



## **Publication and Citation of Scientific Primary Data at WDC Climate**

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Scientific Primary Data are the data acquired and archived in the course of scientific research. Scientific Primary Data are raw material for gaining knowledge. Scientific Primary Data must be (online) available independent from data producers but together with scientific publications to allow for proof of hypotheses. Free and unrestricted data access is one primary condition for good practice. The internet provides online access to scientific data. More scientists and data users are able to access and work with scientific data than in the past. Standardizations are required to find scientific primary data and to work with them.

Data users are concerned to find their data, to access data free of charge, to get information about the data, about the data production process and about the data producers and to get the citation convention. On the other hand data producers have to make sure that their data are documented, quality proven and accessible in order to encourage scientific data usage.

A consortium of scientific long-term data archives (WDC Climate, WDC-Mare, WDC-RSAT and GFZ-Potsdam) and the German National Library of Science and Technology (TIB) has started to meet these requirements. The concept of 'Publication and Citation of Scientific Primary Data (STD-DOI [www.std-doi.de](http://www.std-doi.de))' was developed. The pilot implementation is available at the TIB and first scientific data publications can be obtained from the TIB library catalogue together with classical scientific publications.

The main steps for scientific data publication at the WDC Climate are:

- Quality control of the scientific primary data and descriptive metadata by the

authors and Publication Agencies (here WDC Climate)

- Creation of STD-DOI metadata (metadata for publication of electronic media)
- Creation of persistent identifiers (DOI/URN)
- STD-DOI metadata integration into library catalogue (TIBORDER)
- Link to primary data and metadata at the WDCC archive level by integration of the persistent identifiers in the resolver systems (DOI resolver / URN) by the Registration Agency (here TIB).
- Primary data and metadata access via internet and graphical web-browser interface.

Long-term availability and open access of the published data and metadata in online repositories as well as quality assurance by the data archive are requirements to obtain acceptance as STD-DOI data publication agency.

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