Intro to R-ArcGIS Bridge: the arcgisbinding Package

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INTRODUCTION

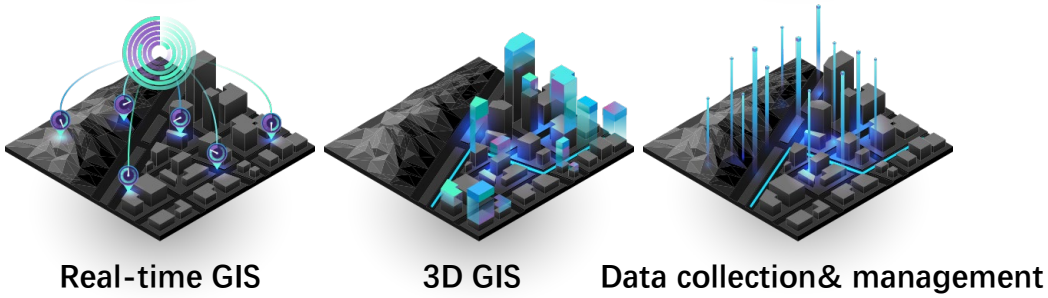
Load ArcGIS data into their R workspaces for answering statistical questions.

Create tools and toolboxes to integrate ArcGIS and R capabilities. Running R scripts as tools is like running other geoprocessing tools.

Have access to all of the capabilities of R by simply referencing R scripts as the source file in a geoprocessing script.

1. Bridges the gap between traditional ArcGIS users and statistically based R developers.
2. Access R code through geoprocessing scripts and run the scripts in ArcGIS Desktop.
3. Access to an organization's GIS data through the R-ArcGIS bridge, and they also have access to the spatial analysis tools and mapping power of ArcGIS.

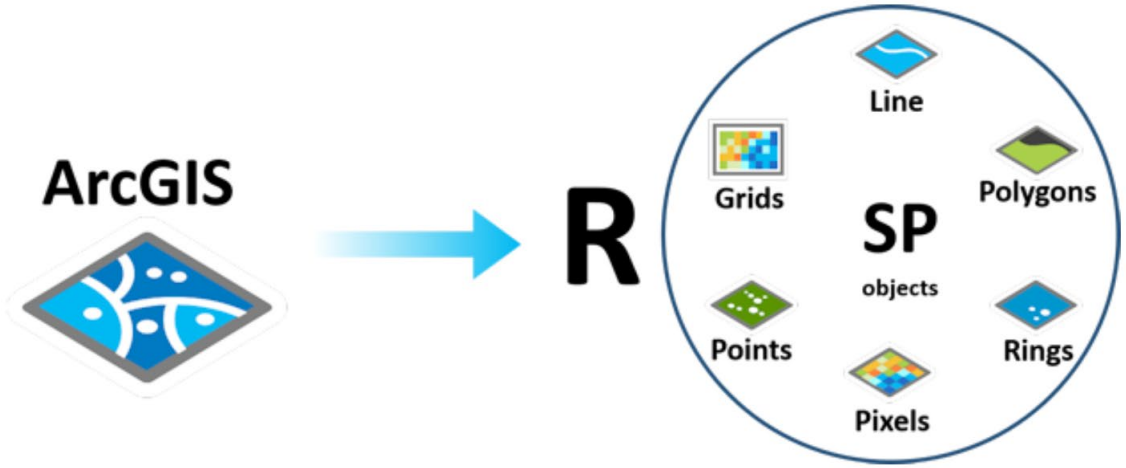
AUTHOR



R-ArcGIS/**r-bridge**

Bridge library to connect ArcGIS and R, including arcgisbinding R library.

4 Contributors · 13 Issues · 100 Stars · 24 Forks



About ArcGIS Pro

New
Open
Save
Save As
Portals
Licensing
Options
Package Manager
Add-In Manager
Help
About
Exit

Product Information

ArcGIS Pro 3.0.1

Software Update

Your ArcGIS Pro version is current.

Check for updates on startup

Options

Project
- Current Settings
- Units
- Tasks

Application
- General
- Map and Scene
- Navigation
- Selection
- Editing
- Versioning
- **Geoprocessing**
- ModelBuilder
- Device Location
- Catalog Browsing
- Share and Download
- Raster and Imagery
- Full Motion Video
- Display
- Table
- Layout

Remove layers that reference data overwritten by geoprocessing tools

Add output datasets to an open map

R-ArcGIS Support

Output Messages

```
> install.packages('arcgisbinding', repos='https://r.esri.com/', type='win.binary',
destdir='C:/Users/15499/Downloads')
  Installing package into 'C:/Users/15499/AppData/Local/R/win-library/4.2'
  (as 'lib' is unspecified)
  trying URL 'https://r.esri.com/bin/windows/contrib/4.2/
  arcgisbinding_1.0.1.300.zip'
  Content type 'application/zip' length 1588552 bytes (1.5 MB)
  ==================================================
  downloaded 1.5 MB
  package 'arcgisbinding' successfully unpacked and MD5 sums checked
Completed.
```

Close

R-ArcGIS Support

Detected R home directories

[R-4.2.1] C:\Program Files\R\R-4.2.1 — Automatically scan for R programs

Please install the ArcGIS R integration package

Learn more about geoprocessing options

Functions	
Use	**When**
arc.open(path)	Loading ArcGIS datasets, tables, and layers into an R workspace.
arc.select(object, fields, where_clause, selected, spatial_reference)	Loading a subset of the dataset into an R data frame based on specified fields and where_clause.
arc.shape(dataframe)	The shape object is required for analysis.
arc.shape2sp(dataframe)	Converting from an arc.shape_class to an sp object.
arc.sp2data(sp dataframe)	Converting from an sp data frame object to an arc.dataframe object.
arc.data2sp(dataframe)	Converting from an arc.data frame object to an sp dataframe object.
arc.shapeinfo(arc.shape(dataframe))	Information about the geometries stored in the dataset is required. Type of geometry and spatial reference are some of the items returned.
arc.write(path, data, coords = NULL, shape_info = NULL, overwrite = FALSE)	Exporting a data frame object to an ArcGIS dataset.

Loading a dataset into R, and finding the mean number of accidents per year per mile on I-15

In [ ]:
```
library(arcgisbinding)
arc.check_product()
dataset <- arc.open(path = "Y:\\GitHubTB\\GEOClass\\SUNY-Buffalo-GEO511-SDS\\Week2\\R-ArcGISBridge\\crashes_per_mile.shp")
filtered.df <- arc.select(dataset, fields=c('RouteNm','C_MI'), where_clause="RouteNm= 'I-15' AND FC_NAME = 'Urban Interstate'")
crash.mean <- mean(filtered.df$C_MI)
print(crash.mean)
```

$license	'Advanced'
$version	'13.0.1.36056'
$path	'C:\\Program Files\\ArcGIS\\Pro\\'
$dll	'rarcproxy_pro'
$app	'ArcGIS Pro'
$pkg_ver	'1.0.1.300'

```
[1] 37.849
```