

Publishing in Geography – Production sections
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Using figures and graphics in your paper

Using maps, graphs or photos to illustrate your piece can greatly improve its comprehensibility and usefulness for readers, but there are some things which need to be considered when collecting material to submit with your article.

One is a matter of copyright, which is considered in more detail in another section but which it is worth mentioning here as almost all images which you have not created yourself will be subject to copyright constraints and will require permission from their original author to reproduce.

Another consideration is one of quality and how to ensure that your image appears clearly when published. The key question here is one of resolution, that is, how well defined the detail of an image is. This is measured in dots per inch (dpi), with a higher number of dots per inch allowing a greater level of definition. In practice, figures with a low resolution can appear pixellated when printed. To complicate things slightly, this may not be immediately obvious when viewed on a computer screen as the resolution of most computer screens is much lower than the resolution of a printing press; instead you will need to use the 'properties' or 'image profile' (or similar) option within your image viewing software.

For most purposes, figures should have a minimum resolution of 300dpi if they are tonal (which would include most photographs and illustrations) or 600dpi if they are line art (which would include anything with lines, such as most graphs and anything with text included within the image). To reduce further the chances of pixellation, where possible it is best to supply figures in the size in which they are to be reproduced. Almost any electronic format will be acceptable to publishers, although TIF and EPS are preferable, as these formats do not alter the source image in any way as other formats do. Graphs produced in software such as Microsoft Excel can also be used by most publishers and are generally preferable in this original format over conversion to any other. It is also best to avoid providing images in PDF format wherever possible, as this format cannot be easily manipulated by publishers.

A final consideration is that of the style of the publication you are submitting your figure to and whether there are any requirements your figures should meet. For instance, does the style require your map to have a north arrow, scale bar or inset showing the position of the mapped area relative to a larger area? Similarly for graphs, what are the publications usual requirements for the labelling of axes or the use of keys? If a publication does not give clear guidance, previous examples should be sought from earlier issues.

Copyright issues

Unless you have signed a contract with a publisher which moves onto them the responsibility for ensuring your work does not breach copyright law, you will be responsible for ensuring that you do not infringe on the intellectual property rights of anyone else. In practice, this means ensuring that you have permission to use almost any material originally produced by someone else in the format of your current work.

Under UK law, authors are able to quote reasonable amounts of material from one another for the purposes of comment or criticism, which means you will not need permission for unmodified quotations from another author's work if your quote is less than 300 words. However, such quotes should be clearly attributed and a full citation included. Similarly, you do not need permission for the use of facts or ideas originally put forward by another author, as long as you are expressing them in your own way. Also, if the producer of the original source has been dead for more than 70 years, their work is considered public domain so can be used without permission, so long as the public has uninhibited access to that work (this wouldn't, for example, cover artworks or images from books held privately).

These allowances under the law will cover most ordinary textual quotations. However, it will not cover quotations from artistic works, such as songs or poems, or from informal writings such as speeches, interviews or mission statements. In the case of songs or poems, permission should generally be sought even for use of the work's title, as this can sometimes be trademarked.

Visual artistic works are also protected under copyright law, and will almost always require the permission of their creator or publisher before they can be used. For graphs, charts or photographs, this is generally unproblematic, but for images of works of art such as paintings or sculptures, permission will be needed both from the photographer and the owner of the artwork. Generally, galleries will be your source for photos of print quality for the works they hold so will provide both permissions simultaneously but if you are using an alternative source for your image you will also need to seek permission for the artwork from the gallery. Maps reproduced from Ordnance Survey information will also need permission to be sought.

Most copyright owners are happy to allow usage in academic works subject to full acknowledgement and, particularly for images or song lyrics, a fee. In the first instance you should approach the publisher (of textual works) or photographer or gallery (holding non-textual works) informing them of your request. They will generally need to know how much material you intend to re-use, where you will be using it, the medium (print or online) in which it will appear, the print run of that medium and its distribution. For most academic purposes, you will be publishing both in print and online and will have a global distribution. Publishers sometimes ask for annual fees for online usage; such terms should not be accepted, as most online academic repositories are intended to be permanent resources and thus would continue after you have ceased to be around to make any annual payments.

This has necessarily been a summary - it is impossible to fully cover issues around the use of copyrighted material succinctly, so where there is any doubt regarding the position of material in your work it is worth getting in touch with your publisher, institution or learned society to obtain any guidelines they have which cover the question more fully.