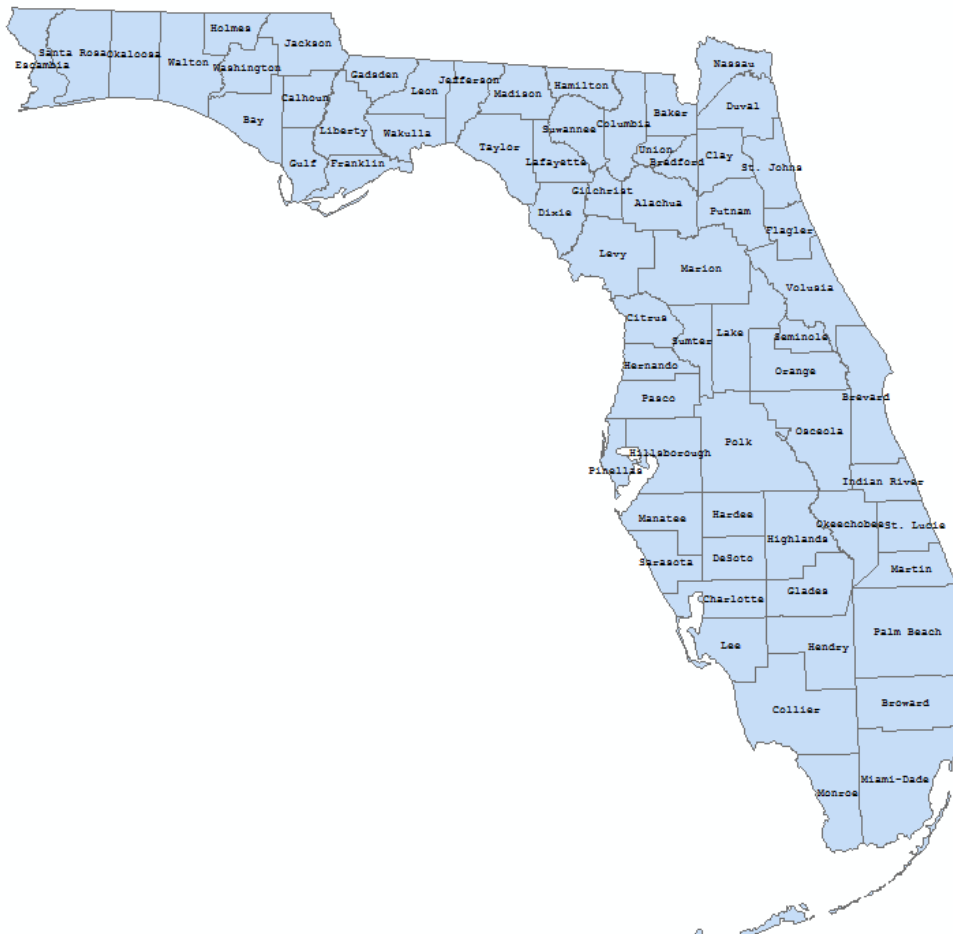
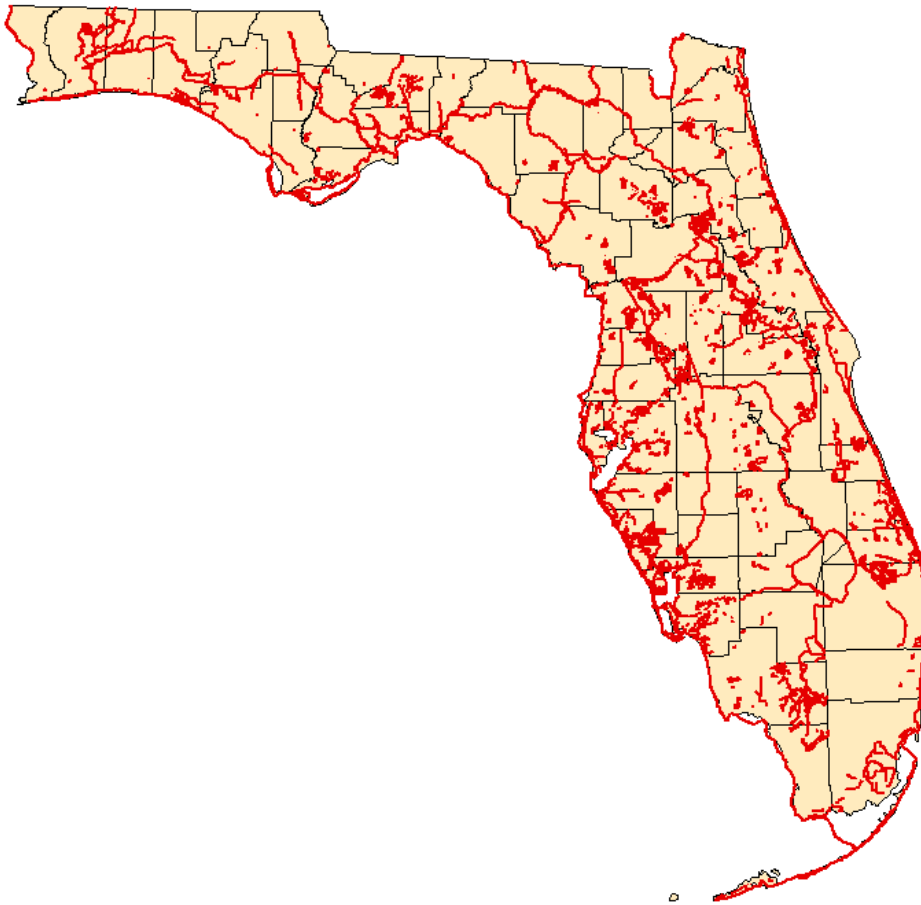


# Homework 1: Exploring ArcMap



Questions 2:

1. Following the instruction sheet of “exploring ArcMap”, start the ArcMap software.
2. Rename the data frame “Layers” into “FL\_county”;
3. Add the shapefile “FCTY2.shp” in the data Frame;
4. Insert another data frame and rename it as “FL\_County\_trail”;
5. Add the shapefiles “FCTY2.shp” (FL county map) and “existing\_trail\_Apr09.shp” (i.e. FL walking trail map) under the data frame “FL\_County\_trail”;  
Note: ignore the Geographic information system pop-up window by clicking on “close”
6. If you cannot see the walking trail layer, please move the “existing\_trail\_Apr09.shp” before the “FCTY2.shp”;
7. Switch to map layout view, resize and move two maps into a good fit;
8. Export the map into JPEG format and insert it in your homework word file as the answer to this question.



# HW 1: R supplement

Joe Brew

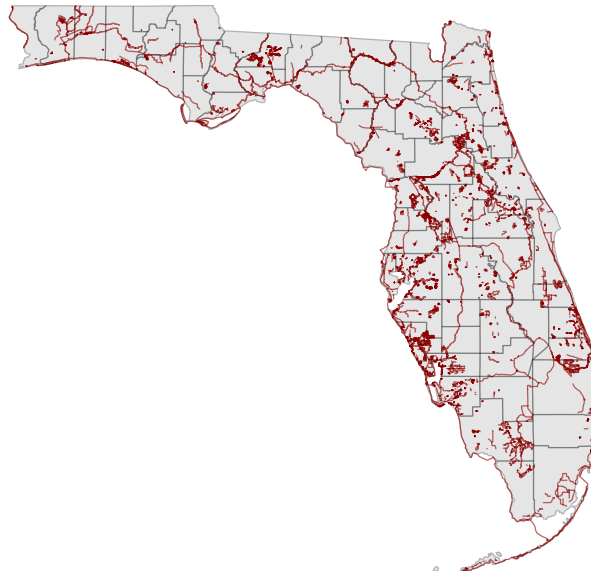
**Note to professor:** As someone who does most of my work in R, and as an advocate for open-source software, I'll be trying to replicate all assignments and activities from this course in R this semester. I'm not requesting, nor do I expect, any "credit" for this. But given that you are also an R user, I'm turning this in (along with the required assignment in ArcGIS) so that you may offer your thoughts or criticism, if you so choose.

What follows is the output of the homework assignment (the two maps), followed by the code used to generate them. Full code (including the code for this L<sup>A</sup>T<sub>E</sub>X document) is available [HERE](#).

## Question 1



## Question 2



## R Code

```
> #####
> # LOAD PACKAGES FOR MAPPING
> #####
>
> # IF NOT YET INSTALLED ON YOUR SYSTEM, RUN
> # install.packages("packagename") FIRST
> library(maptools)
> library(rgdal)
> #####
> # SET WD TO THE HW1 FOLDER
> #####
> setwd("C:/Users/BrewJR/Documents/uf/phc6194/hw1")
> #####
> # READ IN FLORIDA COUNTIES SHAPEFILE
> #####
> fcty2 <- readOGR("FCTY2",
+                 layer="FCTY2")
> #####
> # READ IN TRAILS SHAPEFILE
> #####
> trails <- readOGR("existing_trails_apr09",
+                 layer="existing_trails_apr09")
> #####
> # EXAMINE PROJECTIONS
> #####
> proj4string(trails)
> proj4string(fcty2)
> #####
> # GIVEN THAT THEY'RE ON DIFFERENT PROJECTION SYSTEMS,
> # PUT TRAILS INTO SAME PROJECTION SYSTEM AS fcty2
> # IN OTHER WORDS, MAKE EVERYTHING LAT LONG
> #####
> trails_latlon <- spTransform(trails, CRS("+init=epsg:4326"))
> #####
> # QUESTION 1 MAP
> #####
> par(mar = rep(0,4))
> par(oma = rep(0,4))
> # PLOT MAP
> plot(fcty2,
+      border = adjustcolor("black", alpha.f=0.3),
+      col = adjustcolor("black", alpha.f=0.1))
> # ADD LABELS
> text(coordinates(fcty2),
```

```

+     labels = as.character(fcty2$NAME),
+     cex = 0.4,
+     col = adjustcolor("black", alpha.f=0.6))
> #####
> # QUESTION 2 MAP
> #####
> par(mar = rep(0,4))
> par(oma = rep(0,4))
> # PLOT MAP
> plot(fcty2,
+     border = adjustcolor("black", alpha.f=0.3),
+     col = adjustcolor("black", alpha.f=0.1))
> # ADD LABELS
> text(coordinates(fcty2),
+     labels = as.character(fcty2$NAME),
+     cex = 0.4,
+     col = adjustcolor("black", alpha.f=0.6))
>
>
>

```