

More than 15 years of interactive open-access publishing in the geosciences

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1. Copernicus Publications

Copernicus Publications has served learned societies, scientific associations, and organizations since 1988 and has been an open-access publisher since 2001. Its portfolio consists of 38 open-access journals in various disciplines, half of them using the Interactive Public Peer Review. 17 out of the 38 journals are owned by the European Geosciences Union (EGU). The EGU is Europe's premier geosciences union, dedicated to the pursuit of excellence in the Earth, planetary, and space sciences for the benefit of humanity worldwide. It is a non-profit international union of scientists with over 12,500 members. 15 of the EGU's 17 journals are indexed in the Science Citation Index Expanded (SCIE).

It has been more than 15 years since the EGU and Copernicus started their journey towards open science. Copernicus Publications was the second publisher worldwide to provide free access to journal papers financed through moderate article processing charges (APCs). Thereby, we have agreements with research organizations, universities, and funders about central APC settlement. Authors lacking support funds can apply for waivers.

Our unique Interactive Public Peer Review enables everyone to read reviewer reports and comment on a manuscript prior to publication. This fosters and provides a lasting record of scientific discussion and maximizes the effectiveness and transparency of scientific quality assurance. The first discussion paper was published on 3 September 2001. Since then, 18 journals published by Copernicus have applied the idea of transparency in scientific quality assurance; 20 more journals are also open-access but not interactive. The usage of all papers is visualized through article-level metrics (ALMs).

In the EGU's interactive open-access journals, 22,194 discussion papers with 825,205 pages were published up to April 2016. They received 103,504 comments. In total, 26,470 journal papers with 367,930 pages were published in EGU journals up to April 2016.

In order to achieve true open science and to improve reproducibility of research findings, we see the outcome of the work of scientists as a publication cluster; the journal paper is the trunk and underlying or related materials such as data sets, model code, videos, samples, and other assets are the branches. All objects are preserved long-term and linked to each other through digital object identifiers (DOIs). We provide authors with the opportunity to do so.

To further enhance the publication of data and model code, Copernicus publishes two journals which serve as publication platforms for these research outputs. Earth System Science Data (ESSD) is an international, interdisciplinary journal for the publication of articles on original research data (sets), seeking to further the reuse of high (reference) quality data to the benefit of Earth system sciences. Geoscientific Model Development (GMD) is an international scientific journal dedicated to the publication and public discussion of the description, development, and evaluation of numerical models of the Earth system and its components.

Keywords: Open science, open access, peer review, data publishing, model code publication