612: Preparation and Submission of Articles for Publication

Some General Guides, but not Gospel

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Why We Publish

For scientists in academia, publishing is **our bread and butter**.

Publishing is also an opportunity to make a **contribution to scientific knowledge**. In our case this is often to further our understanding of the natural world and ways in which humans have perturbed this natural state.

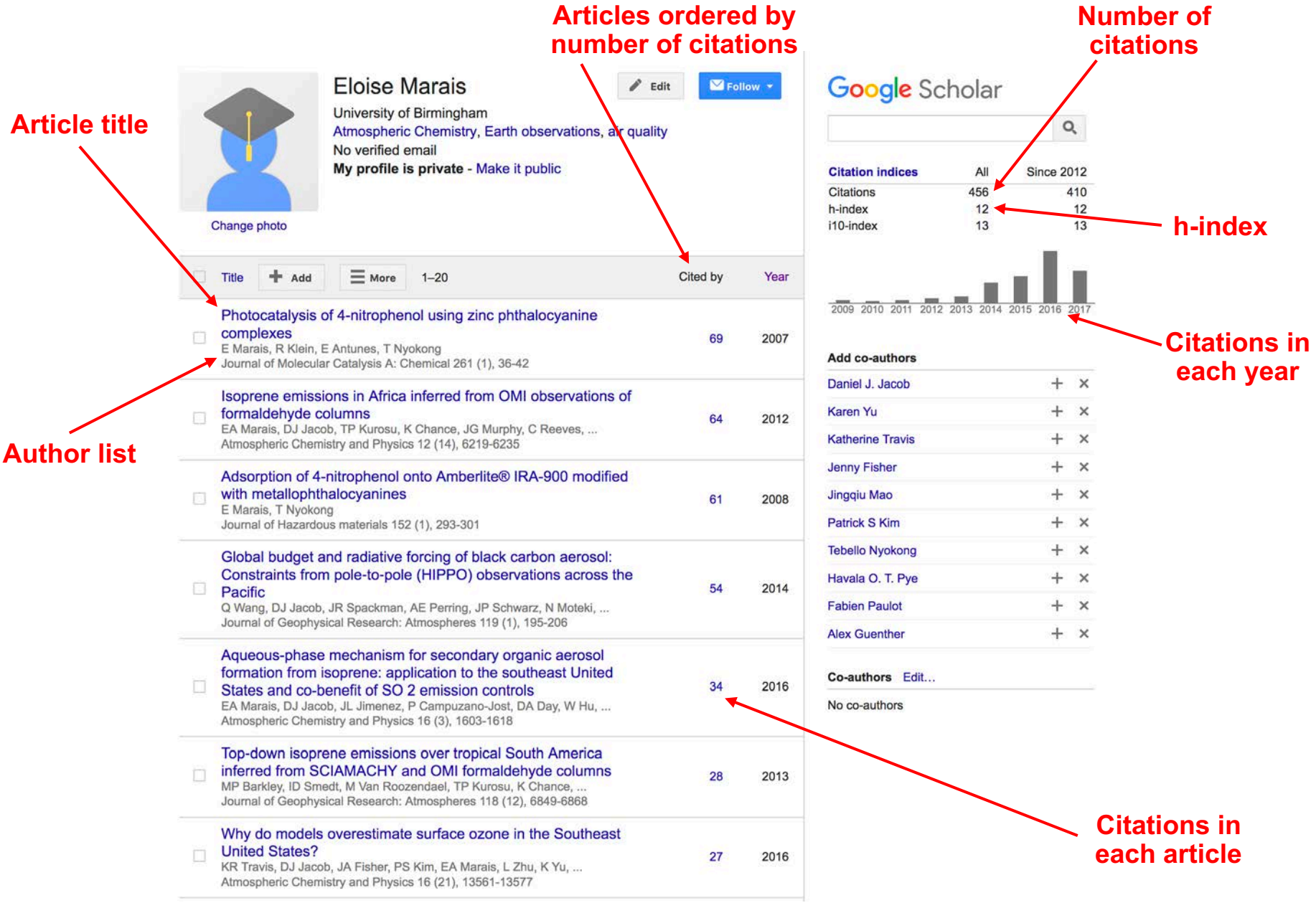
There is also a system in place for evaluating each other's work (**peer-review**). There is considerable discussion in the literature about the effectiveness and robustness of this system.

Our publication record is also frequently how we're judged (for better or worse). Some metrics that are used include the number of publications, number of citations, quality of journals submitted to.

Quality of journals is quantified using the **impact factor** (e.g. 34 for Science, 38 for Nature, 3 for Atmospheric Environment, 5 for Atmospheric Chemistry and Physics).

<u>Options to track your progress</u>:
Use Google Scholar or ISI Web of Science (or similar) to quantify your publication record. I prefer Google Scholar as it's easier to customize, update and maintain than ISI. Also provides a complete publication record to refer to when putting together a CV.

Screenshot of my private Google Scholar page



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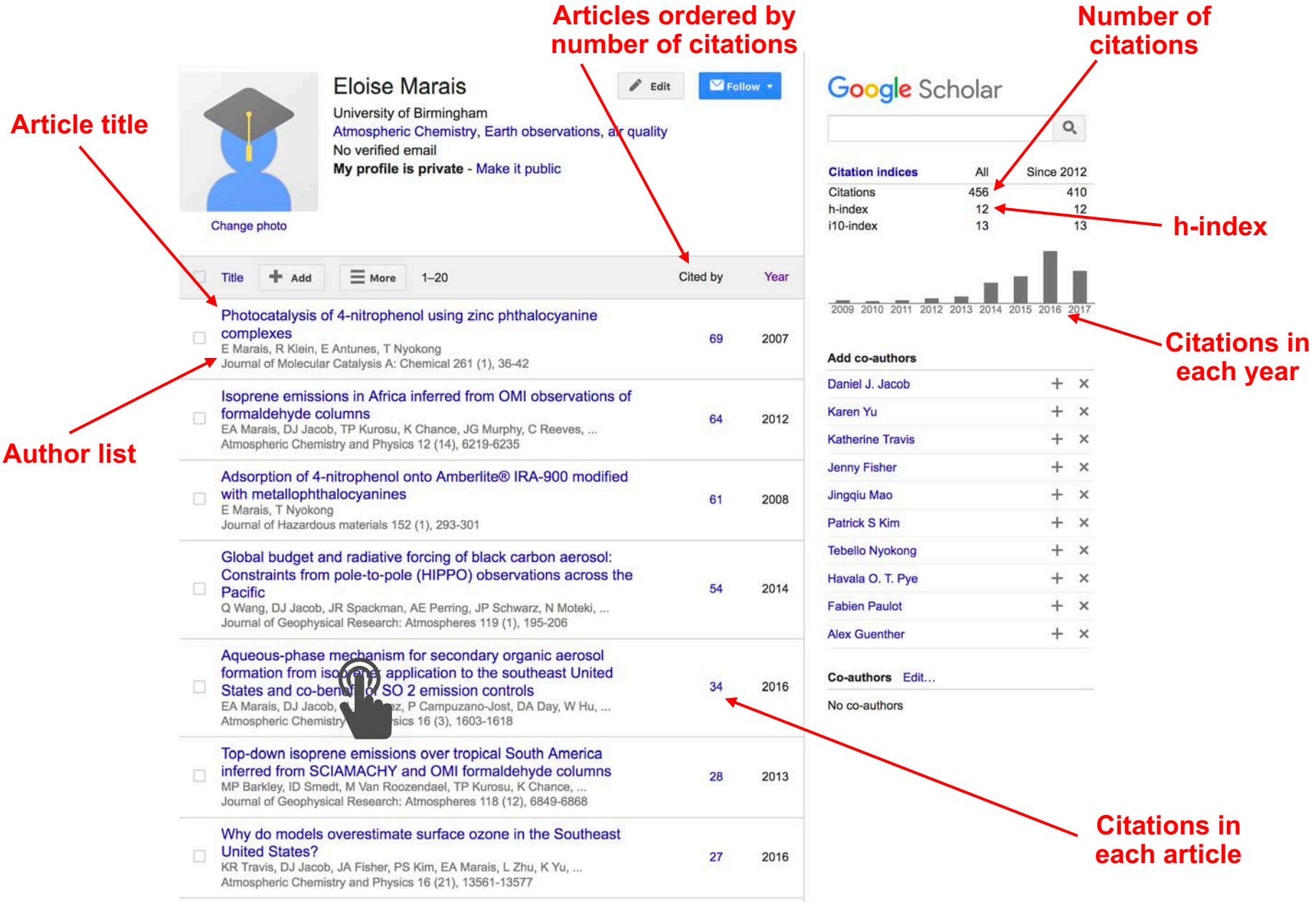

Screenshot of one of my articles

Full text options

Eloise Marais

Aqueous-phase mechanism for secondary organic aerosol formation from isoprene: application to the southeast United States and co-benefit of SO2 emission controls

[PDF] from atmos-chem-phys.net
FullText!@BHAM

Author list

Authors	Eloise A Marais, Daniel J Jacob, Jose L Jimenez, Pedro Campuzano-Jost, Douglas A Day, Weiwei Hu, J Krechmer, Lei Zhu, Patrick S Kim, Christopher C Miller, Jenny A Fisher, K Travis, Karen Yu, TF Hanisco, Glenn M Wolfe, HL Arkinson, Havala OT Pye, KD Froyd, J Liao, VF McNeill
Publication date	2016/2/11
Journal	Atmospheric Chemistry and Physics
Volume	16
Issue	3
Pages	1603-1618
Publisher	Copernicus GmbH

Article details

Abstract

Description: Abstract. Isoprene emitted by vegetation is an important precursor of secondary organic aerosol (SOA), but the mechanism and yields are uncertain. Aerosol is prevailingly aqueous under the humid conditions typical of isoprene-emitting regions. Here we develop an aqueous-phase mechanism for isoprene SOA formation coupled to a detailed gas-phase isoprene oxidation scheme. The mechanism is based on aerosol reactive uptake coefficients (γ) for water-soluble isoprene oxidation products, including sensitivity to aerosol acidity ...

Total citations: Cited by 34

Link to publications that have cited this article

Citations in each year

Scholar articles

Aqueous-phase mechanism for secondary organic aerosol formation from isoprene: application to the southeast United States and co-benefit of SO 2 emission controls
EA Marais, DJ Jacob, JL Jimenez, P Campuzano-Jost… - Atmospheric Chemistry and Physics, 2016
Cited by 30 - Related articles - All 7 versions

Aqueous-phase mechanism for secondary organic aerosol formation from isoprene: application to the Southeast United States and co-benefit of SO2 emission controls
EA Marais, DJ Jacob, JL Jimenez, P Campuzano-Jost… - Atmos. Chem. Phys, 2015
Cited by 5 - Related articles - All 5 versions

Articles associated with this entry

The Process

Analyze some data (in this case it might be satellite observations of atmospheric composition over West Africa).

Generate **results** that provide new insight into atmospheric composition in West Africa, such as new sources of pollution not yet identified. Assess the implications for air quality by running an atmospheric chemistry model.

Write up the results into a format suitable for a targeted journal.

Receive **preliminary acceptance** from the journal for the peer review process (pass initial formatting and content requirements of the journal). A word of caution: follow the formatting requirements to the letter!

Wait for what seems like forever for **anonymous reviews** from experts in the field (can be as few as 2 reviews or as many as 4).

Respond to reviews (maybe provide an additional figure or table or more detail about a process that was not clear to the reviewers). Some reviewers are reasonable; many or not. Often the reviewers help to make the paper better and more accessible.

Once accepted by the Editor, undergo the **final proofreading** (this is your last chance to catch errors that would otherwise be recorded with permanence). These are embarrassing and avoidable (they convey sloppiness in writing that translates to sloppy data analysis)!

Exercise 1: Identify a Suitable Journal

Task: Select a title from the list below. Once assigned, identify an appropriate journal to submit to and justify your choice.

Titles to choose from:

1. A review of atmospheric chemistry and air pollution in West Africa.
2. Planning, Implementation and scientific goals of the West Africa DREAM field campaign.
3. Satellite observations of methane concentrations over gas flares in Nigeria.
4. Land cover change in Senegal from 1991-2013.
5. Contribution of charcoal production and use to air pollution and vegetation loss in Burkina Faso.
6. Remote sensing of crop yields across the Sahelian belt.
7. Soil salinity in the Lake Chad Basin.

Questions to guide your discussion (more may arise during your search):

What journal should this work be published in? Why?
What are the submission requirements (a google search like *Environmental Research Letters submission requirements* should lead you to the relevant information)?
Are there other factors that make this journal suitable (cost, word restrictions, figure/table limitations)?

Some journals to choose from (you may know others not on this list):

Science
Nature
Science Reports
The Lancet
PloS ONE
Atmospheric Chemistry and Physics
Environmental Research Letters
Environmental Health Perspectives
Atmospheric Environment
Environmental Science and Technology
Geophysical Research Letters
Proceedings of the National Academy of Sciences (PNAS)
Atmospheric Measurement Techniques
Biogeosciences
Bulletin of the American Meteorological Society
Geoscientific Model Development
Science of the Total Environment
Nature Communications
Journal of Geophysical Research - Atmospheres
Global Biogeochemical Cycles
Nature Geosciences

How to know which journals and publishers to avoid:

See the list of predatory journals and publishers (good way to weed out spam):
http://beallslist.weebly.com/standalone-journals.html

How to write an effective abstract

Keep concise and to the point (think of the reader)! Edit, edit, edit. Generally readers use the abstract to determine whether it's worth reading the article.

Here's a strategy I suggest: write the abstract, edit and re-edit. Then put it away for a week and focus on something else. This allows you to come back to the abstract and find errors or sentences that aren't clear or could be more concise.

Waiting for a week isn't always feasible for conferences, as there's generally a mad scramble to meet the abstract submission deadline. But there's generally no need to rush an abstract for a peer-reviewed publication.

To write an effect abstract, address the following questions:

What is the question/issue/problem?

What was done (methods)?

What was found (results)?

Why is this important?

Exercise 2: Critique Abstracts

Task: Choose an abstract, identify where the abstract addresses these 4 main questions. If it doesn't, is it justified in leaving it out?

Here are the questions again:

To write an effect abstract, address the following questions:

What is the question/issue/problem?

What was done (methods)?

What was found (results)?

Why is this important?

Generate Effective and Clear Figures

Effective figures and tables should be neat, clear, and self contained.

The intention of the figures and tables is to convey information more effectively than could be conveyed in the text.

Exercise 3: Critique a figure

Task: Assess whether the figure below is clear and self contained. What information is missing? How should this information be provided (in the plot or the caption)?

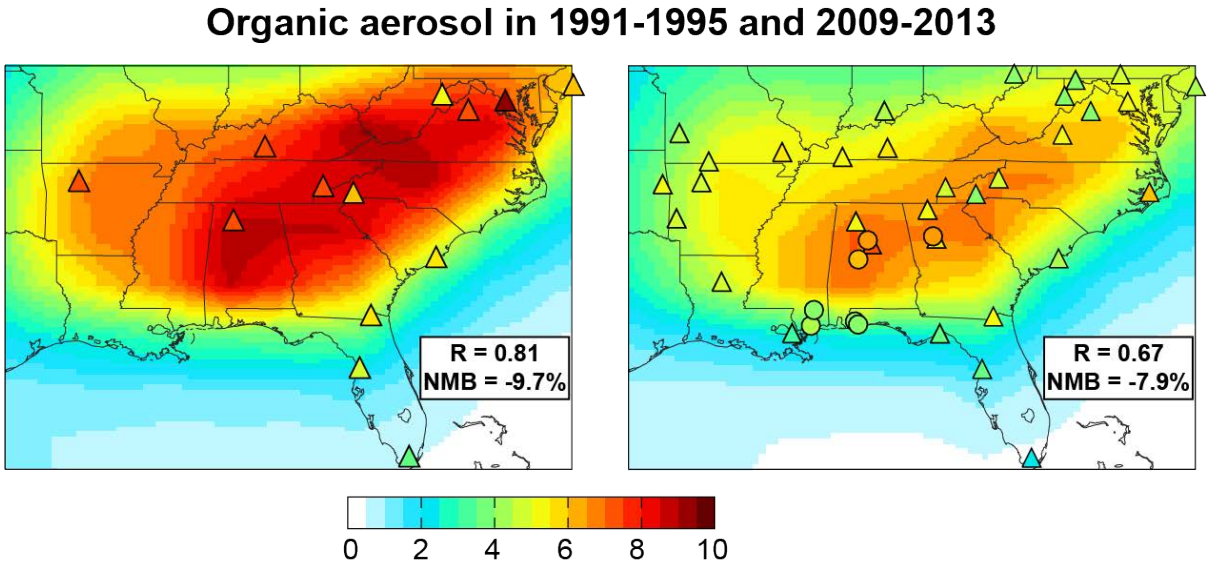

Figure 1. Organic aerosol mass concentrations in the Southeast United States.

How to become a productive and prolific writer

Writing is challenging, exhausting, and sometimes you just don't feel like it.

Some suggestions on improving your writing and productivity:

- Develop a **writing schedule** and stick to it! Set aside an hour a day to write productively and without any disturbances.
- Keep a **writing journal** to track your productivity. This could be an Excel spreadsheet of the number of pages written each day, number of papers and proposals submitted each year etc.
- Get experienced writers to **critique your writing**
- Learn to be critical of your own writing (Is this the most effective word to use? Can I say this more concisely? Is this accessible to the reader?).
- Form a **writing group** to motivate each other to stick to a writing schedule, develop writing targets, and hold each other accountable if targets aren't met.
- **Read a lot and extensively**. Read fiction, non-fiction, science articles, policy articles, newspaper articles. Identify phrases that work well. Keep a dictionary or your phone close by to look up new words that you might be able to incorporate in your writing.
- Subscribe to email lists for relevant journals to receive alerts of new articles if you're looking for new material to read.

Additional Details

Some books about writing and writing styles:

The Elements of Style, Strunk and White

How to Write a Lot: A Practical Guide to Productive Academic Writing, Paul Silvia

On Writing, Steven King

Consider subscribing to receive article alerts from the following journals:

(All journals provide clear instructions on how to subscribe to their email lists)

Environmental Science and Technology
Atmospheric Chemistry and Physics
Geophysical Research Letters
Nature
Nature Climate Change
Nature Geosciences
Science
Environmental Research Letters
Journal of Geophysical Research