Spatial Data Management and Analysis with R: Hands On Instructions

1. Prior to the workshop:
    a. Install R
    b. Install a text editor
    c. Download code
    d. See https://sites.google.com/site/ialestudentworkshop/home/what-to-bring
    e. Open R and run the following code by copying the commands into the R window. Hit enter
        i. setRepositories(ind=1:2)
        ii. install.packages(c("rgdal","sp","rgeos","raster"), repos="http://cran.revolutionanalytics.com")
    f. Close R
2. During the workshop:
    a. Lightning Intro to R
        i. Start R
        ii. Basics of R commands
            1. xran <- runif(100)
            2. xran
            3. yran <- runif(100)
            4. yran
            5. ls()
            6. plot(xran,yran)
        iii. Vectors and Data Frames
            1. class(xran)
            2. xydf<-data.frame(xran,yran)
            3. class(xydf)
        iv. Packages
    b. Step 1: Canned Script
        i. Open up SpatialDataWorkshopUSIALE1.R
        ii. Read in shapefiles
        iii. Read in a tiff
        iv. Buffer shapefile (you choose the distance)
        v. Clip raster
        vi. Output buffer and clipped rasters
    c. Step 2: Show Canned script that does this for all Travis County points and walk them through the commands
3. After the workshop:
    a. Try this at home!
    b. Start with usiale 2013Script.R and edit it to work with your own data.
    c. CODE, CODE, CODE!!!