Spatial Analysis in R: explanation and links
Barry Rowlingson & Natalie Cooper (but mostly Barry)

On July 12th 2013 the British Ecological Society (BES) Macroecology and Computational Ecology Special Interest Groups co-organised a workshop on "Spatial Analysis in R".

The instructor was Dr Barry Rowlingson from Lancaster University. Please credit him if you use any of his materials (and please don't send him a million emails asking for help!). Below are some links he provided for the course:

Notes and worksheets from the workshop:
http://www.maths.lancs.ac.uk/~rowlings/Teaching/Sheffield2013/

Similar stuff from his UseR! workshop last year:
http://www.maths.lancs.ac.uk/~rowlings/Teaching/UseR2012/
[that workshop was meant for experienced R programmers, goes into gory object details, but has some different worksheets that you might want to go through]

General documentation links:
R Documentation: www.rdocumentation.org
R Spatial Task View: http://cran.r-project.org/web/views/Spatial.html
R Env/Ecology Task View: http://cran.r-project.org/web/views/Environmetrics.html

Extra materials from me (Natalie Cooper)
At the workshop a number of people also asked me how I do some macroecological analyses in R. The links above from Barry will give you the tools you need but to help people out I've attached a link to some code I've taken from my own work which may be of use to people. Feel free to use and share. It includes some code for playing with IUCN Geographic Range maps and also WORLDCLIM data, and some code for plotting points on maps and getting country attributes.

Another useful place to look is the appendix of this paper: Dormann CF*, et al.* (2007) Methods to account for spatial autocorrelation in the analysis of species distributional data: a review. *Ecography* 30:609-628. Note that some of the methods may be out of date now but it's a good starting point.

One quick warning about all of this – please test and check your code (and any code of mine that you use!). I found myself making very silly errors when I first taught myself these methods, and I can't guarantee my code is error free. Also don't use these spatial analyses blindly; read up on them and chose the method that is most appropriate for your question. There is debate as to which is the "best" method so make sure you're aware of your options and the limitations of any method you use!

Good luck!