

## **Functions and benefits of Data papers in Ecological Research: Pathway to the open data**

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*Ecological Research* has been published by the Ecological Society of Japan since 1986. It publishes original research papers, reviews, technical reports, and notes and comments covering all aspects of ecology and ecological sciences. The editorial board consists of sixty-eight editors including a chief editor and ten associate editors who are responsible for controlling editorial procedures within their each professional field. The new category “Ecological Research Data Papers” has been launched in 2011 to facilitate activities for opening the data that has usually been stored and been uneasy to be accessed publicly.

Data whose meta information is described in the Data Paper is archived in the JaLTER database. JaLTER (Japan Long-Term Ecological Research network) was established in 2006 to provide scientific knowledge, which contributes to conservation, advancement and sustainability of environment, ecosystem services, productivity and biodiversity for a society by conducting long-term and interdisciplinary research in ecological science including human dimensions. JaLTER has nationwide network, which consists of 54 field sites including university forests, lake and marine observatories, and agricultural experimental sites. Own database, JaLTER DB is managed and operated in the Center for Global Environmental Research in National Institute for Environmental Studies. We uses the Metacat system as a database server application which handles EML (Ecological Metadata Language) for data organization and searching processes.

Since the establishment of JaLTER, the Committee for Large and Long-term Ecological Research of the Ecological Society of Japan has worked with JaLTER to encourage ecological scientists to make networks for field observations and monitoring. At the

same time, in order to build up the framework for data opening by ecological scientists not only for the research communities, but also for the public and governments, the committee and JaLTER have worked cooperatively to establish the publishing procedure of Data Papers. The reason of this cooperation has been due to mutual benefits: Ecological Society can facilitate to open ecological data previously stored individually and/or institutionally through the data base facility of JaLTER, and JaLTER can yield high quality data through the authorization by editorial board of the Ecological Research.

Seven data papers have been published in Ecological Research, and several manuscripts are currently under review. Those included four datasets related to forest ecosystems and two ones related to a lake ecosystem. Five datasets were made by field oriented monitoring and one consists of remote sensing data. Review process of data paper is performed mainly to evaluate the quality (accuracy and usefulness) of metadata and the organization of datasets.

A current subject for us is to keep the consistency of review standard and criteria of acceptance. To overcome of this issue, we are encouraging potential contributors of data papers, because review quality can not keep better without writing experiences of data papers. Moreover, datasets as products of data papers have to be utilized by scientists and recognized their usefulness not only by ecologists. We still need to make more actions to let the researchers recognize the importance of data opening. We believe that data papers can generate an incentive for data owners to act as data suppliers for ecological community and public.

JaLTER: [http://www.jalter.org/index.php?ml\\_lang=en](http://www.jalter.org/index.php?ml_lang=en)

Ecological Research: <http://www.springer.com/life+sciences/ecology/journal/11284>