



## **FOSS Tools for Research Data Management**

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Established initiatives and organizations, e.g. the Initiative for Scientific Cyberinfrastructures (NSF, 2007) or the European Strategy Forum on Research Infrastructures (ESFRI, 2008), promote and foster the development of sustainable research infrastructures. These infrastructures aim the provision of services supporting scientists to search, visualize and access data, to collaborate and exchange information, as well as to publish data and other results. In this regard, Research Data Management (RDM) gains importance and thus requires the support by appropriate tools integrated in these infrastructures.

Different projects provide arbitrary solutions to manage research data. However, within two projects - SUMARIO for land and water management and TERENO for environmental monitoring – solutions to manage research data have been developed based on Free and Open Source Software (FOSS) components. The resulting framework provides essential components for harvesting, storing and documenting research data, as well as for discovering, visualizing and downloading these data on the basis of standardized services stimulated considerably by enhanced data management approaches of Spatial Data Infrastructures (SDI).

In order to fully exploit the potentials of these developments for enhancing data management in Geosciences the publication of software components, e.g. via GitHub, is not sufficient. We will use our experience to move these solutions into the cloud e.g. as PaaS or SaaS offerings.

Our contribution will present data management solutions for the Geosciences developed in two projects. A sort of construction kit with FOSS components build the backbone for the assembly and implementation of projects specific platforms. Furthermore, an approach is presented to stimulate the reuse of FOSS RDM solutions with cloud concepts. In further projects specific RDM platforms can be set-up much faster, customized to the individual needs and tools can be added during the run-time.