

Journal of Glaciology authors' guide to the IGS \LaTeX 2 ϵ class file

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ABSTRACT. The design for the *Journal of Glaciology* has been implemented as a \LaTeX 2 ϵ class file and is derived from `article.cls`. We recommend that authors use this guide as a template. While writing we suggest you use the two-column `[twocolumn]` option to check that mathematical equations fit the measure. Submitted papers must, however, be presented using the one-column `[review]` option. If you have any problems using the class file, please contact Overleaf support at www.overleaf.com/contact. The abstract should be less than 200 words and one paragraph long.

USING THE IGS CLASS FILE

Please ensure you have downloaded the latest version from <http://igsoc.org/production/>. The IGS \LaTeX 2 ϵ Journal guide has examples of most environments authors are likely to come across. The title page contains some new environments, e.g. affiliation and abstract. Papers should be divided into unnumbered sections with short section headings. SI units and internationally recognized systems of abbreviation should be used throughout. The \TeX file should be named to reflect your paper number, i.e. `72A712.tex`. Please remove any extraneous text (e.g. text from previous drafts, notes and comments that will not form part of the final printed text of the paper).

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Table 1. One-column table captions will extend beyond the rules in two-column format. Do not try to adjust!

Table captions do not have full points at the end

Period ^a	Surface elevation change	Emergence velocity
1975–85	−0.50	0.43
1986–2002	−1.03	0.32
Difference	−0.53	−0.11

^aPlease do not use more than one ‘&’ between columns, and note that if a table includes table footnotes, it must be inside a `minipage` environment.

24 Typesetting the title page

25 In the IGS design, shortened versions of the title and authors are used in the running head. The shortened
26 version is specified in square braces immediately after the `\title` and `\author` commands (see below).

27 `\title[Short Title]{The Full Title of Your Paper}`

28 `\author[Short Authors]{Author 1, Author 2 and Author 3}`

29 Lists

30 The IGS class file provides for numbered (`enumerate`) and unnumbered (`itemize`) lists. Nested lists are
31 not encouraged. The default numbering system is 1., 2., 3., etc.; please do not change this unless there is
32 a good reason. The IGS design removes bullet points from unnumbered lists.

33 User-defined macros

34 If possible, please do not define any new macros.

35 Tables

36 Tables may be typeset in either one- or two-column format. To typeset two-column format, add asterisks
37 (`\begin{table*}... \end{table*}`) as shown in Table 2. We may change the format in-house if necessary.
38 Please avoid the use of colour or shading. Note that if you choose to refer to tables using labels, `\caption`
39 must precede `\label`, as in standard L^AT_EX. Vertical rules are not house-style and will be removed. Note
40 the use of the `minipage` environment in Table 1 which enables table footnotes to be output. If the table

Table 2. Two-column table. Seasonal and annual SAT trends (°C decade⁻¹) in the Arctic

Area	1951–2005					1976–2005				
	Dec–Feb	Mar–May	Jun–Aug	Sep–Nov	Annual	Dec–Feb	Mar–May	Jun–Aug	Sep–Nov	Annual
Atlantic region	0.09	0.29	0.10	0.09	0.15	0.470	0.60	0.45	0.53	0.59
Siberian region	0.12	0.29	0.04	0.17	0.16	0.08	0.69	0.29	0.59	0.48
Pacific region	0.45	0.46	0.25	0.26	0.35	0.712	1.08	0.27	0.66	0.52
Canadian region	0.16	0.12	0.14	0.30	0.18	0.20	0.52	0.48	0.94	0.53
Baffin Bay region	−0.02	0.10	0.00	0.15	0.02	0.33	0.62	0.51	0.80	0.57
Arctic 1	0.16	0.21	0.12	0.20	0.18	0.36	200.65	0.42	0.74	0.54
Arctic 2	0.22	0.29	0.14	0.14	0.19	0.38	0.60	0.40	0.51	0.45
Arctic 3	0.28	0.31	0.14	0.13	0.21	0.42	40.53	0.41	0.42	0.43
NH (land + ocean)	0.13	0.13	0.10	0.10	0.12	0.27	0.24	0.25	0.25	0.25

41 is two-column, use {178mm} instead of {86mm} on line 6. The source code for Tables 1 and 2 is shown
 42 immediately below the tables.

43 Figures

44 Figures may be typeset in either one- or two-column format. One-column format allows up to 86 mm (e.g.
 45 Fig. 1); two-column format up to 178 mm (e.g. Fig. 2). Please do not provide original graphics files in
 46 which the figure is a great deal larger or smaller than what you envisage will be the final printed size. To
 47 typeset two-column format, add asterisks (`\begin{figure*}... \end{figure*}`) as shown in Fig. 2. We
 48 may change the format in-house if necessary. Please note that if you choose to refer to figures using labels,
 49 `\caption` must precede `\label`, as in standard L^AT_EX.

50 Please send one file for each figure (in other words do not use subfigures) and use a name that clearly
 51 identifies it (e.g. ‘72A712Fig03.eps’).

52 In addition, figures should be eps, ai (illustrator), ps, tif, psd or pdf. Use strong black lines with a
 53 width of at least 0.75pt at final printed size (avoid tinting if possible) and SI units in labels. Lettering
 54 should ideally be Optima to match the final typeface; Arial or a similar sans serif font for a second choice.
 55 Aim to have the final-size lettering at 9pt, if possible. Figures should not be in boxes. The source code for
 56 Figs 1 and 2 is shown immediately below the figures.

57 **Equations**

We are including some complex equations as examples. Equations should be checked for width by removing the `[review]` option. Note the use of `cases*` in the following equation:

$$\alpha_{t_2} = \begin{cases} \alpha_{t_1} - a_1[\ln(T + 1)]e^{(a_2\sqrt{n})} & n_d > 0 \text{ and } T > 0 \\ \alpha_{t_1} - a_3e^{(a_2\sqrt{n})} & n_d > 0 \text{ and } T < 0 \\ \alpha_{t_1} + a_4P_s & n_d = 0 \end{cases} \quad (1)$$

58 Equations should be aligned on the equals signs where possible. Equations that extend beyond the
59 one-column measure should be turned over before an operator.

$$l_c = l_0 \left(\frac{\bar{R}_m}{R} \right)^2 \psi^{\frac{P}{P_0 \cos Z}} \times [\cos \beta \cos Z + \sin \beta \sin Z \cos(\psi_{\text{sun}} - \psi_{\text{slope}})] \quad (2)$$

60 **Typesetting upright Greek characters**

61 Normal greek: `\alpha\beta\gamma\delta` $\alpha\beta\gamma\delta$

62 Upright greek: `\upalpha\upbeta\upgamma\updelta` $\alpha\beta\gamma\delta$

63 Usual partial: `\partial` ∂

64 Upright partial: `\uppartial` ∂

65 **Marginal notes**

66 The IGS class file redefines the L^AT_EX command `\marginpar`. If you wish to add a marginal note such as *Editor!*
67 the one alongside this text, you would key `\marginpar{Editor! Help!}`. Marginal notes will be removed *Help!*
68 before printing.

69 **References**

70 All citations in text should include the author name(s) and the year of publication (e.g. ‘Smith, 2014’;
71 ‘Smith and Jones, 2014’; ‘Smith and others, 2015’) and have an entry in the reference list.

72 References should:

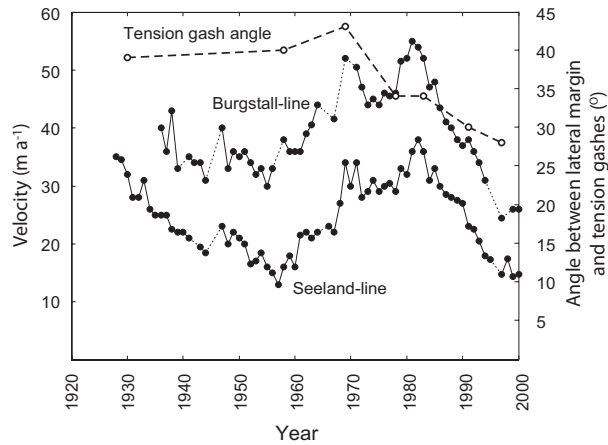


Fig. 1. One-column figures should be ≤ 86 mm. Good artwork can make or break a paper. Capitalize the first word of a label and use round not square brackets for units.

73 be short;

74 be complete and accurate;

75 be arranged in alphabetical order by first author's surname;

76 include too much rather than too little information;

77 include doi numbers where available (note that older bib databases often included doi's in the page
78 field – in which case they may appear after a comma and without braces);

79 include works accepted but not published as 'in press';

80 not include personal communications, unpublished data or manuscript in preparation or submitted
81 for publication, data published on the web (these should be included in the text).

82 *Automatic references using* BIB_TE_X

83 To generate automatic references from a bib database, you must first specify the database (we are using
84 `igsrefs.bib`) and then the IGS bibliography style by placing the following two commands where you
85 would like the references to appear (normally at the end of your paper, before `\end{document}`):

86

87 `\bibliography{igsrefs}`

88 `\bibliographystyle{igs}`

89

90 Then run through the following steps:

- 91 1. Run your paper through L^AT_EX.
- 92 2. Run BIB_TE_X on your paper.
- 93 3. Open the newly-created bbl file containing the cited references and copy the entire contents to just
94 below the `bibliography/bibliographystyle` commands.

95 4. Then comment them out:

```
96 %\bibliography{igsrefs}
97 %\bibliographystyle{igs}
```

98 5. Run your paper through L^AT_EX *twice* more.

99 The IGS do not need your bib or bbl files. Note that BIB_TE_X will lose the second initial in the entry
100 ‘Box JE’, for example, if it has been typed as ‘{J.E.} Box’ in the bib file. This is because any text in an
101 entry enclosed in { } will be treated as a single unit, and will not be further parsed. Prof. Box’s name will
102 typeset correctly if entered as ‘J. E. Box’ in the bib file.

103 If you have cited 16 references from the bib database, e.g. (Rignot and Steffen, 2008), (Rignot and
104 others, 2008), (Motyka and others, 2011), (Morlighem and others, 2010), (Morlighem and others, 2011),
105 (Seroussi and others, 2011), (Yan and others, 2013), (Rogozhina and others, 2012), (Hanna and others,
106 2013), (Goelzer and others, 2013), (Lucas-Picher and others, 2012), (Edwards and others, 2014), (Gladstone
107 and others, 2010), (Morlighem and others, 2013), (Goldberg and Sergienko, 2011) and (Paterson, 1994),
108 the output will be just those 16 references and they will appear at the end of the article.

109 **Citations using natbib commands** Note that the standard natbib style file has been modified to fall
110 into line with IGS style. The modified style file is called igsnatbib.sty (included in this distribution), and
111 works exactly the same as natbib.sty. The default IGS house style is (Yan and others, 2013). The following
112 combinations are also available – refer to the natbib documentation if you require any further explanation:

(Yan and others, 2013) `\citep{Yan13}`
 (see Yan and others, 2013, p. 34)
 `\citep[see] [p.\$, $34]{Yan13}`
 (e.g. Yan and others, 2013) `\citep[e.g.] []{Yan13}`
 (Yan and others, 2013, Section 2.3)
 `\citep[Section~2.3]{Yan13}`
 (Yan and others, 2013; Edwards and others, 2014)
 `\citep{Yan13, Edwards14}`
 113 Yan and others (2013); Edwards and others (2014)
 `\cite{Yan13, Edwards14}`
 Yan and others 2013 `\citealt{Yan13}`
 Yan and others (2013) `\cite{Yan13}`
 Yan and others, 2013 `\citealp{Yan13}`
 Yan and others `\citeauthor{Yan13}`
 (2013) `\citeyearpar{Yan13}`
 2013 `\citeyear{Yan13}`

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 116 Doug MacAyeal for their constructive reviews of the IGS class file and guide. Thanks are also due to
 117 Patrick Daly who once again helped to generate the latest version of igs.bst.

118 REFERENCES

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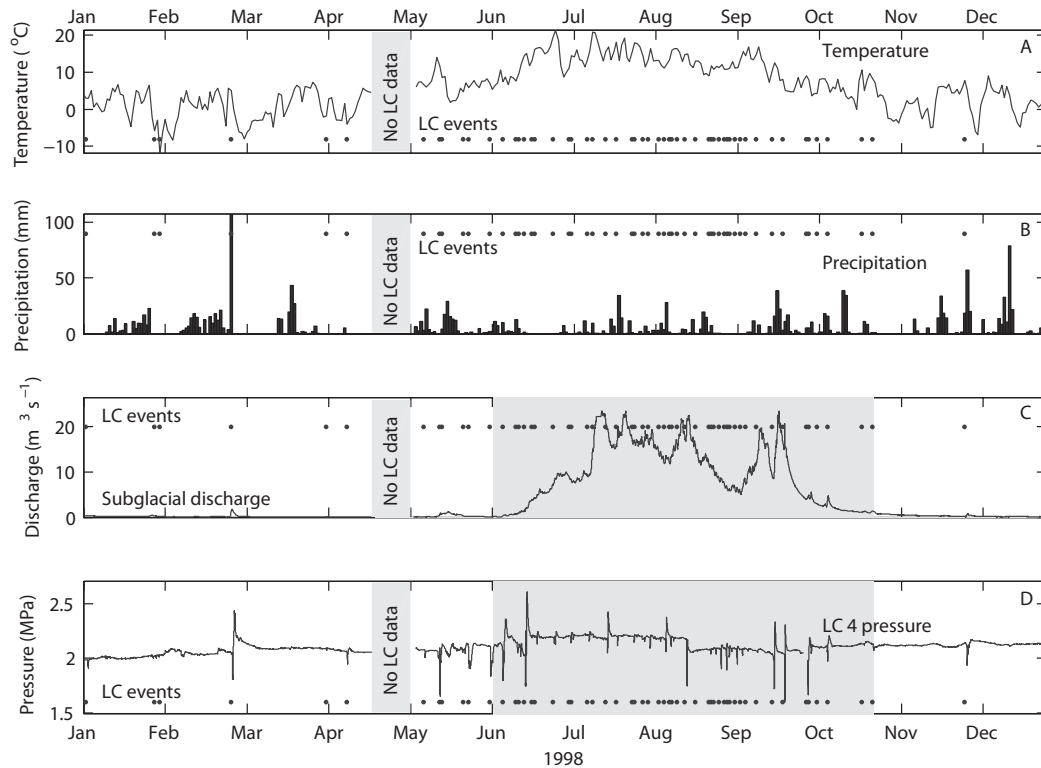


Fig. 2. Two-column figures should be ≤ 178 mm. SSA reconstructed components found by projecting the SSA filters found using the whole 2000 traces in Fig. 4, on trace number 1, ordered by magnitude of variance accounted for in the radar trace.

```

\begin{figure*}%fig2, two column
\centering{\includegraphics{72A712Fig02.eps}}
\caption{Two-column figures should be  $\leq 178$  mm. SSA reconstructed components found by
projecting the SSA filters found using the whole 2000 traces in Fig.~4, on trace number 1,
ordered by magnitude of variance accounted for in the radar trace.}
\label{filters}
\end{figure*}

```

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159 APPENDIX

Start an appendix by typing `\appendix\section{Appendix}`. Appendices appear after the references.
 Equation numbers automatically start again with (3).

$$2\eta\kappa\frac{\partial\bar{u}}{\partial t} + \rho_r g\bar{u} + D\kappa^4\bar{u} = \bar{\sigma}_{zz}. \quad (3)$$

160 HANDLING MORE THAN ONE APPENDIX

161 Use the following code to achieve heading APPENDIX A followed by APPENDIX B and APPENDIX C,
 162 with appropriate equation numbers:

```
163
164 \appendix
165 \section{Appendix A}
166
167 \setcounter{equation}{0}
168 \renewcommand\theequation{B\arabic{equation}}
169 \section{Appendix B}
170
171 \setcounter{equation}{0}
172 \renewcommand\theequation{C\arabic{equation}}
173 \section{Appendix C}
```