EXERCISE 6

Preparing environmental layers for species distribution modelling (Part 1)

Species distribution modelling (SDM) produces maps of suitability of a selected species using presence data or the location of species occurrences and environmental data of the area studied. A widely used SDM tool, Maxent (Phillips et al., 2006) is used for modelling.

Objectives (at the end of this module, the user should be able to)

1. Access and download bioclimatic data used for SDM
2. Prepare the downloaded bioclimatic data for use in Maxent

Requirements:

1. Software required include ArcMap Version 10 and Maxent (download from http://www.cs.princeton.edu/~schapire/maxent/)
2. Access to the Internet
3. Knowledge of ArcMap use

Expected time to finish: 1 Hour

Preparing the Environmental Layers for Species Distribution Modelling (Part 1)

1. The Bioclim files are found at http://worldclim.org/download
2. Click on Current conditions select the Generic grid->30 second resolution->Bioclim 1-9 & 10-18 and the available Tiles will come up
3. Click on 411 which contains New Zealand; unzip the resulting download
4. Open a new ArcMap, set the projection to WGS84 and add the New Zealand coastline shapefile (nzcoast.shp) and the unzipped Bioclim layers
5. Use ModelBuilder to define the Bioclim layer projections and clip to the NZ coastline