



## **PANGAEA<sup>®</sup> - Research Data enters Scholarly Communication**

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PANGAEA<sup>®</sup> (Data Publisher for Earth & Life Sciences) is an information system which represents the ideal functioning of the ICSU World Data System. Storing about half a million data sets from all fields of geosciences it belongs to the largest archives for observational data. Standard conform interfaces (ISO, OGC, W3C, OAI) enable access from a variety of data and information portals, among them the search engine of PANGAEA<sup>®</sup> itself ([www.pangaea.de](http://www.pangaea.de)) and e.g. large portals like Thomson Reuter's Web of Knowledge and Google. All data sets in PANGAEA<sup>®</sup> are citable, fully documented, and can be referenced via persistent identifier (Digital Object Identifier - DOI) - a premise for data publication. Together with other ICSU World Data Centers and the Technical Information Library in Germany (TIB) PANGAEA<sup>®</sup> had a share in the implementation of a DOI based registry for scientific data, which by now is supported by a worldwide consortium of libraries ([www.datacite.org](http://www.datacite.org)). The long term goal is a "crossref for scientific data".

Seeing the overall positive impact on the quality and availability of scientific data the PANGAEA<sup>®</sup> group is offering publication services since several years. They were the main initiators of the "Earth System Science Journal" at Copernicus (<http://earth-system-science-data.net/>), which is used for standalone peer reviewed data publications. A further milestone was building up strong co-operations with commercial publishers as Elsevier, Nature, Springer, Wiley, AGU, and others. A common web service allows to reference related data in PANGAEA<sup>®</sup> directly from an articles' abstract page (e.g. ScienceDirect). The next step with commercial publishers is to further integrate the editorial process for the publication of related data with the publication procedures on the journal side, which practically means an extension of the peer review and a synchronization of editorial processes.

In this presentation we will introduce the auditorium with the data publication workflow used by PANGAEA<sup>®</sup>, the technical background of the dynamic linking approach done between conventional publishers and the data repository, and the further steps for integrating editorial processes on both sides.

PANGAEA<sup>®</sup> is operated as a joint long term facility by MARUM at the University Bremen and the Alfred Wegener Institute for Polar and Marine Research (AWI). More than 80% of the funding results from project data management and the implementation of spatial data infrastructures (47 International, 46 European and 37 national projects since the last 12 years - [www.pangaea.de/projects](http://www.pangaea.de/projects)).