

Steps of Copernicus Publications towards open science and reproducibility

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History of Copernicus Publications

- Founding of Copernicus in 1988 as a spin-off of the Max-Planck-Institute for Solar System Research
- Organization of scientific meetings & conferences since 1988
- 1994 start of Copernicus Publications
- 2001 start of the first open-access society journal, followed by the move of the other journals towards OA
- 2016 Copernicus Publications publishes 38 peer-reviewed openaccess journals and 18 access-reviewed scientific discussion forums
- 33 journals owned by/affiliated to learned societies and other scientific organizations
- **50** staff members, offices in Göttingen/Germany
- Co-founder of OASPA, member of stm, member of ORCID





Open access 1.0

Free access to the paper









Open access 2.0

Free access to the peer review



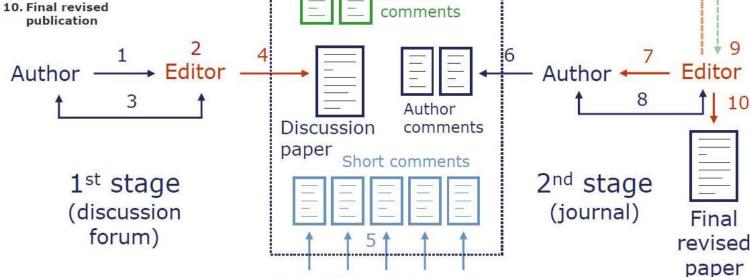




Open access as the basis for new peer review models

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- 1. Submission
- 2. Access review
- 3. Technical corrections
- 4. Publication as D-paper
- 5. Comments
- 6. Final response 7. Post-discussion
- editor decision
- 8. Revision
- 9. Peer-review completion
- publication



Scientific community

Referee





Interactive Public Peer Review™

Rapid AND thorough

- Rapid publication as discussion paper
- Thorough peer review by discussion & revision

Win for authors, reviewers & readers

- Direct feedback & public recognition for authors;
- Higher quality submissions save reviewer capacities;
- Documentation of the review for readers.







Open access 3.0

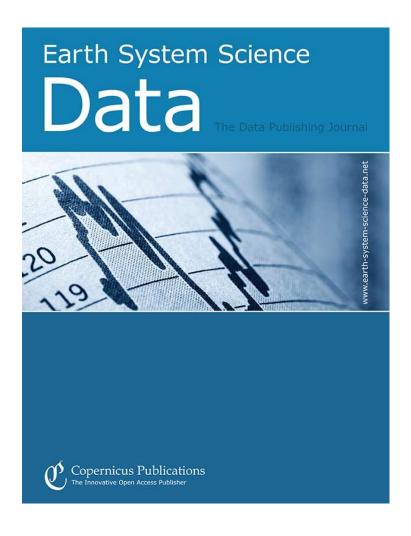
Open science and reproducibility







Data publication



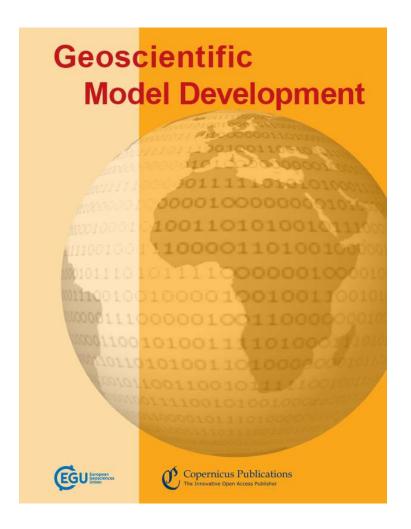
- Launched in 2008
- Publication of articles on original research data (sets)
- Data is stored in reliable repositories
- Interactive Public Peer ReviewTM
- Review also includes data quality, significance of data sets, their uniqueness, usefulness, and completeness
- Indexed in SCIE





Publication of models and code

- Launched in 2008
- Publication and public discussion of the description, development, and evaluation of numerical models
- Interactive Public Peer ReviewTM
- All papers must include a section "code and data availability"
- IF: 3.654 (2014)







Enforcing reproducibility

- Data Policy for all journals
 - encourage authors to deposit and cite data, model code, and other underlying material
 - data availability statement requested for all articles
- Asset tab to display and link underlying material for all articles
- Currently lacking: possibility to execute components

env

Reproducibility





Open science as a principle

- The gold OA article is the trunk
- Data sets, model code, videos, samples, & other assets are branches
- Work becomes a publication cluster; all components are linked (DOI)
- Ideally, this cluster is executable







Thank you very much for your attention!

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Reference

Reproducibility triangle, adapted from Fig. 1, http://www.nextflow.io/blog/2016/best- practice-for-reproducibility.html

