

Instructions for preparing illustrations for GSL publications

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General

These guidelines are to help you in preparing your final high-resolution figures for your accepted article. When you first submit your paper, it is acceptable to upload lower-resolution images for the reviewing stage. The maximum file size you can upload to our Editorial Manager Submission sites are 10MB (journals and Special Publications) or 20MB (EGSPs and Memoirs). If your files are larger than this, please make smaller versions for review purposes and we will ask for the high-resolution version when the paper is accepted.

When preparing your figures bear in mind the dimensions of the text area of the book or journal for which they are intended (see Appendix A: Publication sizes). Each figure should be large enough to show detail clearly at the size it will be reproduced in the publication. Ideally provide your figures at their finished size (i.e. the size you expect them to be when published – single column, double column, mid-width, landscape) or larger. If you supply figures smaller in size than they will appear in the finished book or journal, they may lose some clarity

and detail when enlarged. A good maxim to work with is 'bigger is better' – our typesetters say that you can't have too many pixels!

- Supply the figure captions, notes and source information for the figures as a separate file – they should not be part of the image itself.
- Label all your figure files with author name, figure number and extension.
- Note that unsuitable figure files will be queried with the author, which may lead to delays in publication.

Preferred file formats

For the review process

The maximum file size you can upload to our Editorial Manager Submission sites are 10MB (journals and Special Publications) or 20MB (EGSPs and Memoirs) We will request higher resolution files when your paper is accepted and we are ready to start work. We will let you know how to deliver them.

For the production process

1. The best quality reproduction is achieved from editable EPS, TIFF or PDF files, assuming they have been correctly saved and flattened. It is possible to 'save as' or 'export as' TIFF or EPS from most graphics applications. You can also save directly to PDF from most graphics packages by using Adobe Acrobat. If you create your PDFs by printing to a PDF printer you may not have as much control with transparency options as you would using the 'save as' method. For these three formats, please see Appendix B: 'Save as' options.
2. We can accept JPEG, GIF, BMP and PNG, but these formats are designed for viewing on the web and do not reproduce well in print. We can also accept PowerPoint files, but again the reproduction quality will be reduced.
3. Do not insert figures into Word or any other word processing program.
4. Do not send .ai files unless the figure was originally created in Illustrator.

EPS

- An EPS file is a vector graphics format and generally resolution independent. EPS files are scalable and your figure will look 'sharp' at any size.
- Embed any fonts used, crop the image tightly and save it with minimal white space around the illustration. No data should be present outside the actual illustration area.
- Take care to ensure that the bounding box of any EPS file encompasses the entire visible area of the image. If this bounding box is too small, the figure will appear cropped when imported into the typesetter's software (Adobe Photoshop or Adobe Illustrator).
- Please include a PC preview/header so that we can view your figure on screen. Scale the image to the final size at the desired aspect ratio.
- Supply black-and-white figures as greyscale EPS files and colour ones as RGB EPS files.
- Supply your figures as one figure per file and not as multi-page postscript files.

TIFF

- A TIFF file is a raster graphics format and your image is stored as pixels. The more pixels you have the higher the quality of the figure.
- Colour photos are best supplied as TIFF files at a minimum 300 dpi at the size the images are to be reproduced in the publication. Supply colour images as RGB files with the ICC profile used by the software processing the file (for example, sRGB).
- Black and white photos or figures containing greyscale elements and text labelling should be saved at a minimum 600 dpi at the size the image is to be reproduced in the journal or book.
- Save 1-bit line figures as TIFF files with a resolution of 1200 dpi.
- Use the LZW algorithm for compression of large TIFF files.
- Supply the figures as one figure per file and not as multi-page TIFF files.

PDF

- A PDF file is also a vector graphics format and generally resolution independent. Do not lower the resolution of the image during the PDF creation process.
- To avoid any transparency loss when creating your PDFs it is important to flatten the image layers by either:
 - printing to postscript and use Acrobat Distiller to make a PDF afterwards. The PDF version is not important – the postscript process will flatten the PDF.

- saving the PDF as an Optimized PDF within Acrobat Pro: Pick ‘Files’ -> ‘Save as’ -> ‘Optimized PDF’. Check ‘Transparency’ (and high resolution if given the option) and press ‘Save’.

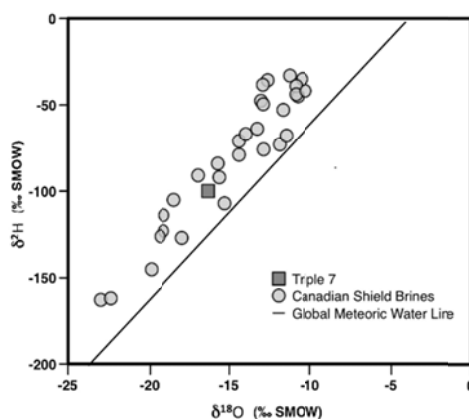
3D images

- 3D models should be supplied in U3D, GLB or FBX format. We cannot accept other formats.
- Authors should embed each U3D file into a single blank PDF page before submitting them.
- A maximum of two 3D models per article are permitted as this ensures faster download speeds and interactive performance.
- For each 3D model supplied, authors will also need to supply a ‘flat’ image version of each object, which will be used for the print and HTML version of the article. The ‘flat’ image should represent the 3D model but can be any view of the author’s choosing.
- For the ‘flat’ image, please follow ‘Preferred file formats’ instructions in this document.
- Please note that authors will **not** be sent a proof containing the 3D model. All proofs will contain the flat image. The Journal Manager or Book Production Editor will approve the 3D model before publication.
- Please note: embedded interactive images will only function correctly when the PDF is opened using Adobe Acrobat. If the reader opens the PDF directly within a web browser, such as Internet Explorer or Chrome, the interactive elements will not function correctly.
- Authors should describe the 3D image in the figure caption. If desired, authors should also describe the flat image.
- If the 3D image PDF is larger than 10 MB, then authors should contact the Production Editor/Journal Manager for advice on how to upload the images for review. Please see the author main menu on the submission site for the contact email address.

Labelling, shading and line weights

Labels

For labelling our preferred font is a sans-serif typeface, such as Helvetica or Arial. Axis labelling, lettering and any plotting symbols should be sized appropriately for the figure and its probable final size. Generally, lettering on your figures should have a size of 9pt for normal text (about 2mm high) and be no smaller than 6pt for subscript and superscript characters when scaled to final size. Smaller lettering will yield text that is hardly legible. Similarly, labelling that is far too large for a figure can also be problematic and may result in a ‘cartoonish’ appearance. Make 12pt type size your maximum for lettering. These sizes are rules-of-thumb and a guide only.



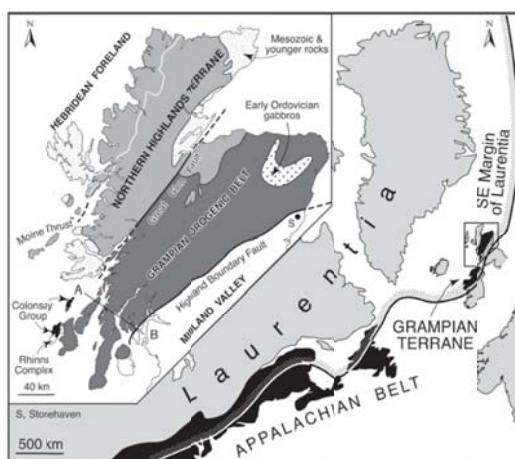
Labels should be set in lower case with an initial capital (e.g. ‘Unit elevation (m)’). Please include units if appropriate. Graphs should have all axes and lines labelled. Maps should include latitude (°N, °S) and longitude (°W, °E), a north arrow and a scale in metres or kilometres. If you can keep all text in the figure (axis labels, contour labels, latitude and longitude, scale text, inset text, etc.) at a similar size, this will aid reducibility or enlargement. Maths labels should be typed exactly as they appear in the text of your paper – if a symbol is italic in the text or equation, it should be italic in the figure. Remember that all relevant detail in the illustration, the graph symbols (triangles, circles, diamonds etc.) and a key to the diagram explaining the symbols used must be legible at final size.

The general title of your figure should appear in the figure caption, not on the figure itself. Do not include any labelling that duplicates the caption. Do not include logos, company diagram numbers or other extraneous matter. Avoid the use of boldface lettering if possible – the open spaces in the letters can fill in when the figure is reduced. If you have a dark or textured area in a figure with lettering appearing on top, place a white background behind the lettering or make contours or symbols white when overlaid on dark grey shades. If you need to credit a source, this should be included within the caption. If the figure includes several parts labelled (a), (b), (c) etc., please make sure the parts are clearly marked.

Ensure that all labelling to be included in the figure (e.g. (a), (b), names of objects in multi-panelled figures, etc.) is embedded in the file.

Shading

Avoid tints if at all possible. If you have to use tints they should be a minimum 15% and not more than 85%. For best results, do not include more than three levels of tints (greys) as the differentials will be lost on printing. When creating a scale or using different shades to highlight areas in the figure, increase the contrast between shades as much as possible and use increments of 25%. Any increments less than this may be hard to differentiate on the printed page. This would allow you five 'shades' in your figure – white, 25% tone, 50% tone, 75% tone and black. In some instances it may be better to reverse the greyscale so that large areas of dark grey next to black become light grey next to white. Do think about whether you need grey shading at all in the figure –cross-hatching could be used more effectively to represent particular regions of a graph or histogram.



Line weights

Line work should use a recommended line weight of 0.3pt at final size. If you use a thinner line than this the lines will not print, even if you can see them on your laser-printed hard copy or proofs (office laser printers should not be used as indicators – they are lower resolution output devices). Do not use hairlines as these can effectively disappear (they print at 1/1200th of an inch in thickness) when printed on a high-resolution imagesetter. For prominent lines (e.g. plot lines on graphs) the weight should be 1pt (maximum 1.5pt).

Frames

Your illustrations should not have a frame enclosing the figure or the page, unless the frame is an integral part of the figure (e.g. a map with grid marks on the box).

Figures with several parts

The parts should be labelled '(a)', '(b)', etc. In most cases all the parts of the figures should fit on one page. If that is not possible, consider separating the parts into more than one figure. There would normally be some general text in the caption that applies to the whole figure before the description of the separate parts.

Colour

Printing figures in colour is free both in print and online. For your colour figures use bold, solid colours as these will reproduce well. Note that it may not be possible to achieve an exact match for all of the colours in a particular figure when we print. In particular, colours that appear bright and fluorescent on-screen will look 'flatter' when printed in colour. The exact appearance of a colour figure at any stage will depend on the display medium and the settings used (e.g. an RGB image viewed on screen or on a laser proof may not match a CMYK printing by our printers).

Foldouts

Your article may include a figure larger than the size of a page or double-page spread, which will need to be a foldout. Authors are expected to pay for the additional cost of printing foldouts. The cost is proportional to the number of folds required. Please contact the Production Editor of the book or Journal Manager of the journal for more details.

Permissions for figures from other publications

If your figures are taken from another publication, please ensure that the necessary permission is obtained from the copyright holder. You need to do this even if you have modified the figure (if it is still recognizably the same figure). You need to obtain permission to use the material 'in this and all subsequent editions of this Geological Society of London work, its ancillaries, and other derivative works in any form or medium, whether now known or hereafter developed, in all languages, for distribution through the world'. If you are not given the opportunity to include such detailed wording, you must at least obtain permission for print and online publication in perpetuity. The Society cannot accept temporary licences.

The Society is a signatory to the Guidelines of the International Association of Scientific, Technical and Medical (STM) Publishers. The Guidelines help facilitate the exchange of scholarly and professional information by enabling one STM signatory publisher to grant permission to another to re-use limited amounts of material from published works in subsequent publications. This is free of charge and often without the need for you to request permission. Many scholarly publishers are signatories to the Guidelines (e.g. CUP, Elsevier, ICE Publishing, John Wiley, OUP and Springer Nature). You can see the full list of signatories here (<https://www.stm-assoc.org/intellectual-property/permissions/permissions-guidelines/>), in tabular form, and it lets you know which publishers will still expect you to apply for permission, even though you will be granted permission free of charge.

If you plan to make your article Open Access, please ensure that you have permission to use any third-party material with the CC-BY licence.

Summary

- Check out the dimensions of the text area of your target book or journal so that you can design the figures for single or double column, mid-width or landscape size. Supply your figures at their finished size as editable EPS, TIFF or PDF files.
 - EPS files: save black-and-white figures as greyscale EPS files and colour ones as RGB EPS files. Include a PC preview/header.
 - TIFF files: supply colour photos and figures as TIFFs at a minimum 300 dpi as RGB files with the ICC profile. Supply black-and-white photos or those containing greyscale elements and text labelling at a minimum 600 dpi. Use LZW compression for large TIFFs. Save 1-bit line figures at 1200 dpi.
 - PDF files: to avoid any transparency loss when creating your PDFs it is important to flatten the image layers by either (1) printing to postscript and use Acrobat Distiller to make a PDF afterwards. The PDF version is not important – the postscript process will flatten the PDF. Or (2) saving the PDF as an Optimized PDF within Acrobat Pro: Pick 'Files' -> 'Save as' -> 'Optimized PDF'. Check 'Transparency' (and high resolution if given the option) and press 'Save'.
 - Embed all fonts and crop the image tightly. Use a line weight of 0.3pt at final size (do not use hairlines). Prominent lines should be 1pt. Use a sans serif typeface, such as Helvetica or Arial, for labelling and a finished, printed size of 9pt for normal text (about 2mm high). The maximum type size for lettering should be 12pt.
 - Graphs should have all axes and lines labelled. Maps should include latitude (°N, °S) and longitude (°W, °E), a north arrow and a scale in metres or kilometres (or 'km' but not 'kilometers'). Use lower case lettering with an initial capital.
 - For figures with different shades used to signify different areas, limit yourself to 3 levels of tints (in increments of 25%) plus black and white, i.e. you can have 5 'shades'. Any more than this and it becomes hard to distinguish the shades. Consider annotating the areas rather than using tints.
 - If you have taken a figure from another publication, obtain permission from the copyright holder. We need permission for print and online publication in perpetuity and cannot accept temporary licences.
 - Label all your figure files with author name, figure number and extension.
-

Appendix A: Publication sizes

Figures can be sized to fit to any of the following dimensions in our publications.

	Text width (mm)			
	Single column	Mid-width	Double column	Landscape
Book series				
Special Publication	65	100	135	204
Memoir	84	120 to 130	176	254
Special Report	84	120	176	232
Engineering Geology SP	76	–	156	210
PGC	84	120 to 130	176	254
Journals				
Journal of the Geological Society	84	120	176	254
QJEGH	84	120	176	254
Petroleum Geoscience	84	120	176	254
GEEA	84	120	176	254
SJG	84	120	176	254
PYGS	84	120	176	254

GEEA, *Geochemistry: Exploration, Environment, Analysis*; PGC, Petroleum Geology Conference series; PYGS, *Proceedings of the Yorkshire Geological Society*; QJEGH, *Quarterly Journal of Engineering Geology and Hydrogeology*; SJG, *Scottish Journal of Geology*

Appendix B: ‘Save As’ options

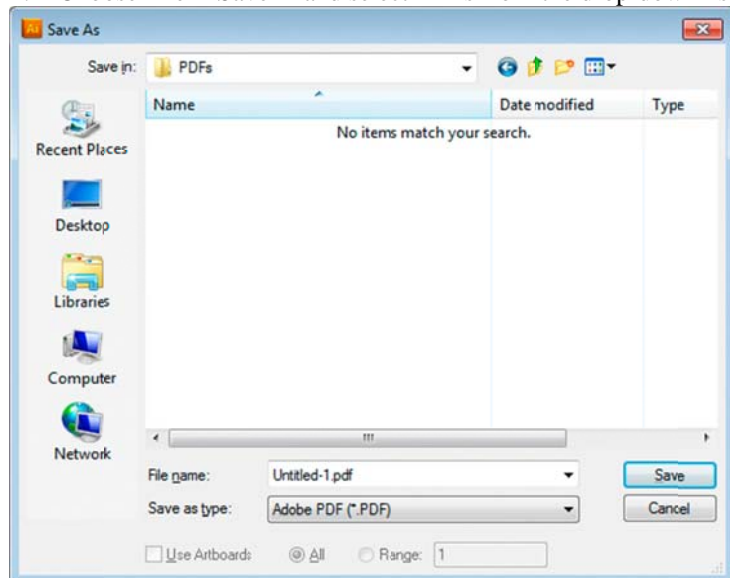
When you create your figure file, the ‘Save As’ option you choose will directly influence the quality of the final figure. Here are four examples of the best options to choose

- Saving a file in Illustrator as a .PDF
- Exporting a file in CorelDRAW as an .EPS
- Saving a file in Photoshop as a .TIFF
- Converting a Word file to PDF using Acrobat print

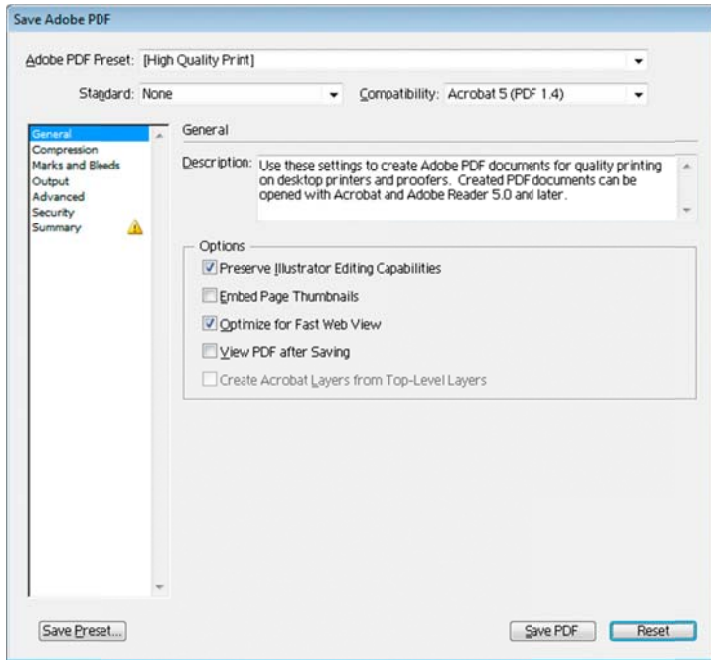
Although these refer to specific graphics packages, most software will have similar options.

Saving a file in Illustrator as a PDF

1. Choose File -- Save in and select PDFs from the drop-down list.

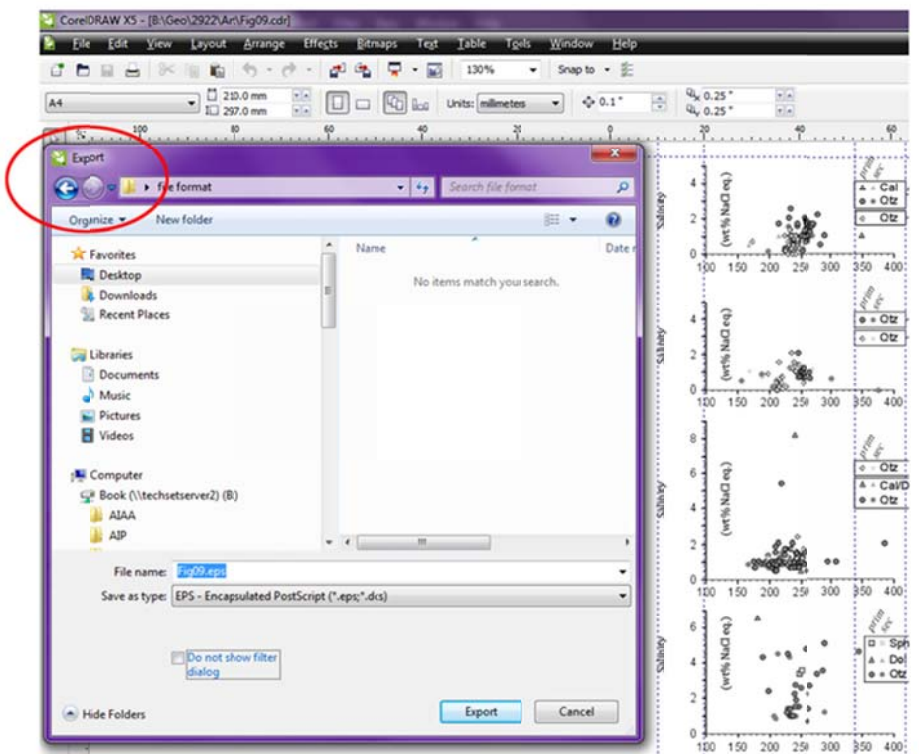


2. Select the preset ‘High Quality Print’.

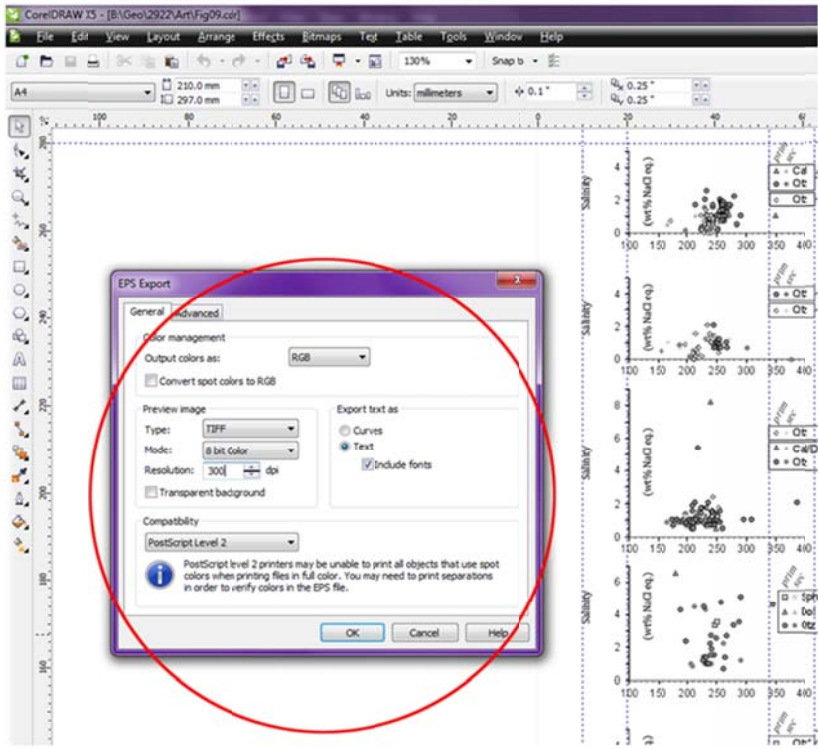


Exporting a file in CorelDRAW as an .EPS

1. Select Export from File menu (File > Export). This brings up the export dialogue box.
2. Select the type of file format as .EPS.

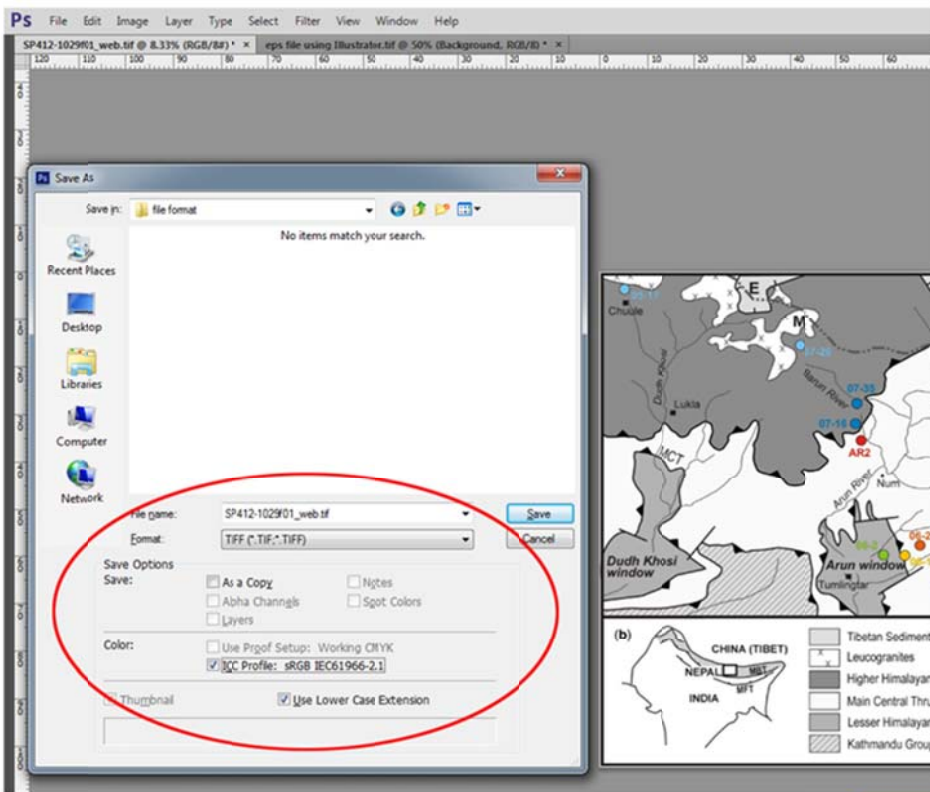


3. Click Export button. This brings up a dialogue box. The contents in the dialogue box depend on the file type you selected to export as. Enter the information according to your requirements in the dialogue box.

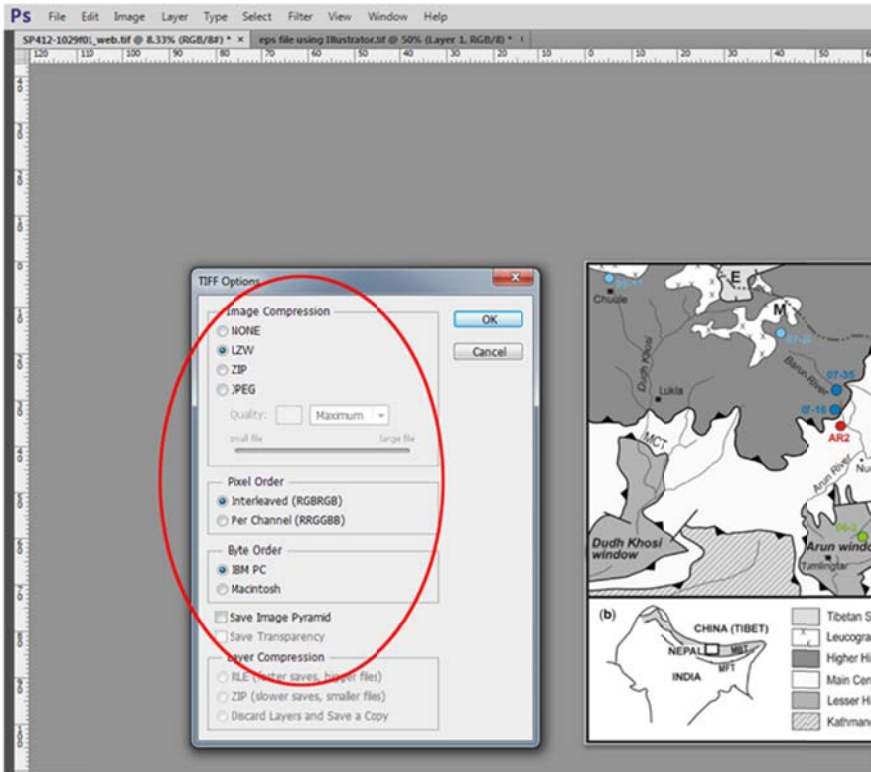


Saving a file in Photoshop as a .TIFF

1. Choose File > Save As, and choose TIFF from the format list.
2. Specify a filename and location, select saving options and click Save.

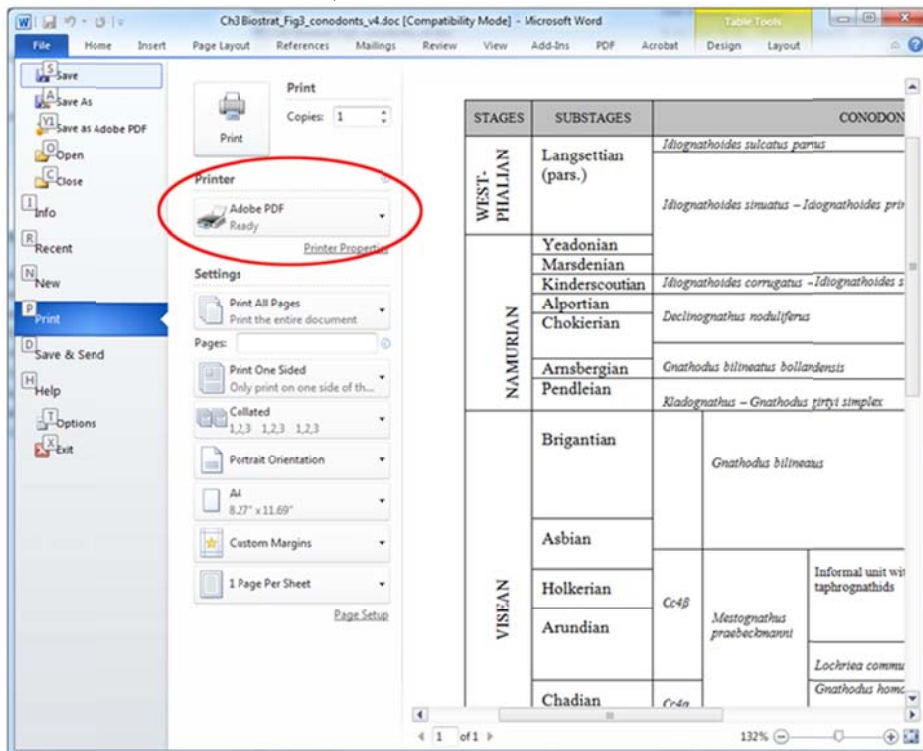


3. In the TIFF Options box, select the options as shown below and click OK.



Converting a Word file to PDF using Acrobat print

1. Choose File > PRINT, and choose ACROBAT PDF from the format list.



2. A second screen appears. Select 'High Quality Print option' and click ok.

Microsoft Word interface showing the 'Adobe PDF Document Properties' dialog box. The dialog box is open, displaying settings for PDF conversion. The 'Printer Properties' link in the Print settings area is circled in red. The dialog box contains the following settings:

- Default Settings: High Quality Print
- Adobe PDF Security: None
- Adobe PDF Output Folder: Prompt for Adobe PDF filename
- Adobe PDF Page Size: A4
- View Adobe PDF results:
- Add document information:
- Rely on system fonts only; do not use document fonts:
- Delete log files for successful jobs:
- Link to replace existing PDF file:

The background document is a table with the following content:

VISEAN	Holkerian	Cc-4b	Informal unit with taphrognathids
	Arundian		<i>Mestognathus praedbeckmanni</i>
	Chadian	Cc-4a	<i>Lochriea commu</i> <i>Gnathodus homo</i>