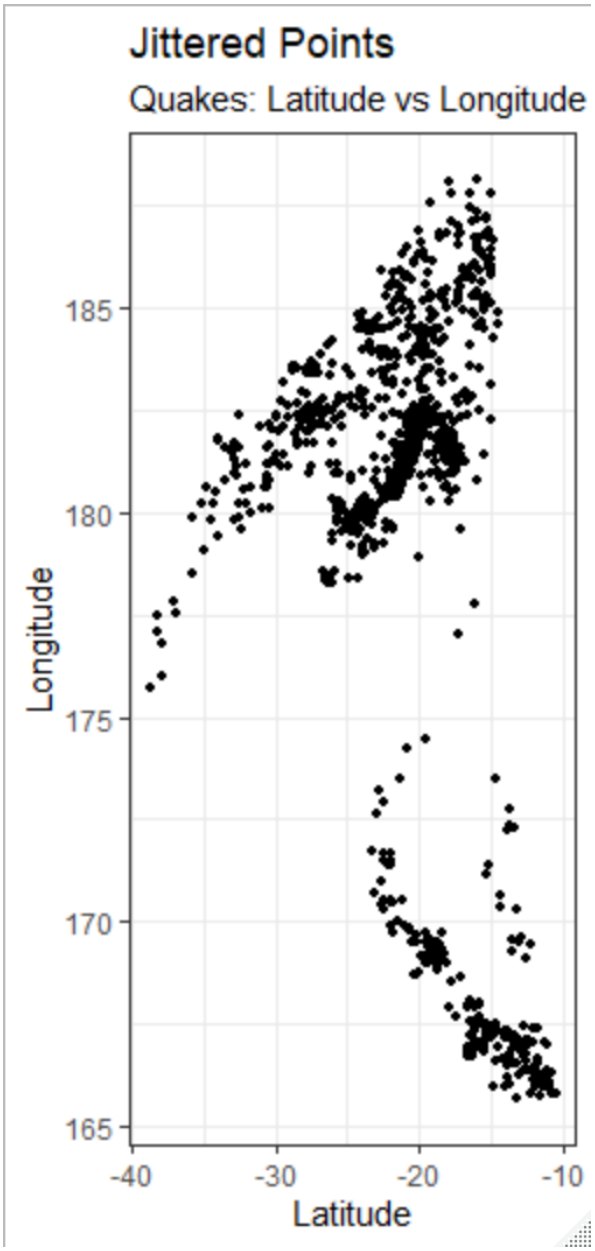
```
dataset_select=dataset[dataset$lat<(-20) & dataset$long>180 & dataset$depth>200 &
dataset$mag<(4.5) & dataset$stations<20, ]
#ScatterPlot with encircling
ggplot(dataset, aes(x=lat, y=long))+
  geom_point(aes(col=depth, size=mag))+geom_smooth(method="loess", se=F)+
  xlim(c(-30, 30))+
```

```
ylim(c(100,200))+
geom_encircle(aes(x=lat, y=long), data=dataset_select, color="red", size=2, expand=0.08)+
labs(subtitle="Latitude vs Longitude",
     y="Longitude", x="Latitude", title="Scatterplot+ Encircle", caption="Source: Quakes")
```



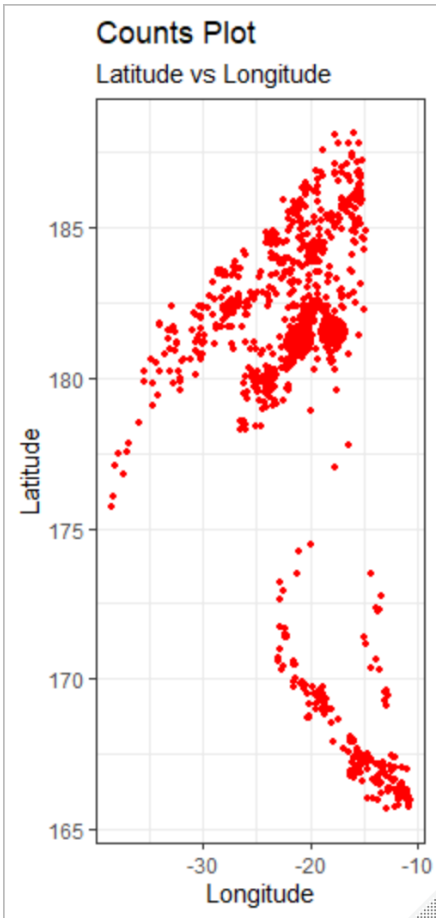
Jitter Plot:

```
#Jitter Plot
theme_set(theme_bw())
g+geom_jitter(width=.5, size=1)+labs(subtitle = "Quakes: Latitude vs Longitude", y="Longitude", x="Latitude",
title="Jittered Points")
```



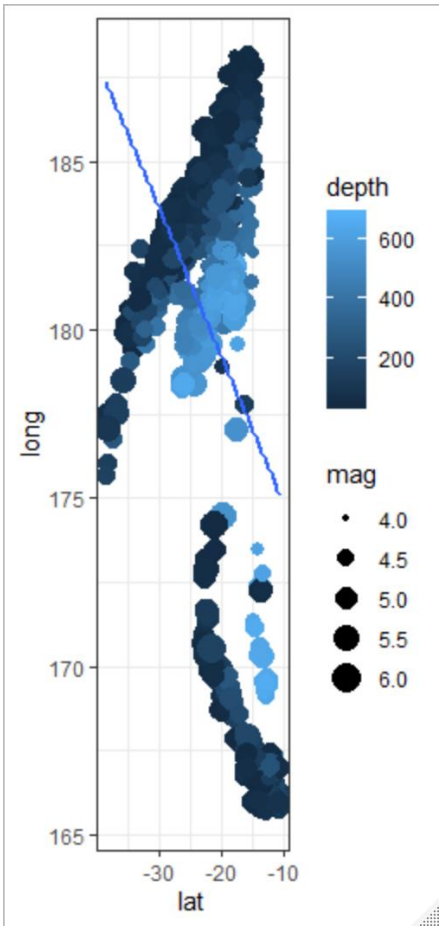
Counts Plot:

#Counts Chart
g+geom_count(col="red", show.legend = F)+labs(subtitle = "Latitude vs Longitude", y="Latitude", x="Longitude", title="Counts Plot")



Bubble Plot:

#Bubble Chart
gg=ggplot(dataset_select, aes(lat, long))+ labs(subtitle="Quakes: Latitude vs Longitude", title="Bubble Plot")
g+geom_jitter(aes(col=depth, size=mag))+geom_smooth(aes(col=depth), method="lm", se=F)



Since the line drawn through the point has a negative slope, this graph shows negative correlation.