

**SHORT COURSE at the Student Conference on Conservation Science
Department of Zoology, University of Cambridge, 19 – 20 March 2016**

Conservation GIS in practice

Experience level: Beginner.

Course Outline

Geographic Information Systems are essential when trying to acquire, display, edit and analyse spatial data for conservation. This course will begin by covering the fundamentals of working with map and survey data, including a discussion of the most common mistakes that people make. We will download advanced GIS software that is available free of charge, as well as discussing some of the more expensive alternatives. On day two we'll discuss the process of acquiring new spatial data through ground surveys. We'll progress to visualising and editing real conservation datasets using GIS and will also explore commercial sources of spatial data, including the availability of satellite and aerial imagery. In addition to displaying and editing data in the GIS, we will measure areas, perimeters and distances, define boundaries / territories and learn to convert data between the different available formats. Finally we will consider how to publish our GIS outputs including the creation of figures for journal articles and interactive maps for displaying on websites.

On day three we will perform more advanced GIS techniques on a number of conservation datasets. Techniques covered will include proximity, terrain and neighbourhood analyses and map algebra. We will also discuss aerial and satellite imagery in more detail and work through an example of automatically identifying habitat types from satellite imagery.

Upon completion of this introductory course students will have the software, skills and knowledge they need to acquire and analyse data for conservation research.

Notes:

1. Please feel free to bring your own laptop computer if you have one, and/or any spatial data you may be working with.
2. Students taking this GIS course do not need to take the short 1.5 hour GIS workshop that is available during the conference as the same information will be covered here in more detail.