JULES Fair Use and Publication Policy

1. JULES introduction

The Joint UK Land Environment Simulator, JULES[1], is a core component of both the Met Office's modelling infrastructure and NERC's Earth System Modelling Strategy. It is an open-source community land surface model developed principally by UK NERC and Met Office scientists and software engineers and utilised globally for standalone or integrated weather/climate/earth system modelling applications.

2. Principles

As with any large community model, development of JULES relies on input from many scientists who are willing to share their work for the benefit of all JULES users, whilst pursuing their individual research interests and careers. The proper functioning of such an endeavour requires JULES users to give appropriate credit for the intellectual input of others through co-authorship or citation.

The formal, legal conditions that govern the use of JULES are set out in the JULES licence[2]. Alongside the JULES licence, this *Fair Use and Publication Policy* sets out how members of the JULES community should collaborate with one another in order to recognise the intellectual contribution of those whose work has made the existence of JULES possible. Doing so strengthens the case for further investment in those developments.

This Policy applies to all uses of JULES products, including but not limited to data and computer code, for research, teaching or commercial applications. It is not intended to restrict what can be done with JULES products, rather to ensure appropriate acknowledgement and communication between users and developers. This policy will be updated at least once a year and was last updated in August 2019.

3. Definition of JULES developer

A **developer** of JULES is any person whose expertise has either significantly influenced the design of JULES code or who has written code. The term **developer** makes no distinction between scientific and technical input.

1. https://jules.jchmr.org/
2. https://jules-lsm.github.io/access_req/JULES_Licence.pdf
3. http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html

4. In practice

JULES users should contact appropriate JULES developers as early in their work as possible to discuss collaboration / publication. While developers are encouraged to publish their work in reasonable time, new developments may not be fully mature, tested or ready to use, so potential users should approach developers early in their study to avoid duplication or wasted effort. Developers may reserve the right for the first scientific application of their scheme. Developers will be able to advise if and when co-authorship, citation or acknowledgement is appropriate. For guidance, see the ICMJE Recommendations on the appropriate use of co-authorship[3].

A list of new developments and the scientists responsible for them will be maintained on the JULES web page and reviewed by the JULES Science and Applications Committee every year to ensure that it contains the latest developments that warrant inclusion of co-authors. After this time, the contribution should be recognised by citation (ideally a peer-reviewed paper, but could be a technical note or other document suggested by the developer).

When writing a paper, JULES users and developers should consider the following:

Co-authorship

- Is expected if your published research benefited from a new JULES development, i.e. the development influenced your study to the extent that it was discussed in the paper.
- Is expected if your research required substantial direct input from a developer, e.g. to make substantial modifications to the code that you used, to help design the experiments etc.
- Should be considered for a wider list of scientists who contributed to the modelling system, but whose contributions may not be documented in publications. A list of such scientists will be maintained on the JULES web page.

Acknowledgements

- Should be considered for scientists involved in JULES code developments that have become established.

Citation of a published paper

- Is expected if a citable paper describing a development exists. A narrative description of the model and a list of papers describing developments will be maintained on the JULES web page.

Please be generous in offering credit for other people's work, as everyone benefits in the end. Use best judgement and, if in doubt, err on the side of inclusiveness. Developers are expected to publish significant model developments within reasonable time and will therefore become citable. Where major developments have not been published, model users should again err on the side of inclusiveness.

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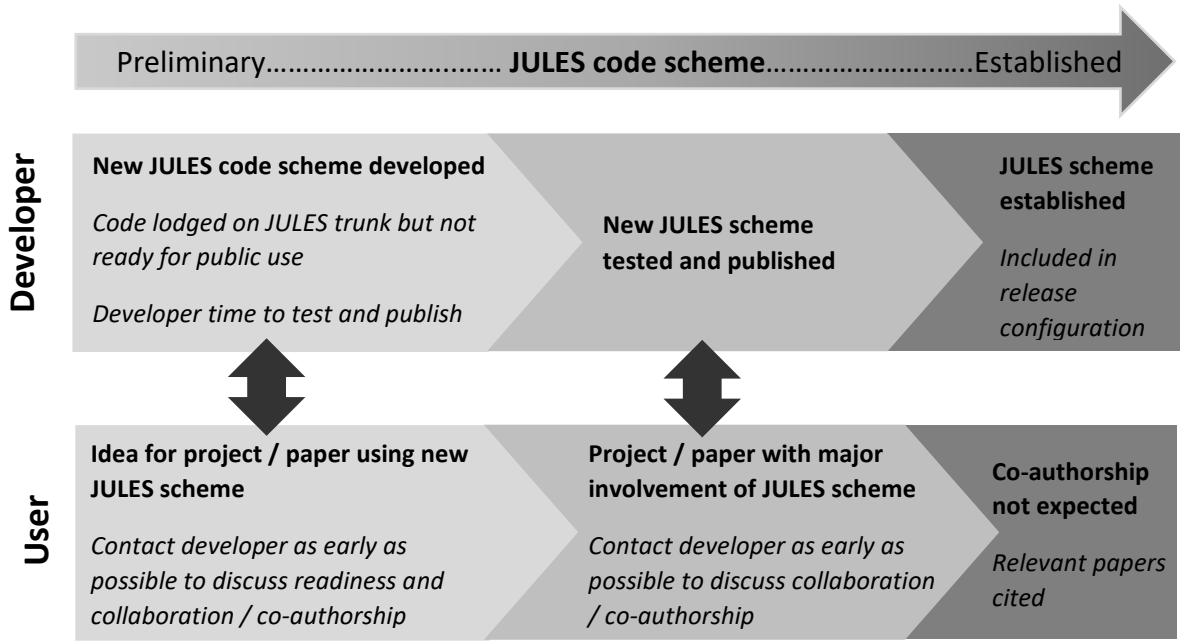
5. Worked example

The following schematic provides an example of applying this Fair Use and Publication Policy to a new JULES code development.



6. Authorship and acknowledgements for this document

This document was put together by Debbie Hemming (Met Office, MO), Simon Dadson (Univ. Oxford, CEH), Chris Jones (MO), Anna Harper (Univ. Exeter), Karina Williams (MO) and Douglas Clark (CEH). It is based on the *Hydro-JULES Fair Use Policy* and the *UKCA guidelines on co-authorship, citation and collaboration*. We are very grateful to all the other scientists who provided input to this document.

1. https://jules.jchmr.org/
2. https://jules-lsm.github.io/access_req/JULES_Licence.pdf
3. http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html