

Assignment 1

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Please send me before next class (Feb 5) an e-mail with all the answers for this assignment. All R code should be in one script. Please indicate which lines are associated with each exercise by including comments in your code.

Exercise 1

One of the advantages of R, is that it has a vibrant user community, with many messages boards and other venues to ask for help and discuss problems. For example, the R-sig-Geo list is a specialised mailing list for R functions that handles spatial data (<https://stat.ethz.ch/mailman/listinfo/r-sig-geo>). My favourite way to ask for help with R issues is through Stack Overflow (<http://stackoverflow.com/>). I want you to create yourself a Stack Overflow account (<https://stackoverflow.com/users/signup>). Send me by e-mail your stackoverflow username.

Exercise 2

Once signed in with your username on Stack Overflow, read the tour page (stackoverflow.com/tour). You need to be signed in for me to know whether you have read the tour page, so make sure you have signed in before reading it.

Exercise 3

Import your own point data into R. If you don't have point data at hand, use the Deployments.csv file from the Ocean Tracking Network (OTN) Arctic Cumberland Sound Array project data found at <http://members.oceantrack.org/data/discovery/ACS.htm>.

1. Use this data to create a `SpatialPointsDataFrame`. Make sure the `Spatial` object has appropriate coordinate reference system (CRS) associated with it.
2. Change the CRS of the object created to a projected CRS that uses a conic projection of your choice.
3. Make a plot with two panels that show the object in its original CRS and in its new projection. Make sure the panels have titles. Overlay on each panel a map showing the nearby landmasses/countries. Use the maps available in the `maps` package. In addition to the R code, send me a copy of the figure in your e-mail. You can save the figure in .pdf or .jpeg format.