



Miami University
Department of Geography
Geospatial Analysis Center

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Hello Attendees of Miami University's Inaugural Geospatial Programming Workshop!

In order to ensure the smoothest possible experience, we at the [Geospatial Analysis Center](#) have compiled this intro document to assist you in finishing up the last few preparatory details, as well as to allow you to revisit this workshop at a later time on your own. This document runs through the software versions used in the workshop, the required packages and libraries, and necessary data.

The version of the software used is as follows:

RTools: RTools35
RStudio: 1.1.463 for Windows
R: 3.5.2 for Windows

Every computer has had the newest software installed beforehand. The only prep work required of each participant is to install the following packages and libraries onto their specific device. Note that the line that installs packages will take anywhere from 1- 4 minutes to run. Run that line by itself and be patient until it is done.

Please copy, paste, and run the following 10 lines of code into the R Studio Code Editor.

```
#This line installs the various packages required for today's workshop  
install.packages(c("dplyr", "ggplot2", "rgdal", "sf", "spdef", "ggmap", "raster"))
```

```
#These next few lines open the necessary libraries within each about package  
library(dplyr)  
library(ggplot2)  
library(rgdal)  
library(sf)  
library(spdef)  
library(ggmap)  
library(raster)
```



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Data required for this workshop is also available on the Miami University Geospatial Analysis Center's GitHub in the workshop folder located [here](#).

If you do not already have the data, please download it (san-francisco.zip) and place it in your desired location. Unzip the file. (Right Click on the zip file -> "7Zip" -> "Extract Files" -> Press Enter)

Additionally, we have provided text files (.txt) of the script required for the R Bridge (ArcPro) section of the workshop. These files (RCorrelationMatrix.txt & RCustomFunctions.txt) are also located within the workshop GitHub page.

We will also be required to download the R Bridge inside of ArcPro on each individual device. To do so, please follow these steps:

1. Open ArcPro
2. Create blank project and save it as appropriate
3. Click on the "Project" tab -> "Options"
4. In the pop up window, click on "Geoprocessing" tab
5. R-ArcGIS Support
 - a. If ArcGISBinding has not been installed, a warning notice will appear saying that you need to download it
 - b. Click on the warning message and click "Downlaod form internet"
 - c. Newest version should auto-populate in the drop down menu
6. Click OK
7. Click Back button to return to ArcPro

Setting the directory in R Studio.

The following lines of code set up the working directory. This allows you to access data without having to type in the full path name each time you open data files. Copy and paste the following 5 lines of code into R Studio.

```
#setting Working Directory  
#My working directory in this code is ("C:/Users/hayneskd/Documents/RWorkshop")  
#Set yours accordingly  
setwd("C:/Users/hayneskd/Documents/RWorkshop") # Set your working directory
```



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localDir <- getwd() # This is where all of our data will be stored