Integrating R with ArcGIS 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).

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

arrange\_(crime\_df, .dots = sort\_fields)

1. arcgisbinding functions

**arc.check\_product()** – Run after loading arcgisbinding package to authenticate 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 designated location.

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

1. R-ArcGIS Script Tools

**tool\_exec()** – Execute an R-ArcGIS script tool.

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

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

© 2015 Esri Canada All rights reserved. Trademarks provided under license from Environmental Systems Research Institute Inc. Other product and company names mentioned herein may be trademarks or registered trademarks of their respective owners. Errors and omissions excepted.