Lab4\_B06103051

藍色→可以省略

紅色：刪除、修改

library(rgdal)

library(GISTools)

library(dplyr)

Taipei\_Vill <-readOGR(dsn = "D:/R", layer = "Taipei\_Vill", encoding="utf8")

flood50 <- readOGR(dsn = "D:/R", layer = "flood50", encoding="utf8")

flood50 <- spTransform(flood50, Taipei\_Vill@proj4string)

names(flood50) <- c("ID", "level")

#head(flood50@data)

~~Taipeidf <- data.frame(Taipei\_Vill)~~

Overlay\_Layer <- gIntersection(flood50,Taipei\_Vill, byid = T)

~~names(Overlay\_Layer)~~

tmp <- strsplit(names(Overlay\_Layer), " ")

tmp2<-unlist(tmp)

Taipei.id<-vector(); flood.id<-vector()

x=1

for (i in seq(1,11410,2)) {

flood.id[x]<-tmp2[i]

x=x+1

}

y=1

for (i in seq(2,11410,2)) {

Taipei.id[y]<-tmp2[i]

y=y+1

}

df=data.frame(Taipei.id, flood.id)

Taipei\_Vill@data

Taipei\_Vill$area1 <- poly.areas(Taipei\_Vill)

Taipei\_Vill$CENSUS <- as.numeric(as.character(Taipei\_Vill$CENSUS))

~~Taipei\_Vill$area1 <- as.numeric(as.character(Taipei\_Vill$area1))~~

for (i in 1:5705) {

df$area1[i] <- Taipei\_Vill$area1[as.numeric(Taipei.id[i])+1]

df$house1[i] <- Taipei\_Vill$CENSUS[as.numeric(Taipei.id[i])+1]

**df$grid[i]=flood50$level[as.numeric(flood.id[i])+1]**

}

flood <- flood50@data

~~for (i in 1:5103) {~~

~~flood$ID[i] <- flood$ID[as.numeric(flood$ID[i])+1]~~

~~}~~

#head(flood)

~~class(flood$ID)~~

flood$ID <- **~~as.factor(flood$ID)~~ as.character(flood$ID-1)**

df<-left\_join(df,flood, by = c("flood.id" = "ID"))

Overlay\_LayerNew<- SpatialPolygonsDataFrame(Overlay\_Layer, data=df,match.ID = F)

Overlay\_LayerNew@data

Overlay\_LayerNew$area2<- poly.areas(Overlay\_LayerNew)

area1 <- Overlay\_LayerNew$area1

area2 <- Overlay\_LayerNew$area2

house1<- Overlay\_LayerNew$house1

Overlay\_LayerNew$house\_pct<- as.integer ((area2/area1) \* house1)

**xtabs(house\_pct ~ grid,Overlay\_LayerNew@data)**

~~leval <- Overlay\_LayerNew$level~~

~~house\_pct<-Overlay\_LayerNew$house\_pct~~

~~flood.id<-Overlay\_LayerNew$flood.id~~

~~Overlay\_LayerNew\_data <- data.frame(flood.id = Overlay\_LayerNew$flood.id, house\_pct = Overlay\_LayerNew$house\_pct, level = Overlay\_LayerNew$level)~~

~~level1 = Overlay\_LayerNew\_data[Overlay\_LayerNew\_data$level== 1,]~~

~~level1 <- level1[complete.cases(level1),]~~

~~level2 = Overlay\_LayerNew\_data[Overlay\_LayerNew\_data$level== 2,]~~

~~level2 <- level2[complete.cases(level2),]~~

~~level3 = Overlay\_LayerNew\_data[Overlay\_LayerNew\_data$level== 3,]~~

~~level3 <- level3[complete.cases(level3),]~~

~~level4 = Overlay\_LayerNew\_data[Overlay\_LayerNew\_data$level== 4,]~~

~~level4 <- level4[complete.cases(level4),]~~

~~level1[,2] <- as.numeric(level1[,2])~~

~~level2[,2] <- as.numeric(level2[,2])~~

~~level3[,2] <- as.numeric(level3[,2])~~

~~level4[,2] <- as.numeric(level4[,2])~~

~~L1 = sum(level1$house\_pct)~~

~~L2 = sum(level2$house\_pct)~~

~~L3 = sum(level3$house\_pct)~~

~~L4 = sum(level4$house\_pct)~~

~~Level = c(L1,L2, L3, L4)~~

~~data.frame(淹水程度 = c(1:4), 影響人數= Level)~~