require(sp);require(rgeos);require(rgdal);require(SDraw);require(TSP)

#Setwd and check files

setwd("/working\_directory\_folder/")

d <- dir()

d\_s <- sapply(strsplit(d, "[.]"),"[",1)

d\_s <- d\_s[!(duplicated(d\_s))]

d\_s <- d\_s[grep("pts", d\_s)]

#Make plots

dev.off()

pdf("../mike\_flights.pdf")

for(i in 1:length(d\_s)){

#Read in pts

shape <- readOGR(dsn="/readfile/",

layer=d\_s[i])

plot(shape)

pts <- shape@coords

#

D = dist(pts) # Euclidean disance used

tsp = TSP(D)

tour = solve\_TSP(tsp)

I = as.integer(tour)

OrderPTS = pts[I,] # Order sample points

## Plot the points and the tour ##############################

plot(pts[I,],

type="l",

main=paste(d\_s[i],": ","Shorest Tour",sep=""),

xlab="Longitude",

ylab="Latitude",

lwd=2)

points(pts,

col="red",

pch=20,

cex=2)

}

dev.off()

i

#sample points within this

sample <- bas.polygon(shape, nrow(shape@data))

plot(sample)

plot(shape, add=TRUE)