Exploring Environmental Data within an Online Repository

In this practical, we will briefly explore the environmental data that can be streamed to your ArcView desktop from the online ArcGIS Resource Centre. You will need a copy of ArcGIS version 9.2 or higher in order to complete this practical, and a good Internet connection. Note that if you lack either of these, you DO NOT NEED TO COMPLETE THIS PRACTICAL AS IT IS OPTIONAL.

Instructions:

1. If you have ArcGIS 9.3, from the *File* menu, Select *Add Data from Resource Center*. You will automatically be taken to the ArcGIS Resource Centre data collection within a web browser. This contains public domain spatial data that are available for use.
2. If you have ArcGIS 9.2, open up this link::
   http://resources.esri.com/arcgisdesktop/index.cfm?fa=content
3. The tabs marked *Maps* contain ArcGIS map documents (i.e. one or more map layers, displayed to a pre-specified design and stored within a .MXD file), the tab marked *Layers* contains individual map layers (i.e. single map layers with pre-defined display designs stored as .LYR files), and the *Globe* tabs contain pre-defined virtual globe files, suitable for display within ArcGlobe.

4. Make sure that the *Layers* tab is selected within your browser, then scroll down to the bottom of the screen and click on the *Description* below *Europe Land Cover*: skim-read this description. Next, click on the map graphic for *Europe Land Cover* and choose *open* when prompted.
5. If you have ArcGIS version 9.2, click on the graphic for this layer and choose *save*. Save it to your local disk, then open it via the *file…add data* option.
6. This brings up the Europe-wide Corinne land cover data set, which includes land cover types across Europe for the years 1990 and 2000.

When the file displays within ArcView, zoom in to a region of your choosing. Try querying the data using the query tool (shown below). How does the speed of redrawing and querying compare with data stored locally?

7. Note that the functionality of the Corinne land cover layer is restricted. If you right-click on the Corinne land cover layer and choose *properties,* you will see that there are fewer options here than you would see for a data set held on a local disk (e.g. it is not normally possible to copy or edit such data). For example, if this was stored locally, we might want to pick out just those areas that contained artificial surfaces using the *Reclassify* tool (In the ArcToolBox, *Spatial Analyst tools / reclass / reclassify…*). This option is not available here.
8. Note that Google Earth-style background imagery for an application can be acquired via the *World Imagery* link within *Layers*.

Task:

- Go back to the same ArcGIS resource centre (by clicking on *file…add data from resource center* if you are an ArcGIS 9.3 user or by visiting http://resources.esri.com/arcgisdesktop/index.cfm?fa=content if you have version 9.2. This time, select US Maps, and select the *US Environment* map at the foot of the screen. Try exploring this map layer in the same way.
- Based on this experience, what do you consider to be the relative advantages and disadvantages of data streamed from an online resource centre in this way? (see overleaf for suggestions)

Some suggested advantages:

- the most up-to-date version of a data set can be accessed and issues of maintenance are reduced
- some of the difficulty of downloading and importing data in an appropriate format is eliminated
- layers to be used as background imagery can quickly be acquired for mapping purposes (e.g. the World imagery map layers)

Some suggested disadvantages:

- The speed of querying, zooming and redrawing layers is reduced, relative to data stored locally on disk
- Functionality is restricted, so data typically cannot be edited and spatial analysis options may be reduced.