Providing Training, Advice And Consultancy On The Use Of Geographic Information Systems In Ecology
www.GISinEcology.com

GIS In Ecology Introductory Course

An Introduction To Using GIS In Ecological Field Studies

This course runs over three consecutive days, between 17th an 19th June 2014. It will cover the basics of using GIS in ecological field studies. It is primarily aimed at providing an introduction to collecting GIS-compatible data and using it to create a GIS rather than providing detailed training in using GIS to process or analyse data (this is provided in other trainig courses).

It will involve both classroom and fieldwork as you will be outside collecting data during this course. Therefore, you must bring appropriate clothing for outdoor fieldwork. It is aimed at those just starting to use GIS in their research and who have little or no existing knowledge of this subject area. Attendance will be limited to a maximum of 12 people.

To attend this course, you must have your own laptop computer, a fully licensed copy of ArcGIS 10.2 software, and a licence for the ArcGIS Spatial Analyst extension. If you have a GPS, it would be beneficial to bring it with you. However, we can provide a GPSs for use during field sessionss for those who do not have access to one.

At the end of the course, all attendees will receive a certificate of attendance and completion. Each certificate is embossed with the GIS In Ecology official stamp to prevent its fraudulent reproduction. In addition, each certificate has its own unique identification number that we will record, along with your name, meaning that we can verify the authenticity of the certificates we issue (and the courses you have completed) on request.

This course is being run in conjunction with PR Statistics (www.prstatistics.co.uk). For more information or to book a place, please email oliverhooker@prstatistics.co.uk.

Day 1

Morning

Background Session: Introduction To GIS

Practical Session: Making A Map For Study Area In GIS

- Setting the projection, coordinate system and datum for your data frame
- Adding existing data layers to your GIS project
- Creating a map of a local region
- Plotting nest box locations as a point data layer
- Creating new data layers in ArcGIS

Creating new data layers through Google Earth
Creating a fine-scale map of a study area

Afternoon

Background Session: Collecting Data For Use In A GIS

Practical Session: Collecting GIS-Compatible Data In The Field
Converting GIS data layers into GPS-compatible files
Setting up a GPS to record GIS-compatible data
Creating a data sheet to record your data
Recording GIS-compatible data along a transect

Day 2

Morning

Background Session: The Importance Of Error-Checking Your Spatial Data

Practical Session: Entering Field Data Into A GIS.
Transferring data between a GPS and a GIS project
Creating and entering data into a GIS-compatible spreadsheet
Creating a position validator spreadsheet for a GIS project
Converting latitude and longitude coordinates into decimal degrees
Estimating positions from distance and bearing information

Afternoon

Background Session: Incorporating Environmental Information Into Your GIS

Practical Session: Incorporating Environmental Information Into Your GIS
Collecting environmental information in the field
Extracting environmental information from existing data sets

Day 3

Morning

Background Session: Linking Data Together Based On Spatial Relationships.

Practical Session: Investigating Spatial Relationships
Linking nest box locations to habitat variables
Joining information from an external spreadsheet to a GIS data layer
Analysing spatial relationships using a GAM

Afternoon

Background session: Translating biological tasks into the language of GIS.

Practical Session: Translating biological tasks into the language of GIS

Creating a summary flow diagram for your GIS project

Collating flow diagrams for the individual steps for a summary flow diagram