**Peer-review policy**

**General information**

The following types of contribution to SKIREC journals are peer-reviewed: Articles, Letters, Brief Communications, Communications Arising, Technical Reports, Analysis, Resources, Reviews, Perspectives, Progress articles and Insight articles. Correspondence and all forms of published correction may also be peer-reviewed at the discretion of the editors.

Other contributed articles are not usually peer-reviewed. Nevertheless, articles published in these sections, particularly if they present technical information, may be peer-reviewed at the discretion of the editors.

For any general questions and comments about the peer-review process, the journal or its editorial policies that are not addressed here, we encourage reviewers to contact us using the feedback links in the box at the top right of each page in the authors & referees' website.

Questions about a specific manuscript should be directed to the editor who is handling the manuscript.

**Online manuscript review**

We ask peer-reviewers to submit their reports via our secure online system by following the link provided in the editor's email. There is an online help guide to assist in using this system, and a helpdesk email account for any technical problems.

**The review process**

All submitted manuscripts are read by the editorial staff. To save time for authors and peer-reviewers, only those papers that seem most likely to meet our editorial criteria are sent for formal review. Those papers judged by the editors to be of insufficient general interest or otherwise inappropriate are rejected promptly without external review (although these decisions may be based on informal advice from specialists in the field).

Manuscripts judged to be of potential interest to our readership are sent for formal review, typically to two or three reviewers, but sometimes more if special advice is needed (for example on statistics or a particular technique). The editors then make a decision based on the reviewers' advice, from among several possibilities:

* **Accept**, with or without editorial revisions
* Invite the authors to **revise their manuscript** to address specific concerns before a final decision is reached
* Reject, but indicate to the authors that **further work might justify a resubmission**
* **Reject outright**, typically on grounds of specialist interest, lack of novelty, insufficient conceptual advance or major technical and/or interpretational problems

Reviewers are welcome to recommend a particular course of action, but they should bear in mind that the other reviewers of a particular paper may have different technical expertise and/or views, and the editors may have to make a decision based on conflicting advice. The most useful reports, therefore, provide the editors with the information on which a decision should be based. Setting out the arguments for and against publication is often more helpful to the editors than a direct recommendation one way or the other.

Editorial decisions are not a matter of counting votes or numerical rank assessments, and we do not always follow the majority recommendation. We try to evaluate the strength of the arguments raised by each reviewer and by the authors, and we may also consider other information not available to either party. Our primary responsibilities are to our readers and to the scientific community at large, and in deciding how best to serve them, we must weigh the claims of each paper against the many others also under consideration.

We may return to reviewers for further advice, particularly in cases where they disagree with each other, or where the authors believe they have been misunderstood on points of fact. We therefore ask that reviewers should be willing to provide follow-up advice as requested. We are very aware, however, that reviewers are usually reluctant to be drawn into prolonged disputes, so we try to keep consultation to the minimum we judge necessary to provide a fair hearing for the authors.

When reviewers agree to assess a paper, we consider this a commitment to review subsequent revisions. However, editors will not send a resubmitted paper back to the reviewers if it seems that the authors have not made a serious attempt to address the criticisms.

We take reviewers' criticisms seriously; in particular, we are very reluctant to disregard technical criticisms. In cases where one reviewer alone opposes publication, we may consult the other reviewers as to whether s/he is applying an unduly critical standard. We occasionally bring in additional reviewers to resolve disputes, but we prefer to avoid doing so unless there is a specific issue, for example a specialist technical point, on which we feel a need for further advice.

**Selecting peer-reviewers**

Reviewer selection is critical to the publication process, and we base our choice on many factors, including expertise, reputation, specific recommendations and our own previous experience of a reviewer's characteristics. For instance, we select referees who are quick, careful and provide reasoning for their views, whether robustly critical or forgiving.

We check with potential reviewers before sending them manuscripts to review. Reviewers should bear in mind that these messages contain confidential information, which should be treated as such.

**Access to the literature**

If a reviewer does not have access to any published paper that is necessary for evaluation of a submitted manuscript, the journal will supply the reviewer with a copy. Under these circumstances, the reviewer should send the publication reference of the paper required to the editor who sent them the paper to review. The editor will obtain the paper, paying any necessary fees, and send it to the reviewer.

**Writing the review**

The primary purpose of the review is to provide the editors with the information needed to reach a decision but the review should also instruct the authors on how they can strengthen their paper to the point where it may be acceptable. As far as possible, a negative review should explain to the authors the major weaknesses of their manuscript, so that rejected authors can understand the basis for the decision and see in broad terms what needs to be done to improve the manuscript for publication elsewhere. Referees should be aware that when declined manuscripts are transferred to another journal in the SKIREC portfolio the referee comments are also transferred, and can be used to determine suitability of publication at the receiving journal. In the case of manuscript transfers between SKIREC journals with in-house editors, referee identities are also transferred.

Confidential comments to the editor are welcome, but they should not contradict the main points as stated in the comments for transmission to the authors.

We ask reviewers the following questions, to provide an assessment of the various aspects of a manuscript:

* Key results: Please summarise what you consider to be the outstanding features of the work.
* Validity: Does the manuscript have flaws which should prohibit its publication? If so, please provide details.
* Originality and significance: If the conclusions are not original, please provide relevant references. On a more subjective note, do you feel that the results presented are of immediate interest to many people in your own discipline, and/or to people from several disciplines?
* Data & methodology: Please comment on the validity of the approach, quality of the data and quality of presentation. Please note that we expect our reviewers to review all data, including any extended data and supplementary information. Is the reporting of data and methodology sufficiently detailed and transparent to enable reproducing the results?
* Appropriate use of statistics and treatment of uncertainties: All error bars should be defined in the corresponding figure legends; please comment if that’s not the case. Please include in your report a specific comment on the appropriateness of any statistical tests, and the accuracy of the description of any error bars and probability values.
* Conclusions: Do you find that the conclusions and data interpretation are robust, valid and reliable?
* Suggested improvements: Please list additional experiments or data that could help strengthening the work in a revision.
* References: Does this manuscript reference previous literature appropriately? If not, what references should be included or excluded?
* Clarity and context: Is the abstract clear, accessible? Are abstract, introduction and conclusions appropriate?
* Please indicate any particular part of the manuscript, data, or analyses that you feel is outside the scope of your expertise, or that you were unable to assess fully.
* Please address any other specific question asked by the editor via email.

Reports do not necessarily need to follow this specific order but should document the referees’ thought process. All statements should be justified and argued in detail, naming facts and citing supporting references, commenting on all aspects that are relevant to the manuscript and that the referees feel qualified commenting on. Not all of the above aspects will necessarily apply to every paper, due to discipline-specific standards. When in doubt about discipline-specific refereeing standards, reviewer can contact the editor for guidance.

It is our policy to remain neutral with respect to jurisdictional claims in published maps and institutional affiliations, and the naming conventions used in maps and affiliation are left to the discretion of authors. Referees should not, therefore, request authors to make any changes to such unless it is critical to the clarity of the scientific content of a manuscript.

**Timing**

SKIREC journals are committed to rapid editorial decisions and publication, and we believe that an efficient editorial process is a valuable service both to our authors and to the scientific community as a whole. We therefore ask reviewers to respond promptly within the number of days agreed. If reviewers anticipate a longer delay than previously expected, we ask them to let us know so that we can keep the authors informed and, where necessary, find alternatives.

[Top of page](https://www.nature.com/authors/policies/peer_review.html?foxtrotcallback=true#top)

**Anonymity**

We do not release referees' identities to authors or to other reviewers unless a referee voluntarily signs their comments to the authors. Our preference is for referees to remain anonymous throughout the review process and beyond. However, to increase the transparency of the reviewing process, reviewers may sign their reports, if they feel comfortable doing so. Before revealing their identities, referees should consider the following: (1) Referee reports, whether signed or not, are subsequently shared with the other reviewers and with other SKIREC journals if the manuscript were to be transferred and (2) Reviewers may be asked to comment on the criticisms of other reviewers and on further revisions of the manuscript and identified reviewers may find these discussions more challenging.

We ask reviewers not to identify themselves to authors while the manuscript is under consideration without the editor's knowledge. If this is not practicable, we ask authors to inform the editor as soon as possible after a reviewer has revealed his or her identity to the author.

We deplore any attempt by authors to confront reviewer or determine their identities. Our own policy is to neither confirm nor deny any speculation about reviewers' identities.

**Double blind peer review:**

All SKIREC journals offer a double-blind peer review option. Authors who choose this option at submission remain anonymous to the referees throughout the consideration process. The authors are responsible for anonymizing their manuscript accordingly; a checklist is provided to help with this process.

**Editing referees' reports**

As a matter of policy, we do not suppress reviewers' reports; any comments that were intended for the authors are transmitted, regardless of what we may think of the content. On rare occasions, we may edit a report to remove offensive language or comments that reveal confidential information about other matters. We ask reviewers to avoid statements that may cause needless offence; conversely, we strongly encourage reviewers to state plainly their opinion of a paper. Authors should recognize that criticisms are not necessarily unfair simply because they are expressed in robust language.

**The peer-review system**

It is editors' experience that the peer-review process is an essential part of the publication process, which improves the manuscripts our journals publish. Not only does peer review provide an independent assessment of the importance and technical accuracy of the results described, but the feedback from referees conveyed to authors with the editors' advice frequently results in manuscripts being refined so that their structure and logic is more readily apparent to readers.

Nature Research journals are appreciative of its peer-reviewers, of whom there are many tens of thousands. It is only by collaboration with our reviewers that editors can ensure that the manuscripts we publish are among the most important in their disciplines of scientific research. We appreciate the time that reviewers devote to assessing the manuscripts we send them, which helps ensure that SKIREC journals publish only material of the very highest quality. In particular, many submitted manuscripts contain large volumes of additional (supplementary) data and other material, which take time to evaluate. We thank our reviewers for their continued commitment to our publication process.

Much has been written, in SKIREC journals and elsewhere, on the peer-review system as a whole. Alternative systems have been proposed in outline: for example, signed peer-review, blind peer-review and open peer review. The system has been exhaustively studied, reported on, and assessed -- both positively and negatively.

SKIREC journals' position on the value of the peer-review system is represented in the following extract

**Reviewing peer review**

The goals of peer review are both lofty and mundane. It is the responsibility of journals to administer an effective review system. Peer review is designed to select technically valid research of significant interest. Referees are expected to identify flaws, suggest improvements and assess novelty. If the manuscript is deemed important enough to be published in a high visibility journal, referees ensure that it is internally consistent, thereby ferreting out spurious conclusions or clumsy frauds.

One problem with manuscript selection is the inherent tension between referees and authors. Referees wish for only the most solid science to be published, yet when they 'switch hats' to that of author, they desire quick publication of their novel ideas and approaches. Authors of papers that blow against the prevailing winds bear a far greater burden of proof than normally expected in publishing their challenge to the current paradigm. Veering too far in one direction or the other leads to complaints either that peer review isn't stringent enough, or that it is stifling the freshest research. It is the job of the editors to try to avoid both extremes.

Journal editors do not expect peer review to ferret out cleverly concealed, deliberate deceptions. A peer reviewer can only evaluate what the authors chose to include in the manuscript. This contrasts with the expectation in the popular press that peer review is a process by which fraudulent data is detected before publication (although that sometimes happens).

We are continually impressed with peer review's positive impact on almost every paper we publish. Even papers that are misunderstood by reviewers are usually rewritten and improved before resubmission. Mistakes are made, but peer review, through conscientious effort on the part of referees, helps to protect the literature, promote good science and select the best. Until a truly viable alternative is provided, we wouldn't have it any other way.

**Peer-review publication policies**

All contributions submitted to SKIREC journals that are selected for peer review are sent to at least one, but usually two or more, independent reviewers, selected by the editors. Authors are welcome to suggest suitable independent reviewers and may also request that the journal excludes one or two individuals or laboratories. The journal sympathetically considers such requests and usually honours them, but the editor's decision on the choice of referees is final.

Editors, authors and reviewers are required to keep confidential all details of the editorial and peer review process on submitted manuscripts. Unless otherwise declared as a part of open peer review, the peer review process is confidential and conducted anonymously; identities of reviewers are not released. Reviewers must maintain confidentiality of manuscripts. If a reviewer wishes to seek advice from colleagues while assessing a manuscript, the reviewer must consult with the editor and should ensure that confidentiality is maintained and that the names of any such colleagues are provided to the journal with the final report. Regardless of whether a submitted manuscript is eventually published, correspondence with the journal, referees' reports and other confidential material must not be published, disclosed or otherwise publicised without prior written consent. Reviewers should be aware that it is our policy to keep their names confidential and that we do our utmost to ensure this confidentiality. We cannot, however, guarantee to maintain this confidentiality in the face of a successful legal action to disclose identity.

SKIREC reserves the right to contact funders, regulatory bodies, journals and the authors’ institutions in cases of suspected research or publishing misconduct.

**Ethics and security**

SKIREC journal editors may seek advice about submitted papers not only from technical reviewers but also on any aspect of a paper that raises concerns. These may include, for example, ethical issues or issues of data or materials access. Very occasionally, concerns may also relate to the implications to society of publishing a paper, including threats to security. In such circumstances, advice will usually be sought simultaneously with the technical peer-review process. As in all publishing decisions, the ultimate decision whether to publish is the responsibility of the editor of the journal concerned.