Type of Paper: < Research Article, Review, Short Scientific Communication, Forum, Perspectives >

< Title (Bold, Font 14) >

The title should be concise and informative: It is not a sentence and has no full stop

< Authors (Bold, Font 12) >

First-name Last-name1 🖂  · First-name Last-name 2,3 · First-name Last-namen

< Affiliations (Font 10) >

 1 Address of Institution 1

 2 Address of Institution 2

 3 Address of Institution “now at”

 n Address of Institution n

 🖂 Email of corresponding author

**Notes on author information**: Author information needs to include:

* The name(s) of the author(s): in the format <**First name – Middle initials – Family Name**>
* The affiliation(s) of the author(s), i.e., institution, (department), city, (state), country.
* An active e-mail address for the corresponding author (corresponding author is marked with the symbol 🖂). This does not necessarily have to be the first author and should be a stable email address.
* A “Now at” or “Present address” can be added as a second number (i.e., 2,3, where 2 is the old address where the work was done, and 3 is the new address).

Note that it is the **corresponding author** who qualifies for any **Open Access agreement** with Springer.For papers whose corresponding authors are based in countries that qualify for article processing charge waiver or discount (including Open Access fee) please see:

<https://www.springernature.com/fr/open-research/policies/journal-policies/apc-waiver-countries>

For papers whose corresponding authors are based in countries, or at intuitions, that have a fully open access agreement with Springer Nature, please see:

<https://www.springernature.com/gp/open-research/institutional-agreements>

 *Authors* ***must*** *ensure that the author group, the corresponding Author, and the order of authors are all correct at submission. Adding and/or deleting authors during the revision stages is generally not permitted, but in some cases may be warranted. Reasons for changes in authorship need to be explained in detail.*

**Please thoroughly check these details at proof stage, as changes to authorship, affiliation or address cannot be made after publication on-line**.

Abstract

< Text >

Provide an abstract of 250 to 500 words. The abstract should not contain any undefined abbreviations or unspecified references. It needs to serve a stand-alone function as it may be viewed (and needs to be understood) without access to the rest of the paper, including the reference listing. For a good guide on how to write an abstract (or not) please see:

* <http://archives.datapages.com/data/bulletns/1949-52/images/pg/00350007/1650/16600.pdf>
* <https://pubs.geoscienceworld.org/aapgbull/article-abstract/50/9/1992/554285>

Keywords < Keyword 1 > · < Keyword 2 > · < Keyword 3 > · < Keyword 4 > · < Keyword 5 >

Provide 4 to 6 keywords which can be used for indexing purposes. Bear in mind that these are used in global search engines, so do not be too specific while also not adding too many that are too general (e.g., volcanology, petrology, geochemistry). Go from most general to most specific term. Try not to duplicate words that are in the title as these will already be considered by most search engines. For a good guide on how to select key words please see:

<https://www.springer.com/gp/authors-editors/authorandreviewertutorials/writing-a-journal-manuscript/title-abstract-and-keywords/10285522>

Second-Language Abstract (초록; Resumen; …) [*this is optional*]

< Text >

This is a translation of the English abstract. Bulletin of Volcanology accepts a direct translation of the English abstract into any of the languages listing in Appendix A.

This will appear in the on-line print version after the English language abstract and keywords.

Acknowledgments

< Text >

Acknowledgments of people, grants, facilities used, reviewer/editor aid, etc. should be placed in a separate section on the title page. The names of funding organizations should be written in full.

**Declarations**

All manuscripts must contain the following sections under the heading 'Declarations'. If any of the sections are not relevant to your manuscript, please include the heading and write 'Not applicable' for that section.

**Funding**

< Information that explains whether and by whom the research was supported >

**Conflicts of interest/Competing interests**

< Include appropriate disclosures >

**Availability of data and material**

< Data transparency >

Note: data can be stored as an On-line Resource (i.e., Supplementary Information).

**Code availability**

< Software application or custom code >

Note: custom code can be provided (with readme files, user manuals and test data) as an On-line Resource (i.e., Supplementary Information).

*In cases where data or code are made available as an On-line resource, Springer guarantees stewardship of the resource for perpetuity, and the resource as a DOI linked to the parent paper much must be cited if the resource is used.*

*We encourage such items to be made openly available upon publication to provide a community-wide and citable resource.*

**This template contains details on style and format of manuscripts submitted to, and published in, the Bulletin of Volcanology. Guidelines as to what should be included in each of the Introduction, Methodology, Results, Discussion and Conclusions (IMRDC) sections, and the order in which information should appear, is in the Editorial for which this template is Supplementary Information.**

**Note on section headings throughout the manuscript body text:**

There are only three levels of heading and sub-heading, and there are no section numbers. Thus, sections cannot be referred to by section numbers. For example, “See Section 2.1 for further details” is not permissible. The three levels of heading are

**Level 1: Bold font 14**

**Level 2: Bold font 12**

Level 3: Normal font 12

It is not logical to have only one sub-heading within a section (ISO 2145). Thus, there needs to be more than one sub-section. Lists need to be right indented, where numbered lists look like this:

1. First item;
2. Second item; …

Bullet point lists look like this:

* Bullet point 1;
* Bullet point 2; …

Note that, for bullet points, the following symbol options are available:

* Can be used with any list type;
* Used for a sequence of events that need to be, or have been, achieved (ticked off) in order;
* Used to highlight the most important item;
* For summary or concluding points.

**Introduction**

< Text >

Research Articles should not exceed 7000 words (including body text, but excluding title page, abstract, figure captions, and references) plus 14 tables and/or figures. Over-length treatment can be requested, with justifications, by contacting the Executive Editor prior to submission. Additional information as Supplementary Material is also welcome, but sufficient material must be included in the body text so as to allow full understanding of methodologies applied and results achieved. See Online Supplement 1 at the end of this file for more information on how the supplements should be prepared, organized, named and referenced. All research articles are expected to follow the following well-established order:

* Introduction
* Methods
* Results
* Discussion
* Conclusion

Do not mix methods with results and discussion, likewise for results and discussion (i.e., interpretation).

*Paragraphs* are justified, meaning that your text has straight edges on both sides of the paragraph (as here). The first paragraph of each section is not indented; thereafter paragraphs are indented (again, as in this template). Avoid one-sentence paragraphs, and make sure each paragraph begins with a topic sentence. Both US and UK spelling formats are acceptable, but they must not be mixed.

Use a normal, plain *font* (e.g., 12-point Times Roman) for text. Use a font size that is no smaller than 12 point. Use italics for emphasis, and tab stops or other commands for indents, rather than multiple spaces. Use a line spacing of at least 1.5 lines, and make sure that both page and line numbers have been added.

*References* should be ordered by publication year and then alphabetical order in terms of the lead author surname. Cite references in the text by name and year in parentheses. Some examples:

* Negotiation research spans many disciplines (Thompson 1990).
* This result was later contradicted by Barakat et al. (1995a).
* This effect has been widely studied (e.g., Abbott 1991; Barakat et al. 1995b; Kelso and Smith 1998; Medvec et al. 1999, 2000).

Make sure that, for “a” and “b” references, the “a” reference is cited first, then “b” followed by “c” … etc. Be inclusive with your referencing in terms of time and variety of author, and avoid secondary referencing. Please note that the use of ‘...and references therein...’ is discouraged. In order to ensure proper credit is given to prior research, the use of ‘e.g.,’ should be limited to cases where abundant supporting literature is present. In those cases, please provide at least three references (e.g., Tizio 1991, Caio 1992, Sempronio et al., 2022). All unsupported statements or arguments require reference support.

*Abbreviations, symbols and acronyms* should be defined at first mention, both within the Abstract and in the main text, and used consistently thereafter[[1]](#footnote-1). They then do not need to be defined again. However, if an acronym is defined in the Abstract, it must be defined again at first use in the main body of text.

*Sentences should not begin with an abbreviation*, symbol or numeric value. Abbreviations and symbols should not appear in the title (where they must be written out in full). All numbers less than ten that are not a date, ordinal or followed by a unit should be written out in full. For example,

“… we considered eight samples …”,

not

“… we considered 8 samples …”.

*Avoid over-abbreviation*, and sentences that contain too many abbreviated terms. Generally, a term should not be abbreviated unless it appears more than four or five times, and do not abbreviate common terms, e.g., stratovolcano not SV; pyroclastic flow not PF, lava flow not LF, etc.; unless it is for brevity as a figure or map label/legend. See the *Chicago Manual of Style* for more information.

**Setting Section (optional)**

< Text >

The introduction should not contain sub-sections, but can be followed by a *setting section* that describes the geological or temporal setting of a location or event. This description should be reference supported, and is a good place for a location map.

**Location maps**

On the location map, make sure that all sites, geographical features and places named in the text are included. Note that if using Google Earth® imagery, then this must be appropriately acknowledged. Google Earth’s citation and usage requirements are available here:

<https://www.google.com/permissions/geoguidelines/attr-guide.html>.

*The source of any other underlay type (such as shaded relief or topographic map) must be given, and the source correctly cited.*

**Scales**

*All maps, photographs, micrographs and images should always have a scale and orientation*. They should also contain labeling, for key objects, structures and features at a minimum. If any object is used for a scale (such as a pencil, knife, shovel, coin, person or building) then the size of that object (in cm or m) should be stated in the caption. For large-scale photographs (of cliff faces or entire edifices or edifice parts, for example) then the height of the feature or width of the field of view needs to be stated in the caption, or marked on the photograph.

**Materials and Methods**

< Text >

**Methods content**

Materials and Methods should be described in sufficient detail to allow others to replicate and build on the published results. Likewise, data should be given as Supplementary Information so as to allow the results to be checked, and for the data to be available for further study.

**Equations**

For Equations, use the equation editor or MathType. This is an example of an equation:

|  |  |
| --- | --- |
| $a=23t$. | (1) |

Note that the equation needs to be center justified and assigned a number (which must be assigned sequentially) which is in parentheses and right justified. Equation parts can be given as (1a), (1b), (1c), etc. Text following an equation does not need to be a new paragraph. Punctuate equations as regular text.

Equations are referred to from the text as “Eq. 1”, unless they start a new sentence, in which case “Equation 1” needs to be used. Referring to equations by number, e.g., “as obtained from (1)”, or “the right-hand side of (1)” is also acceptable.

**Tables**

Tables must be cited in the text in consecutive numerical order. Note that published tables only have lines above and below the column headings and at the foot of the table. However, cells can be filled with color or grey-scale and other lines can be added, *but please check at proof setting that the formatting has been retained*. The table should be cited from the text as “Table 1” or “(Table 1)”, not “Tab. 1” or “(Tab. 1)”.

Points are used as decimal separators, and not commas. Do not use Excel-style order of magnitude abbreviations, e.g., use 3 × 103 or 3000, but not 3E+03, and use the multiply sign (×); not the letter “x”. Give all units in the column headings and not after any of the data values (i.e., “Temperature (°C)” as a heading, and values then listed as 1080, not 1080 °C. *Think about the degree of rounding that is justifiable, e.g., 1080.1239 or 1080?*

Each table needs a caption consisting of a short title followed by text explaining the components and contents of the table. Caption material must not repeat word-for-word material from the body text or involve lengthy descriptions of methodology and/or data interpretation. Identify any previously published material by giving the original source in the form of a reference in the table, as a footnote at the bottom of the table or as a statement in the caption. Likewise for abbreviations and symbols. Footnotes to tables should be indicated by superscript symbols or letters, as numbers will clash with numeric data values, and included beneath the table body.

**Table 1** This is an example of table layout and format. All tables are numbered using Arabic numerals. Use the table function, not spreadsheets, to make tables. Note that Table captions and content are font 10, and left justified. The table label is given in bold with no following full stop (i.e., **Table 1** …). The caption itself has no full stop at its end, and appears above the table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year (AD)** | **Eruption** | **Volcano** | **Eruption Style** | **Repose time (years)** |
| 79 | Pompei | Vesuvius | Plinian\* | 120# |
| 1707 | Hõei | Mt. Fuji | Plinian | 45 |
| 1901 | Singiro | Nyamurajira | Hawaiian | 1 |
| 1865 | n.a. | Fuego | Strombolian | 16 |

\*From Billy et al (2004); #This is a minimum estimate

**Results**

< Text >

Figures

Figures must be cited in the text in consecutive numerical order. The figure should be cited from the text as “Fig. 1” or “(Fig. 1)”, unless it begins a sentence, in which case “Figure” is written out in full. Figure parts must be denoted by lowercase letters (a, b, c, etc.) and *not upper-case*, i.e.,

 Fig. 1a, *not* Fig. 1B.

Two or more figure subparts are cited from the text as (Fig. 1a, b), more than two non-continuous subparts as (Fig. 1c, d, g and f), and more than two continuous subparts as (Fig. 1a–f). Two different figures are cited as (Figs. 6 and 7); the same applies to subparts, i.e., (Figs. 6c and 7c).

Figure lettering and numbering

To add lettering to a figure, it is best to use Helvetica or Arial (sans serif fonts). Keep lettering consistently sized throughout your final-sized artwork, usually about 2–3 mm (8–12 pt). Variance of type size within an illustration should be minimal, e.g., do not use 8-pt type on an axis and 20-pt type for the axis label. Avoid effects such as shading and outline letters, as well as Comic Sans font. Do not include titles or captions within your illustrations. *Letters for figure sub-parts (a, b, c, etc.) as burnt into the figures need to be lower case (“a” not “A”).* Make sure line sizes are thick enough, and of the correct color, so as to be easily viewed. *Use color: Bulletin of Volcanology has no fees for use of color (in tables or figures).* For a guide on best practices regarding use of color, please see:

<https://apastyle.apa.org/style-grammar-guidelines/tables-figures/colors>

Figure captions

Each figure needs a caption consisting of a short title followed by text explaining the contents of the figure. Caption material must not repeat word-for-word material from the body text or be too lengthy, but should allow the reader to understand the meaning of the figure, i.e., what the figure shows in terms of, for example, trends. *Identify all published material used in the figure/legend through citations in the caption*. Likewise for abbreviations and symbols.

Figures in appendices and supplements

If an appendix appears in your article and it contains one or more figures, continue the consecutive numbering from the main text. Do not number the appendix figures, "A1, A2, A3, etc.". Figures in Supplementary Information should, however, be numbered separately (see notes on formatting of Supplementary Information).



**Fig. 1** This an example of figure layout and format. Each figure should have a concise caption describing accurately what the figure depicts. Figure captions must be given at the end of the manuscript file (they can also be included in the individual figure files that are uploaded separately). Figure captions begin with the term Fig. in bold type, followed by the figure number, also in bold type. No punctuation is to be included after the number, nor is any punctuation to be placed at the end of the caption. Identify all elements found in the figure in the legend or caption. Identify previously published material by giving the original source in the form of a reference citation in the legend or caption. The caption itself has no full stop at its end, and appears below the figure. Example from: https://learning.edanz.com/research-manuscript-figures/

Copyright

For figures, tables, or text passages that have already been published elsewhere authors are required to obtain permission from the copyright owner(s) for both the print and online format and to include evidence that such permission has been granted when submitting their papers. See Appendix B for advice on copyright seeking permission.

Discussion

< Text >

**Units**

The International System of Units (SI) must be used for base (e.g., m, kg, K), derived (e.g., m s-1, m², kg m-3) and compound (e.g., mm, cm, km) units:

<https://www.bipm.org/en/publications/si-brochure/>

Numbers and units should be space separated (e.g., 273.15 °C not 273.15°C), as should compound, units, e.g., m s-1, kg m-3, J kg-1 K-1. Slashes can also be used, e.g., m/s, kg/m3, J/kg K; but the two formats must not be used interchangeably.

Hyphens, En-Dashes and Em-Dashes

The Hyphen

The hyphen (-) is a short horizontal mark indicating the joining of word-elements (as used here), the division of syllabic elements at the end of a line, or elongation in the sounding of a spoken word. Hyphens can also be used to eliminate ambiguity. For example: the hyphen in “much-needed data” shows that it is the data that is greatly needed rather than being abundant and needed. However, when there is no ambiguity, hyphenation is unnecessary. In addition, when compound modifiers precede a noun, hyphenation usually lends clarity as in, for example “open-ended” or “full-length.”

Hyphens can be used in the following cases:

1. To indicate the idea that the final word of a second phrasal adjective goes also with the first phrasal adjective.

For example: “fifteen- and twenty-year long trends”.

1. In certain compound nouns and noun phrases when the words are closely associated.

For example: “Operations are managed from the monitoring-room”.

1. When writing out fractions and two-word numbers under 100.

For example: One-fourth or twenty-eight

1. To separate groups of numbers that are not ranges.

For Example: Sample 42-5 but not Sample 42–5 (as that would be a range).

The En-Dash

An en-dash (–) is a horizontal line that marks a span, a range, a tension or a pairing of equals, and can also be used for linking points or places (X–Y). The en-dash can be used for the following cases:

1. As an equivalent of “to” (as when showing a span of pages, dates or value ranges).

For example: p. 3–9, 1967–2022, 125–950 Pa s.

1. To denote a pairing in which the elements carry equal weight

For example: “The IF–THEN loop … ”

1. To link a start and end point or place.

For example: “The distance X–Y is 7 km” or “the Tindari– Letojanni fault”.

However, do not use an en-dash in a “from-to” construction, the en-dash purporting to replace “to.” Instead, use both “from” and “to.” That is,

Not this: The experiment ran from 09:00–17:00.

But this: The experiment ran from 09:00 to 17:00.

and

Not this: The distance was measured summit–vent.

But this: The distance was measured from summit to vent.

The Em-Dash

An em-dash (—) is a horizontal line that marks an emphatic insertion, an informal introduction, or a sharp break in thought. The em-dash is rarely used.

**Proper nouns for eruption types**

Because explosive events are typically named after places or people, explosion types that use proper nouns must begin with a capital letter (e.g., Strombolian, Vulcanian, Plinian). This is also the case if the proper noun is preceded by a preposition (e.g., sub-Plinian or ultra-Plinian) or an adjective (e.g. violent Strombolian). Labels that are not proper nouns should be lower case (e.g., super volcano).

**Formats and Standards**

Both US (e.g., March 2, 2001) and UK (e.g., 2 March 2001) date formats are acceptable, but they must not be mixed. Also,

* Cardinal and not ordinal numbers are used for dates (i.e., 25 January, not 25th January).
* Do not abbreviate the year (i.e., the year of 1976, not the year of ’76).
* Centuries need to be spelled out and in lowercase (i.e., during the nineteenth century, not during the 19th Century).
* Decades are expressed as numerals with no apostrophe (i.e., during the 1990s and not during the 1990’s).
* Use comma or space for thousand separators, 300,000 (or 300 000) is much easier to read than 300000.

The en-dash should be used for ranges (e.g., 1993–2003), and a slash can be used for two-year spans instead of an en-dash (e.g., The eruption of 1966/67 was especially intense). As a result, slashes should be avoided in all-numeral dates (e.g., 01-25-18 not 01/25/18).

Years before present are expressed in ‘annus’, symbol ‘a’, with the multiples ‘ka’, ‘Ma’, and ‘Ga’ for thousands, millions and billions of years ago. Instead, duration is expressed in ‘years’ as ‘yr’ with the multiples ‘kyr’, ‘Myr’ and ‘Gyr’. Note, symbols are not pluralized or followed by a period, and the word “ago” does not appear after ‘Ma’, and AD and BC should only be used with dates, i.e, 7 BC not 7 ka BC. Some examples:

* "An eruption took place 6 ka" (i.e., six thousand years ago).
* "Eruptive activity continued for 3 ky" (i.e., for 3000 years).
* "Dated deposits give ages of 3.1–2.9 Ma, indicating that the magmatic system was active for 200 ky".

For radiocarbon dates there is a preference for “Before Present” or “BP”—not “cal BC”, with implicit understanding that the calibration used is stated.

Dates and times

Date abbreviations used here (following ISO 8601) are:

YYYY = year; MM = month; DD = day.

Time abbreviations follow Le Système International d’Unités and are:

s = second; min = minute; h = hour

ISO 8601 recommends ordering date abbreviations from the largest to the smallest with hyphen separators, i.e.,

 YYYY-MM-DD (e.g., 2018-01-25)

The same is applied for with time, but colon separators are used, i.e.,

 hh:min:ss (e.g., 16:49:30)

Date and time abbreviations can be combined using the separator “T”

YYYY-MM-DDThh:min:ss (e.g., 2018-01-25T16:49:30)

ISO 8601 states that, if no time zone information is given, then the time is assumed to be in local time. However, it is best to indicate a time zone (by adding the appropriate zone designator or by stating local time) using the ISO 8601 standard notation (https://www.timeanddate.com/time/zones/). This avoids ambiguity when communicating across time zones. For example:

16:49:30 (local time)

or, better,

16:49:30 (CET) or 16:49:30 (UTC+1).

Z (zulu time) can be used to denote UTC, i.e.,

15:49:30 (UTC) or 15:49:30Z

In written text whether local time or UTC is being used must always be stated at the first usage of a time, and it is preferable to give the time difference from UTC [i.e., write “all times are local (UTC+1)”]. ISO8601 uses the 24 hour clock, where midnight can be 00 or 24.

US versus UK date formats

While US data format is MM-DD-YYYY, UK date format is DD-MM-YYYY. Thus for the US we have,

January 25, 2018 or 01-25-2018.

In the UK we have,

25 January 2018 or 25-01-2018.

*To avoid ambiguity in cases such as 01-06, date format should be declared. For example, 1 June in UK format is 01-06. This is 6 January in US format, so this needs to be written:*

*01-06 (DD-MM)*

*Instead, 6 January in US format is 01-06. This is 1 June in UK format, so this needs to be written:*

*01-06 (MM-DD)*

**Conclusions**

< TEXT >

Avoid a conclusion that is all bullet points, although some summary listings within the text may suit breakout as bullet points.

**Submission procedure**

Submit:

* One file for all text including title page with abstract and keywords, the main article text, acknowledgements, references, and table and figure captions (*using this template*), selecting the ‘Manuscript’ file type in the pull-down menu,
* Separate files clearly named for each table and figure, selecting the ‘Table’ and ‘Figure’ file types respectively, and
* Any electronic supplementary information, selecting the ‘Supplementary Material’ file type.
* If you would like to include a cover letter as a separate file (rather than write it directly into the “Author’s comments” box in Editorial Manager), then please upload this as a ‘Miscellaneous’ file type.
* Rebuttal letters and response to reviewers should also be uploaded as a ‘Miscellaneous’ file type.
* Ensure that the author details are correct when you enter them in Editorial Manager, and avoid using capital letters for the Family name (these fields are used as metadata, and the letters generated by Editorial Manager will pick up the information from here, thus generating a letter to, for example, DR SMITHSON, PHD if this is the format you have used in the initial entry).
* For the same reason, please ensure that you have completed the “Short Title” field in the submission process, as this is the manuscript title used in letters generated by Editorial Manager and sent out to editors and reviewers. If you do not enter anything in this field in Editorial Manager, then it will be left blank in the object and header fields of the letters triggered.

For acceptable file formats and sizes, please see “Instructions to authors” on the Springer site. Please note that the *manuscript must be submitted in a word-based format* (for example, Word or Latex) rather than a pdf.

**Appendix A: < Title >**

<Text>

The appendix is an optional section that can contain details or data supplemental to the main text. For example, explanations of experimental details that would disrupt the flow of the main text but nonetheless remain crucial to understanding and reproducing the research shown or figures of replicates for experiments of which representative data is shown in the main text. Mathematical proofs of results or short pieces of computer code not central to the paper can also be added as an appendix. Such material that is too voluminous for an appendix should be added as Supplementary Information.

All appendices must be cited in the main text (for example, for a full listing see Appendix A). Lettering (e.g., Appendix A) or numbering (e.g., Appendix 1) can be used for the appendices. In the appendices, Figures and Tables need to continue with the numbering sequence of the body text. Thus, if there was one table in the body text and one table in the Appendix, then the table in the Appendix is Table 2 (see Appendices A and B for examples).

References

<Text>

The list of references should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should only be mentioned in the text. Do not use footnotes or endnotes as a substitute for a reference list.

Reference list entries should be alphabetized by the last names of the first author of each work. Please alphabetize according to the following rules:

1. For one author, by name of author, then chronologically;
2. For two authors, by name of author, then name of coauthor, then chronologically;
3. For more than two authors, by name of first author, then chronologically.

Ideally, the names of all authors should be provided, but the use of “et al” in long (six or more) author lists will also be accepted. Always use the standard abbreviation for a journal name according to the ISSN List of Title Word Abbreviations (ISSN LTWA):

<https://www.issn.org/services/online-services/access-to-the-ltwa/>

Note that abbreviations are not punctuated, i.e., Bull Volcanol not Bull. Volcanol. If you are unsure, please use the full journal title.

**Journal article**

Gamelin FX, Baquet G, Berthoin S, Thevenet D, Nourry C, Nottin S, Bosquet L (2009) Effect of high intensity intermittent training on heart rate variability in prepubescent children. Eur J Appl Physiol 105:731-738. https://doi.org/10.1007/s00421-008-0955-8

Smith J, Jones M Jr, Houghton L et al (1999) Future of health insurance. N Engl J Med 965:325–329

**Article by DOI**

Slifka MK, Whitton JL (2000) Clinical implications of dysregulated cytokine production. J Mol Med. https://doi.org/10.1007/s001090000086

*If giving a reference for a paper with article ID numbers, but no volume page numbers, giving the page range (e.g., p 1–15) is meaningless. In such cases be sure not to omit the DOI.*

**Book**

South J, Blass B (2001) The future of modern genomics. Blackwell, London

**Book chapter**

Brown B, Aaron M (2001) The politics of nature. In: Smith J (ed) The rise of modern genomics, 3rd edn. Wiley, New York, pp 230–257

**Online document**

Cartwright J (2007) Big stars have weather too. IOP Publishing PhysicsWeb. http://physicsweb.org/articles/news/11/6/16/1. Accessed 26 June 2007

**Thesis or Dissertation**

Trent JW (1975) Experimental acute renal failure. Dissertation, University of California

*Note the general lack of punctuation. To check formats, look at a referencing listing in a paper recently published in the Bulletin of Volcanology.*

**Figure caption listing**

< TEXT >

Provide a listing of all figure captions in the format:

**Fig. 1** Full text of the figure caption

**Fig. 2** Full text of the figure caption

**Table caption listing**

< TEXT >

Provide a listing of all table captions in the format:

**Table 1** Full text of the table caption

**Table 2** Full text of the table caption

Supplementary Information

Springer accepts online publication, as linked to the parent paper, of any number of content types including:

* Multimedia files (animations, movies and audio);
* Data sets (in Excel or RTF format, among others);
* Computer code with .exe and readme files collated into folders;
* Illustrated descriptions of extended methods/standards/calibration.

Note that, it is possible to collect multiple files in a .zip, .gz or RAR file. This feature can add dimension to the author's article, as certain information cannot be printed or is more convenient in electronic form.

The supplementary information will have the same DOI as the parent paper and thus, if used, will have to be cited within the parent paper. Name the files consecutively, e.g. “ESF\_2.mpg”, “ESF\_3.pdf” (ESF standing for Electronic Supplementary File), and give each supplement a title (e.g., Online Resource 2: Video of a Strombolian eruption). Supplements that are multimedia or data should include a metadata readme file that describes the format and content of the supplement. Be sure to add a reference listing to each file so that the supplements stand alone.

If supplying supplementary information, the text must make specific mention of the material as a citation. For example:

* “… see supplementary data in online resource 1 …”;
* “All analytical data provided as supplementary information (Online Resource 1)”;
* “… variations with SiO2 (Fig. 4 and supplementary figures in Online Resource 2)”

Thus, from the text, refer to the supplementary information as *Online Resource*. Hyperlinks to the supplementary information will appear after the Conclusions section in the proofs.

**Appendix A: Abstract languages**

This appendix gives the list of languages into which abstracts can be translated. Only one translation is allowed, although exceptions can be agreed on.

**Table 2.** List of abstract languages

|  |  |
| --- | --- |
| Code | Language |
| Ar |  Arabic |
| Eu  |  Basque |
| Bn  |  Bengali |
| Bs  |  Bosnian |
| Bg  |  Bulgarian |
| Zh  |  Chinese |
| Hr  |  Croatian |
| Cs  |  Czech |
| Da  |  Danish |
| Nl  |  Dutch |
| Et  |  Estonian |
| Fi  |  Finnish |
| Fr  |  French |
| De  |  German |
| El  |  Greek |
| He  |  Hebrew |
| Hi  |  Hindi |
| Hu  |  Hungarian |
| Id  |  Indonesian |
| It  |  Italian |
| Ja  |  Japanese |
| Ko  |  Korean |
| La  |  Latin |
| Lv  |  Latvian |
| Lt  |  Lithuanian |
| Mn  |  Mongolian |
| No  |  Norwegian |
| Pa  |  Panjabi; Punjabi |
| Fa  |  Persian |
| Pl  |  Polish |
| Pt  |  Portuguese |
| Ro  |  Romanian |
| Ru  |  Russian |
| Sr  |  Serbian |
| Sk  |  Slovak |
| Sl  |  Slovenian |
| Es  |  Spanish |
| Sv  |  Swedish |
| Th  |  Thai |
| Tr  |  Turkish |
| Uk  |  Ukrainian |
| Vi  |  Vietnamese |

**Appendix B: Notes on copyright**

For any figure taken from another source, the original source must be referenced and the citation must be placed in the caption along the lines “taken from Shankly et al (1981)” or “modified from Paisley et al (1996)”. For re-use, copyright permission must be sought, a permission to re-use certificate obtained, and the accreditation required by the copyright included in the caption. You do not need to seek permission for work that is in the public domain (see <https://fairuse.stanford.edu/overview/public-domain/welcome/>). As of January 1, 2022, this includes any work published before 1927. Permission is also not needed to link to online material.

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**Fig. 2** Fields that need to be filled out to re-use (at no cost) material previously published in Springer Nature journals by an author now re-using material for publication in a Bulletin of Volcanology paper. Requested copyright statement then needs to be included in the figure caption. For example, “Reprinted by permission from E. P. Fitch: Springer, Bulletin of Volcanology, Characteristics of rootless cone tephra emplaced by high-energy lava–water explosions, E. P. Fitch and S. A. Fagents, 2020”

1. **Footnotes.** Footnotes should be used sparingly and generally to be discouraged. Essential definitions and methodology must not go into footnotes. [↑](#footnote-ref-1)