

Figure FAQs

What is the difference between vector and raster files?

Vector files are produced in a drawing or specialised data program:

- They are fully editable, so that each element can be adjusted for colour, line thickness, font, etc.
- Adobe Illustrator, CorelDraw, Excel, ArcGIS, Statistica (or similar statistical programs), etc. can all EXPORT the graphs, charts, maps and diagrams to a vector format that is inter-changeable with other vector programs, provided that they are EXPORTED from the original program to one of the following formats: AI, EMF, EPS, PDF, SVG or WMF. If you use ArcGIS please see the note on converting complicated shape files
- Please do not convert text to outlines

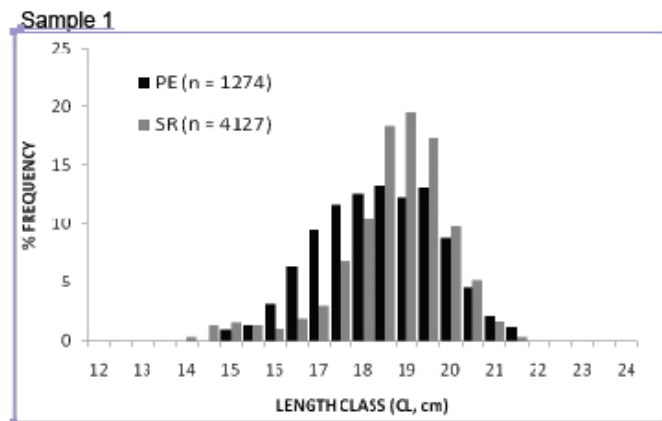
Raster files are in a format that cannot be edited (solid, photo-like images):

- All scanned images are raster files, and consequently need to be scanned at a high resolution
- Cameras cannot produce vector images, they are all raster images
- Saving images to JPEG, TIFF, PSD, GIF, PNG and BMP will turn them into raster images

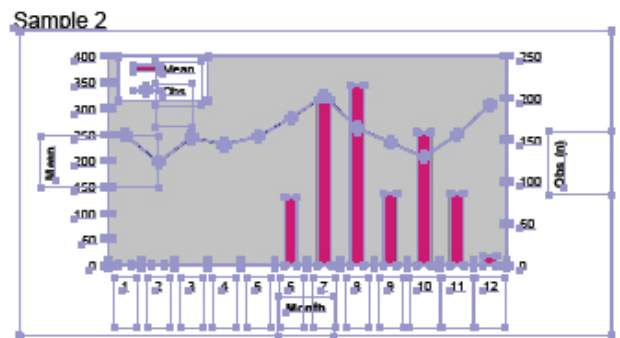
NB: Once a file is in a raster format it cannot be converted to a vector format

Vector vs raster samples

Graph sample

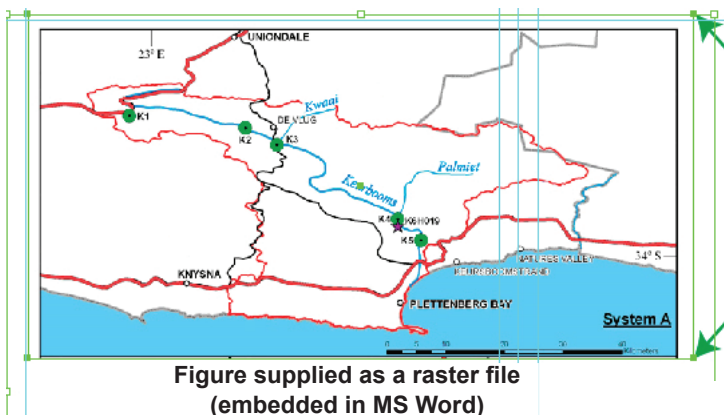


Sample 1 is in the incorrect format. It is a raster file and none of the elements can be edited, it can only be resized. You can tell this because only the four corners are highlighted, not individual elements.

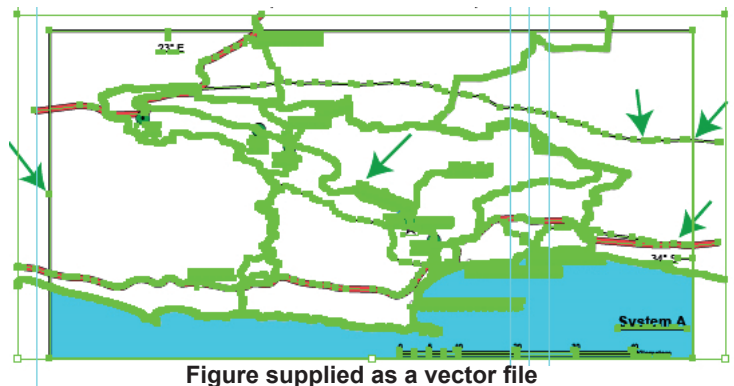


Sample 2 is a vector file. This is the correct format as each element can be edited to suit our journal style, if necessary. Purple highlights at each element show that the graph is editable.

Map sample



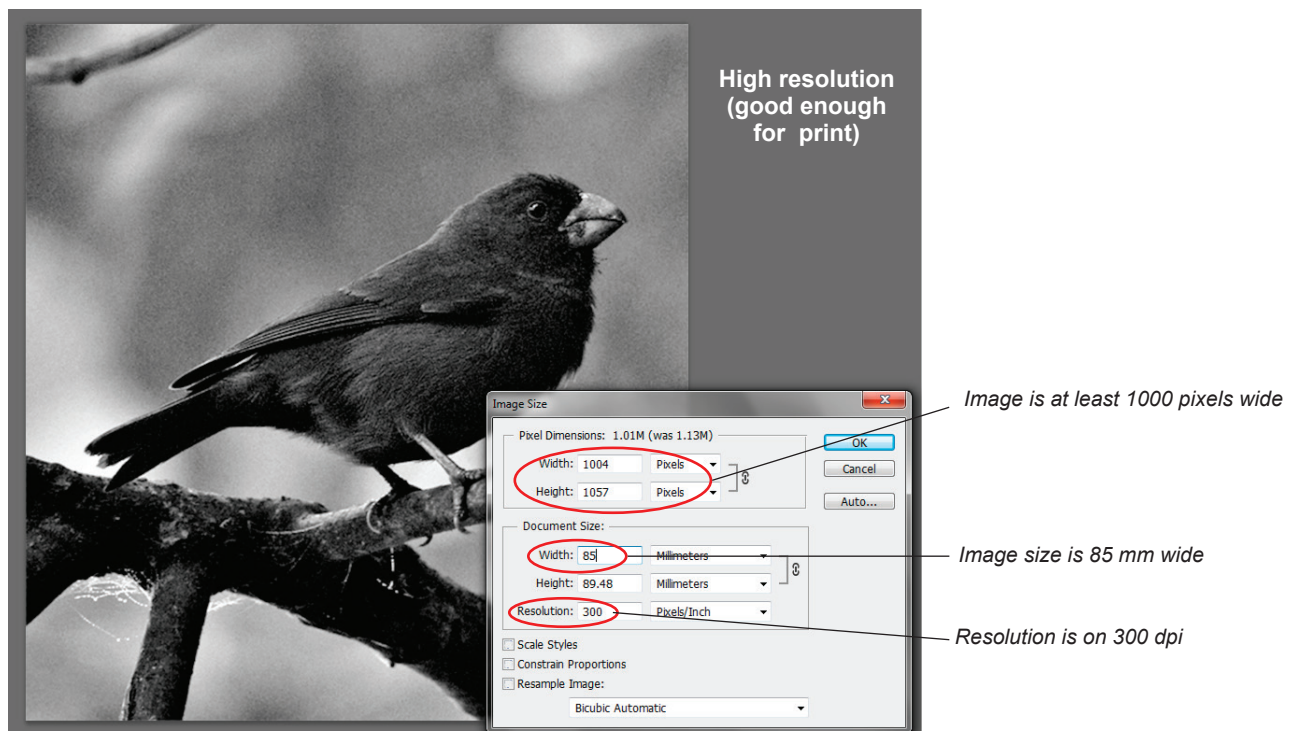
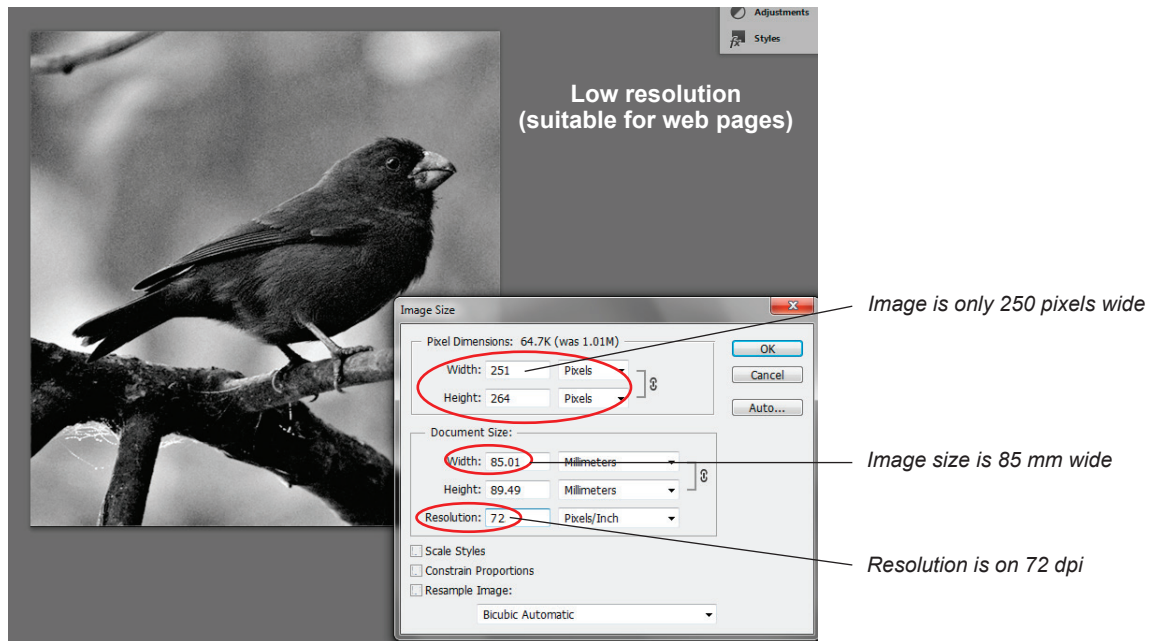
Map with raster format: note that only the corners have highlighted options, so this map can only be scaled; individual elements cannot be edited.



Map with vector format: note all elements have green highlights. This means that each element can be edited, if necessary, to suit the journal's style.

What resolution should my photographs or scanned images be?

- Resolution of images is measured in dpi (dots per inch) or the number of pixels
- The minimum acceptable resolution of 300 dpi – this is equivalent to 1000 × 800 pixels for a one-column width (85 mm) photograph or 2000 × 1600 pixels for a two-column width (175 mm) photograph
- Images of 72 dpi are too low resolution for print purposes, and are only suitable for display on websites or on screen
- Digital photographs or scanned images need to be at sufficient resolution to allow them to be resized if necessary to fit a one- or two-column size and still have enough detail
- 35 mm slides should be scanned at an optical resolution of 1600 dpi or higher. The image can then be worked on, resized and saved in Photoshop (or similar program) to provide an image of the appropriate size and resolution



How do I convert complicated ArcGIS pattern-and-shape files to make a more manageable size file?

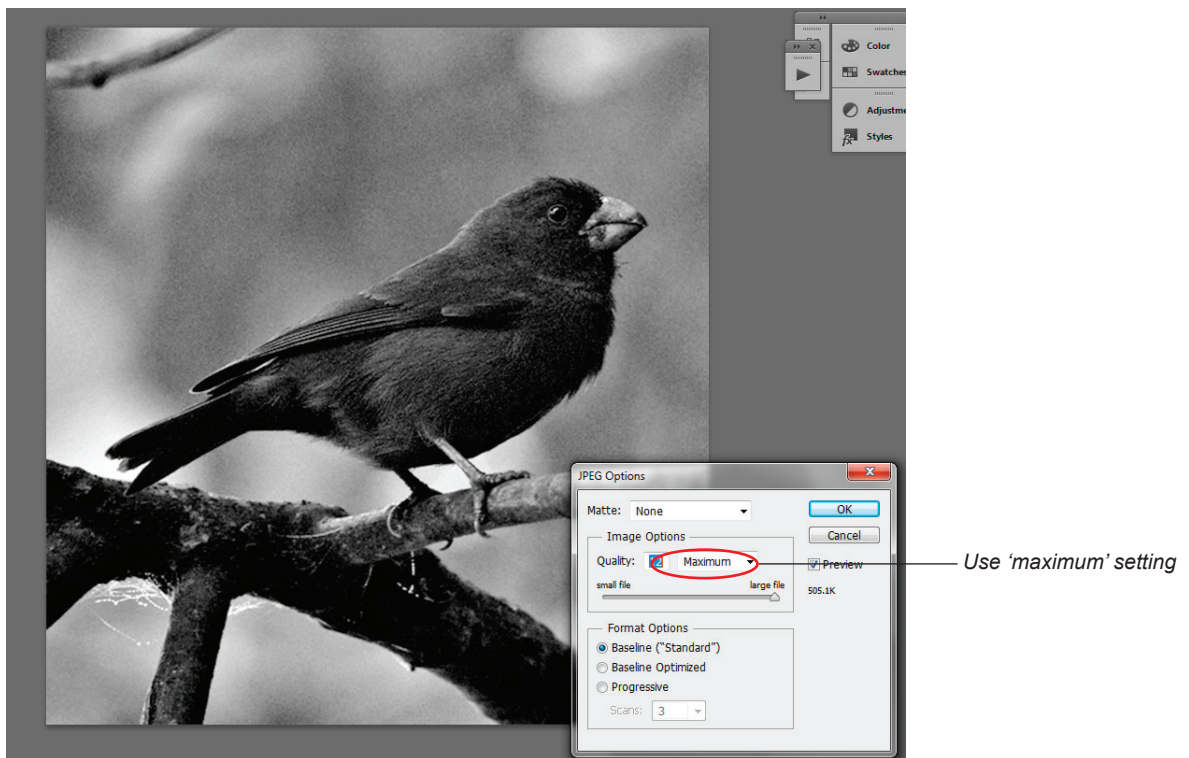
Several things can be done to make the conversion to AI (Adobe Illustrator) file format easier:

- Do not use any transparency in the ArcMap construction
- Use only solid lines for any line feature; use only solid fills, no strokes for polygons
- If converting from 'grids' to 'polygons', use 3 000 instead of 300 to increase the accuracy of the polygons
- When using text symbols from the Esri fonts, use only solid-filled symbols, no open symbols
- Show the shape file with no fill, and make the legend so that it only has a single category (i.e. don't use unique values linked to a field attribute)

What are the best settings for saving JPEGs?

- The JPEG algorithm strips data from an image when it is saved. Although this makes a smaller size file, it can lead to an unacceptable loss in quality
- It is preferable to compress as little as possible, so use the 'maximum' quality image option

Note: TIFF format files can be compressed without losing quality by using the LZW option when saving files



Can I put my graph into a PowerPoint slide?

- Microsoft PowerPoint diagrams are acceptable in that format (PPTX files) provided the artwork is produced in PowerPoint. This program is very good for producing flowcharts
- Graphs or maps produced in other programs and then pasted/inserted into a PowerPoint slide may come out as a raster image, which cannot be edited. Rather save or export graphs or maps directly from the original program where they were created as AI, EMF, ESLX, EPS, PDF, SVG or WMF format files

How do I treat files containing layers?

- Keep the layers intact. If you flatten the file, you will rasterise the file

What if I need to put a scanned image into a graph or other vector illustrations?

- Images that need to be inserted into a graph, map or other illustration must be at the correct resolution, 300 dpi for grayscale, 600 dpi for line drawings
- Web images of 72 dpi are not suitable for printing and should never be included

