DESCRIPTION

*Environmental Modelling & Software* publishes contributions, in the form of research articles, reviews, introductory overviews, and position papers on advances in the area of **environmental modelling and software**. Our aim is to improve our capacity to represent, understand, predict or manage the behaviour of **natural environmental systems**, including **air, water, and land components**, at all practical scales, and to communicate those improvements to a wide scientific and professional audience.

It seeks presentation of:

- Generic frameworks, techniques and issues which either integrate a range of disciplines and sectors or apply across a range
- **Model development**, model evaluation, process identification and applications in diverse sectors of the environment (as outlined below) provided they reveal insights and contribute to the store of knowledge. Insights can relate to the generality and limitations of the modelling, methods, the model application and/or the systems modelled. Insights should be ones that are generalizable in some way and are likely to be of interest to those studying other systems and, preferably, other system types.
- Development and application of **environmental software**, information and decision support systems
- Real-world applications of software technologies - particularly state-of-the-art environmental software able to deal with complex requirements, conflicting user perspectives, and/or evolving data structures. Aspects related to software usability, reliability, verification and validation should be backed up with quantitative results as much as possible. Development and maintenance costs, and adoption and penetration of the software in the target user groups should be addressed. Licensing issues and open source access should be clearly specified.
- Issues and methods related to the integrated modeling, assessment and management of environmental systems - including relevant policy and institutional analysis, public participation principles and methods, decision making methods, model integration, quality assurance and evaluation of models, data and procedures.

Authors must specify clearly the objectives of their models and/or software, and report on the essential steps that were used in their development, normally including the rationale for the type of approach selected and substantial testing and evaluation of it - comparisons with alternative approaches and methods are encouraged. The purpose of this specification, evaluation and reporting is to convey the rigour and credibility of the work and therefore its potential to contribute to knowledge acquisition. To this latter end, authors are expected to briefly review and cite the historical progress made for their problem and clearly show how their work adds value to the literature.
Authors are invited to submit relevant contributions in the following areas:

- Generic and pervasive frameworks, techniques and issues - including system identification theory and practice, model conception, model integration, model and/or software evaluation, sensitivity and uncertainty assessment, visualization, scale and regionalization issues.
- Integrated assessment and management of systems (river basins, regions etc.) for enhancing sustainability outcomes - including linked socioeconomic and biophysical models that may be developed with stakeholders for understanding systems, communication and learning, and improving system outcomes.
- Artificial Intelligence (AI) techniques and systems, such as knowledge-based systems / expert systems, case-based reasoning systems, data mining, multi-agent systems, Bayesian networks, artificial neural networks, fuzzy logic, or knowledge elicitation and knowledge acquisition methods.
- Decision support systems and environmental information systems- implementation and use of environmental data and models to support all phases and aspects of decision making, in particular supporting group and participatory decision making processes. Intelligent Environmental Decision Support Systems can include qualitative, quantitative, mathematical, statistical, AI models and meta-models.
- Process-identification of environmental dynamics for instance of surface and subsurface hydrology, limnology, meteorology, geophysics with special respect to the interaction of anthroposphere and biosphere.
- GIS, remote sensing and image processing

These methodological developments should be illustrated with applications in the environmental fields, e.g.

- Resource management including water, land, biological, transport systems
- Pollution of different media such as air, water, soil, noise, radiation, as well as multimedia problems
- Global pollution and global climate change
- Regional studies of resource consumption and/or nature conservation in open landscapes as well as in urban regions

*Environmental Modelling & Software* welcomes review articles on the topics above, especially ones that relate to generic modelling and/or software issues, or are cross-disciplinary in their problem treatment.

Potential authors of review articles should contact the Editor-in-Chief to discuss the topic and coverage of their review. The journal has also published several Position Papers on key topics within its aims and scope at [http://www.iemss.org/society/index.php/position-papers](http://www.iemss.org/society/index.php/position-papers)

Introductory Overviews are designed to provide a concise topic overview that caters to the eclectic readership of EMS. These articles aim to break down barriers to shared understanding and dialogue within multidisciplinary teams, and to make environmental modelling dimensions more accessible to a wider audience. Introductory Overviews include an introduction to the fundamentals of the topic and reference to key literature. Relevant concepts are presented in relatively simple terms, but with the audience assumed to have some basic knowledge of environmental modelling and mathematics. These articles are not intended to be comprehensive reviews but non-technical primers on essential modelling concepts. Introductory Overviews are peer reviewed and are by invitation only; ideas for Introductory Overviews can however be canvassed with any of the Editors.
ABSTRACTING AND INDEXING

SCI Research
CompuMath Citation Index
Research Alert
Science Citation Index
Elsevier BIOBASE
Environmental Periodicals Bibliography
INSPEC
Computer Literature Index
Geographical Abstracts: Human Geography
International Civil Engineering Abstracts
International Development Abstracts
Scopus
Current Contents - Agriculture, Biology & Environmental Sciences
Science Citation Index Expanded
Journal Citation Reports - Science Edition

EDITORIAL BOARD

Co-Editors-in-Chief
Daniel Ames, Brigham Young University, Provo, Utah, United States of America
Hydrology, Water Resources, Modelling, Software, Geographic Information Systems
Min Chen, Nanjing Normal University, Nanjing, China
Geographic modeling and simulation, GIS

Emeritus Editor
Anthony Jakeman, Australian National University, Canberra, Australia

Editors
Sondoss El Sawah, University of New South Wales ADFA School of Engineering and Information Technology, Canberra BC, Australia
Karina Gibert, Polytechnic University of Catalonía, Barcelona, Spain
Data Science, Artificial intelligence, Intelligent decision support, Machine learning, Preprocessing, Post-processing, Ethics in AI, Explainable AI
Derek Karssenberg, Utrecht University, Utrecht, Netherlands
Holger Maier, The University of Adelaide, Adelaide, Australia
Lucy Marshall, University of New South Wales, Sydney, New South Wales, Australia
George P. Petropoulos, Harokopio University of Athens Geography Department, Kallithea, Greece
Geoinformation, Earth observation, GIS, Geospatial data analysis, Geographical and environmental applications
Saman Razavi, University of Saskatchewan, Department of Civil Geological and Environmental Engineering, Saskatoon, Saskatchewan, Canada

Associate Editors
Andrea F. Castelletti, Polytechnic of Milan, Department of Electronics Information and Bioengineering, Milano, Italy
Water management, Decision making, Climate change assessment, Machine learning, Systems analysis, Optimization, Reservoir operation
Pierfranco Costabile, University of Calabria, Arcavacata di Rende, Italy
Flood modelling and management, Surface hydrology, Fluvial hydraulics and sediment transport, High-performance computing, Soil erosion, Impacts of climate change, Agricultural water management
Ibrahim Demir, The University of Iowa, Iowa City, Iowa, United States of America
Hydroinformatics, Information systems, Data analytics
Tatiana Filatova, University of Twente, Enschede, Netherlands
Barak Fishbain, Technion Israel Institute of Technology, Haifa, Israel
Environmental Informatics, Machine learning, Mathematical models, Sensing data analytics, Hydroinformatics, Atmospheric-informatics, Traffic data, Structural health, Smart infrastructure systems, Connected transportation
Bing Gong, Jülich Supercomputing Center, Jülich, Germany
Deep Learning in Environmental application, Machine learning, Data science, Information system, Software development.

**Johnathan Goodall**, University of Virginia, Charlottesville, Virginia, United States of America

Air pollution, Emissions, Integrated assessment modelling, Environmental health, Health impact assessment, Modelling

**Andrea Emilio Rizzoli**, Dalle Molle Institute for Artificial Intelligence, Lugano, Switzerland

Artificial intelligence applications to environmental modelling, Modelling, Simulation and optimisation of environmental processes, in particular for water management, Environmental modelling frameworks.

**Vidyam Samadi**, Clemson University, Clemson, South Carolina, United States of America

Hydroinformatics and cyber-physical modeling systems, Machine learning applications in flood/stormwater computing, Impacts of flooding on critical infrastructure, Big data analytics

**Miquel Sánchez-Marrè**, Polytechnic University of Catalonia, Barcelona, Spain

**Jason J. Sharple**, University of New South Wales, Sydney, New South Wales, Australia

Bushfire, Mathematical modelling

**Alexey Voinov**, University of Twente, Faculty of Engineering Technology, Enschede, Netherlands

Integrated modelling and management, Socio-ecological systems, Participatory modeling, Decision support, Systems analysis in ecological economics, Energy and natural resources, Bioenergy, Agro-ecology, Sustainability science and environmental policy

**Editorial Board**

**Marco Acutis**, University of Milano, Milano, Italy

Cropping system simulation models, nitrogen and water management, soil organic matter dynamics, statistical methods.

**Robert Argent**, Australian Bureau of Meteorology, Melbourne, Australia


**Masoud Asadzadeh**, University of Manitoba, Winnipeg, Manitoba, Canada

Water resources modelling and optimization, water quality protection, machine learning, complex network theory

**Ryan Bailey**, Colorado State University, Fort Collins, Colorado, United States of America

Groundwater modeling, Watershed modeling, Chemical fate and transport, Groundwater-surface water interactions, Nutrients

**Matthew Bartos**, The University of Texas at Austin, Austin, Texas, United States of America

Hydraulic modeling, Surface water hydrology, Digital elevation model processing, Stormwater engineering, Environmental monitoring systems, Wireless sensor networks, Decision support, Data assimilation, Signal processing, Control theory

**Olaf David**, Colorado State University, Fort Collins, Colorado, United States of America


**Carlo Giupponi**, Ca’ Foscari University of Venice, Venezia, Italy

Natural resources management, Environmental economics, Decision support, Integrated assessment, Climate change adaptation

**Timothy Green**, USDA-ARS Plains Area, Fort Collins, Colorado, United States of America

Hydrology, Soil physics

**Ann van Griensven**, IHE Delft Institute for Water Education, Delft, Netherlands

**Carlo Gualtieri**, University of Naples Federico II, Napoli, Italy

Environmental hydraulics, Rivers, Water quality, Computational fluid dynamics

**Joseph Guillaume**, Aalto University Water and Development Research Group, Espoo, Finland

Uncertainty; Decision support; Integrated modelling; Integrated assessment; Integrated water resources management; Integration and implementation sciences
Matthew Hipsey, The University of Western Australia, Perth, Western Australia, Australia
Annelies Holzkaemper, Agroscope Location Reckenholz, Zurich, Switzerland
Dean Holzworth, CSIRO Agricultural Production Systems Research Unit, Toowoomba, Australia
Agricultural Modelling, Software development, Crop models, Livestock models
Jeffrey S Horsburgh, Utah State University, Logan, Utah, United States of America
Hydroinformatics, Hydrology, Water Quality, Cyberinfrastructure, Water Use, Environmental Data, Sensors
Randall Hunt, US Geological Survey, Reston, Virginia, United States of America
Amor Ines, Columbia University International Research Institute for Climate and Society, Palisades, New York, United States of America
remote sensing in agriculture and water management; evolutionary/biological algorithms (genetic algorithms, etc.) to agricultural water management; inverse modeling/data assimilation (including Ensemble Kalman Filter)/parameter estimation (including Markov Chain Monte Carlo) applied to soil-water-atmosphere-plant models from field to regional scale; statistical downscaling (with advanced stochastic approaches, e.g. Markov/Hidden Markov models); climate-based (GCM) crop forecasting methods; agro-hydrological modeling/vadose zone hydrology (variably saturated flows); stochastic/deterministic water resources systems analyses (optimization and operational management)
Giulio Iovine, Research Institute for Hydrogeology Protection National Research Council Rende Branch, Rende, Italy
Natural hazard, Slope movement, Debris flow, Risk evaluation, Mitigation
Karel Keesman, Wageningen University, Wageningen, Netherlands
Flood control, Reservoir operation
Arturo Leon, Florida International University, Miami, Florida, United States of America
HydroInformatics, Visual Analytics, Scientific Visualizations, Green Infrastructure, EcoHydrology, Machine Learning, Geographic Information Science, High Performance Computing, Data-Model-Visualization workflows, End-to-end workflows
Yanping Li, Hohai University, Nanjing, China
Climate change and adaptation, Earth system modeling
Pouyan Nejadhashemi, Michigan State University College of Engineering, East Lansing, Michigan, United States of America
Computational ecohydrology, Decision support system, Environmental Impact assessment, Soft computing, Watershed modeling
Samuele Lo Piano, University of Reading, Reading, United Kingdom
Sensitivity analysis, Uncertainty, Mathematical modelling, Decision making, Model robustness, Policy support, Design of experiment, Sensitivity auditing, Post-normal science, Quantitative storytelling
Enrico Pisoni, European Commission Joint Research Centre Ispra, Ispra, Italy
Xiaohui Qiao, University of Florida, Gainesville, Florida, United States of America
Hydroinformatics, Hydrology, Disaster Impact Analysis, Web GIS, Geovisualization, Agroinformatics
Nigel William Trevelyan Quinn, E O Lawrence Berkeley National Laboratory, Berkeley, California, United States of America
Friedrich A. Recknagel, The University of Adelaide, Adelaide, Australia
Sensitivity analysis, Uncertainty, Model development, Software development, Hydrology, Water Quality
Val Snow, AgResearch Ltd Lincoln Research Centre, Christchurch, New Zealand
Pastoral farming systems, Process-based simulation modeling, Soil physics, Robust modelling
Laura Soares, Federal University of Minas Gerais, BELO HORIZONTE, Minas Gerais, Brazil
Aquatic ecosystem modeling, Limnology, Hydrodynamics, Lakes, Reservoirs, Water quality, Eutrophication
Zhanli Sun, Leibniz Institute of Agricultural Development in Transition Economies, Halle, Germany
Agent-based modelling, Bayesian network, System dynamics, GIS, Spatial econometrics, Sensitivity analysis, Land system modelling
C. James Taylor, Lancaster University, Lancaster, United Kingdom
Control engineering, System identification, Time series analysis, Robotics, Environmental systems
Evelina Trutnevye, University of Geneva Institute of Environmental Sciences Renewable Energy Systems, Genève, Switzerland
Renewable energy, Energy systems modeling, Socio-technical transitions, Uncertainty
Willem Vervoort, The University of Sydney, Sydney, New South Wales, Australia
Hydrology, Modelling
Wenyan Wu, The University of Melbourne, Faculty of Engineering and Information Technology, Melbourne, Australia
Water resources management, Flood modelling and forecasting, Urban water supply systems, Compound floods

Ke Zhang, Hohai University College of Hydrology and Water Resources, Nanjing, China
Land surface hydrology, Hydrological modeling, Remote sensing hydrology, Ecohydrology, Climate change

Xiaodong D. Zhang, Shandong University School of Environmental Science and Engineering Sciences, Jinan, China
Hydrology, Hydrogeology, Climate change, Water-energy-food nexus, Hydrological modeling, Surface water and groundwater interactions, Groundwater and soil remediation, Water resources systems analysis, Big data, Data-driven modeling and decision support

Xuesong Zhang, University of Maryland, College Park, Maryland, United States of America
GUIDE FOR AUTHORS

Your Paper Your Way
You may choose to submit your manuscript as a single Word or PDF file to be used in the refereeing process. To find out more, please visit the Preparation section below.

INTRODUCTION

REVIEW PROCESS

Submissions are initially reviewed by the Editor-in-Chief and/or lead editors. Submissions that have problems related to the following may be rejected without external peer-review:
1. Scope - the Topic and treatment should be within the scope of the journal. See the Journal Description to learn more about the journal scope-including out-of-scope topics.
2. Presentation, Structure, and Grammar - manuscripts may need to be edited by a professional or native English speaker before submission.
3. Citations and References - Citations in the text should be included in the Reference list and each reference in the list should be complete in detail and style.
4. Literature Review - Adequate coverage of the literature through the references, especially more recent articles, including those in Environmental Modelling and Software.
5. Equations - The mathematics should be clear and all variables explained/defined.
6. Figures and Tables - Figures and tables should be of good quality and must be embedded in-line in the text to facilitate readability. Text on figures must be legible.
7. Software and Data Availability - A key feature of EMS articles is the Software and Data Availability Section. Please include all required elements as described in the Author Guide. "Contact the authors" is not acceptable for software or data availability.

After initial review, submissions are generally passed to a board member who will handle the review process including inviting reviewers, collecting reviews, and making a decision recommendation. Please be patient during the review process as it can take a few months. Potential review outcomes include accept, reject, and various levels of revision.

Once a paper is accepted, the manuscript is passed to the publisher who finalizes the process directly with the author. All decisions of the editorial board should be considered final. Recognizing that there are many alternative journals where related work can be published, and out of respect for the contributed time of the editors and reviewers, please don't argue with editors about their decisions.

Types of paper
Types of Contributions: Research articles, review papers, position papers, introductory overviews, commentaries, and book reviews.

Research articles are archival, high quality research contributions that improve the state of the art on topics treated by the journal. The work reported needs to be technically sound and sufficiently unique. The mathematical or algorithmic foundations of models or software must be properly documented. It is important to report on model or software performance against data and other considerations, and the relevance to user needs. This is the most common article type in EMS.

Review papers provide an extensive overview of recent developments in specific areas that fall within the scope of the journal. They are expected to have an extensive literature review followed by an in-depth analysis of the state of the art, and identify challenges for future research. Clear description of the literature review methods and data sources must be properly documented. Use of quantitative data analysis methods, to strengthen the review and distill novel insights, is encouraged.

Position papers aim to synthesize some key aspect of one area of environmental modelling and/or software research while establishing potential future directions, grand challenges, and research opportunities.

Introductory Overviews are designed to provide a concise topic overview with the aim to break down barriers to shared understanding and dialogue within multidisciplinary teams, and to make environmental modelling dimensions more accessible to a wider audience.
include an introduction to the fundamentals of the topic and reference to key literature. These articles are not intended to be comprehensive reviews but non-technical primers on essential modelling concepts.

**Commentaries** are short articles commenting on previously published work in Environmental Modelling and Software on topics of interest to the wide readership.

**Book reviews** are short articles that introduce new books in the areas relevant for the journal audience. In particular, we are interested in covering books that can be used for teaching environmental modelling and software topics.

**Note:** Please discuss your submission with the Editor-in-Chief to assess potential fit for the journal before submitting any article aside from a standard research article. This also allows the board to prepare for unique peer review needs.

**BEFORE YOU BEGIN**

**Ethics in publishing**
Please see our information on Ethics in publishing.

**Declaration of competing interest**
Corresponding authors, on behalf of all the authors of a submission, 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. All authors, including those without competing interests to declare, should provide the relevant information to the corresponding author (which, where relevant, may specify they have nothing to declare). Corresponding authors should then use this tool to create a shared statement and upload to the submission system at the Attach Files step. Please do not convert the .docx template to another file type. Author signatures are not required.

**Declaration of generative AI in scientific writing**
The below guidance only refers to the writing process, and not to the use of AI tools to analyse and draw insights from data as part of the research process.

Where authors use generative artificial intelligence (AI) and AI-assisted technologies in the writing process, authors should only use these technologies to improve readability and language. Applying the technology should be done with human oversight and control, and authors should carefully review and edit the result, as AI can generate authoritative-sounding output that can be incorrect, incomplete or biased. AI and AI-assisted technologies should not be listed as an author or co-author, or be cited as an author. Authorship implies responsibilities and tasks that can only be attributed to and performed by humans, as outlined in Elsevier’s AI policy for authors.

Authors should disclose in their manuscript the use of AI and AI-assisted technologies in the writing process by following the instructions below. A statement will appear in the published work. Please note that authors are ultimately responsible and accountable for the contents of the work.

**Disclosure instructions**
Authors must disclose the use of generative AI and AI-assisted technologies in the writing process by adding a statement at the end of their manuscript in the core manuscript file, before the References list. The statement should be placed in a new section entitled ‘Declaration of Generative AI and AI-assisted technologies in the writing process’.

Statement: During the preparation of this work the author(s) used [NAME TOOL / SERVICE] in order to [REASON]. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

This declaration does not apply to the use of basic tools for checking grammar, spelling, references etc. If there is nothing to disclose, there is no need to add a statement.
**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 compliance, your article may be checked by Crossref Similarity Check and other originality or duplicate checking software.

**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).

**Preprint posting on SSRN**

In support of Open Science, this journal offers its authors a free preprint posting service. Preprints provide early registration and dissemination of your research, which facilitates early citations and collaboration.

During submission to Editorial Manager, you can choose to release your manuscript publicly as a preprint on the preprint server SSRN once it enters peer-review with the journal. Your choice will have no effect on the editorial process or outcome with the journal. Please note that the corresponding author is expected to seek approval from all co-authors before agreeing to release the manuscript publicly on SSRN.

You will be notified via email when your preprint is posted online and a Digital Object Identifier (DOI) is assigned. Your preprint will remain globally available free to read whether the journal accepts or rejects your manuscript.

For more information about posting to SSRN, please consult the SSRN Terms of Use and FAQs.

**Use of inclusive language**

Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Content should make no assumptions about the beliefs or commitments of any reader; contain nothing which might imply that one individual is superior to another on the grounds of age, gender, race, ethnicity, culture, sexual orientation, disability or health condition; and use inclusive language throughout. Authors should ensure that writing is free from bias, stereotypes, slang, reference to dominant culture and/or cultural assumptions. We advise to seek gender neutrality by using plural nouns (“clinicians, patients/clients”) as default/wherever possible to avoid using “he, she,” or “he/she.” We recommend avoiding the use of descriptors that refer to personal attributes such as age, gender, race, ethnicity, culture, sexual orientation, disability or health condition unless they are relevant and valid. When coding terminology is used, we recommend to avoid offensive or exclusionary terms such as "master", "slave", "blacklist" and "whitelist". We suggest using alternatives that are more appropriate and (self-) explanatory such as "primary", "secondary", "blocklist" and "allowlist". These guidelines are meant as a point of reference to help identify appropriate language but are by no means exhaustive or definitive.

**Reporting sex- and gender-based analyses**

**Reporting guidance**

For research involving or pertaining to humans, animals or eukaryotic cells, investigators should integrate sex and gender-based analyses (SGBA) into their research design according to funder/sponsor requirements and best practices within a field. Authors should address the sex and/or gender dimensions of their research in their article. In cases where they cannot, they should discuss this as a limitation to their research's generalizability. Importantly, authors should explicitly state what definitions of sex and/or gender they are applying to enhance the precision, rigor and reproducibility of their research and to avoid ambiguity or conflation of terms and the constructs to which they refer (see Definitions section below). Authors can refer to the Sex and Gender Equity in Research (SAGER) guidelines and the SAGER guidelines checklist. These offer systematic approaches to the use and editorial review of sex and gender information in study design, data analysis, outcome reporting and research interpretation - however, please note there is no single, universally agreed-upon set of guidelines for defining sex and gender.
Definitions
Sex generally refers to a set of biological attributes that are associated with physical and physiological features (e.g., chromosomal genotype, hormonal levels, internal and external anatomy). A binary sex categorization (male/female) is usually designated at birth ("sex assigned at birth"), most often based solely on the visible external anatomy of a newborn. Gender generally refers to socially constructed roles, behaviors, and identities of women, men and gender-diverse people that occur in a historical and cultural context and may vary across societies and over time. Gender influences how people view themselves and each other, how they behave and interact and how power is distributed in society. Sex and gender are often incorrectly portrayed as binary (female/male or woman/man) and unchanging whereas these constructs actually exist along a spectrum and include additional sex categorizations and gender identities such as people who are intersex/have differences of sex development (DSD) or identify as non-binary. Moreover, the terms "sex" and "gender" can be ambiguous—thus it is important for authors to define the manner in which they are used. In addition to this definition guidance and the SAGER guidelines, the resources on this page offer further insight around sex and gender in research studies.

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.

Article transfer service
This journal uses the Elsevier Article Transfer Service to find the best home for your manuscript. This means that if an editor feels your manuscript is more suitable for an alternative journal, you might be asked to consider transferring the manuscript to such a journal. The recommendation might be provided by a Journal Editor, a dedicated Scientific Managing Editor, a tool assisted recommendation, or a combination. If you agree, your manuscript will be transferred, though you will have the opportunity to make changes to the manuscript before the submission is complete. Please note that your manuscript will be independently reviewed by the new journal. More information.

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 a '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.
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, it is recommended to state this.

Open access
Please visit our Open Access page for more information.

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 Author Services.

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

Referees
All manuscripts are sent to at least two independent reviewers to ensure both accuracy and relevance to the journal. Authors should therefore provide the names of up to 5 potential reviewers upon submission.

PREPARATION

Queries
For questions about the editorial process (including the status of manuscripts under review) or for technical support on submissions, please visit our Support Center.

NEW SUBMISSIONS
Submission to this journal proceeds totally online and you will be guided stepwise through the creation and uploading of your files. The system automatically converts your files to a single PDF file, which is used in the peer-review process.
As part of the Your Paper Your Way service, you may choose to submit your manuscript as a single file to be used in the refereeing process. This can be a PDF file or a Word document, in any format or layout that can be used by referees to evaluate your manuscript. It should contain high enough quality figures for refereeing. If you prefer to do so, you may still provide all or some of the source files at the initial submission. Please note that individual figure files larger than 10 MB must be uploaded separately.

References
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.
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.

Figures and tables embedded in text
Please ensure the figures and the tables included in the single file are placed next to the relevant text in the manuscript, rather than at the bottom or the top of the file. The corresponding caption should be placed directly below the figure or table.

Peer review
This journal operates a single anonymized 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. Editors are not involved in decisions about papers which they have written themselves or have been written by family members or colleagues or which relate to products or services in which the editor has an interest. Any such submission is subject to all of the journal's usual procedures, with peer review handled independently of the relevant editor and their research groups. More information on types of peer review.

REVISED SUBMISSION
Revision Content
For the Editor and/or referees to be certain that the requested changes have been carried out, please clearly outline all of the changes made to the article since its last submission, for example by colouring any new text in red. Changes should also be referred to in the 'Comments to reviewers' file. If there are too many changes, please explain this in the 'Comments to reviewers' file. Note that there is no need to include an additional, 'clean', version of the manuscript.

Use of word processing software
Regardless of the file format of the original submission, at revision you must provide us with an editable file of the entire article. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier). 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 latest Elsevier article class to prepare your manuscript and BibTeX to generate your bibliography. Our Guidelines has full details.

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.

General structure
Title, Authors, Affiliations and Contact details Abstract Keywords Software and/or data availability Introduction Methods Results Discussion Conclusions Acknowledgements References Appendices

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.** Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. 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 telephone numbers (with country and area code) are provided in addition to the e-mail address and the complete postal address. Contact details must be 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.

**Authorship**

Authorship should be limited to those who have made a significant contribution to the conception, design, execution, or interpretation of the reported study. All those who have made significant contributions should be listed as co-authors. Where there are others who have participated in certain substantive aspects of the research project, they should be acknowledged or listed as contributors. Acknowledgement of the contributions of authors is encouraged (see Acknowledgements section below). The corresponding author should ensure that all appropriate co-authors and no inappropriate co-authors are included on the paper, and that all co-authors have seen and approved the final version of the paper and have agreed to its submission for publication.

**Highlights**

Highlights are optional yet highly encouraged for this journal, as they increase the discoverability of your article via search engines. They consist of a short collection of bullet points that capture the novel results of your research as well as new methods that were used during the study (if any). Please have a look at the example Highlights.

Highlights should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point).

**Abstract**

A concise and factual abstract is required, with a restriction of 150 words. 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.

**Graphical abstract**

A Graphical abstract is optional and should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership online. Authors must provide images that clearly represent the work described in the article. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. See [https://www.elsevier.com/graphicalabstracts](https://www.elsevier.com/graphicalabstracts) for examples.

**Highlights**

Highlights are mandatory for this journal. They consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point). See [https://www.elsevier.com/highlights](https://www.elsevier.com/highlights) for examples.

**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.
Software and/or data availability section
Most EMS papers should include a software/data availability section containing as much of the following information as possible: name of software or dataset, developer and contact information, year first available, hardware required, software required, availability and cost. Also for software: program language, program size; for data: form of repository (database, files, spreadsheet), size of archive, access form. Note that "Contact the author" is not acceptable for software or data access. Please use online data and software storage and retrieval systems such as GitHub, BitBucket, FigShare, HydroShare or others to make your data and software readily available. Links to commercial software and data access web sites are also acceptable.

When a software component is an essential part of the paper, authors should be prepared to make it available to reviewers during the review process. To preserve the anonymity of reviewers, the authors should make the software available for a download, protecting it if needed by a password that is communicated to the editors.

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

Methods (not "methodology")
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. In the case of software papers, the Methods section should include the software design as well as the experimental design for testing the software.

Results
Results should be clear and concise. In the case of software papers, results should provide both the implementation of the software and the results of the experimental test cases.

Discussion
This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section can be 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.

Abbreviations
Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

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.). We encourage the inclusion of a brief outline of the contributions of authors in this section, for example: "Author contributions: T.L., E.K. and H.S. designed the research; T.L., E.K., W.L. and H.S. performed the research; T.L. and E.K. analyzed the data; and T.L., W.L. and H.S. wrote the paper." Other contribution categories may include model coding, programming support, research conception, etc.

Formatting
The manuscript should be prepared as single column text, with 11 or 12-pt standard font (e.g. Arial, Times New Roman) and 1.5 spacing. Page numbers must be inserted. Do not add line numbers to the manuscript file, as line numbers are added automatically when the submission is compiled.

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, it is recommended to include the following sentence:

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

Math formulae
Please submit math equations as editable text and not as images. Present simple formulae in line with 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 be used sparingly. Number them consecutively throughout the article. Many word processors 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 separately at the end of the article.

Artwork
Authors must embed their figures in the main text to facilitate readability. During the proofing process for accepted papers, authors must upload high resolution figures.

Electronic artwork
General points
• Make sure you use uniform lettering and sizing of your original artwork.
• Preferred fonts: Arial (or Helvetica), Times New Roman (or Times), Symbol, Courier.
• Number the illustrations according to their sequence in the text.
• Use a logical naming convention for your artwork files.
• Indicate per figure if it is a single, 1.5 or 2-column fitting image.
• For Word submissions only, you may still provide figures and their captions, and tables within a single file at the revision stage.
• Please note that individual figure files larger than 10 MB must be provided in separate source files.

A detailed guide on electronic artwork is available.

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 finalized, 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 (or PDF): Vector drawings. Embed the font or save the text as 'graphics'.
TIFF (or JPG): Color or grayscale photographs (halftones): always use a minimum of 300 dpi.
TIFF (or JPG): Bitted line drawings: use a minimum of 1000 dpi.
TIFF (or JPG): Combinations bitted line/half-tone (color or grayscale): a minimum of 500 dpi is required.

Please do not:
• Supply files that are optimized for screen use (e.g., 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) in addition to color reproduction in print. Further information on the preparation of electronic artwork.

Figure captions
Ensure that each illustration has a caption. 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
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.

Reference links
Increased discoverability of research and high quality peer review are ensured by online links to the sources cited. In order to allow us to create links to abstracting and indexing services, such as Scopus, Crossref and PubMed, please ensure that data provided in the references are correct. Please note that incorrect surnames, journal/book titles, publication year and pagination may prevent link creation. When copying references, please be careful as they may already contain errors. Use of the DOI is highly encouraged.

A DOI is guaranteed never to change, so you can use it as a permanent link to any electronic article. An example of a citation using DOI for an article not yet in an issue is: VanDecar J.C., Russo R.M., James D.E., Ambeh W.B., Franke M. (2003). Aseismic continuation of the Lesser Antilles slab beneath northeastern Venezuela. Journal of Geophysical Research, https://doi.org/10.1029/2001JB000884. Please note the format of such citations should be in the same style as all other references in the paper.

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.

Preprint references
Where a preprint has subsequently become available as a peer-reviewed publication, the formal publication should be used as the reference. If there are preprints that are central to your work or that cover crucial developments in the topic, but are not yet formally published, these may be referenced. Preprints should be clearly marked as such, for example by including the word preprint, or the name of the preprint server, as part of the reference. The preprint DOI should also be provided.
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.

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:
Reference to software:
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 material

Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file. Do not annotate any corrections on a previous version. Please switch off the 'Track Changes' option in Microsoft Office files as these will appear in the published version.

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, which may also include 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).
Research Elements
This journal enables you to publish research objects related to your original research – such as data, methods, protocols, software and hardware – as an additional paper in a Research Elements journal.

Research Elements is a suite of peer-reviewed, open access journals which make your research objects findable, accessible and reusable. Articles place research objects into context by providing detailed descriptions of objects and their application, and linking to the associated original research articles. Research Elements articles can be prepared by you, or by one of your collaborators.

During submission, you will be alerted to the opportunity to prepare and submit a manuscript to one of the Research Elements journals.

More information can be found on the Research Elements page.

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.

AFTER ACCEPTANCE

Online proof correction
To ensure a fast publication process of the article, we kindly ask authors to provide us with their proof corrections within two days. 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. 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
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 2018 Elsevier | https://www.elsevier.com