# Manuscript preparation guidelines for authors

The following sections provide guidelines on how to prepare and compose your manuscript. Please follow these standards to ensure a smooth peer-review and production process.

## Technical instructions for LaTeX

Please download the Copernicus Publications LaTeX Package to prepare your manuscript. The package contains the LaTeX2e class file, the configuration file, all needed style files, as well as a template serving as the framework for your manuscript. Please download the Copernicus Publications LaTeX Package, version 4.2, 22 January 2016.

Authors are kindly requested to make use of the template.tex file embedded in the LaTeX Package since most of the definitions for the structure of manuscript elements are described there. Since we convert all typeset TeX files into XML, the expressions and markup have to be highly standardized. Therefore, please keep the following in mind:

- Please provide only one figure file for figures with several panels, and please do not use \subfloat or similar commands.

- Please use only commands in which words, numbers, etc. are within braces (e.g. \textrm{TEXT} instead of {\rm TEXT}).

- For algorithms, please use the syntax given in template.tex or provide your algorithm as a figure.

- Please do not define new commands.

- The most commonly used packages (\usepackage{}) are integrated in the copernicus.cls. Some other packages often used by the community are defined in template.tex. Please do not insert additional ones in your *.tex file.

- Spaces in labels (\label{}) are not allowed; please make sure that no label name is assigned more than once.

- Please do not use \paragraph{}; only \subsubsection{} is allowed.

- It is not possible to add tables in colour.

If you are familiar with BibTeX, you can use copernicus.bst from the package. It will sort your bibliography entries alphabetically and produce the proper layout of the reference list.

## Technical instructions for MS Word and compatible formats

To prepare your manuscript in a format compatible with MS Word (*.doc, *.docx, or *.rtf), please use the Copernicus Publications Word template (docx). **Please use the Microsoft equation editor and not the graphic mode when compiling your equations**.

## Manuscript composition

For the review process a *.pdf file of the complete manuscript is required following the standards for sectioning and structure (see below). Thereby, tables and figures are placed after the references. All pages must be numbered consecutively and line numbers must be included.

- **Sectioning and structure**:

  1. Title page

  2. Abstract

  3. Keywords

  4. Introduction

5. Sections

6. Conclusions

7. Team list

8. Copyright statement

9. Code availability

10. Data availability

11. Appendices

12. Supplement link (will be included by Copernicus)

13. Author contribution

14. Acknowledgements

15. Disclaimer

16. References

- **Title page**: Title (concise but informative), author first and last names, full institutional addresses of all authors, correspondence email for proofs.

- **Abstract**: The abstract should be intelligible to the general reader without reference to the text. After a brief introduction of the topic, the summary recapitulates the key points of the article and mentions possible directions for prospective research. Reference citations should not be included in this section, unless urgently required, and abbreviations should not be included without explanations.

- **Sections**: The headings of all sections, including introduction, results, discussions or summary must be numbered. Three levels of sectioning are allowed, e.g. 3, 3.1, and 3.1.1. The abbreviation "Sect." should be used when it appears in running text and should be followed by a number unless it comes at the beginning of a sentence.

- **Footnotes**: These should be avoided, as they tend to disrupt the flow of the text. If absolutely necessary, they should be numbered consecutively. Footnotes to tables should be marked by lowercase letters.

- **Equations**: They should be referred to by the abbreviation "Eq." and the respective number in parentheses, e.g. "Eq. (14)". However, when the reference comes at the beginning of a sentence, the unabbreviated word "Equation" should be used, e.g.: "Equation (14) is very important for the results; however, Eq. (15) makes it clear that..."

- **Figures**: It is important for the production process that separate figures are submitted. Composite figures containing multiple panels should be collected into one file before submission. The figures should be labelled correctly with Arabic numerals (e.g. fig01, fig02). They can be submitted in *.pdf, *.ps, *.eps, *.jpg, *.png, or *.tif format and should have a resolution of at least 150-300 dpi. The width should not be less than 8 cm. A legend should clarify all symbols used and should appear in the figure itself, rather than verbal explanations in the captions (e.g. "dashed line" or "open green circles").

    Tips for producing high-quality line graphics:

    1. The first choice should be vector graphics in *.eps or *.pdf format.

    2. If this is not possible, a bitmap image should be saved in a "non-lossy" format, e.g. *.png. A high resolution is recommended. It is always possible to reduce the size of the figure later.

    3. The *.jpg format should only be used for photos. It is not suitable for sharp edges. Note that it is not advisable to convert a *.jpg file back to *.png.

4. For maps and charts, please keep colour blindness in mind and avoid the parallel usage of green and red. For a list of colour scales that are illegible to a significant number of readers, please visit ColorBrewer 2.0.

The abbreviation "Fig." should be used when it appears in running text and should be followed by a number unless it comes at the beginning of a sentence, e.g.: "The results are depicted in Fig. 5. Figure 9 reveals that...".

- **Figure captions**: Each illustration should have a concise but descriptive caption. The abbreviations used in the figure must be defined, unless they are common abbreviations or have already been defined in the text. Figure captions should be included in the text file and not in the figure files.

- **File size**: Authors are kindly asked to find the best balance between the quality of figures and submitted material on the one hand, and a manageable file size on the other hand. Individual figures should not exceed 5 MB, and the overall size of all submitted files, excluding supplements, should not exceed 30 MB.

- **Plot data**: Authors are encouraged to put the data needed to create the plots, which are included in the manuscript, in a supplement to the published article (see below). Then, reviewers and readers are able to reproduce the plots.

- **Tables**: Any tables should appear on separate sheets after the references and should be numbered sequentially with Arabic numerals. For the production of the accepted manuscript, they should be submitted as MS WORD or included in the LaTeX file. Tables submitted as a PDF or an image file cannot be processed. Tables should be self-explanatory and include a concise, yet sufficiently descriptive caption. Horizontal lines should normally only appear above and below the table, and as a separator between the head and the main body of the table. Vertical lines must be avoided. Please note that the word "Table" is never abbreviated and should be capitalized when followed by a number (e.g. Table 4).

- **Data sets**: Authors are requested to follow our data policy including the deposit of data that correspond to journal articles in reliable data repositories, the assignment of digital object identifiers, and the proper citation of a data set. Authors are required to provide a statement on how their underlying research data can be accessed. This must be placed as the section "Data availability" at the end of the manuscript before the acknowledgements. If the data are not publicly accessible, a detailed explanation of why this is the case is required.

- **Appendices**: These should be labelled with capital letters: Appendix A, Appendix B etc. Equations, figures and tables should be numbered as (A1), Fig. B5 or Table C6, respectively. Please keep in mind that appendices are part of the manuscript whereas supplements (see below) are published along with the manuscript.

- **Supplement**:

  1. Authors have the opportunity to submit supplementary material with their manuscript, such as additional figures and tables, plot data, movies, animations, highly detailed and specific technical information, such as computer programme code, user manuals, maps, very large images, etc.

  2. The supplement **shall contain only complementary information** but no scientific interpretations or findings/messages that would go beyond the contents of the manuscript.

  3. Supplements will receive their own DOI (digital object identifier) and will be published online along with the article as *.zip archive or single *.pdf file.

  4. Supplements will receive a title page added during the publication process including title ("Supplement of"), authors, and the correspondence email. Therefore, please avoid providing this information in the supplement.

  5. Equations, figures and tables in supplements should be numbered as (S1), Fig. S5 or Table S6. Sections are numbered as S3, S3.1, and S3.1.1.

6. **The overall file size of a supplement is limited to 50 MB.** Authors of larger supplements are kindly asked to submit their files to a reliable data repository and to insert a link in the manuscript. Ideally, this linkage is realized through DOIs.

- **Author contribution**: Authors are encouraged to add a section "Author contribution" before the acknowledgements in which the contributions of all co-authors are briefly described. Example: A. Aman and B. Bman designed the experiments and C. Cman carried them out. D. Dman developed the model code and performed the simulations. A. Aman prepared the manuscript with contributions from all co-authors.

- **Review criteria**: While preparing their manuscript, authors are kindly requested to consider the manuscript review criteria to meet the quality standards and to reduce the peer-review processing time.

## References

Papers should make proper and sufficient reference to the relevant formal literature. Informal or so-called "grey" literature may only be referred to if there is no alternative from the formal literature. Works cited in a manuscript should be accepted for publication or published already. These references have to be listed **alphabetically** at the end of the manuscript under the **first author's name.** Works "submitted to", "in preparation", "in review", or only available as preprint should also be included in the reference list. Please do not use bold or italic writing for in-text citations or in the reference list.

Please supply the full author list with last name followed by initials. After the list of authors, the complete reference title needs to be named. Journal names are abbreviated according to the ISI Journal Title Abbreviations Index, followed by the volume number, the complete page numbers (first and last page) and the publication year. If the abbreviation of a journal name is not known, please use the full title. In addition to journal articles, all reference types are summarized together with examples in the Copernicus Publications Reference Types list.

If there is more than one work by the **same first author**, his/her papers are listed in the following order: (1) single author papers (first author), followed by (2) co-author papers (first author and second author), and finally (3) team papers (first author et al.). Within these three categories the respective papers are then listed as follows:

- **Single author papers**: chronologically, beginning with the oldest. If there is more than one paper in the same year, a letter (a, b, c) is added to the year, both in the in-text citation as well as in the reference list.

- **Co-author papers**: first alphabetically according to the second author's last name, and then chronologically within each set of co-authors. If there is more than one paper in the same year per set of co-authors, a letter (a, b, c) is added to the year both in the in-text citation as well as in the reference list.

- **Team papers**: first chronologically (beginning with the oldest), independent of the team author names, then alphabetically within each year according to the second (third, etc.) author. If there is more than one paper in the same year for a first author (independent of the team), a letter (a, b, c) is added to the year both in the in-text citation as well as in the reference list.

In terms of in-text citations, the order can be based on relevance, as well as chronological or alphabetical listing, depending on the author's preference.

### Examples for reference sorting

In general, in-text citations can be displayed as "[...] Smith (2009) [...]", or "[...] (Smith, 2009) [...]".

| Reference List | Short Citation |
| --- | --- |
| **Single author: chronologically** | |
| Smith, P.: ..., 2009. | Smith, 2009 |
| Smith, P.: ..., 2010a. | Smith, 2010a |

| Smith, P.: …, 2010b. | Smith, 2010b |
|---|---|

**Co-authors: alphabetically before chronologically**

| Smith, P. and Brown, P.: …, 2010. | Smith and Brown, 2010 |
|---|---|
| Smith, P. and Carter, T.: …, 2007. | Smith and Carter, 2007 |
| Smith, P. and Carter, T.: …, 2010a. | Smith and Carter, 2010a |
| Smith, P. and Carter, T.: …, 2010b. | Smith and Carter, 2010b |
| Smith, P. and Thomson, A.: …, 2005. | Smith and Thomson, 2005 |

**Team: chronologically before alphabetically**

| Smith, P., Thomson, A., and Carter, T.: …, 2006. | Smith et al., 2006 |
|---|---|
| Smith, P., Carter, T., and Hanson, M. B.: …, 2008a. | Smith et al., 2008a |
| Smith, P., Carter, T., and Walter, N.: …, 2008b. | Smith et al., 2008b |
| Smith, P., Carter, T., and Hanson, M. B.: …, 2009. | Smith et al., 2009 |
| Smith, P., Brown, P., and Walter, N.: …, 2010. | Smith et al., 2010 |

Please do not use bold or italic writing in the reference list or for in-text citations.

## Downloads

- Copernicus Publications Reference Types

- EndNote® Output Style File

- Bibtex Bibliographic Style File

## Visual conventions

- **Mathematical symbols and formulae**: In general, mathematical symbols are typeset in italics. The most notable exceptions are function names (e.g. sin, cos), chemical formulas and physical units, which are all typeset in roman (upright) font. Matrices are printed in boldface, and vectors in boldface italics. A range of numbers should be specified as "a to b" or "a…b". The expression "a−b" is only acceptable in cases where no confusion with "a minus b" is possible.

- **Equations**: These should be numbered sequentially with Arabic numerals in parentheses on the right-hand side, e.g. (1), (2). If too long, split them accordingly. If there are chemical formulae included, e.g. reactions, please number them (R1), (R2), etc. When using Word, the equation editor and not the graphic mode should be used under all circumstances.

- **Units**: The metric system is mandatory and, wherever possible, SI units should be used. Also units in the denominator should be formatted with negative exponents (e.g. $km\ h^{-1}$ instead of km/h).

- **Date and time**: 25 July 2007 (dd month yyyy), 15:17:02 (hh:mm:ss). Often it is necessary to specify the time if referring to local time or universal time coordinated. This can be done by adding "LT" or "UTC", respectively.

## English guidelines and house standards

The following aims to provide guidelines for authors on how to compose their manuscript with regards to conventions of English. Please note that the copy editor is responsible for applying these guidelines in addition to checking the grammar and punctuation of each manuscript (see English copy-editing services for more information). However, assistance from the author will expedite the production process.

- **Variety of English**: We accept all standard varieties of English in order to retain the author's voice. However, the variety should be consistent within each article. When using Oxford spellings, please do so consistently. For example, if "characterize" is spelled as such, then the -z- variant should be used for all such words throughout the article. The use (or lack thereof) of the Oxford (serial) comma should also be consistent. Authors will be prompted to select an English variety when they upload the final revised version of the manuscript. The copy editor will then ensure that the variety is consistent.

- **Spelling**: We recommend consulting one of the following dictionaries: Oxford, Cambridge, Merriam-Webster, or Collins. Where appropriate, use the anglicized version of place names (e.g. Zurich, Rome, Munich). Names that have been transliterated into English often have numerous spelling variants. For geographical locations, we consult *The Times Atlas of the World* for the most commonly used spelling. Please ensure that foreign names have the appropriate diacritics (e.g. accents, umlauts). In accordance with IUPAC, it is our house standard to use the -f- spelling for sulfur (instead of sulphur) and related words for all varieties of English.

- **Abbreviations** should be avoided in the title, depending on the length and familiarity of abbreviation. They need to be defined in the abstract and then again at the first instance in the rest of the text. In order to avoid ambiguity, abbreviations that could have numerous meanings must be defined (e.g. "GCM" could stand for "global climate model" or "general circulation model"). This generally does not apply to abbreviations that are better known than their written-out form (e.g. NASA, GPS, GIS, MODIS). Units also do not need to be defined. Please note that most abbreviations in the plural are followed by the suffix –s (e.g. GCMs, RMSEs), although there are some exceptions (e.g. CCN, ECMWF).

- **Capitalization**
  - Titles and headings follow sentence-style capitalization (i.e. first word and proper nouns only).

  - Proper nouns should be capitalized. A proper noun refers to a unique entity. If there is more than one of the item in question, it is probably not a proper noun and should not be capitalized. A capitalized abbreviation does not necessarily warrant the capitalization of the written-out form. For example "LAI" is capitalized, but "leaf area index" is not. Non-standard usage of capitalization is only acceptable for proper nouns (e.g. "SCanning Imaging Absorption spectroMeter for Atmospheric CHartographY" as the written-out form of "SCIAMACHY").

  - The capitalization of the term "earth" is disputed and based on subjective criteria. Please simply ensure that the capitalization (or lack thereof) is consistent.

  - Cardinal directions should only be capitalized when part of a proper noun (e.g. South Dakota, Northern Ireland, North America, but eastern France). If you are unsure, consult an atlas.

  - Capitalize generic geographic terms, such as "river", when they are part of a place name, but do not capitalize the generic term when it appears on its own, when it follows a capitalized generic term, or when it is in the plural (e.g. Mississippi River, Mississippi River basin, Mississippi and Missouri rivers).

  - Capitalize taxonomic ranks genus and higher.

  - "Early", "middle", and "late" are capitalized only when part of the formal name but lower-cased when used as modifiers of formal names (e.g. Early Jurassic, early Miocene, late Holocene). This applies to "upper", "middle", and "lower" as well. For more information, we recommend consulting the International Commission on Stratigraphy and Geological Society of America.

- **Italicization**
  - Italic font may be used for emphasis, although this should be used sparingly (e.g. data were *almost* consistent).

  - Foreign words, phrases, and abbreviations that cannot be found in any English dictionary (this does not apply to proper nouns) are italicized. Common Latin phrases are not italicized (for example, et al., cf., e.g., a priori, in situ, bremsstrahlung, and eigenvalue).

  - Ship names are italic, but their prefixes are roman (e.g. RV *Polarstern*).

  - Genus and species names are italic; high-order taxonomic ranks are roman.

  - When mentioned in running text, the names of books, journals, pamphlets, magazines, and newspapers are italicized.

- **Numbers**
  - For items other than units of time or measure, use words for cardinal numbers less than 10;

use numerals for 10 and above (e.g. three flasks, seven trees, 6m, 9 days, 10 desks).

- Spell out ordinals "first" to "ninth".

- Use numerals with units and expressions when used in a scientific or mathematical sense (e.g. increased 2-fold, 1 standard deviation, 3 orders of magnitude, 2 times the height (but the beaker was rinsed two times), a factor of 3).

- Spell out numbers when they begin a sentence or when the sentence cannot be reformulated.

- For very large numbers, use a combination of numerals and words (e.g. 1 billion people).

- Use all numerals in a series or range containing numbers 10 or greater (e.g. 5, 7, and 13 experiments) or in a parallel construction.

- Use words for instances such as "tens of millennia" and "non-zero".

- Spell out and hyphenate fractions in which the numerator and denominator are both less than 10 (e.g. two-thirds).

- **Hyphens**
  - Do not use hyphens between an adverb ending in –ly and the word it is modifying (e.g. "statistically based results", not "statistically-based results").

  - Latin phrases should not be hyphenated (e.g. "in situ", not "in-situ").

  - It is our house standard not to hyphenate modifiers containing abbreviated units (e.g. "3-m stick" should be "3m stick"). This also applies to the other side of the hyphenated term (e.g. "3m long rope", not "3-m-long rope").

- **En dashes (–)** are longer than hyphens (-) and serve numerous purposes. Please note that we use spaced en dashes for syntactic constructions, not em dashes (—). En dashes are used to indicate, among other things, relationships (e.g. ocean–atmosphere exchange), ranges (e.g. 12–20 months), and components of a mixture (e.g. dissolved in 5:1 glycerin–water). They are also used to link the names of two or more persons used as a modifier (e.g. Stefan–Boltzmann constant).

- **Quotes**
  - Use double quotation marks in all instances, unless quotation marks are also required within material surrounded by double quotation marks.

  - In these intra-quotation-mark instances, single quotation marks are used. Please note that quoted material should be punctuated with quotation marks but not italicized.

  - In quotations from printed sources, the spelling, capitalization, and punctuation should normally follow the original.

  - Quotations can also be used to denote an unfamiliar or newly coined term or phrase. They may also be used to introduce a term but only once at the first instance.

  - It is our house standard to position commas and periods outside the end quotation marks.

  - The following titles should be surrounded by quotation marks in running text: journal articles, book chapters, and series titles (special issues).

## Author's response

The author's response should be structured in a clear and easy-to-follow sequence: **(1) comments from referees/public, (2) author's response, and (3) author's changes in manuscript**. Regarding author's changes, a marked-up manuscript version (track changes in Word, latexdiff in LaTeX) converted into a *.pdf including the author's response must be submitted.

## Video supplements and video abstracts

In collaboration with the German National Library of Science and Technology (TIB), Copernicus Publications provides authors with the possibility of uploading video supplements and/or video abstracts relating to their accepted article.

If you wish to upload a video associated with your article, please register the video in the AV Portal of TIB Hannover and follow the instructions. Within about three days, the TIB will issue a DOI for your video. This DOI has to be entered during your production file upload at Copernicus after the acceptance of your manuscript. The journal library will use the DOI to link your article with the corresponding video.

### Registration and upload steps

1. Register via the respective tab on the AV Portal.

2. Log in by using your customer name and password.

3. Use the tab "Upload" and fill out the upload form.

4. A number of entries are specific to your video, but please make sure that the following specifications and selections are made:

   - Specify the publisher as Copernicus Publications (section 1).

   - Fill in the field "Abstract" including the title of the paper and journal (section 3).

   - Select the CC-Attribution licence (section 4).

   - Select the relationship type "isSupplementTo" (section 6).

### Technical specifications

- Video format: MPG1, MPG2, MPG4, H264, FLV, DVCPro25/50

- Aspect ratio: native image format without letterboxing (4:3, 16:9)

- Resolution: 720 × 576 (16:9, anamorphic), 1024 × 576 (16:9, square pixel), 720 × 576 (4:3, anamorphic), or 768 × 576 (4:3, square pixel)

- Images per second: 25

- Maximum size: 2GB