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DESCRIPTION

*Ecological Modelling* publishes new mathematical models and systems analysis for describing ecological processes, and novel applications of models for environmental management. We welcome research on process-based models embedded in theory with explicit causative agents and innovative applications of existing models. And because applications can help refine models and propose new directions for research, the journal publishes both to help foster reproducibility and utility. Human activity and well-being are dependent on and integrated with the functioning of ecosystems and the services they provide. We aim to understand these basic ecosystem functions using mathematical and conceptual modelling, systems analysis, thermodynamics, computer simulations, and ecological theory, and look to a wide spectrum of applications ranging from basic ecology to human ecology to socio-ecological systems. The journal welcomes original research articles, review articles, viewpoint articles and short communications.

The journal also supports the activities of the International Society of Ecological Modelling (ISEM).

**Benefits to authors**

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Please see our Guide for Authors for information on article submission. If you require any further information or help, please visit our Support Center.

AUDIENCE

Ecologists, Biologists, Applied Mathematicians, Engineers, Environmental Managers, Systems Analysts, and any others who develop and use ecological models to understand and manage environmental resources.

IMPACT FACTOR

2019: 2.497 © Clarivate Analytics Journal Citation Reports 2020
ABSTRACTING AND INDEXING

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To find out more, please visit the Preparation section below.

INTRODUCTION

The journal is concerned with the use of mathematical models and systems analysis for the description of ecological processes and for the sustainable management of resources. Human activity and well-being are dependent on and integrated with the functioning of ecosystems and the services they provide. We aim to understand these basic ecosystem functions using mathematical and conceptual modelling, systems analysis, thermodynamics, computer simulations, and ecological theory. This leads to a preference for process-based models embedded in theory with explicit causative agents as opposed to strictly statistical or correlative descriptions. These modelling methods can be applied to a wide spectrum of issues ranging from basic ecology to human ecology to socio-ecological systems. The journal welcomes research articles, short communications, review articles, letters to the editor, book reviews, and other communications. The journal also supports the activities of the International Society of Ecological Modelling (ISEM).

Types of contributions

Before submitting an article to Ecological Modelling please read carefully the editorial policy which can also be found on the ECOMOD homepage. Editorial Policy

1. Original research papers (regular papers)
2. Review articles
3. Short communications
4. Letters to the Editor
5. Book reviews
6. News and announcements
7. Viewpoint

Original research papers should report the results of original research. The material should not have been previously published elsewhere, except in a preliminary form.

Review articles should cover subjects falling within the scope of the journal which are of active current interest. They may be submitted or invited.

A Short communication is a concise but complete description of a limited investigation, which will not be included in a later paper. Short communication should be as completely documented, both by reference to the literature and description of the experimental procedures employed, as a regular paper. They should not occupy more than 6 printed pages (about 12 manuscript pages, including figures, tables and references).

Letters to the Editor offering comment or useful critique on material published in the journal are welcomed. The decision to publish submitted letters rests purely with the Editor-in-Chief. It is hoped that the publication of such letters will permit an exchange of views which will be of benefit to both the journal and its readers.

Book reviews will be included in the journal on a range of relevant books which are not more than 2 years old. Book reviews will be solicited by the Editor-in-Chief. Unsolicited reviews will not usually be accepted, but suggestions for appropriate books for review may be sent to the Editor-in-Chief Brian Fath at bfath@towson.edu.

Viewpoint articles are short commentaries of 2,000 words or less that express a personal viewpoint on ecological modelling such as new research directions, gaps in current research, interdisciplinary perspectives are welcomed. Papers for this section should contain a condensed abstract to highlight the main points of the commentary.
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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.

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- A competing interests statement is provided, even if the authors have no competing interests to declare
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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.

Further Details on Editorial Policy

Editorial Policy Ecological Modelling

We most recently provided a thorough framework for authors in an editorial published in 2006 (Jørgensen et al. 2006). The editors have followed this framework in deciding which papers are within the journal scope. Due to the large increase in the number of submissions during the ensuing years, we have had to maintain a fairly strict interpretation of this scope, and as such the rejection rate has increased. Some authors may not be aware of this framework so it is repeated below.

1. All papers must present a new model or a new contribution to systems ecology.
2. Papers based on the use of statistical analyses on ecological data cannot be accepted. There are other journals that publish the use of statistics in ecology.
3. Papers that apply an existing model to a new case study will not be published as research articles. Unique case studies can be published as a short communication (a few pages only) but are more appropriate for the use of speciality or national/regional journals.
4. Papers should include the support of ecological data for calibration and validation.
5. All papers should highlight the model’s novelty compared with previous models focusing on the same or approximately the same topic and ecosystem. The readers inevitably will ask: why should I use this new model and not an existing one?
6. The journal is called Ecological Modelling, which means that we want to publish papers on models of ecosystems or ecological processes, not models of physical or technological systems. For example, models of strictly atmospheric, chemical, or hydrological systems have other outlets. The models
should bring new ecological knowledge and should emphasize the ecological implications of the model results. There is rapid rise in the need for integrated socio-ecological models which fall within the journal scope, but the focus must be on the ecological aspects not the sociological or economic.

7. New results in ecological theory are welcome, but the authors must emphasize the paper novelty. The papers must present how the paper expands our knowledge and if possible how we can utilize this new knowledge in ecological modelling or in our general understanding of ecosystems.

8. New results in modelling theory are also welcome; but with the implications of an ecological model that has been improved by this new modelling theory.

9. New controversial results are also welcome. We do not have inEcological Modelling an editorial policy to reject papers that are not in accordance with orthodox theories. On the contrary, we encourage new ideas even if they are controversial because that will inevitably lead to new scientific results. In this context, you have the possibility to publish a letter to the editor, which can be used to start a discussion among the readers on new but still not fully accepted ideas.

This refined editorial policy is encapsulated in the following short questions, which are applied during the review process:

(A) Does the paper focus on an ecological model or on systems ecology?
(B) Are the results original and novel?
(C) Does the paper clearly emphasize the scientific progress compared with existing literature?
(D) Are the results based on ecological observations?
(E) Is the ecological component sufficiently strong?

All five questions must be answered by "yes" for a paper to be considered for publication. Papers not meeting these standards will be rejected by the handling editor prior to external peer review.

In addition to these five questions about the content of the paper, the following questions focus on the presentation of the results:

(F) Has the model been presented by a conceptual diagram?
(G) Has the model been presented in such details that the reader is able to develop the model? In Ecological Modelling "Material and Methods" is the model. Note, this does not mean that computer code must be in the text of every paper, but enough information should be given.
(H) Are the state variables, forcing functions, and the parameters clearly defined and dimensionalized (preferably in a table)?
(I) Are the equations presented in sufficient detail? Should they be presented in an appendix (or on-line)?
(J) Are all relevant references included?
(K) Does the discussion focus on the scientific progress in ecological modelling (question C)?
(L) Is the paper well written and the English language presentation clear?

These seven presentation questions will be considered in the review process, and if some of the questions will be answered by "no", then minor, moderate, or major revisions will be required. We would like to encourage the authors of papers to be submitted to Ecological Modelling to use these 12 questions (A-L) when they are reviewing their own paper before submission to reduce the probability for rejection. If one of the questions A-E will be answered by no, then Ecological Modelling is not the right scientific journal for your paper.

We hope that this editorial policy will result in the submission of higher quality papers because the authors will know before submission if a paper fits to the editorial policy of Ecological Modelling. The end result will be a higher quality journal, which benefits both authors and readers.

References


Declaration of competing interest

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This page is a summary of essential information. It is hoped that this list will be useful during the final checking of an article prior to sending it to the journal's Editor for review. Please consult this Guide for Authors for further details of any item.

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Before submitting a manuscript to ECOMOD, please carefully read the Editorial Policy that can be found at the journal website. Be sure that the answer to the following five questions concerning the content of the manuscript is Yes:

- Does the paper focus on an ecological model or on systems ecology?
- Are the results based on ecological observations?
- Is the ecological component sufficiently strong?
- Does the paper present new results in ecological modelling or in systems ecology?
- Does the paper clearly emphasize the scientific progress of results in ecological modelling or systems ecology compared with our established knowledge and with previously published results;

As outlined in the Editorial Policy, all submissions will be reviewed according to the following criteria:

- Has the model been presented by a conceptual diagram?
- Has the model been presented in such details that the reader is able to develop the model?
- Are the state variables, the forcing functions, and the parameters clearly presented?
- Are the equations presented in sufficient details? Should the equations eventually be presented in an appendix (or on-line)?
- Are all relevant references included?
- Is the discussion also focusing on the scientific progress in ecological modelling?

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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.

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

Material and methods
Provide sufficient details to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If quoting directly from a previously published method, use quotation marks and also cite the source. Any modifications to existing methods should also be described.

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A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

Results
Results should be clear and concise with effective use of visuals (figures, tables, etc.).

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This should explore the significance of the results of the work, not repeat them. The discussion should explain the significance of the research findings in the context of the current literature.
Conclusions
The main conclusions of the study should be presented in a short Conclusions section.

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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.

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Highlights are mandatory for this journal as they help 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 examples here: 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. 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.

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Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online article. The graphical abstract should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. 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. You can view Example Graphical Abstracts on our information site.
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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
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