# Getting Started with the R-ArcGIS Bridge

## Overview

This package consists of four tutorials that deal with integrating the statistical programming language R with ArcGIS for Desktop.  Several concepts are covered which include configuring ArcGIS with R, writing basic R scripts, writing R scripts that use ArcGIS data and functionality, and constructing R Tools for use within ArcGIS Pro or ArcGIS Desktop.  It is recommended that the tutorials are completed in the following order.

1. **Getting Started with the R-ArcGIS Bridge:**
   - Installing and setting up R and RStudio
   - Installing the R-ArcGIS Bridge
   - Installing and loading third-party R packages
   - Running basic R script tools from an ArcGIS toolbox

2. **R Scripting Basics:**
   - Using R Integrated Development Environments (RStudio Desktop)
   - Writing expressions and executing commands in R
   - Working with basic objects and data types in R
   - Importing and subsetting data in R

   ***Note:*** *The R Scripting Basics tutorial can be considered optional by anyone that is already well-versed in the R programming language, and familiar with RStudio Desktop or an equivalent IDE for developing R code*

3. **R-ArcGIS Scripting:**
   - Reading/writing ArcGIS datasets using the `arcgisbinding` package
   - Working with ArcGIS datasets in R
   - Manipulating and analyzing spatial data in R

4. **Building an R Script Tool:**
   - Creating and debugging R scripts designed for use as script tools by ArcGIS applications
   - Creating and configuring script tools in an ArcGIS toolbox to execute R code
   - Integrating R script tools into Model Builder workspaces

### Data Sources

- City of Toronto:
  https://www1.toronto.ca/wps/portal/contentonly?vgnextoid=1a66e03bb8d1e310VgnVCM10000071d60f89RCRD

- Toronto Police Service:
  http://data.torontopolice.on.ca/pages/ksi

- Statistics Canada:
  http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/index-eng.cfm

**Production Date**

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