Summarizing pedon data for a soil series

By Stephen Roecker

# Introduction

This job aid demonstrates how to run a knitr report on pedon data from NASIS using RStudio. These reports can be used to automate the analysis of data, and produce a standardized summary. With minimal editing and the push of a button, each user can produce their own report. Ultimately this is intended to useful for summarizing the range in characteristics of pedons.

# Objectives

* Load NASIS selected set
* Install R packages
* Download report
* Run knitr report

# Requirements

* The user is familiar with Rstudio, if not see the Job-Aids [webpage](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/edu/ncss/?cid=nrcs142p2_054322#database_gen) for an introduction
* ODBC connection to NASIS is setup, if not see the Job-Aids [webpage](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/edu/ncss/?cid=nrcs142p2_054322#database_gen) for instructions
* The user has assigned generalized horizon labels (GHL) to the “Comp\_Layer\_ID” column within the pedon horizon table within NASIS, or setup GHL using pattern matching. For an introduction to pattern matching see the Job-Aid, [Assigning Generalized Horizon Labels](https://r-forge.r-project.org/scm/viewvc.php/*checkout*/docs/aqp/gen-hz-assignment.html?root=aqp).

# Instructions

## Load NASIS selected set

Run a query such as “POINT - Pedon/Site by Correlated Name” and “POINT - Pedon/Site by Sampled Name” to load your selected set. Be sure to target both the pedon and site tables. Remove from your selected set the pedons you wish to exclude from the report.

## Open Rstudio and install packages

Copy and paste the box below into the R console.

install.packages(c('aqp', 'soilDB', 'reshape', 'plyr', 'lattice', 'maps', 'xtable', 'sp', 'RCurl'), dependencies=TRUE)

This step only need run once. Afterwards you only need to update your R packages intermittently, by clicking the button on the Packages tab from the lower right hand window.

## Download and open the pedon report

Copy and paste the box below into the R console

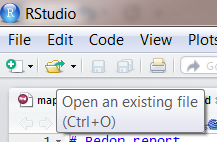
dir.create(path="C:/soil-pit/soilReports", recursive=T)

# Download latest report and rules

download.file("https://raw.githubusercontent.com/sroecker01/soil-pit/master/soilReports/pedon\_summary\_by\_taxonname.Rmd", "C:/soil-pit/soilReports/pedon\_summary\_by\_taxonname.Rmd")

download.file("https://raw.githubusercontent.com/sroecker01/soil-pit/master/soilReports/genhz\_rules.R", "C:/soil-pit/soilReports/genhz\_rules.R")

Navigate to the file path specified above and open the report in Rstudio.



## Enter your Soil Series and Knit

Use a find and replace to change the last series used run to your series of interest. Hit the knit button .

# Sample report

# 