GEOSPATIAL INNOVATION FACILITY
Cutting-Edge Mapping Technology at UC Berkeley
http://gif.berkeley.edu

RS/GIS Quick Start Guides
Collaborative training materials available from the
Biodiversity Informatics
&

Center for Biodiversity and Conservation
AMERICAN MUSEUM OF NATURAL HISTORY
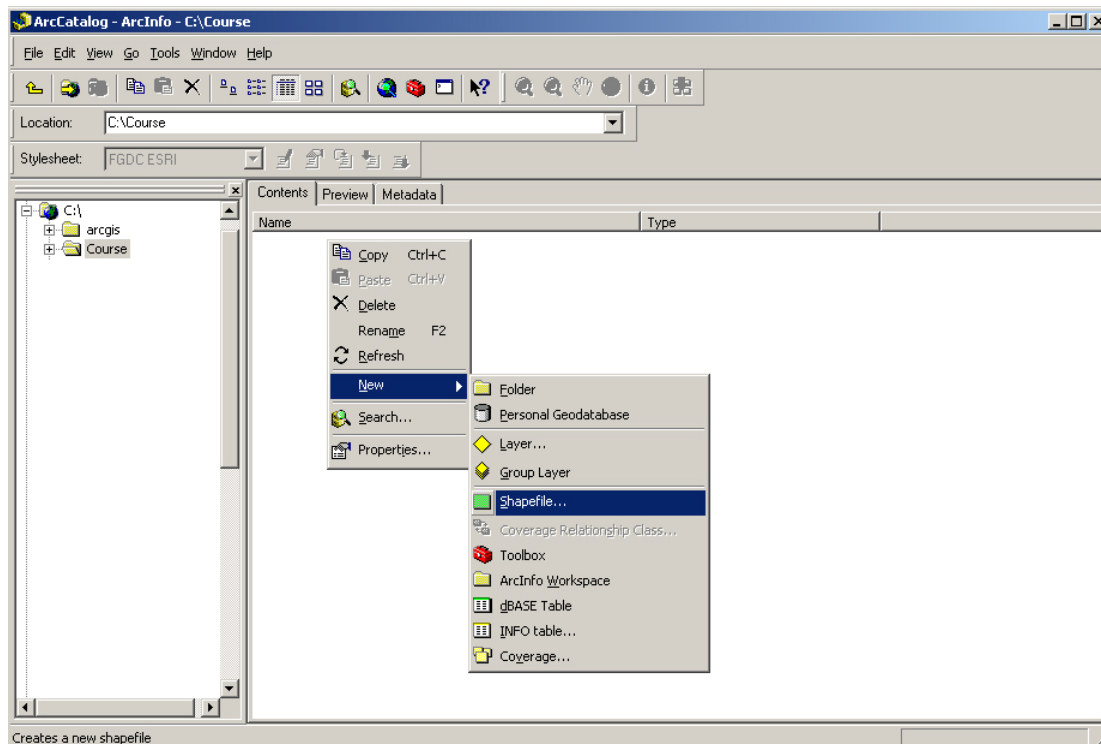http://biodiversityinformatics.amnh.org

Creating a new shapefile and digitizing basics in ArcMap

1. To create a new shapefile, open ArcCatalog by clicking the *ArcCatalog* button in an open ArcMap project.

2. Navigate the directory structure to the left of the widow and single-click the directory that you would like to create the new shapefile in. Right-click in the directory space and choose *New > Shapefile*…

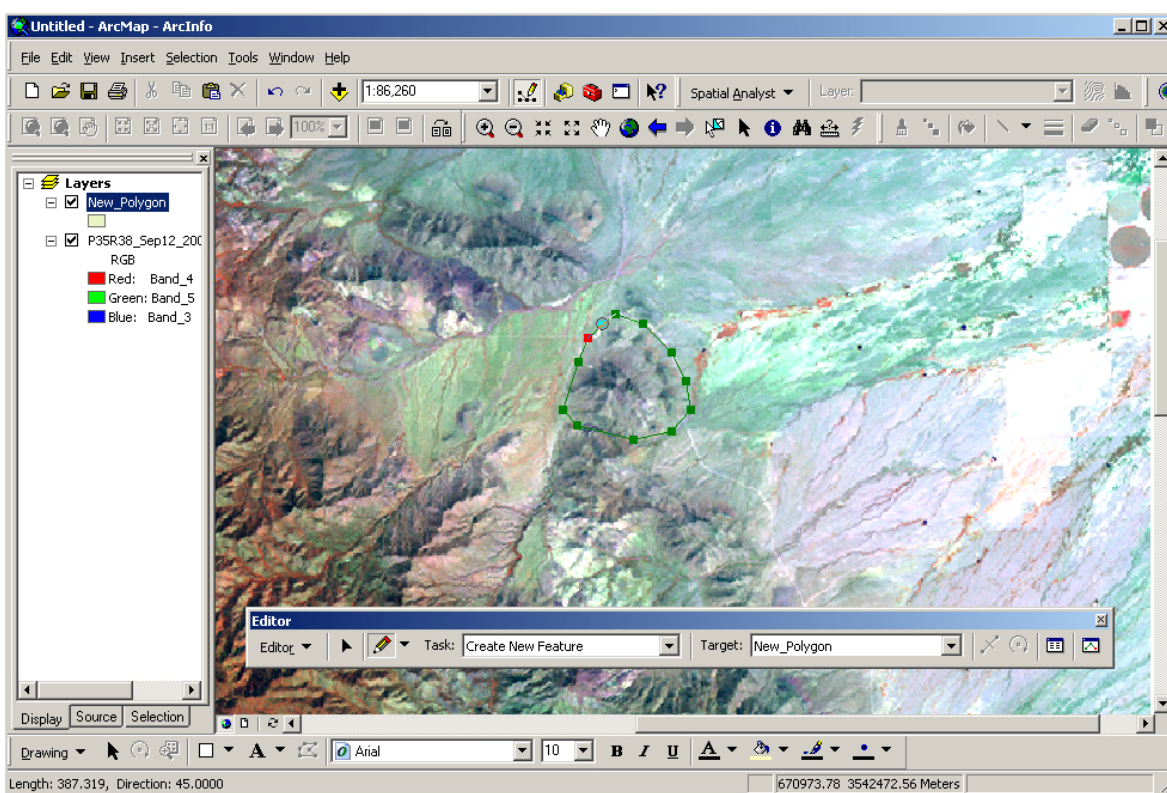3. In the *Create New Shapefile* Dialog, choose a file name, the type of file (point, line or polygon), and choose a projection by clicking the edit… button. Choose the *Select…* button in the *Spatial Reference Properties* dialog to choose the desired projection from a list. Although ArcMap can "project on the fly" it is important to use the same projection for all map layers in a project in order to preserve accuracy. Click *OK* twice.

4. The new shapefile may now be opened in an ArcMap project and used for on-screen digitizing.

5. There are numerous options available in ArcMap in terms of on-screen digitizing. This guide will only introduce the very basics in order to facilitate use. In an open project, load a base layer (satellite image, topo map, dem…) and the newly created shapefile.

6. Bring up the *Editor* toolbar by right-clicking anywhere on the top button bar of ArcMap and choosing *Editor*. Make sure the new shapefile is listed as the *Target*, and *Create New Feature* is listed as the *Task*. Click the *Editor* button, and choose *Start Editing*. This activates the bar, and the Pencil tool may be used to edit new features. For a polygon, single-click each node and double-click to close the polygon. For a line, single-click each node and double-click to finish. For a point, click once for each feature. Choose stop digitizing in the *Editor* button when complete.

7. As stated earlier, there are many options with regard to digitizing in ArcMap. For more information, consult the help files or software manuals, particularly to understand **table editing** (in order to enter attribute info for your digitized features), **snapping** features that share similar boundaries, and **streaming** (a setting you can use to automatically create vertices with mouse movements, rather than having to click each time).

8. Modifications to an existing layer can be made using the *Modify Feature* task, rather than *Create New Feature*. Using the Edit Tool ▶ individual vertices can be moved, added or deleted. Right-click the vertices with the edit tool to see all options available.