V-FOR-WaTer goes ISABEL - Current developments in the V-FOR-WaTer Web Portal

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The amount of digitally available environmental data and methods to process these data is continuously increasing. With the DFG project ISABEL, we build on the existing virtual research environment V-FOR-WaTer to support making this data abundance available in an easy-to-use web portal, foster data publications, and facilitate data analyses. Environmental scientists get access to data from different sources, e.g. state offices or university projects, and can share their own data and tools through the portal. Already integrated tools help to easily pre-process and scale the data and make them available in a consistent format.

V-FOR-WaTer already contains many of the necessary functionalities to provide and display data from various sources and disciplines. The detailed metadata scheme is adapted to water and terrestrial environmental data. Present datasets in the web portal originate from university projects and state offices. A connection of V-FOR-WaTer to the GFZ Data Services, an established repository for geoscientific data, will ease publication of data from the portal and in turn provides access to datasets stored in this repository. Key to being compatible with GFZ Data Services and other systems is the compliance of the metadata scheme with international standards (INSPIRE, ISO19115).

The web portal is designed to facilitate typical workflows in environmental sciences. Map operations and filter options ensure easy selection of the data, while the workspace area provides tools for data pre-processing, scaling, and common hydrological applications. The toolbox also contains more specific tools, e.g. for geostatistics and for evapotranspiration. It is easily extendable and will ultimately include user-developed tools, reflecting the current research topics and methodologies in the hydrology community. Tools are accessed through Web Processing Services (WPS) and can be joined, saved and shared as workflows, enabling complex analyses and ensuring reproducibility of the results.