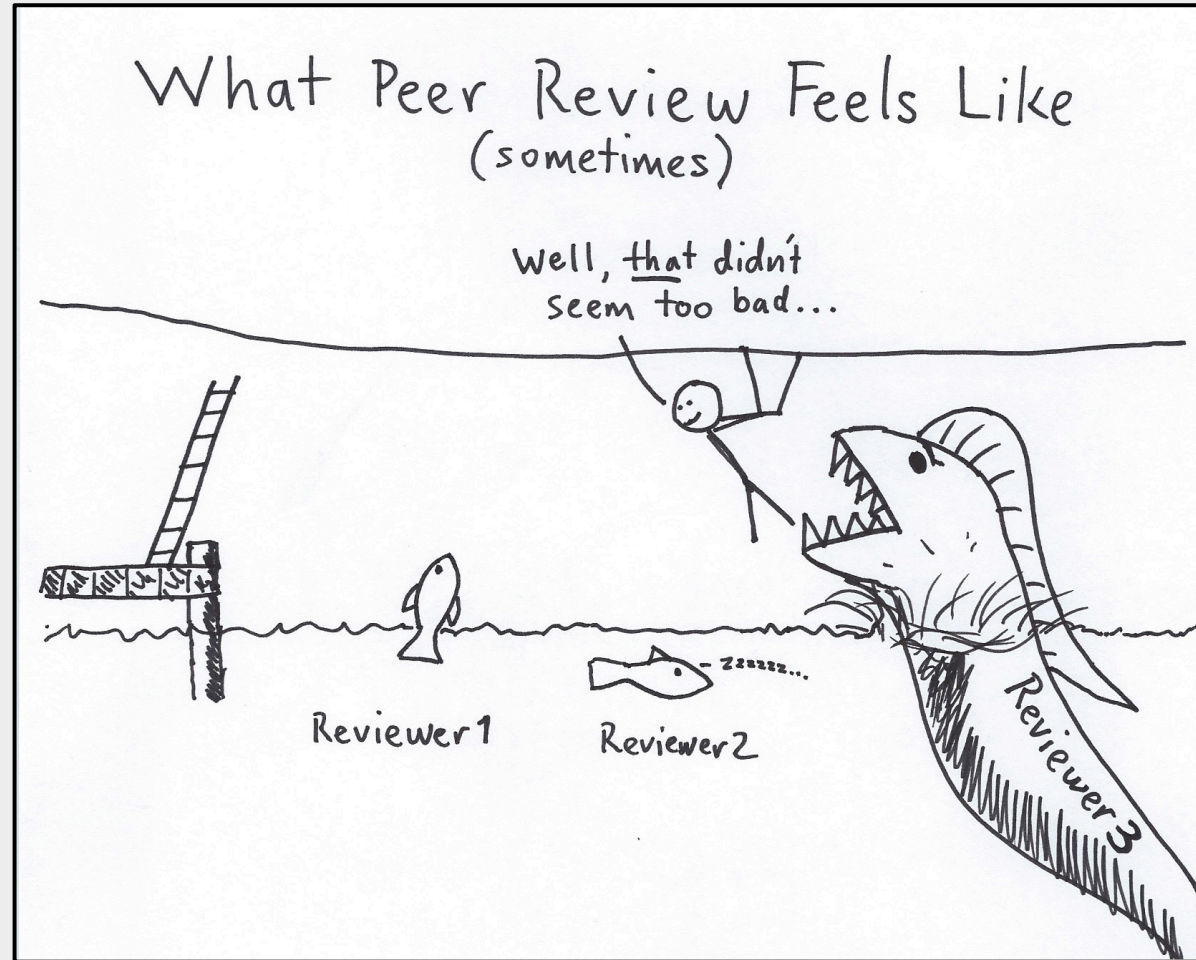


# Navigating the Peer Review Process

Safeguarding Quality, Credibility and Integrity of Knowledge



**IGAC-iCACGP ECR Skills Workshop**

Eloise Marais

<https://maraisresearchgroup.co.uk/>

29 April 2024

# Workshop Contents

- Why review
- The role of the reviewer
- When to review
- Predatory publishers and journals ★
- The review process
- Typical format of a review
- Minor versus major revisions
- Reviewer best practices ★
- Reviewing papers versus proposals ★
- Being on the receiving end of the review
- Gaining experience reviewing ★
- Additional resources



Checkpoints  
for chances to  
ask questions

# Why Review?

Service to science and collegial

Mitigate proliferation of incorrect information in the literature and beyond

Ensure that published research contributes to knowledge

Ensure manuscript is suitable for journal readership

Not an opportunity for payback or to stall competitor's paper

Also not a chance to increase your citation metrics

Makes you a more critical and better science communicator

# The Role of the Reviewer

Not a copyeditor or co-author

Not checking word or word-equivalent counts

Advising the editor, defending advice with a well written review

Assessing that the paper:

- clearly communicates to the readership of the journal
- makes a contribution to knowledge, methodology, or key data
- follows ethical and open data sharing procedures
- credits all author contributions
- is accurate (equations, methodology, data usage/processing)
- cites contemporary literature and uses contemporary methods

# When to Review

First author of at least 1 published paper?

If YES!, then you're qualified to review.

But ...

- Don't be impatient to review!
- Review for journals published in
- Review for topics expert in (published as lead or supervisory author)
- For multifaceted papers, review sections expert in

Other advice:

- Have a conflict-of-interest rule
- Don't let reviewing get in the way of your own research
- Have a rule of thumb on how often to review
- Be wary of predatory journals and publishers

# Predatory Publishers and Journals

Costly, poor quality papers that can risk tarnishing your reputation

Prey on junior researchers: flattering (“esteemed expertise”)

Questionable peer review practices

Before commit to reviewing, consult Beall’s List of predatory publishers, standalone journals, and conferences: <https://beallslist.net/>.

Learn to spot a predatory email ...

## [JASR Editor-in-Chief] Invitation to publish a quality paper



To:  Marais, Eloise

Monday 15 April 2024 at 04:22



JASR EiC Invitation.d...  
63.9 KB

[Download](#) • [Preview](#)

⚠ Caution: External sender

Dear Dr. / Professor,

I am acting as an Editor-in-Chief for the *Journal of Atmospheric Science Research* (ISSN 2630-5119 , <https://journals.bilpubgroup.com/index.php/jasr/index>), a peer-reviewed, open access journal. The aims and topics are given at: <https://journals.bilpubgroup.com/index.php/jasr/aims-and-scope>.

According to your esteemed expertise, I learn that your research interests are in “**Biogenic volatile organic compounds and its related issues**”, which also corresponds to my research interests and our journal's scope. I take great pleasure to invite you to submit a long research or review article to be published **free of charge** in our journal. The submission deadline for this special offer is 30 April 2024 and papers may be submitted immediately or at any point until 30 April 2024, as papers will be published on an ongoing basis.

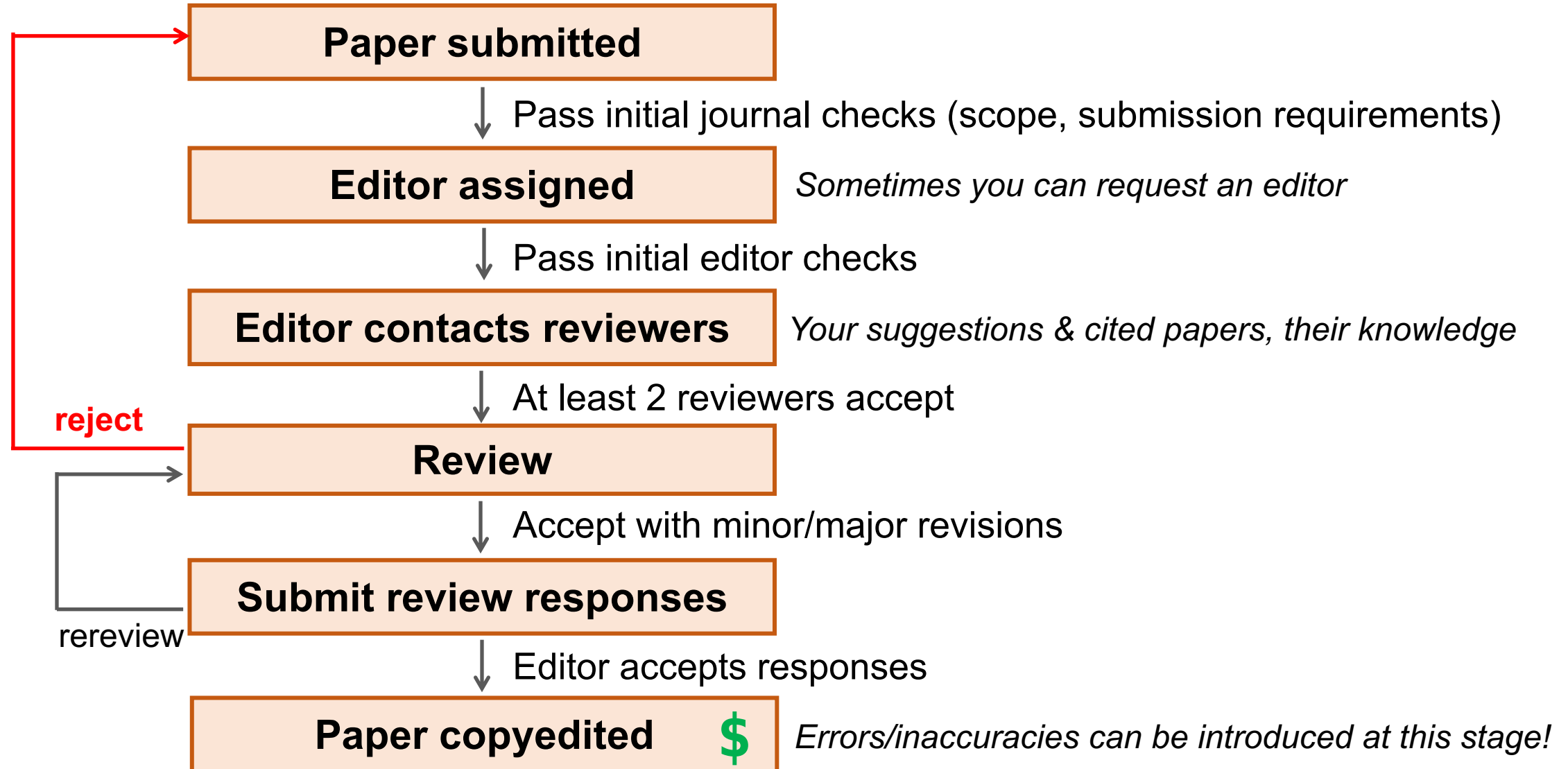
*Journal of Atmospheric Science Research* (JASR) is a peer-reviewed open-access journal published four issues a year in English-language, providing researchers, scholars, scientists throughout the world with the exchange and dissemination of theoretical and practice-oriented papers dealing with earth's atmosphere.





# The Review Process

Protracted and slow (1 month to more than a year)



# Typical Review Format

## Section 1:

Summarise interpretation of paper (follow format of abstract):

- What's the question/issue authors seek to address
- What was done (methods)
- What are the key findings
- What makes this work meaningful/important

Recommend whether suitable for journal and if **minor** or **major** revisions needed

## Section 2:

List of major concerns / general comments ranked in order of most to least concern

## Section 3:

List of minor concerns / specific comments ordered by appearance in paper (use page and line numbers to identify these)

- Above review goes to authors. Also possible to send private message to Editor.
- Often an e-form to complete (format depends on journal)

# Minor versus Major Revisions

## Example of issues requiring major revisions:

- Error in core approach, math, use of tools, reasoning that impacts findings
- Something that could cause errors to proliferate in the literature

## Minor revisions:

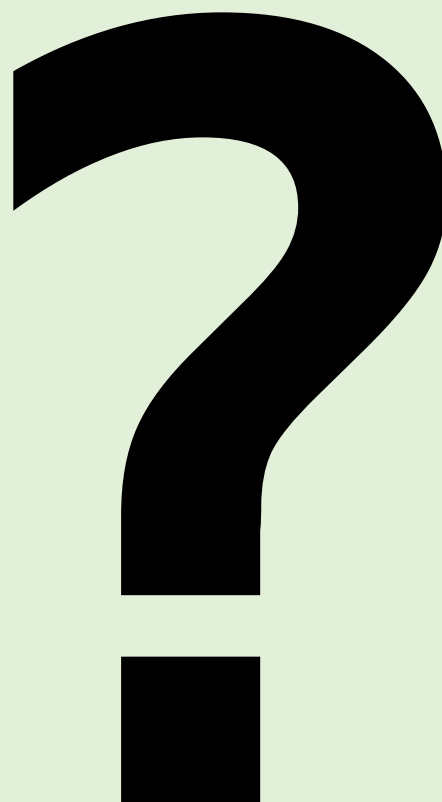
- Error that has small and relatively inconsequential effect on findings
- Misquoted literature, image mislabeled, incorrect interpretation of model mechanism

## Revision suggestions should be practical:

- Is it really feasible to redo experiment?
- Instead, could recommend discussing implications of errors/uncertainties.

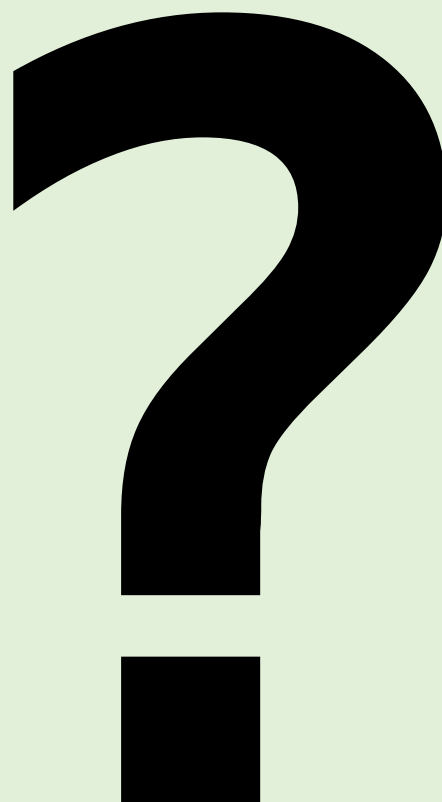
# Reviewer Best Practices

- Read the paper thoroughly.
- On first read, jot down initial impressions, step away for 1-2 days before writing the review
- All complaints/concerns should be clearly substantiated (reference location in text, cite suitable literature).
- In cases where you suspect the authors might be wrong, ask them to clarify.
- Phrase reviews as non-combative:
  - Aggressive tone:** “Why didn’t you bother to adjust the chamber to low pressure conditions typical of the upper troposphere?”
  - Neutral tone:** “Please substantiate why it wasn’t feasible to conduct experiments at low upper troposphere pressures and discuss the implications for the measured yields.”



# Reviewing Papers versus Proposals

- Many similarities: expert in the research area, up-to-date on the literature
- Often can't have submitted to call, so lots of initial work needed to gain familiarity with call
- Funding agencies good about providing guidelines, benchmarks, training videos, rubriks
- Can get paid for this service
- Aspects to consider that aren't pertinent to a publication:
  - Are these the right people to do the work?
  - Is the work feasible?
  - Does the proposed work meet the needs/expectations of the call?
  - Are the methods clearly defined and well thought through?
  - Is the budget justified?
  - Have they thought of contingency plans if a risky aspect of the project doesn't work?



# Being on the Receiving End of the Review

- When writing your paper, think like a reviewer.
- Before submit paper, send to co-authors allowing at least 2 weeks for feedback
- Don't waste time guessing who the reviewer is.
- The review process takes a long time. Check status on submission portal. All good journals have this.
- Criticism from an anonymous reviewer is hard to take. Read the reviewer comments and walk away. Come back to it again the next day when the emotions and annoyance have settled.
- If reviewer has misunderstood something, consider that this might be because it's not clearly communicated.
- If a reviewer is hostile or wrong, appeal to the Editor to arbitrate. If this doesn't work, submit to another journal.



# Practice Reviewing

Start a journal discussion club at your institute:

- Meet every second week to discuss a recent paper

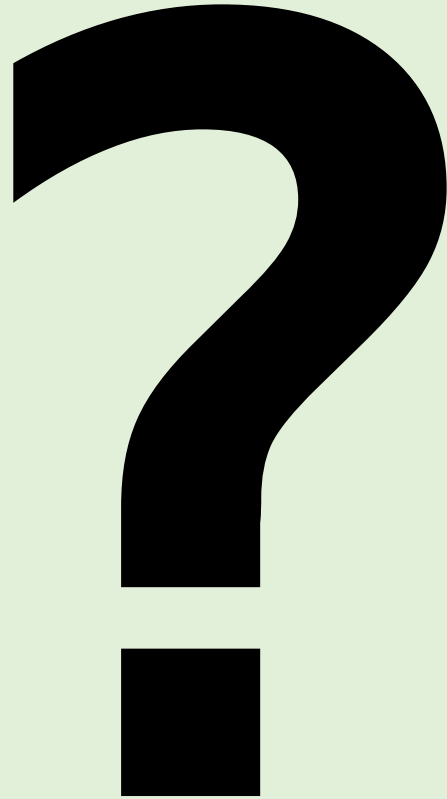
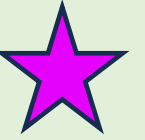
- Rotate who leads the discussion

- Choose a short paper (low energy barrier to get everyone to read it)

- Discuss and critique the paper as a reviewer would

Consult reviews in the discussions component of Copernicus journals (ESSD, AMT, ACP, GMD)

Discuss the review process with your research supervisor / mentor



# Additional Resources and Information

- Our review service makes others rich: Elsevier annual revenues > £6bn, <https://www.theguardian.com/science/2017/jun/27/profitable-business-scientific-publishing-bad-for-science>
- Issues with the peer-review process exposed: Spoof paper to test integrity of peer review: <http://science.sciencemag.org/content/sci/342/6154/60.full.pdf>
- Peer-review of datasets: <https://journals.ametsoc.org/doi/10.1175/BAMS-D-13-00083.1>
- Slides from this workshop: <http://maraisresearchgroup.co.uk/Teaching/PeerReview-IGAC-ECR-workshop-Apr2024.pdf>
- Slides from other training I've delivered (publishing academic papers, giving effective presentations, writing academic CVs and cover letters, grant and fellowship proposal guidance): <https://maraisresearchgroup.co.uk/training.html>