The BonaRes Data Infrastructure: Easy access to soil research data

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In the frame of the joint research project BonaRes ("Soil as a sustainable resource for the bioeconomy", Germany) a data infrastructure was set-up to upload, manage, store, archive, and provide soil and agricultural research data and associated metadata. The application of widely disseminated and accepted procedures during all data life stages and the description of research data by standardized metadata are accompanied by a number of advantages for both, data owners and data users.

Examples for important data life stages are
- soil data acquisition e.g. determination of SOC by a combination of dry combustion (ISO 10694:1995) and carbonate contents (ISO 10693:2014),
- research data management e.g. exchange language for agricultural data (AgroXML) and
- data provision within online geo-portals by free and widely accepted OGC standards.

A consistent storage of well described research data within the BonaRes data infrastructure improves the visibility of research activities and enhances data provision for future data re-use. Regional modelling of soil functions would be a typical use case. Based on this (hypothetical) use case we (1) present main components of the BonaRes data infrastructure, (2) discuss technical and legal aspects of data publishing and (3) show workflows for soil data upload and exploration.