Applied Geo-Scripting: course template

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Geo-scripting learning objectives

- Learn to read, write, and visualize spatial data (vector/raster) using a script
- Know how to find help (on spatial data handling functions)
- Solve scripting problems (debug, reproducible example, writing functions)
- Find libraries which offer spatial data handling functions
- Learn to include functions from a library in your script
- Apply learned concepts in a case study: learning how to address a spatial/ecological/applied case (e.g. detect forest changes, flood mapping, ocean floor depth analysis, bear movement, etc.) with a raster and vector dataset.

Get Your R On

Getting started with Rstudio and the rasta package This preliminary section will cover some basic details about R. For this course we will use Rstudio as an IDE to write and run scripts. Open Rstudio! Now type the following script in the R console:

```
R> a <- 1
R> a

[1] 1
```

The first line you passed to the console created a new object named *a* in memory. The symbol '<-' is somewhat equivalent to an equal sign. In the second line you printed *a* to the console by simply typing it's name.

What is the class of this object?

More information

For more information about R please refer to the following links http://www.statmethods.net/index.html. This is a great website for learning R function, graphs, and stats. Also visit http://www.r-project.org/ and check out the Manuals i.e an introductions to R See also the book on Applied spatial Data analysis with R http://www.asdar-book.org/ (Bivand et al., 2013).

Bivand, R. S., Pebesma, E. J., & Rubio, V. G. (2013). Applied spatial data analysis with R, .