MARINE GEOLGY
International Journal of Marine Geology, Geochemistry and Geophysics

TABLE OF CONTENTS

- Description p.1
- Audience p.1
- Impact Factor p.1
- Abstracting and Indexing p.2
- Editorial Board p.2
- Guide for Authors p.4

DESCRIPTION

*Marine Geology* is the premier international journal on marine geological processes in the broadest sense. We seek papers that are comprehensive, interdisciplinary and synthetic that will be lasting contributions to the field. Although most papers are based on regional studies, they must demonstrate new findings of international significance. We accept papers on subjects as diverse as seafloor hydrothermal systems, beach dynamics, early diagenesis, microbiological studies in sediments, palaeoclimate studies and geophysical studies of the seabed. We encourage papers that address emerging new fields, for example the influence of anthropogenic processes on coastal/marine geology and coastal/marine geoarchaeology. We insist that the papers are concerned with the marine realm and that they deal with geology: with rocks, sediments, and physical and chemical processes affecting them. Papers should address scientific hypotheses: highly descriptive data compilations or papers that deal only with marine management and risk assessment should be submitted to other journals. Papers on laboratory or modelling studies must demonstrate direct relevance to marine processes or deposits. The primary criteria for acceptance of papers is that the science is of high quality, novel, significant, and of broad international interest.

Benefits to authors

We also provide many author benefits, such as free PDFs, a liberal copyright policy, special discounts on Elsevier publications and much more. Please click here for more information on our author services.

AUDIENCE

Marine geologists, marine geochemists, marine geophysicists.

IMPACT FACTOR

2017: 2.364 © Clarivate Analytics Journal Citation Reports 2018
ABSTRACTING AND INDEXING

AGI’s Bibliography and Index of Geology
Aquatic Sciences and Fisheries Abstracts
Bulletin Signalétique
Cambridge Scientific Abstracts
Chemical Abstracts
Current Contents
Fisheries Abstracts
Engineering Village - GEObase
Marine Science Contents Tables
Oceanic Abstracts
PASCAL/CNRS
Geoscience Contents
Elsevier BIOBASE
Petroleum Abstracts
ESRISAT
AESIS
Scopus
GeoRef
Arctic & Antarctic Regions (AAR)
EBSCOhost
PubMed
OCLC Contents Alert
Personal Alert
ProQuest
Engineering Index Monthly
Arts & Humanities Search
Science Citation Index Expanded
Web of Science
Plant Science Database (Elsevier)
Referativnyi Zhurnal VINTI-RAN (Russian Academy of Sciences)

EDITORIAL BOARD

Editors-in-Chief:
Edward Anthony, Université Aix-Marseille, Aix-en-Provence, France
Coastal, deltaic and estuarine marine geology; shelf and coastal processes
Gert J. de Lange, Universiteit Utrecht, Utrecht, Netherlands
Marine geochemistry, biogeochemistry and palaeoceanography
Shu Gao, East China Normal University, Shanghai, China
Marine sediment dynamics; Shallow water hydrodynamics (tides, wave, and morphodynamics);
Wetland ecosystem dynamics
Michele Rebesco, OGS Ist. Naz. Oceanografia Geofisica Sperimentale, Sgonico, Italy
Deep-sea, Sedimentary processes, Slope instabilities, Glacial sediments, Seismic/morphology interpretations

Editorial Office:
Marine Geology Editorial Office

Editorial Board:
Troels Aagaard, University of Copenhagen, København K, Denmark
John B. Anderson, Rice University, Houston, Texas, USA
Serge Berné, Université de Perpignan Via Domitia (UPVD), Perpignan, France
Angelo Camerlenghi, Istituto Nazionale di Oceanografia e di Geofisica Sperimentale, Trieste, Italy
SungKwan Chough, Seoul National University (SNU), Seoul, The Republic of Korea
Marc De Batist, Universiteit Gent, Gent, Belgium
Vesselin M. Dekov, Tokyo University of Marine Science and Technology, Tokyo, Japan
Kay-Christian Emeis, Universität Hamburg, Hamburg, Germany
Nathalie Fagel, Université de Liège, Liège, Belgium
Anne Felton, Australian National University, Canberra, Australian Capital Territory, Australia
Donald L. Forbes, Geological Survey of Canada, Dartmouth, Nova Scotia, Canada
Roland Gehrels, University of York, York, England, UK
Pierre R. Giresse, Université de Perpignan Via Domitia (UPVD), Perpignan, France
Kazuhisa Goto, Tohoku University, Sendai, Japan
Peter Harris, Geoscience Australia, Canberra, Australian Capital Territory, Australia
James R. Hein, U.S. Geological Survey (USGS), Menlo Park, California, USA
Christian Hensen, Helmholtz-Zentrum für Ozeanforschung Kiel (GEOMAR), Kiel, Germany
Sabine Kasten, Alfred Wegener Institute, Bremerhaven, Germany
Steven Kuehl, Virginia Institute of Marine Science, Gloucester Point, Virginia, USA
Paul Liu, North Carolina State University, Raleigh, North Carolina, USA
James Liu, National Sun Yat-Sen University, Kaohsiung, Taiwan
Francisco José Lobo, Consejo Superior de Investigaciones Científicas (CSIC), Granada, Spain
Gerd Masselink, Plymouth University, Plymouth, Devon, UK
Neil Mitchell, University of Manchester, Manchester, UK
Thierry Mulder, Institut Universitaire de Technologie, Talence, France
Julian Orford, Queen's University Belfast, Belfast, UK
Alan Orpin, National Institute of Water and Atmospheric Research (NIWA), Wellington, New Zealand
Philip Osborne, University of Auckland, Auckland, New Zealand
Charles K. Paull, Monterey Bay Aquarium Research Inst., Moss Landing, California, USA
Kevin Pedoja, UMR CNRS 6143, Caen, France
Gerardo M. E. Perillo, Instituto Argentino de Oceanografía, Bahía Blanca, Argentina
David J. W. Piper, Geological Survey of Canada, Dartmouth, Nova Scotia, Canada
Leonid Polyak, The Ohio State University, Columbus, Ohio, USA
Yoshiki Saito, Shimane University, Matsue, Japan
Alina Stadnitskaia, Nederlands Instituut voor Onderzoek der Zee (NIOZ), ’t Horntje, Texel, Netherlands
Doris Stuben, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany
Nabil Sultan, Institut Français pour l’Exploitation de la Mer (IFREMER), Plouzane, France
Alan Trenhaile, University of Windsor, Windsor, Ontario, Canada
Maarten Vanneste, Norwegian Geotechnical Institute, Oslo, Norway
Ping-Xian Wang, Tongji University, Shanghai, China
John Wells, Virginia Institute of Marine Science, Gloucester Point, Virginia, USA
Colin Woodroffe, University of Wollongong, Wollongong, New South Wales, Australia
Russel Wynn, University of Southampton, Southampton, England, UK
GUIDE FOR AUTHORS

INTRODUCTION

Expectation of authors to undertake reviewing duties

Peer review assists the editors in making editorial decisions and through editorial communications with the author may also assist the author in improving the paper. Peer review is an essential component of formal scholarly communication, and lies at the heart of the scientific method. Elsevier shares the view that authorship and reviewing manuscripts are two inextricable aspects of scholarship.

Editors Subject Specialities

Authors are asked to suggest an Editor to handle their paper based on the list of subject fields below.

Edward Anthony
Coastal, deltaic and estuarine marine geology; shelf and coastal processes

Gert J. de Lange
Marine geochemistry, biogeochemistry and palaeoceanography

Michele Rebescosco
Deep-sea, Sedimentary processes, Slope instabilities, Glacial sediments, Seismic/morphology interpretations

Shu Gao
Marine sediment dynamics; Coastal and continental shelf morphodynamics; Land-ocean interaction and environmental dynamics; Modeling of the formation of Holocene sedimentary records; Shallow marine processes for material cycling

Editorial Policy

Marine Geology is the premier international journal on marine geological processes in the broadest sense. We seek papers that are comprehensive, interdisciplinary and synthetic that will be lasting contributions to the field. Although most papers are based on regional studies, they must demonstrate new findings of international significance. We accept papers on subjects as diverse as seafloor hydrothermal systems, beach dynamics, early diagenesis, microbiological studies in sediments, palaeoclimate studies and geophysical studies of the seabed. We encourage papers that address emerging new fields, for example the influence of anthropogenic processes on coastal/marine geology and coastalmarine geoarchaeology. We insist that the papers are concerned with the marine realm and that they deal with geology: with rocks, sediments, and physical and chemical processes affecting them. Papers should address scientific hypotheses: highly descriptive data compilations or papers that deal only with marine management and risk assessment should be submitted to other journals. Papers on laboratory or modelling studies must demonstrate direct relevance to marine processes or deposits. The primary criteria for acceptance of papers is that the science is of high quality, novel, significant, and of broad international interest.

Types of paper

The majority of the articles published in the journal are original Research Papers. Research papers should report new and original research of high quality that meet the criteria of being of broad international interest, significant and novel. Authors must warrant that the material has not been previously published and declare in a covering letter any related manuscripts that are submitted or in press. A research paper is typically structured with a brief introduction, if necessary a section on the geological and oceanographic setting, followed by methods, results, discussion and conclusions. The length should be commensurate with the significance of the work and is usually not more than 10000 words.

Review Articles provide a comprehensive and novel assessment of an issue or significant region in marine geology and should be of interest to a wide readership. A Review Article should provide a balanced, integrated and critical summary of previous work and should evaluate potential controversial issues. Important new data may be presented, but are not the focus of the review. Illustrations should where possible integrate existing data into new comprehensive figures rather than duplicating published work. Length should not normally exceed twice that of a typical Research Paper. Potential authors are invited to consult informally with one of the Editors before preparing a Review Article; to do this we request that authors send an email to Tim Horscroft (timothy.horscroft@elsevier.com) in order to get the consultation process started. The editors may wish to categorize such articles as “Invited Review Article” in the published version. All other reviews will be categorized as "Review Article". Please note that an invitation from the Editors to submit a review article to the journal does not guarantee that it will be accepted for publication.
The **Short Communication** section of Marine Geology is intended to provide rapid publication of immediate results (which will normally arise from fieldwork, but may include significant new laboratory results). The criteria for acceptance of a Short Communication is that it presents exciting and significant new results, for which the interpretation is clear, and which will have an important impact on the international marine geology community. Authors must warrant that the material has not been previously published and explain in a covering letter how the Short Communication meets the criteria in terms of a new result, its significance and its impact. A short communication is not normally more than 4000 words (including abstract and references) and 3 figures.

It is possible to submit a **Comment** that about a recently published Marine Geology paper. Such a Comment must be brief and directed only towards the main issue(s) that are being questioned in the original paper. It is not a vehicle for extensive review or for publishing the author's new findings. The original author(s) will be invited to write a **Reply** which must likewise be brief and directed only at the issues in question.

A **Special Issue** of Marine Geology is a coherent set of papers on a single scientific theme. The papers must meet the normal criteria for acceptance in Marine Geology. Although scientists intending to propose a Special Issue may consult any of the Editors-in-Chief informally, a formal decision is taken only by all the Editors on receipt of a completed written proposal. Formal proposals for Special Issues should be submitted to Yanping Hou (y.hou@elsevier.com) and must include the following:

1. A one page text by the Guest Editor(s) outlining the reason for the Special Issue, what is the scientific theme and its significance, why it is timely and needed, and why a Special Issue is necessary rather than individual papers.
2. The proposed time schedule, taking into account that usually several months are required for both reviewing and revising of papers.
3. A list of the proposed contributions (titles, authors, institutions)
4. A draft abstract for each contribution.

Once all of this material is received, the Editors-in-Chief will evaluate each proposal on its significance, novelty and timeliness. The proponents will act as Guest Editors, with one of the Editors-in-Chief assigned at an early stage to ensure that the Marine Geology standards are met and to provide advice where required. Guest Editors are expected to obtain independent reviewers who are un-associated with the Special Issue and are able to assess the quality of the manuscripts in an un-biassed manner. The assigned Editor-in-Chief will handle the review process for any manuscripts for which the Guest Editors have a conflict of interest. All manuscript submissions, reviewing and editorial decisions are handled through the Elsevier Editorial System.

Further information for prospective guest editors intending to submit a proposal for a special issue in the journal can be found [here](#). Authors contributing to special issues should ensure that they select the appropriate special issue article type when submitting their manuscript.

**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)
• A competing interests statement is provided, even if the authors have no competing interests to declare
• 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 competing interests include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors must disclose any interests in two places: 1. A summary declaration of interest statement in the title page file (if double-blind) or the manuscript file (if single-blind). If there are no interests to declare then please state this: 'Declarations of interest: none'. This summary statement will be ultimately published if the article is accepted. 2. Detailed disclosures as part of a separate Declaration of Interest form, which forms part of the journal's official records. It is important for potential interests to be declared in both places and that the information matches. 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, a published lecture or academic thesis, see 'Multiple, redundant or concurrent publication' 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 Crossref Similarity Check.

Preprints
Please note that preprints can be shared anywhere at any time, in line with Elsevier's sharing policy. Sharing your preprints e.g. on a preprint server will not count as prior publication (see 'Multiple, redundant or concurrent publication' for more information).

Use of inclusive language
Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Articles should make no assumptions about the beliefs or commitments of any reader, should contain nothing which might imply that one individual is superior to another on the grounds of race, sex, culture or any other characteristic, and should use inclusive language throughout. Authors should ensure that writing is free from bias, for instance by using 'he or she', 'his/her' instead of 'he' or 'his', and by making use of job titles that are free of stereotyping (e.g. 'chairperson' instead of 'chairman' and 'flight attendant' instead of 'stewardess').

Authorship
All authors should have made substantial contributions to all of the following: (1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data, (2) drafting the article or revising it critically for important intellectual content, (3) final approval of the version to be submitted.

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 gold 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 gold 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 gold open access publication fee. Details of existing agreements are available online.

Open access
This journal offers authors a choice in publishing their research:

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.
• The Author is entitled to post the accepted manuscript in their institution’s repository and make this public after an embargo period (known as green Open Access). The published journal article cannot be shared publicly, for example on ResearchGate or Academia.edu, to ensure the sustainability of peer-reviewed research in journal publications. The embargo period for this journal can be found below.

Gold open access
• Articles are freely available to both subscribers and the wider public with permitted reuse.
• A gold open access publication fee is payable by authors or on their behalf, e.g. by their research funder or institution.
Regardless of how you choose to publish your article, the journal will apply the same peer review criteria and acceptance standards.

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

**Creative Commons Attribution (CC BY)**
Lets others distribute and copy the article, create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), include in a collective work (such as an anthology), text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honor or reputation.

**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 gold open access publication fee for this journal is **USD 3700**, excluding taxes. Learn more about Elsevier's pricing policy: [https://www.elsevier.com/openaccesspricing](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 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.

**Elsevier Researcher Academy**
Researcher Academy is a free e-learning platform designed to support early and mid-career researchers throughout their research journey. The "Learn" environment at Researcher Academy offers several interactive modules, webinars, downloadable guides and resources to guide you through the process of writing for research and going through peer review. Feel free to use these free resources to improve your submission and navigate the publication process with ease.

**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.

**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 [http://ees.elsevier.com/margo](http://ees.elsevier.com/margo)

**Referees**
Please submit, with the manuscript, the names and addresses of 6 potential referees. Please suggest potentially critical and constructive reviewers specifying reasons for your suggestion. Reviewers should be selected for process-oriented expertise, not merely geographical knowledge. These reviewers must NOT be colleagues with whom you collaborated or published papers during the last 5 years nor can they be working at your own institute. Marine Geology relies on the honesty of our authors in the nomination of objective and independent potential reviewers. The proposal of reviewers...
liable to elicit a conflict of interest should be avoided. Violation of the guidelines above could lead

to rejection of your manuscript. Your help is appreciated and may speed up the reviewing process.
Please note that the journal may not use all of your suggestions.

PREPARATION

Formatting requirements
There are no strict formatting requirements but all manuscripts must contain the essential elements
needed to convey your manuscript, for example Abstract, Keywords, Introduction, Materials and
Methods, Results, Conclusions, Artwork and Tables with Captions.
If your article includes any Videos and/or other Supplementary material, this should be included in
your initial submission for peer review purposes.
Divide the article into clearly defined sections.

Please ensure the text of your paper is double-spaced this is an essential peer review requirement.
Please ensure your paper has consecutive line numbering this is an essential peer review requirement.
Please ensure your paper includes page numbers this is an essential peer review requirement.

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.

LaTeX
You are recommended to use the Elsevier article class elsarticle.cls to prepare your manuscript and
BibTeX to generate your bibliography.
Our LaTeX site has detailed submission instructions, templates and other information.

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.

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

2. 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.

3. Materials and methods
Provide sufficient detail on methods to allow the work to be reproduced. Methods already published
should be indicated by a reference: only relevant modifications should be described. Samples should
normally be positioned on a map or in a table. However, lengthy tables of precise positions should
be submitted as Datasets (see below)
4. Results
This should highlight the key results (and not repeat material already in figures or tables) and summarise the direct implications of these results.

5. Discussion
This should explore the inter-relationships of different data sets and the broader significance of the results. It may include limited speculation, that will not appear in the conclusions.

6. Conclusions
The short Conclusions section should summarise the conclusions of the study that have been firmly established. It should not duplicate either the Abstract or the Discussion.

7. Data Availability
This section provides readers with information about where they can obtain the research data required to reproduce the work reported in the manuscript and is visible in ALL reading formats and may refer to data hosted in ANY repository. It typically consists of a simple sentence giving the URL(s) of and citation(s) to the dataset(s). Full information can be found here.
Authors can make use of Elsevier's **Illustration Services** to ensure the best presentation of their images and in accordance with all technical requirements.

**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.

To ensure a consistent approach we have prepared a list of preferred keywords for use at [http://www.journals.elsevier.com/marine-geology/policies/marine-geology-keywords](http://www.journals.elsevier.com/marine-geology/policies/marine-geology-keywords). Please select the appropriate subject fields and the geographical area the paper is about. This list is not exhaustive and should be used as a guideline, and authors may additionally suggest any other more suitable keyword for their submission.

**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.

**Nomenclature and units**
Follow internationally accepted rules and conventions: use the international system of units (SI). If other quantities are mentioned, give their equivalent in SI.

**Mathematical formulae**
Present simple formulae in the line of normal text where possible. In principle, variables are to be presented in italics. Use the solidus (/) instead of a horizontal line, e.g., $X/Y$ rather than $X\over Y$.

Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separate from the text (if referred to explicitly in the text).

**Footnotes**
Footnotes should be used sparingly. Number them consecutively throughout the article, using superscript Arabic numbers. Many wordprocessors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves on a separate sheet at the end of the article. Do not include footnotes in the Reference list.

**Artwork**

**Electronic artwork**

**General points**
• Make sure you use uniform lettering and sizing of your original artwork. Avoid bold font unless essential for clarity.
• 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, preferably eps, tif or pdf.
• All maps must have geographic referencing (UTM or latitude and longitude).

A detailed guide on electronic artwork is available on our website: https://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
The web version of your article is in full color at no cost and this is the version seen by almost all readers. There is a charge to the author for color reproduction in the print version. If greyscale figures are provided for the print version, the caption will note that a color version is available on the web.

Please make sure that artwork files are in an acceptable format (TIFF, EPS or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures...

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
Number tables consecutively in accordance with their appearance in the text. Place footnotes to tables below the table body and indicate them with superscript lowercase letters. Avoid vertical rules. Be sparing in the use of tables and ensure that the data presented in tables do not duplicate results described elsewhere in the article.

References
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.
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. Using citation 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. If you use reference management software, please ensure that you remove all field codes before submitting the electronic manuscript. More information on how to remove field codes from different reference management software.

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

Reference formatting
There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples:

Reference style
Text: All citations in the text should refer to:
1. Single author: the author's name (without initials, unless there is ambiguity) and the year of publication;
2. Two authors: both authors' names and the year of publication;
3. Three or more authors: first author's name followed by 'et al.' and the year of publication.
Citations may be made directly (or parenthetically). Groups of references can be listed either first alphabetically, then chronologically, or vice versa.
Examples: 'as demonstrated (Allan, 2000a, 2000b, 1999; Allan and Jones, 1999).... Or, as demonstrated (Jones, 1999; Allan, 2000).... Kramer et al. (2010) have recently shown ...'
List: References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.
Examples:
Reference to a journal publication:
Reference to a journal publication with an article number:
Reference to a book:
Reference to a chapter in an edited book:
Reference to a website:

Reference to a dataset:

Journal abbreviations source
Journal names should be abbreviated according to the List of Title Word Abbreviations.

Video
Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include links to these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the file in one of our recommended file formats with a preferred maximum size of 150 MB per file, 1 GB in total. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect. Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages. Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

Data visualization
Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions here to find out about available data visualization options and how to include them with your article.

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 https://www.elsevier.com/artworkinstructions.

Research data
This journal requires 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. When sharing data in one of these ways, you are expected 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 gives 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).

**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.**

**Data in Brief**
You have the option of converting any or all parts of your supplementary or additional raw data into one or multiple data articles, a new kind of article that houses and describes your data. Data articles ensure that your data is actively reviewed, curated, formatted, indexed, given a DOI and publicly available to all upon publication. You are encouraged to submit your article for *Data in Brief* as an additional item directly alongside the revised version of your manuscript. If your research article is accepted, your data article will automatically be transferred over to *Data in Brief* where it will be editorially reviewed and published in the open access data journal, *Data in Brief*. Please note an open access fee of 500 USD is payable for publication in *Data in Brief*. Full details can be found on the [Data in Brief website](#). Please use this template to write your Data in Brief.

**MethodsX**
You have the option of converting relevant protocols and methods into one or multiple MethodsX articles, a new kind of article that describes the details of customized research methods. Many researchers spend a significant amount of time on developing methods to fit their specific needs or setting, but often without getting credit for this part of their work. MethodsX, an open access journal, now publishes this information in order to make it searchable, peer reviewed, citable and reproducible. Authors are encouraged to submit their MethodsX article as an additional item directly alongside the revised version of their manuscript. If your research article is accepted, your methods article will automatically be transferred over to MethodsX where it will be editorially reviewed. Please note an open access fee is payable for publication in MethodsX. Full details can be found on the [MethodsX website](#). Please use this template to prepare your MethodsX article.

**Data statement**
To foster transparency, we require you to state the availability of your data in your submission if your data is unavailable to access or unsuitable to post. This may also be a requirement of your funding body or institution. You will have the opportunity to provide a data statement during the submission process. The statement will appear with your published article on ScienceDirect. For more information, visit the [Data Statement page](#).

**Additional requirements for manuscripts:**
- Use double line-spacing
- Insert continuous line numbering
- Submit figures separate from the text, do not embed figures in the text
- Use EPS or TIFF figures, or PDF figures of less than 3 MB

**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 gold 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**

For inquiries relating to the submission of articles (including electronic submission) please contact the Editorial Office. You can track accepted articles at [https://www.elsevier.com/trackarticle](https://www.elsevier.com/trackarticle). You can also check our Author FAQs ([https://www.elsevier.com/authorFAQ](https://www.elsevier.com/authorFAQ)) and/or contact Customer Support via [http://service.elsevier.com](http://service.elsevier.com).

© Copyright 2018 Elsevier | [https://www.elsevier.com](https://www.elsevier.com)