Instructions for Authors
Annals of Glaciology

Each issue of the Annals is thematic, focussing on a specific cryospheric theme or themes.
Before submitting a manuscript to the Annals check here if the work relates to the theme(s) of an Annals of Glaciology Issue for which the call for submissions is still open. When in doubt, contact the Chief Editor.

We publish three types of papers:

- Articles – concerning new findings and theories, or new instruments and methods, in glaciology – the study of ice and snow; or review articles that offer an up-to-date, coherent account of a glaciological subject that is developing rapidly or has been neglected.
- Letters – identical in form and general content as Articles, but of reduced length, and carrying substantially reduced processing charges.
- Communications – short pieces without abstracts that could be, e.g., comments on published articles/letters, book reviews, short correspondence on topics of interest to the community.

An accelerated publication procedure, 'Paper Profiling', is available for Articles and Letters. Eligible papers are topical or ground-breaking and would particularly benefit from a fast turnaround and wide publicity. The editors may themselves initiate Paper Profiling. Alternatively, authors may request Paper Profiling before submission, or in a covering letter upon submission, briefly suggesting reasons why the paper may be eligible. A request for Paper Profiling before submission can expedite the procedure by allowing the editors to secure early agreement of reviewers to return reviews within two weeks. Profiled papers that are accepted will be produced rapidly and will be the subject of a press release at the time of online publication. Authors and their institutes will be asked to assist with publicity.

Suggestions for illustrations for the journal's front cover are welcome, whether they relate to a paper in the issue or not.

Manuscripts submitted should be
- Of high scientific quality.
- Complete and clear.
- Substantially different from previously published work, including works in press. Preprints posted on personal or institutional servers, or on preprint servers such as ArXiv, are not treated as if previously published, and may be considered. See the IGS Policy on Posting of Manuscripts for details of the constraints on such posting. Papers posted for discussion with another publisher are also considered to be preprints, provided they are no longer under consideration for final publication. Such papers may be submitted provided that the authors have taken account of comments already made in discussion; these comments, and a response letter from the authors, should be attached to the submission.
- Relevant to the theme of the issue of the Annals.

Length
Articles should be concise. Articles begin with a title, a list of authors and their affiliations, and an abstract of 200 words or fewer.

Letters are between three and five IGS pages when published. They have the same structure as Articles, but an abstract of 150 words or fewer.

Communications are no longer than two IGS pages when published. Communications begin with a title and have no abstract, and the list of authors and affiliations appears at the end after the acknowledgements.

One IGS page of pure text, of A4 size, is about 1000 words. Paper length in pages can be estimated by counting the words in the manuscript and adding suitable space for each figure and table. The space occupied by each item will depend on its width in columns (1 or 2; 85 mm or 179 mm) and its height; columns are up to 254 mm high.

Pre-submission English language editing

Papers must be in English. Authors, whether or not their first language is English, are strongly advised to have their manuscripts critically read by a native English speaker before submission. This will help to ensure that the academic content of the paper is fully understood by the editors and reviewers. Alternatively, authors may make use of any of a number of third-party services specialising in language editing and/or translation. The International Glaciological Society is itself willing to suggest language editing services, which can then provide cost estimates on request. The use of any of these services is voluntary and at the author's own expense, and does not guarantee that the manuscript will be accepted for publication.

Original submission

All manuscripts should be submitted online at ScholarOne Manuscripts-AOG. If you have not submitted in this way before, you will need to register as a new author. Consult the ScholarOne Author User Guide or contact igs-glaciology@cambridge.org if you have problems with this system.

At the time of original submission, the corresponding author must be identified and must provide the contact details of all co-authors, including their e-mail addresses. The corresponding author is responsible for ensuring that all co-authors have approved the submitted version of the manuscript.

We strongly encourage all corresponding authors to identify themselves using the Open Researcher and Contributor ID (**ORCID ID**) when sub-mitting a manuscript to the journal. ORCID provides a unique identifier for researchers, solving possible name ambiguity problems and integrates key research workflows such as publication and grant applications. If you don't already have an ORCID ID, you can create one during submission. You can register for one directly from your user account on ScholarOne or via ORCID. If you already have an ORCID ID, please use this when submitting your manuscript by permitting to link the ID to your ScholarOne IGS account. For ScholarOne: Simply log in to your account using your normal username and password. Edit your account by clicking on your name at the top right of the screen and from the dropdown menu, select 'E-Mail / Name'. Follow the instructions at the top of the screen under the ORCID header to update your account.

You also have the option of using the AOG template in Overleaf, an online tool that enables authors to:

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The Overleaf template is based upon LaTeX but contains a rich text mode; you do not have to be a LaTeX expert in order to use it. It could be particularly useful if you are collaborating with other authors. At the end of the Overleaf process a clean PDF is transmitted to ScholarOne as the main manuscript with the LaTeX source files supplied in a zip file for the production team if the article is accepted.

For original submission and review, single-file manuscripts with figures and tables in-line with the text are strongly preferred. Both pages and lines must be numbered. The manuscript can be submitted in a variety of formats, including Word, LaTeX and PDF. If necessary, it will be converted to a PDF in the ScholarOne system. Each figure and table must be cited in the text. Figures and tables should be numbered independently with Arabic numerals in the order in which they are cited. Papers may contain boxes, for example for lists/tables that consist mostly or entirely of text. Boxes should be numbered independently, as are figures and tables (which, however, should NOT be in boxes.)

Supplementary material may be submitted. It should not be an extension of the main manuscript but should provide further clarification. It will not be copyedited, typeset or reformatted by the publisher. Each supplementary file must be cited in the text. Supplementary material is also cited at the end of the paper, before the Acknowledgements, in a separate section headed SUPPLEMENTARY MATERIAL, as follows: "The supplementary material for this article/letter can be found at…[LINK]".

Requirements for final files after acceptance are set out below (see **Final submission**).

A submitted manuscript is first sent to the Chief Editor of the IGS, who initiates peer review by assigning it to an Associate Chief Editor of the appropriate Issue of the Annals. The Associate Chief Editor will determine the manuscript's suitability for the Annals Issue, and may decide to reject it without review, but otherwise will appoint a Scientific Editor for the manuscript. Associate Chief Editors may themselves act as Scientific Editors. Manuscripts are often the subject of discussion between editors. The Chief Editor is responsible for oversight of the entire process, including responsibility for uniformity of the criteria for acceptance and rejection.

Review process

Unless the Scientific Editor recommends that a manuscript should be rejected without review, it will usually be assessed on the advice of more than one reviewer. The Scientific Editor may ask the authors to make minor or major revisions based on the reviewers' comments.

With rare exceptions, minor revisions are such that they can be made within 15 days, while major revisions are such that they can be made within 30 days. A request for major revisions will normally be followed by a second round of review.

Once the review is completed, with or without a stage of revision, the Scientific Editor will recommend acceptance or rejection to the Associate Chief Editor. The final Accept/Reject decision is the responsibility of the Associate Chief Editor, who will advise the authors and the publisher of the decision.

Final submission

Upon acceptance, authors submit final production files through ScholarOne Manuscripts-AOG, including any figure files and supplementary files.

There should be

- A single document file that includes, in order: the main text, list of references, appendices (if any), list of figure captions, and each of the formatted tables. In the main text, figures, tables and boxes should be represented only by notes of the form "Figure *n* near here", "Table *n* near here", "Box *n* near here". In the main text, figures and tables should be represented only by notes of the form "Figure *n* near here" and "Table *n* near here". The file name should reflect the paper number, e.g. AOG-18-0001.doc.
- Separate files in acceptable formats for each figure; each figure file name should contain the paper number and the figure number (AOG-18-0001.Figure1.tif, AOG-18-0001.Figure2.tif, etc.).
- As many supplementary files as have been cited in the main text.

Acceptable electronic formats for the final version are

- Text (including formatted tables and figure captions) – Word, RTF or LaTeX (the IGS class file can be downloaded from here, or alternatively you can use the Overleaf template described above). Authors should also provide a PDF of the complete paper (including figures, tables and captions)
- Figures – Cambridge Journals recommends that only TIFF (600 dpi black and white for line drawings; 300 dpi for colour or black and white halftones), EPS or PDF formats are used for electronic artwork; however, JPEG and PNG are also acceptable for raster graphics. Figure files should be approximately the size at which the authors would like them to appear (maximum widths: 85 mm single-column; 179 mm double column).

- Equations – if using Word, provide equations in an editable form (so they can be typeset).
- Please note that the total size of a single file cannot be larger than 50 Mb. If exceeding this file size limit, contact igs-glaciology@cambridge.org for instructions on alternative submission methods.

All authors are responsible, together and as individuals, for the scientific content of the published paper. Authors are expected to state that data reported in their manuscript are available on request. This should preferably be through a reliable data repository with an explicit link to a DOI.

Page proofs

Authors are sent a single set of proofs for the purposes of checking the fully-typeset paper and making typographical and minor corrections. Corrections made against IGS style at this stage will not be implemented.

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Author contribution statement

Authors may add a short Author contribution statement as an end-note summarizing the roles and contributions of all co-authors. Their contributions may vary substantially, and this practice can benefit all contributors by supporting their applications for grants, new posts and other professional evaluations. The Author contribution statement is voluntary, and is inserted above the Acknowledgements at the end of the text.

Example of a Contribution Statement

AA performed all calculations and wrote most of the paper, BB collected data on infrared albedo measurements, CC investigated snow grain morphology, DD analysed the XXX data and contributed to writing the paper.

Some general points of IGS style

- Authors can expedite publication of their papers by following closely the style exemplified in recent Annals of Glaciology issues (e.g. Latest Issue).
- For points not covered here, see the *Style Guide for Authors at the end of this document*.
- Title should be concise.
- Please do NOT use hypertext; hyperlinks should be rendered as ordinary text.
- Abstract should be 200 words or fewer for Articles and 150 words or fewer for Letters.
- Papers should be in sections, numbered if necessary, with short section headings. Use multi-level numbering as appropriate; section headings are in **BOLD CAPS**, subheadings in **Bold sentence case**, subsubheadings in *Italic sentence case*.
- Use SI units in the main text, tables, figures and supplementary files
- Figures and Illustrations should:
  - not be in boxes
  - use strong black lines (avoid tinting if possible)
  - use Optima, Arial, Calibri or a similar sans-serif font in labels, with a minimum 8-10 pt font size in final printed format.
- Equations should be numbered in the order in which they appear in the text. References to equations should be in the form (1), (2a), (2b), (3–5), etc.
- If using Word, equations should be submitted in an editable form. A PDF of the equations should also be supplied in order to ensure that the equations are typeset correctly.
- Tables should be formatted in a style resembling that of tables published in recent issues.
- All citations in the text must include the author name(s) and the year of publication (e.g. Smith, 1999; Smith and Jones, 2000; Smith and others, 2003) and must have an entry in the reference list.
- Reference list should
  - be short
  - be complete and accurate
  - be arranged in alphabetical order by first author's surname (all authors should be listed surname first, followed by initials), with multiple references by the same first author in reverse chronological order
  - list all authors in the reference when there are six or fewer. When there are more than six, list only the first, for example 'Wang ZZ and 6 others'.
  - have all journal names written in their ISO 4 abbreviated form in italics
  - include too much rather than too little information
  - include DOI numbers when available
  - use minimal punctuation (in particular, no periods or spaces separating authors' initials)
  - include works accepted for publication but not yet published as 'in press'
  - not include personal communications, unpublished data, manuscripts in preparation or submitted for publication, or data published on the web (all these should be included in the text).

Examples of formatting for references

Barnes P, Tabor D and Walker JCF (1971) The friction and creep of polycrystalline ice. *Proc. R. Soc. London, Ser. A,* **324**(1557), 127–155

Castelnau O, Duval P, Montagnat M and Brenner R (2008) Elastoviscoplastic micromechanical modeling of the transient creep of ice. *J. Geophys. Res.,* **113**(B11), B11203 (doi: 10.1029/2008JB005751)

Cuffey KM and Paterson WSB (2010) *The physics of glaciers*, 4th edn. Butterworth-Heinemann, Oxford

Kamb, B and 7 others (1985) Glacier surge mechanism: 1982–1983 surge of Variegated Glacier, Alaska. *Science*, **227**(4686), 469–479 (doi: 10.1126/science.227.4686.469)

Nater P, Arenson LU and Springman SM (2008) Choosing geotechnical parameters for slope stability assessments in Alpine permafrost soils. In Kane DL and Hinkel KM eds. *Proceedings of the 9th International Conference on Permafrost, 29 June-3 July 2008, Fairbanks, Alaska, Vol 1,* Institute of Northern Engineering, Fairbanks, 1261–1266

Schulson EM and Duval P (2009) *Creep and fracture of ice.* Cambridge University Press, Cambridge

Style Guide for Authors
International Glaciological Society

Introduction

The copy editors will ensure that papers conform to the detailed requirements of IGS style. Nevertheless, authors can expedite publication of their papers by following closely the style exemplified in recent issues of the *Journal* or the *Annals*. This will speed up reviewing and scientific editing as well as copy editing.

Some points of usage that arise commonly are

- Use either British or American spelling, but only one of these conventions consistently.
- Represent numbers less than 10 in ordinary text as words ('nine'), not as numerals ('9').
- Use as few acronyms as possible, and spell out all unfamiliar acronyms at their first appearances (in both the abstract and the text); acronyms that are 'familiar' and do not need to be spelled out include some in widespread usage (e.g. 'NASA', 'NATO', 'VHF') and some in glaciological usage (e.g., 'GIS', 'DEM'; but bear in mind that not all jargon is understood by all readers – therefore spell out 'accumulation-area ratio (AAR)', 'full width at half maximum (FWHM)', etc.).
- Treat the nouns 'criteria' and 'data' as plurals. For the singular of 'data', the forms 'dataset' or 'data point' are available depending on the context. The plural of 'formula' is 'formulae' or 'formulas' and of 'terminus' is 'termini' or 'terminuses'. 'series' may be singular or plural and needs care: 'this time series is', 'these time series are'.
- Hyphenate compound adjectives consistently to avoid ambiguity: in 'mass-balance measurements', 'mass-balance' is a compound adjective; in 'measurement of mass balance', 'mass' is an adjectival noun and there should be no hyphen. Multiple compound adjectives increase the risk of ambiguity: 'full-Stokes three-dimensional ice-sheet model' is clear with hyphens but not without.
- Use 'and others', not 'et al.', in citations of sources with more than two authors.
- Italicise all algebraic symbols, including those that appear in the text.
- Indent the second and following paragraphs, but not the first, in each sub-section.
- Separate sentences using one space (not two).
- Use footnotes only for changes of authors' addresses and, if needed, in tables.

- Ensure that all citations appear in the Reference list and all references are cited in the text.
- Adhere to IGS style for references; see **Citations and references** below, and also recent issues of the *Journal* or *Annals*.
- Include the issue number as well as the volume number whenever possible in references to papers; this is particularly important for journals, such as *Annals of Glaciology*, in which pagination begins anew with each issue.

Dates

Present dates as 'November 2008', '27 November 2008'. *In tables and figures only*, months may be shortened to three letters, or all-numeric dates may be used, keyed in the caption as YYYYMMDD ('20081127').

Present time intervals in years in the form '2006–08', not '2006–2008' or '06–08' (note the en dash); a year that is not a calendar year, for example a mass-balance year, is represented as '2006/07' (solidus).

The Julian date is a real number, not an integer. The Julian day is the integer part of the Julian date and is not the 'day of the year', which is one plus the number of days elapsed since 0.0 hours on 1 January of a given calendar year.

Units

- Use SI units, noting that the unit symbol for the kilometre is km (not Km) and for the kelvin is K (not °K).
- Use superscript notation instead of solidus notation; write 'm s^{-1}', not 'm/s'.
- Use the kilogram instead of the gram and the metre or millimetre instead of the centimetre for most numerical quantities; in particular, density should be reported in kg m^{-3}.
- Observe the distinction between the units of physical length and water-equivalent 'length'; the latter is a mass unit and the abbreviation 'w.e.' should always appear, as in 'mm w.e.' or 'm w.e.'.
- Use the preferred unit symbol 'a' (annus) for the year and take care to distinguish between the year as an ordinary noun (to be spelled out) and as a unit (to be given its symbol).

Citations and references

- Original sources should be cited if they remain accessible; for example, for Glen's flow law cite Glen (1955) [*Proc. Roy. Soc. A*, **228**, 519-538] in preference to a more recent textbook.
- Citations take the form '(Smith, 2000)', '(Wang and Smith, 2000)' or, for more than two authors, '(Wang and others, 2000)'. When the name is part of the sentence, cite as in 'Smith (2000) showed that …', 'Wang and others (2000) reported that …', and so on. Groups of citations are in chronological order, and in alphabetical order where the first date is the same ('Zaremba, 1973; Colbeck, 1979, 1991; Gow and others, 1979, 1987').
- Works of the same date by the same author are cited as in '(Wang, 2009a,b,c, 2010, 2012') with no spaces between the letters. '(Wang, in press a)' has a full space before the letter. If two or more lettered works are first cited together then the letter is determined by alphabetical order of the titles. The order of the letters applies to works with multiple authors regardless of how the names of the 'others' vary.
- Cited theses and maps should be referenced. Do not reference abstracts unless they are published. Oral presentations should not ordinarily be cited at all, but if essential may be cited as '(Z.Z. Wang, paper presented at [meeting], [date]; [link if available])'. Other citations not listed in the References are in the form '(personal communication from J. Fitzpatrick, 2013)' or '(T. Scambos, unpublished information [omit date] *or* unpublished data [omit date])'.
- References are arranged in alphabetical order by first author. Among multiple references with the same first author, first list all single-authored works, then all double-authored, and then all multiple-authored (three or more). Within each of these sets, arrange works with the most recent first and, when dates are the same, with letters a, b, c, … in the order in which they are cited in the text (see above).
- List all authors in the reference when there are six or fewer. When there are more than six, list only the first, for example 'Wang ZZ and 6 others'.

Tables and Figures

- In the text, refer to tables as 'Table 1', etc., and refer to figures as 'Fig. 1', etc.
- Table captions are in roman font but begin with '**Table *n*.**' (bold). They appear above the body of the table. Column headings are in roman font and the header rows are marked off with horizontal rules above and below. A horizontal rule marks the bottom of the table. Table footnotes are in roman font and should be identified with superscript letters (^{a}, ^{b}, ^{c}, etc.) or superscript symbols in the sequence asterisk (*), obelisk (†), dagger (‡), section sign (§), parallels ($^{\parallel}$), hash($^{\#}$), then doubled in the same sequence (**, etc.).
- Figure captions are in roman font but begin with '**Fig. *n*.**' (bold). They appear below the figure. Figure panels should be labelled a, b, etc. without full stop or parentheses; within the caption, refer to panels as a, b, etc., without the figure number. Axis labels should be upper case on the first letter of the first word only; units should be in parentheses and should use superscript notation, not solidus notation (e.g. write 'm s^{-1}', not 'm/s').

Appendices

Appendices are placed at the end of the paper after the References and are ordered alphabetically with upper-case letters. '**APPENDIX A – [TITLE]**', '**APPENDIX B – [TITLE]**' and so on are in bold caps. Equations are numbered separately in sequence as (A1), (A2), etc. in Appendix A, and (C1), (C2), etc. in Appendix C. But numbering of figures and tables is continuous with that in the main text: Fig. 11, Table 4, etc.

Supplementary material

Supplementary material should ideally be submitted as a single file. In all cases, each file of supplementary material should begin with the title of the paper and a list of its authors.

Supplementary figures and tables should be numbered independently of the main manuscript, with a prefix 'S' and Arabic numerals in the order in which they are cited in the main manuscript: 'Table S1', 'Figure S3', etc.

The file size limit of Supplementary material is 50 Mb, the same as for the main manuscript files. If exceeding this file size limit, contact igs-glaciology@cambridge.org for instructions on alternative submission methods.