

Global change research data publishing and repository

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Abstract: Data sharing is the critical issue of the global change studies. Since 1994, after suffering the data for charge for more than 15 years, China explored the national strategy to enhance the data sharing. One of the most important initiatives is the National Scientific Data Sharing Program (SDSP), later called the National Scientific Data Sharing Infrastructure of China. Although both the decision makers and data management teams are all try hard to make the datasets available for the global change studies, most of the datasets conducted from the public funded research programs are still not available to be shared, which are out of the circle of the National Scientific Data Sharing Infrastructure of China. The most critical reason is the data authors' contribution to the science are not recognized and rewarded in the scientific communities as the data contributor expected.

The research data publishing is a solution for encouraging the public funded data openly available, because it not only prevent the intellectual property of the data contributors, but also make the data benefit the society all. The Digital Object Identifier (DOI) is a useful mechanism, standard and technology to make the data publishing happen. The Global Change Research Data Publishing and Repository was established in the joint effort from the Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, Geographical Society of China, the National Remote Sensing Center of China, Ministry of Science and Technology of China, cooperated with the Committee on Data for Scientific and Technology Data (CODATA) Task Group on Preservation of and Open Access to Scientific and Technology Data in Developing Countries (PASTD), China Secretariat for the Group of Earth Observation (GEO), National Scientific Data Sharing Infrastructure of Earth System Sciences of China and the Digital LIN Chao Geomuseum, as well as the Jemo Kenyatta University of Agriculture and Technology (JKUAT), Kenya. The data publishing procedures, standards and policies have been identified. 20 datasets related to the global change studies have been published in the first issue. Not only the metadata, but the data papers and the data products are also published via peer review. The data papers are published via the *Acta Geographica Sinica*. All of the data including the metadata, data papers and data products all can be free accessed at www.geodoi.ac.cn. Two different services are provided through the system. Of which, one is for the end users. The principles for serving the end users are (1) openly available, (2) free download for no commercial uses; (3) timely to put the data online as soon as the data peer review completed; (4) making the data informative via data paper methodology; (5) the datasets are easy to be accessed. The second service is for the data authors or contributors. The statistics of visitors, download numbers, sizes of the data downloaded, and citations are all calculated though the system in time.

Keywords: Global change; Research data; Data paper; Data publication; Data sharing services.