



# QUATERNARY INTERNATIONAL

The Journal of the [International Union for Quaternary Research](#)

## AUTHOR INFORMATION PACK

### TABLE OF CONTENTS

●	<b>Description</b>	<b>p.1</b>
●	<b>Audience</b>	<b>p.1</b>
●	<b>Impact Factor</b>	<b>p.1</b>
●	<b>Abstracting and Indexing</b>	<b>p.2</b>
●	<b>Editorial Board</b>	<b>p.2</b>
●	<b>Guide for Authors</b>	<b>p.4</b>



ISSN: 1040-6182

### DESCRIPTION

*Quaternary International* is the official journal of the [International Union for Quaternary Research](#). The objectives are to publish a high quality scientific journal under the auspices of the premier Quaternary association that reflects the interdisciplinary nature of INQUA and records recent advances in **Quaternary science** that appeal to a wide audience.

This series will encompass all the full spectrum of the **physical** and **natural sciences** that are commonly employed in solving Quaternary problems. The policy is to publish peer refereed collected research papers from symposia, workshops and meetings sponsored by INQUA. In addition, other organizations may request publication of their collected works pertaining to the Quaternary.

Potential Guest Editors who are interested in proposing a Thematic volume are kindly requested to contact the Editor-in-Chief, Professor Min-Te Chen, directly at the e-mail address [mtchen@ntou.edu.tw](mailto:mtchen@ntou.edu.tw)

. **Please visit [this page](#) for further information about the approval process, the expectations of the journal Editors, and to download a questionnaire so that your proposal can be assessed.** An overseeing editor, either the Editor-in-Chief or one of the Associate Editors, will be appointed for each volume.

Authors please note: Quaternary International will not consider submissions that are not associated with a thematic volume, and which have not been previously discussed with either the Guest Editor or the Editor-in-Chief.

**Please do not submit unsolicited manuscripts without first contacting the Editor-in-Chief.**

For more information about INQUA see <http://www.inqua.org/>

### AUDIENCE

Quaternary geologists, physical geographers, paleontologists, geomorphologists, archaeologists and soil scientists.

### IMPACT FACTOR

2015: 2.067 © Thomson Reuters Journal Citation Reports 2016

## ABSTRACTING AND INDEXING

---

Current Contents  
EBSCOhost  
GEOBASE  
GeoRef  
OCLC Contents Alert  
PubMed  
Web of Science  
Arts & Humanities Search  
Scopus  
Science Citation Index Expanded  
ProQuest

## EDITORIAL BOARD

---

### *Editor-in-Chief:*

**Min-Te Chen**, National Taiwan Ocean University, Keelung, Taiwan, ROC

### *Associate Editors:*

**A. Asrat (Terrestrial Processes, Deposits & History)**, Addis Ababa University, Addis Ababa, Ethiopia

**Z. Liu (Palaeoclimates)**, The University of Hong Kong, Hong Kong, China

**B. Mauz (Coastal & Marine Processes)**, University of Liverpool, Liverpool, England, UK

**A. Negri (Stratigraphy & Chronology)**, Università Politecnica delle Marche, Ancona, Italy

**F. Rivals (Humans and the Biosphere)**, Institut Català de Paleoecologia Humana i Evolució Social, Spain

### *Editors Emeriti*

**Norm Catto**, Memorial University of Newfoundland, St. John's, Newfoundland and Labrador, Canada

**James Rose**, Royal Holloway, University of London, London, England, UK

**Thijs van Kolfschoten**, Universiteit Leiden, Leiden, Netherlands

### *Editorial Board:*

**Hema Achyuthan**, Anna University, Chennai, Tamilnadu, India

**Bernhard Aichner**, Universität Potsdam, Potsdam-Golm, Germany

**Mike Akaegbodi**

**Rosa Maria Albert**, ICREA, Barcelona, Spain

**Khalid Al-Ramadan**, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia

**Alessandro Amorosi**, Università di Bologna, Bologna, Italy

**Allan Ashworth**, North Dakota State University, Fargo, North Dakota, USA

**Franck Audemard M.**, Venezuelan Foundation for, Caracas, Venezuela

**Margaret Avery**, Iziko South African Museum, Cape Town, South Africa

**Franck Bassinot**, Laboratoire des Sciences du Climat et de l'Environnement, Gif-sur-Yvette, France

**Brian Chase**, Centre National de la Recherche Scientifique (CNRS), Montpellier, France

**Kim M Cohen**, Utrecht University, Utrecht, Netherlands

**Mauro Coltorti**, Università di Siena, Siena, Italy

**Timme Donders**, Utrecht University, Utrecht, Netherlands

**Dominik Faust**, Technische Universität Dresden, Dresden, Germany

**Stefan Grab**, University of the Witwatersrand, Johannesburg, South Africa

**Andrew Green**, University of KwaZulu-Natal (UKZN), Durban, South Africa

**Zhengtang Guo**, Chinese Academy of Sciences (CAS), Beijing, China

**Sandra Harrison**, Macquarie University, Sydney, New South Wales, Australia

**Vanessa Heyvaert**, Royal Belgian Institute of Natural Sciences, Brussels, Belgium

**Ryan Hladyniuk**, University of Texas at Austin, Port Aransas, Texas, USA

**Juzhi Hou**, Chinese Academy of Sciences (CAS), Beijing, China

**Erella Hovers**, Hebrew University of Jerusalem, Jerusalem, Israel

**Selvaraj Kandasamy**, Xiamen University, Xiamen, China

**Atte Korhola**, University of Helsinki, Helsinki, Finland

**Julius Lejju**, Mbarara University of Science and Technology, Mbarara, Uganda

**David J. Lowe**, University of Waikato, Hamilton, New Zealand

**Marco Madella**, Universitat Pompeu Fabra (UPF) / ICREA, Barcelona, Spain

**Gianluca Marino**, Australian National University, Acton, Australia

**Alessandro Michetti**, Università dell'Insubria, Como, Italy

**Izuchukwu Mike Akaegbobi**

**Mahyar Mohtadi**, Universität Bremen, Bremen, Germany

**Caterina Morigi**, Università di Pisa, Pisa, Italy  
**Eugene Morin**, Trent University, Peterborough, Ontario, Canada  
**Yoshihiro Nishiaki**, University of Tokyo, Tokyo, Japan  
**Christine Ogola**, National Museums of Kenya (NMK), Nairobi, Kenya  
**Maria Rita Palombo**, Università di Roma "La Sapienza", Roma, Italy  
**Sandrine Prat**, Museum National d'Histoire Naturelle, Paris, France  
**Mike Rogerson**, University of Hull, Hull, England, UK  
**James Russell**, Brown University, Providence, Rhode Island, USA  
**Yoshiki Saito**, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan  
**Yi Sangheon**, Korea Institute of Geoscience & Mineral Resources (KIGAM), Daejeon, The Republic of Korea  
**André Sawakuchi**, Universidade de São Paulo (USP), Sao Paulo, Brazil  
**Zhixiong Shen**, Coastal Carolina University, Conway, South Carolina, USA  
**Ashok K. Singhvi**, Physical Research Laboratory, Ahmedabad, India  
**Craig Sloss**, Queensland University of Technology, Brisbane, Queensland, Australia  
**Pradeep Srivastava**, Wadia Institute of Himalayan Geology, Dehradun, India  
**Jan-Berend Stuut**, Nederlands Instituut voor Onderzoek der Zee (NIOZ), Texel, Netherlands  
**Yusuke Suganuma**, National Institute of Polar Research, Tokyo, Japan  
**Matteo Vacchi**, CEREGE, Aix-en-Provence, France  
**Xianfeng Wang**, Nanyang Technological University, Nanyang, Singapore  
**Nicki J. Whitehouse**, Plymouth University, Plymouth, UK  
**Giday WoldeGabriel**, Los Alamos National Laboratory, Los Alamos, New Mexico, USA  
**Sangheon Yi**, Korea Institute of Geoscience & Mineral Resources (KIGAM), Daejeon, The Republic of Korea  
**Qiuzhen Z. Yin**, Université Catholique de Louvain, LOUVAIN-LA-NEUVE, Belgium

## GUIDE FOR AUTHORS

---

### INTRODUCTION

*Quaternary International* is the official journal of the International Union for Quaternary Research. The objectives are to publish a high quality scientific journal under the auspices of the premier Quaternary association that reflects the interdisciplinary nature of INQUA and records recent advances in Quaternary science that appeal to a wide audience. This series will encompass all the full spectrum of the physical and natural sciences that are commonly employed in solving Quaternary problems. The policy is to publish thematic issues including peer refereed collected research papers from symposia, workshops and meetings sponsored by INQUA's Commission, Sub-Commission and working groups. In addition, other organizations may request publication of their collected works pertaining to the Quaternary. Guest Editors will be appointed for each volume.

#### **Types of paper**

*Quaternary International* publishes Research and Review papers (which should not exceed 12,000 without prior agreement from the Editor-in-Chief), and Forum Communications (which should not exceed 2000 words). Please ensure that you select the appropriate article type from the list of options when making your submission. Authors contributing to thematic issues should ensure that they select the appropriate special issue article type from this list.

*Authors please note: Quaternary International will not consider submissions that are not associated with a thematic volume, and which have not been previously discussed with either the Guest Editor or the Editor-in-Chief. Please do not submit unsolicited manuscripts without first contacting the Editor-in-Chief.*

#### **Submission checklist**

You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.

#### **Ensure that the following items are present:**

One author has been designated as the corresponding author with contact details:

- E-mail address
- Full postal address

All necessary files have been uploaded:

*Manuscript:*

- Include keywords
- All figures (include relevant captions)
- All tables (including titles, description, footnotes)
- Ensure all figure and table citations in the text match the files provided
- Indicate clearly if color should be used for any figures in print

*Graphical Abstracts / Highlights files* (where applicable)

*Supplemental files* (where applicable)

Further considerations

- Manuscript has been 'spell checked' and 'grammar checked'
- All references mentioned in the Reference List are cited in the text, and vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Internet)
- Relevant declarations of interest have been made
- Journal policies detailed in this guide have been reviewed
- Referee suggestions and contact details provided, based on journal requirements

For further information, visit our [Support Center](#).

### BEFORE YOU BEGIN

#### **Ethics in publishing**

Please see our information pages on [Ethics in publishing](#) and [Ethical guidelines for journal publication](#).

### **Declaration of interest**

All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential conflicts of interest include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. If there are no conflicts of interest then please state this: 'Conflicts of interest: none'. [More information](#).

### **Submission declaration and verification**

Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis or as an electronic preprint, see '[Multiple, redundant or concurrent publication](#)' section of our ethics policy for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service [CrossCheck](#).

### **Changes to authorship**

Authors are expected to consider carefully the list and order of authors **before** submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only **before** the manuscript has been accepted and only if approved by the journal Editor. To request such a change, the Editor must receive the following from the **corresponding author**: (a) the reason for the change in author list and (b) written confirmation (e-mail, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed.

Only in exceptional circumstances will the Editor consider the addition, deletion or rearrangement of authors **after** the manuscript has been accepted. While the Editor considers the request, publication of the manuscript will be suspended. If the manuscript has already been published in an online issue, any requests approved by the Editor will result in a corrigendum.

### **Copyright**

Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see [more information](#) on this). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. [Permission](#) of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations. If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has [preprinted forms](#) for use by authors in these cases.

For open access articles: Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' ([more information](#)). Permitted third party reuse of open access articles is determined by the author's choice of [user license](#).

### **Author rights**

As an author you (or your employer or institution) have certain rights to reuse your work. [More information](#).

*Elsevier supports responsible sharing*

Find out how you can [share your research](#) published in Elsevier journals.

### **Role of the funding source**

You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement then this should be stated.

### *Funding body agreements and policies*

Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder's open access policies. Some funding bodies will reimburse the author for the Open Access Publication Fee. Details of [existing agreements](#) are available online.

After acceptance, open access papers will be published under a noncommercial license. For authors requiring a commercial CC BY license, you can apply after your manuscript is accepted for publication.

### **Open access**

This journal offers authors a choice in publishing their research:

#### **Open access**

- Articles are freely available to both subscribers and the wider public with permitted reuse.
- An open access publication fee is payable by authors or on their behalf, e.g. by their research funder or institution.

#### **Subscription**

- Articles are made available to subscribers as well as developing countries and patient groups through our [universal access programs](#).
- No open access publication fee payable by authors.

Regardless of how you choose to publish your article, the journal will apply the same peer review criteria and acceptance standards.

For open access articles, permitted third party (re)use is defined by the following [Creative Commons user licenses](#):

#### *Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)*

For non-commercial purposes, lets others distribute and copy the article, and to include in a collective work (such as an anthology), as long as they credit the author(s) and provided they do not alter or modify the article.

The open access publication fee for this journal is **USD 3300**, excluding taxes. Learn more about Elsevier's pricing policy: <https://www.elsevier.com/openaccesspricing>.

#### *Green open access*

Authors can share their research in a variety of different ways and Elsevier has a number of green open access options available. We recommend authors see our [green open access page](#) for further information. Authors can also self-archive their manuscripts immediately and enable public access from their institution's repository after an embargo period. This is the version that has been accepted for publication and which typically includes author-incorporated changes suggested during submission, peer review and in editor-author communications. Embargo period: For subscription articles, an appropriate amount of time is needed for journals to deliver value to subscribing customers before an article becomes freely available to the public. This is the embargo period and it begins from the date the article is formally published online in its final and fully citable form. [Find out more](#).

This journal has an embargo period of 24 months.

### **Language (usage and editing services)**

Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the [English Language Editing service](#) available from Elsevier's WebShop, or contact the Editor-in-Chief or other editorial board members of Quaternary International ([contact](#) ).

### **Submission**

Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word, LaTeX) are required to typeset your article for final publication. All correspondence, including notification of the Editor's decision and requests for revision, is sent by e-mail.

### **Submit your article**

Please submit your article via <https://www.eviser.com/eviser/jrnl/QUATINT>.

## *Referees*

Please submit the names and institutional e-mail addresses of several potential referees. For more details, visit our [Support site](#). Note that the editor retains the sole right to decide whether or not the suggested reviewers are used.

## **PREPARATION**

### ***Electronic format requirements for accepted articles***

We accept most wordprocessing formats, but Word, WordPerfect or LaTeX is preferred. Always keep a backup copy of the electronic file for reference and safety. Save your files using the default extension of the program used. No changes to the accepted version are permissible without the explicit approval of the Editor

### ***Peer review***

This journal operates a single blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. [More information on types of peer review](#).

### ***Use of word processing software***

It is important that the file be saved in the native format of the word processor used. The text should be in single-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the word processor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the [Guide to Publishing with Elsevier](#)). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. See also the section on Electronic artwork.

To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

### ***Article structure***

#### ***Subdivision - numbered sections***

Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

#### ***Introduction***

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

#### ***Regional setting***

For papers that focus on an area, provide a brief synopsis of the physical and geological characteristics of the area, sufficient to give the new work context, but again avoid a detailed literature survey.

#### ***Material and methods***

Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

#### ***Results***

Results should be clear and concise.

#### ***Discussion***

This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

#### ***Conclusions***

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

## Appendices

If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

## Essential title page information

- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
- **Author names and affiliations.** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.
- **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. **Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.**
- **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

## Abstract

A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself. Editor designates no abstract required for some regular articles.

## Keywords

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

## Acknowledgements

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

## Formatting of funding sources

List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, please include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## Units

Metric units should be used. If it is desirable to include Imperial units, they should appear in parentheses.



## Math formulae

Present simple formulae in the line of normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

## Footnotes

Footnotes should not be used.

## Artwork

### Electronic artwork

#### General points

- All photographs should be numbered as figures. Please do not number the photographs separately as Plates.
- Make sure you use uniform lettering and sizing of your original artwork.
- Save text in illustrations as "graphics" or enclose the font.
- Only use the following fonts in your illustrations: Arial, Courier, Times, Symbol.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Provide captions to illustrations separately.
- Produce images near to the desired size of the printed version.
- Submit each figure as a separate file.

A detailed guide on electronic artwork is available on our website:

<http://www.elsevier.com/artworkinstructions>

**You are urged to visit this site; some excerpts from the detailed information are given here.**

#### Formats

Regardless of the application used, when your electronic artwork is finalised, please "save as" or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):

EPS: Vector drawings. Embed the font or save the text as "graphics".

TIFF: color or grayscale photographs (halftones): always use a minimum of 300 dpi.

TIFF: Bitmapped line drawings: use a minimum of 1000 dpi.

TIFF: Combinations bitmapped line/half-tone (color or grayscale): a minimum of 500 dpi is required.  
DOC, XLS or PPT: If your electronic artwork is created in any of these Microsoft Office applications please supply "as is".

#### Please do not:

- Supply embedded graphics in your wordprocessor (spreadsheet, presentation) document;
- Supply files that are optimised for screen use (like GIF, BMP, PICT, WPG); the resolution is too low;
- Supply files that are too low in resolution;
- Submit graphics that are disproportionately large for the content.

#### Color artwork

Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF), or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in color in the printed version. **For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article.** Please indicate your preference for color: in print or online only. [Further information on the preparation of electronic artwork.](#)

#### Figure captions

Ensure that each illustration has a caption. Supply captions separately, not attached to the figure. A caption should comprise a brief title (**not** on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

## Tables

Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

## References

1. All references cited in the text are to be listed at the end of the paper. The manuscript should be carefully checked to ensure that the spellings of authors' names and publication years are exactly the same in the text as in the reference list. Do not type author's and editor's names in capitals.

2. In the text refer to the author's name (without initials) and year of publication, followed - if necessary - by a short reference to appropriate pages. Examples: "Because Peterson (1994) has shown that...". "This is in agreement with results obtained later (Kramer, 1996, pp. 12-16)".

3. If reference is made in the text to publications written by more than two authors the name of the first author should be used, followed by "et al.". This indication, however, should never be used in the list of references. In this list names of authors and all co-authors must be given in full.

4. References in the text should be arranged chronologically. The list of references should be arranged alphabetically by authors' names, and chronologically per author. If an author's name in the list is also mentioned with co-authors, the following order should be used: Publications of the single author, arranged according to publication year - publications of the same author with one co-author, arranged according to publication year - publications of the author with more than one co-author, arranged according to publication year.

5. All references should be written out in full using no abbreviations for the publication titles, and should follow the style of the Journal.

The following system should be used for arranging references:

a. Journal papers: Names and initials of all authors, year. Title of paper. Journal name (given in full), volume number (issue number): first and last page numbers of the paper.

Example:

Elbaz-Poulichet, F., Guan, D.M., Martin, J.M., 1991. Trace metal behaviour in a highly stratified Mediterranean estuary: the Krka (Yugoslavia). *Marine Chemistry* 32, 211-224.

b. Monographs: Names and initials of all authors, year. Title of the monograph. Publisher, location of publisher.

Example:

Zhdanov, M.S., Keller, G.V., 1994. *The Geoelectrical Methods in Geophysical Exploration*. Elsevier, Amsterdam.

c. Edited volume papers: Names and initials of all authors, year. Title of paper. Names and initials of the volume editors, title of the edited volume. Publisher, location of publisher, first and last page numbers of the paper.

Example:

Thomas, E., 1992. Middle Eocene-late Oligocene bathyal benthic foraminifera (Weddell Sea): faunal changes and implications for ocean circulation. In: Prothero, D.R., Berggren, W.A. (Eds.), *Eocene-Oligocene Climatic and Biotic Evolution*. Princeton University Press, Princeton, NJ, pp. 245-271.

d. Conference proceedings papers: Names and initials of all authors, year. Title of paper. Name of the conference. Publisher, location of publisher, first and last page numbers of the paper.

Example:

Smith, M.W., 1988. The significance of climatic change for the permafrost environment. *Final Proceedings, International Conference on Permafrost*. Tapir, Trondheim, Norway, pp. 18-23.

e. Unpublished theses, reports, etc.: Names and initials of all authors, year. Title of item. All other relevant information needed to identify the item (e.g., technical report, Ph.D. thesis, institute, etc.).

Example:

Moustakas, N., 1990. Relationships of morphological and physicochemical properties of Vertisols under Greek climate conditions. Ph.D. Thesis, Agricultural University of Athens, Greece.

5. In the case of publications in any language other than English, the original title is to be retained. Titles of publications in non-Latin alphabets should be transliterated, and a note such as '(in Russian)' or '(in Japanese, with English Abstract)' should be added at the end of the reference.

#### *Citation in text*

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

#### *Web references*

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

#### *Data references*

This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

#### *References in a special issue*

Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

#### *Reference management software*

Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support [Citation Style Language styles](#), such as [Mendeley](#) and [Zotero](#), as well as [EndNote](#). Using the word processor plug-ins from these products, authors only need to select the appropriate journal template when preparing their article, after which citations and bibliographies will be automatically formatted in the journal's style. If no template is yet available for this journal, please follow the format of the sample references and citations as shown in this Guide.

Users of Mendeley Desktop can easily install the reference style for this journal by clicking the following link:

<http://open.mendeley.com/use-citation-style/quaternary-international>

When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice.

#### **Supplementary data**

Elsevier accepts electronic supplementary material to support and enhance your scientific research. Supplementary files offer the author additional possibilities to publish supporting applications, high-resolution images, background datasets, sound clips and more. Supplementary files supplied will be published online alongside the electronic version of your article in Elsevier Web products, including ScienceDirect: <http://www.sciencedirect.com>. In order to ensure that your submitted material is directly usable, please provide the data in one of our recommended file formats. Authors should submit the material in electronic format together with the article and supply a concise and descriptive caption for each file. For more detailed instructions please visit our artwork instruction pages at <http://www.elsevier.com/artworkinstructions>.

## RESEARCH DATA

This journal encourages and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal also encourages you to share your software, code, models, algorithms, protocols, methods and other useful materials related to the project.

Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. If you are sharing data in one of these ways, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the [research data](#) page.

### *Data linking*

If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that give them a better understanding of the research described.

There are different ways to link your datasets to your article. When available, you can directly link your dataset to your article by providing the relevant information in the submission system. For more information, visit the [database linking page](#).

For [supported data repositories](#) a repository banner will automatically appear next to your published article on ScienceDirect.

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

**To maximise the visibility of your data, authors are invited to add a citation to their datasets by including a data reference in their Reference List as per the 'Data References' instructions elsewhere on [this page](#).**

### *Mendeley data*

This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to *Mendeley Data*. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the [Mendeley Data for journals page](#).

**To maximise the visibility of your data, authors are invited to add a citation to their datasets by including a data reference in their Reference List as per the 'Data References' instructions elsewhere on [this page](#).**

### *Transparency*

To foster transparency, we encourage you to state the availability of your data in your submission. If your data is unavailable to access or unsuitable to post, this gives you the opportunity to indicate why. If you submit [this form](#) with your manuscript as a supplementary file, the statement will appear next to your published article on ScienceDirect.

### *AudioSlides*

The journal encourages authors to create an AudioSlides presentation with their published article. AudioSlides are brief, webinar-style presentations that are shown next to the online article on ScienceDirect. This gives authors the opportunity to summarize their research in their own words and to help readers understand what the paper is about. [More information and examples are available](#). Authors of this journal will automatically receive an invitation e-mail to create an AudioSlides presentation after acceptance of their paper.

### **Google Maps and KML files**

KML (Keyhole Markup Language) files (optional): You can enrich your online articles by providing KML or KMZ files which will be visualized using Google maps. The KML or KMZ files can be uploaded in our online submission system. KML is an XML schema for expressing geographic annotation and visualization within Internet-based Earth browsers. Elsevier will generate Google Maps from the submitted KML files and include these in the article when published online. Submitted KML files will also be available for downloading from your online article on ScienceDirect. [More information.](#)

## **AFTER ACCEPTANCE**

### **Online proof correction**

Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors.

If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.

We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

### **Offprints**

The corresponding author will, at no cost, receive a customized [Share Link](#) providing 50 days free access to the final published version of the article on [ScienceDirect](#). The Share Link can be used for sharing the article via any communication channel, including email and social media. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Both corresponding and co-authors may order offprints at any time via Elsevier's [Webshop](#). Corresponding authors who have published their article open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.

## **AUTHOR INQUIRIES**

Visit the [Elsevier Support Center](#) to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch.

You can also [check the status of your submitted article](#) or find out [when your accepted article will be published](#).

© Copyright 2014 Elsevier | <http://www.elsevier.com>