

Tutorial 2:

Basic ArcMap Functions – Zooming and Panning and Working with Layers

Tutorial content:

- 2.1. What are the basic tools in ArcMap?
- 2.2. How do I zoom in and out and move around the map display?
- 2.3. How do I work with data layers in the table of contents?

In tutorial 1 you created and saved a new map project. Open this project.

2.1. Basic ArcMap functions

The 'Tools' toolbar has a number of tools which allow you to move around the map and query map features. The name of each tool is displayed when you hover over it with the mouse. Select a tool by clicking on its icon.



 To return to a pointer, select the 'Select Elements' tool.

If the 'Tools' toolbar does not automatically open with ArcMap, it can be opened from the menu bar in Customize, then toolbars, then tools.

2.2. Moving around the screen (zooming in and out and panning)

Whilst working in ArcMap you often need to zoom in and out of your map project. To do this you need to use the zoom function tools within the 'Tools' toolbar. Try using each of the zoom tools to move around your ArcMap project and explore the individual data layers.



Select the 'Zoom In' tool by clicking on it in the toolbar. The 'Zoom In' tool can be used by clicking on the map. To zoom in on a specific area it is best to select that area by drawing a box. To start the box click in the top left hand corner and hold the mouse button down whilst dragging to the right and down. When you release the mouse button ArcMap will zoom to the selected area.



The 'Zoom Out' tool works in a similar way. Clicking with the mouse button zooms out, but a selection box can also be used.



The 'Pan' tool retains the same scale but allows you to move around the map. Hold the mouse button down while dragging in the direction you want to move to. Release the mouse button to stop panning.



The 'Full Extent' tool allows you to zoom to the extent of the largest layer or themes in the map display area, even if this layer is not switched on in the table of contents (switching layers on and off is covered later in this tutorial).



The 'Fixed Zoom In' tool allows you to zoom in at a pre-determined amount



The 'Fixed Zoom Out' tool allows you to zoom out at a pre-determined amount



'Go Back to Previous Extent' returns the screen to the previous scale

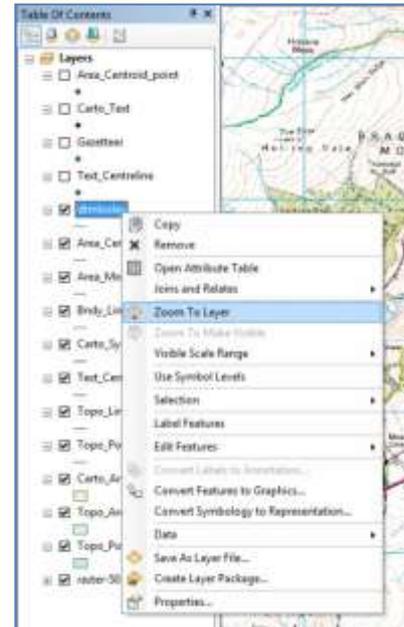


After 'Back to Previous Extent' has been used the 'Go to Next Extent' option can be used to return the screen to the previous extent.

Zoom to Layer

Another zoom option which can be useful is 'Zoom to Layer'. This option zooms to the full extent of a selected layer and can be useful in allowing you to quickly locate a particular point in the project map.

To access 'Zoom to Layer' right click on the layer name you wish to zoom in the table of contents, select **Zoom to Layer** from the drop down menu.



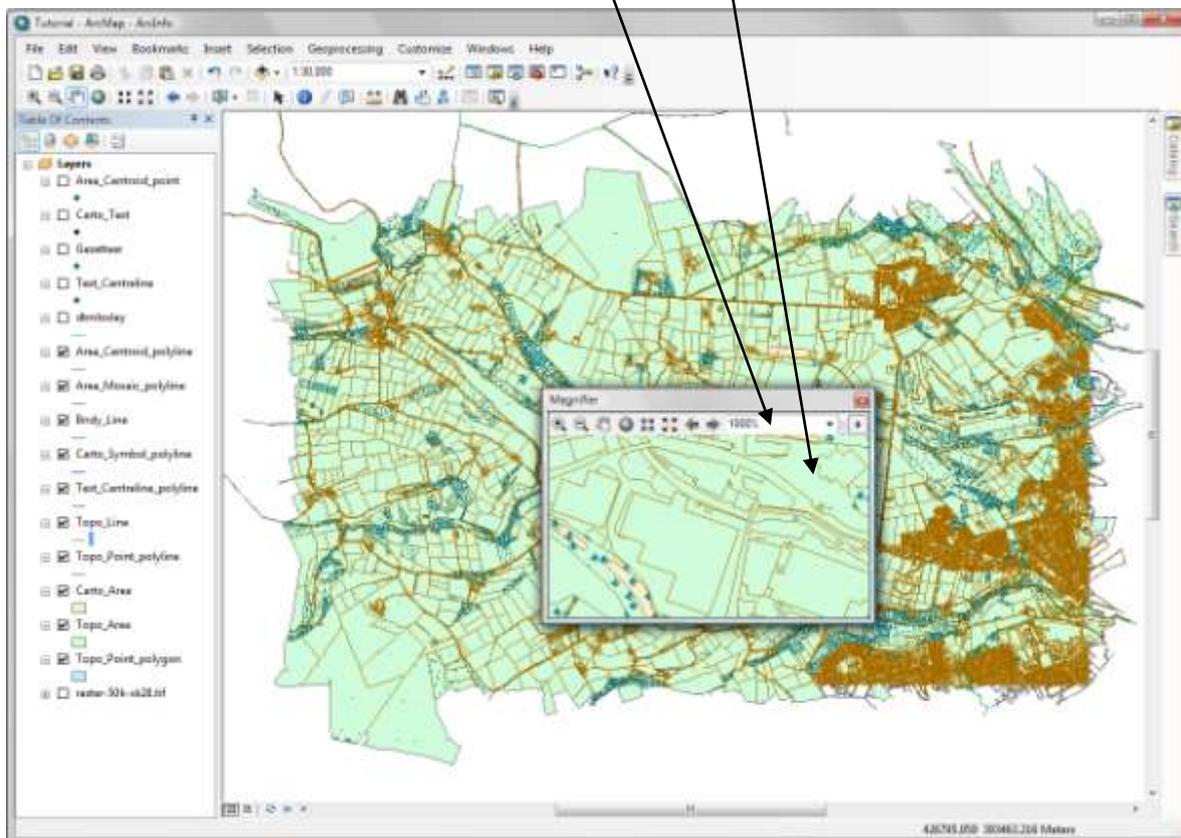
Magnifier and Overview Window

These windows allow you to see either an area in detail or a full extent of your map simultaneously.

Click on **Windows** in the Menu bar, and then click on **Magnifier**.

The **Magnifier** window will open, drag the window over an area of the map, a crosshairs will help you to orientate and locate the window.

You can change the magnify percentage in the **Menu Bar** of the **Magnifier Window**; from the drop list choose a percentage.



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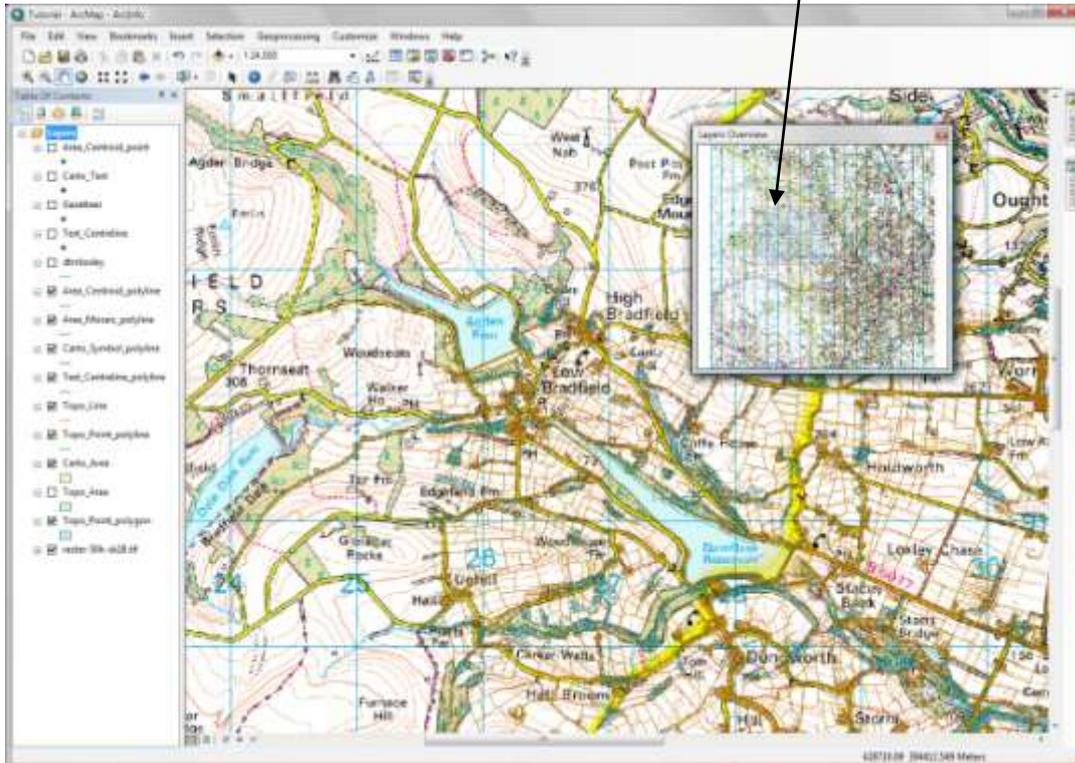
The **Overview Window** makes a **full extent** zoom of your map while you are zooming to a specific area.

Zoom to a small area of the map.

Click on **Windows** in the Menu bar, and then click on **Overview**.

The **Overview window** will open and will show the extent of the map, a red box is showing your location in the extent of your map.

Drag the red box in the overview window to change the location of your zoomed area.



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2.3. Working with Layers

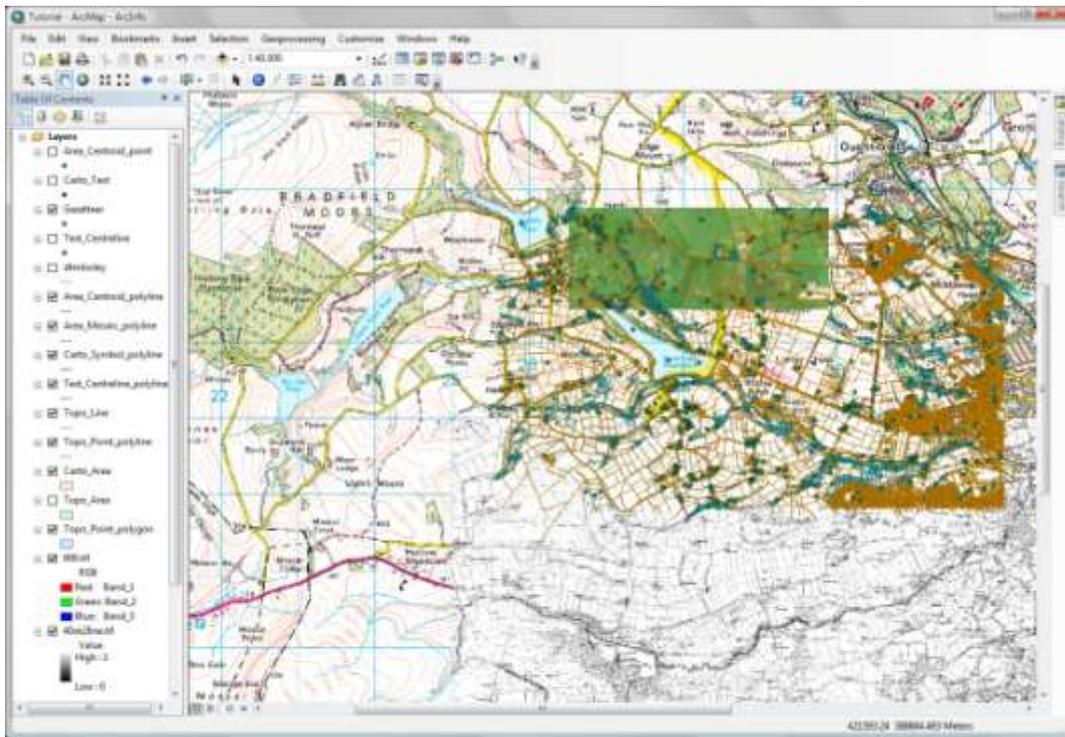
ArcMap chooses randomly which colour to assign to a layer, so your map is unlikely to appear the same as the screen captures in this tutorial and might not look great at this stage. Don't worry about this, ArcMap allows layer symbology (colour, line weights and symbols) to be customised and these different options will be covered in Tutorial 3 (Changing Symbology) and 4 (Working with Tables). In this tutorial we are going to look at some of the other ArcMap layer options.

a) Turning Layers On and Off

At the moment the layer **dtmloxley** is dominating the map display area and we cannot see the aerial photograph (000.tif) that we added at all.

You can turn layers on and off by ticking and un-ticking the box next to them in the table of contents. When the box is un-ticked the layer is no longer visible in the map display area. Re-ticking the box displays the layer again.

Try turning the layer **dtmloxley** off by un-ticking the box next to the file name. Next, turn off the layer **Topo_Area**. We can now see the aerial photograph in the map display.



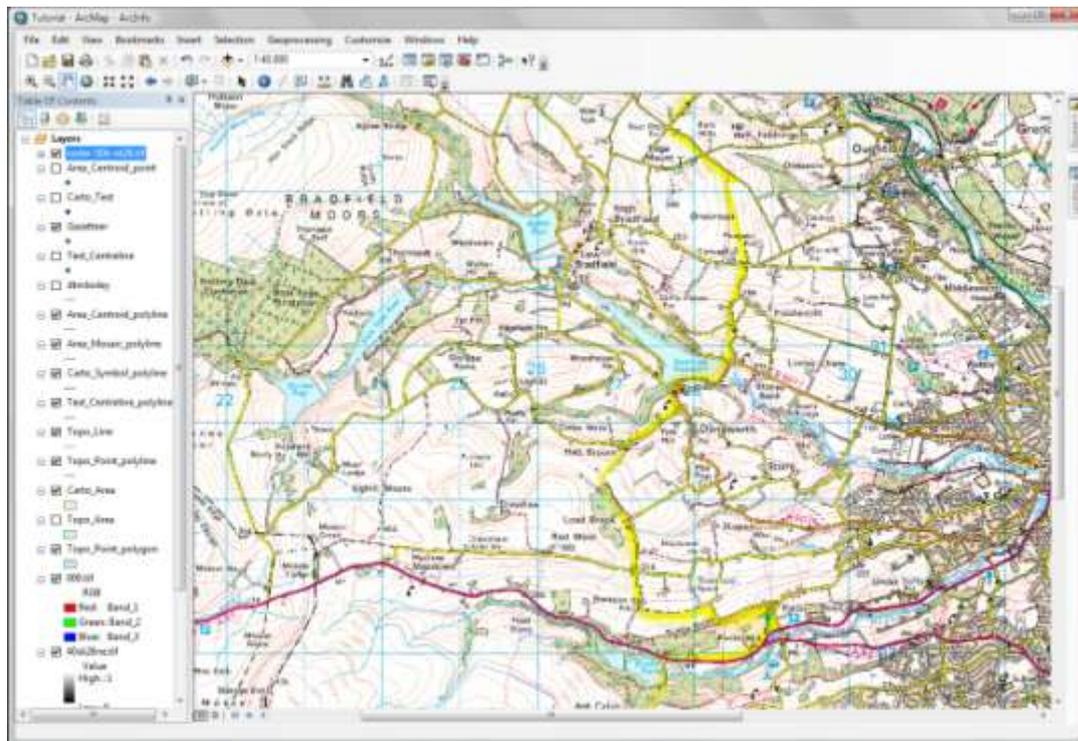
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b) Moving / Re-ordering Layers in the Table of Contents

ArcMap automatically arranges layers in the table of contents in order starting with points, then lines, then polygons at the bottom. Raster or Bitmap shapefiles (image files, such as 'raster-50k-sk28.tif', the historic maps '40sk28ne' and '40sk28nw' and the aerial photo '000.tif') are automatically placed at the bottom of the table of contents.

The order of the layers is important, particularly in the case of image files. These layers are opaque, meaning you cannot see through them. Therefore, if they were added as the top layer, they would obscure all the layers below.

The order of layers can be changed manually by clicking on a layer and dragging it up or down in the table of contents. Try moving the image file **raster-50k-sk28.tif** to the top of the table of contents. Notice that none of the other layers are now visible.



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Try moving some of the other layers in the table of contents.

c) Showing/Hiding Layer Legends

Each layer has a small box to the left of the layer name which displays a – or +. This box controls whether the layer legend is hidden (Figure 1) or shown (Figure 2). To show the legend make sure the box is marked.

Figure 1

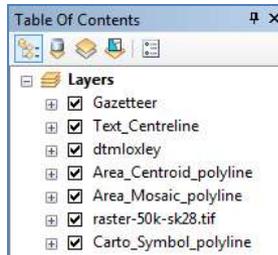
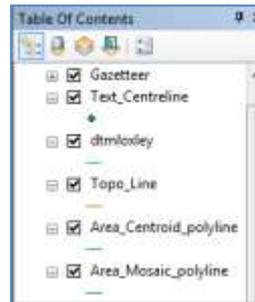


Figure 2



In the case of the historic maps ('40sk28ne' and '40sk28nw') and the aerial photo ('000.tif'), the layer legend is not really that helpful. Try turning these legends off.

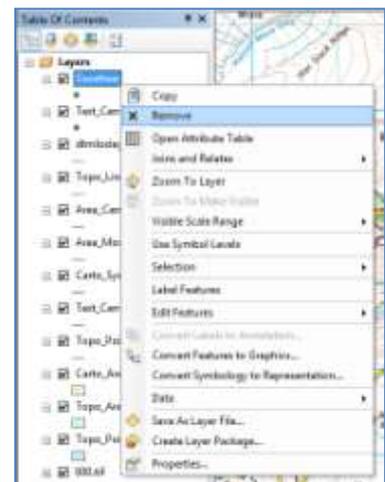


d) Deleting or Removing Layers

If you want to remove or delete a layer from the project, right click on the layer in the table of contents and select **Remove** from the drop down menu.

We are going to delete some of the Edina OS survey data layers which are less helpful. Remove the following layers:

- Gazetteer
- Text_Centreline
- Text_Centreline_Polyline
- Carto_Area
- Topo_Area
- Topo_Point_polygon



e) Hiding/Showing the Table of Contents

To hide the Table of Contents click on the cross in the top right corner. To show the Table of Contents again, click on **Windows** in the menu bar and select **Table of Contents** from the drop down menu.

