Integrating R with ArGIS Workshop Cheat Sheet

If you find yourself forgetting any R functions that you've learned during the Integrating R with ArcGIS workshop, use this guide as a reference.

1. dplyr functions

**filter()** – Subset rows from a data frame. Similar in function to base R subsetting.

filter(crime\_df, Arsons > 3, Thefts > 10)

**arrange()** – Sort rows in a data frame based on a set of column names. Can sort by multiple different columns.

arrange(crime\_df, Arsons, Assaults)

**select()** – Select specified columns (or variables) from a data frame.

select(crime\_df, AREA\_S\_CD, Equity\_Score)

**summarize()** – Summarize values from a data frame given a function, and collapse results to a single row (unless data are grouped).

summarize(crime\_df,

mean\_fire = mean(Fire.Vehicle.Incidents, na.rm = TRUE))

**summarize\_each()** – Summarize values from a data frame given multiple functions.

summarize\_each(crime\_df, c('mean', 'sd'), Equity\_Score)

**%>%** **(Forward-pipe operator)** – Allows you to pipe a value forward into an expression or function call, e.g., f(x, y) become x %>% f(y).

crime\_df %>%

filter(Assaults == 0) %>%

select(Equity\_Score, Thefts) %>%

arrange(Thefts)

**group\_by()** – Group a data frame given a variable (or list of variables).Groups will be used when you apply functions to this data frame.

arson\_groups = group\_by(crime\_df, Arsons)

summarize(arson\_groups, mean\_fire = mean(Fire.Vehicle.Incidents, na.rm = TRUE))

Adding an underscore to the end of any of these functions (e.g., arrange\_()) to be able to pass parameters as lists (or more so, vectors).

group\_fields = c('Arsons', 'Thefts')

group\_by\_(crime\_df, .dots = group\_fields)

1. arcgisbinding functions

**arc.check\_product()** – After loading arcgisbinding package, need to run to validate ArcGIS license

arc.check\_product()

**arc.open()** – Read in a feature class to R given a location.

input\_fc = arc.open('data.gdb/features')

**arc.select()** – Load a feature class into an ArcGIS data frame.

arc.select(tor\_crime, fields = c('Neighbourhood', 'Arsons'))

**arc.data2sp()** – Create sp object for an ArcGIS data frame.

tor\_crime\_sp = arc.data2sp(tor\_crime\_df)

**arc.write()** – Write out a feature class or standalone table to a provided location.

arc.write('data.gdb/new\_features', tor\_crime\_df)

1. ArcGIS R Script Tools

**tool\_exec()** – Function to execute an R-ArcGIS GP Tool

**in\_params** – list of parameters provided as inputs for the R script

**out\_params** – list of parameters required when outputting data to ArcGIS

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