

# So you want to publish in IOP? Here's a template for you.

John Smith<sup>1</sup>, Jane Doe<sup>1,2</sup> and Michael Johnson<sup>3</sup>

**Abstract.** The ecological emergency refers to the current state of the global environment, characterized by unprecedented declines in biodiversity, rapid loss of natural habitats, and increasing frequency of extreme weather events. The root cause of the ecological emergency is human activity, specifically the overconsumption of resources and the release of greenhouse gases. The situation is dire, with scientists warning that up to one million species are at risk of extinction due to human activities. The ecological emergency also poses a threat to human well-being as it disrupts the provision of vital ecosystem services such as air and water purification, pollination, and climate regulation. The time to act is now, as the window of opportunity to prevent the worst outcomes of the ecological emergency is rapidly closing. It is crucial that immediate and ambitious actions are taken at the global, national, and local levels to reduce greenhouse gas emissions, protect biodiversity, and restore natural habitats. This requires a transformation of our economic and societal systems towards sustainability.

<sup>1</sup> Department of Biodiversity Conservation Ecological Research Institute 123 Willow Road Anytown UK NW 123

<sup>2</sup> Department of Ecosystem Management University of Environmental Science 456 Birch Lane Anycity UK NR 543

<sup>3</sup> Department of Renewable Energy and Carbon Sequestration Institute of Climate Change and Sustainability 789 Oak Street Anybury UK BT 987

E-mail: michaeljohnson@fakeemail.com

*Keywords:* extinction, deforestation, species, breakdown, survival

Submitted to: *Environ. Res. Lett.*

## Introduction

*ChatGPT, what are the basics of markdown?*

Markdown is a lightweight markup language that is used to format plain text documents. It is designed to be simple and easy to read, and it uses a set of characters and symbols to indicate formatting such as headings, lists, and emphasis. Some of the basics of Markdown include:

- Headings are indicated by the pound sign (#) followed by a space. The number of pound signs used indicates the level of the heading, with one pound sign indicating the highest level heading and six pound signs indicating the lowest level heading.
- Lists are created by using the dash (-) or asterisk (\*) followed by a space for each list item.
- Emphasis can be indicated by using asterisks (\*) or underscores (\_) around a word or phrase. One asterisk or underscore is used for italic emphasis, and two asterisks or underscores are used for bold emphasis.
- Links can be added by using the brackets [] followed by the link text, then the brackets () followed by the link URL.
- Images can be added by using the exclamation mark ! followed by the brackets [] for the image's alternate text, then the brackets () followed by the image URL.
- Code blocks can be indicated by using three back-ticks (``) before and after the code snippet.

Markdown is a versatile and flexible language, and there are many more elements you can add, but these are the basics to get you started. Additionally, there are different flavors of markdown, so some elements may vary depending on the implementation.

For more “official” guidance: <https://quarto.org/docs/authoring/markdown-basics.html>.

*And what about the basics of Quarto?*

Quarto is a strategy board game for two players. It was invented by Swiss mathematician Blaise Müller...

..I'm going to stop you there.

Basics of Quarto: <https://quarto.org/docs/guide/>.

## Using this template

*Format options and differences between `iop-html` and `iop-pdf`*

- For the HTML format, we are using Pandoc citeproc to include the bibliography. Here `reference-section-title` controls the title for the chapter that will be used (although, specific to this template, we also use citeproc for the PDF to get Harvard style citations).
- For the PDF format, `natbib` is used by default and the bibliography is included with a title by the L<sup>A</sup>T<sub>E</sub>X template.

This format provides a number of custom YAML header options to control the PDF format:

```
# set to true to use the orcidlink package to display linked orcid logos
# beside authors on title page
display-orcids: true
# use journal macros set out in the IOP style guide
```

```
# to add which journal an article is targeting
# e.g. \ERL = Environmental Research Letters
submitted-to: \ERL
# test your article in two column form
# NB: does not work well with code chunk outputs
twocol: true
# sets Vancouver numeric citation style
# comment out both iop-vancouver and cite-method for Harvard author year citation style
iop-vancouver: true
cite-method: natbib
# see iopart.cls for option source code
# possible options (separate with comma):
# a4paper, letterpaper, 10pt, 12pt, draft, final, titlepage, notitlepage
classoptions: []
```

For the most part, it *should not be necessary* to modify the `_extension.yml` file, except maybe to switch the referencing style for the HTML output.

#### Shortcode demo

PDF are rendered using L<sup>A</sup>T<sub>E</sub>X but it is best if one can use a Markdown syntax for cross format support.

```
{{< latex >}}
```

used in source is a shortcode syntax where the shortcode is included in the extension folder `_extensions`.

Alternatively, Quarto supports a **number of shortcodes** natively. For example,

```
{{< pagebreak >}}
```

...inserts a page break.

### Code chunk

This format hide chunks by default as option has been set in `_extension.yml` file.

But you can set `echo` option to `true` locally in the chunk

```
head(iris)
```

	Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
1	5.1	3.5	1.4	0.2	setosa
2	4.9	3.0	1.4	0.2	setosa
3	4.7	3.2	1.3	0.2	setosa
4	4.6	3.1	1.5	0.2	setosa
5	5.0	3.6	1.4	0.2	setosa
6	5.4	3.9	1.7	0.4	setosa

### Text color

Our format makes applying color on inline text possible using the `[content]{color=<name>}` syntax. Let's see an example.

Here we are using a special feature of our format which is the coloring because `pink` is a `nice` color.

This is possible thanks to the Lua Filter included in the custom extension format.

### Using references

I did not read this book [4] – coded [Brown2019] – but it must be interesting. We can add all references in the our bibliography file, even if not cited in text, with the following YAML code:

```
nocite: '@*'
```

### Quick maths

L<sup>A</sup>T<sub>E</sub>X and Quarto handle maths very well. This can be either inline, such as  $2 + 2 = 4$  - 1 that's 3, or display maths:

$$P(e) = \binom{n}{k} p^k (2-p)^{n-k}$$

However, the `iopart.cls` handles equations differently; please see the IOP L<sup>A</sup>T<sub>E</sub>X style guide for how to format numbered equations as below.

$$\alpha + \beta = \gamma^2, \tag{1}$$

$$\alpha^2 + 2\gamma + \cos \theta = \delta. \tag{2}$$

Please note especially p2:

“Also note that there is an incompatibility between `amsmath.sty` and `iopart.cls` which cannot be completely worked around. If your article relies on commands in `amsmath.sty` that are not available in `iopart.cls`, you may wish to consider using a different class file.”

In order to avoid package clashes in this template, lines 788-789 of `iopart.cls` were commented out.

## Acknowledgements

I thank the authors of previous article templates, from whom I mercilessly copied and pasted.

## Appendices

Appendices must be labelled A, B, C etc. and placed here: after the [Acknowledgements](#) but before the bibliography.

To do so, start with the L<sup>A</sup>T<sub>E</sub>X control sequence `\appendix`, followed by normal section headings `# Appendix A`, `# Appendix B`, etc.

If the appendices contain numbered figures or equations, `\appendix` must be followed by `\setcounter{section}{1}`.

## References

- [1] Smith J 2022 *Journal of Environmental Science* **55** 123–138
- [2] Doe J 2021 *Nature Climate Change* **11** 567–576
- [3] Johnson M 2020 *Annual Review of Energy and the Environment* **45** 98–121
- [4] Brown T 2019 *Deforestation and its impact on global climate change* (Anytown, UK: University Press)
- [5] Davis K 2018 *Annual Review of Ecology, Evolution, and Systematics* **49** 1–23