Managing hydrological measurements for small and intermediate projects: RObsDat

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Hydrological measurements need good management for the data not to be lost. Multiple, often overlapping files from various loggers with heterogeneous formats need to be merged. Data needs to be validated and cleaned and subsequently converted to the format for the hydrological target application. Preferably, all these steps should be easily tracable.

RObsDat is an R package designed to support such data management. It comes with a command line user interface to support hydrologists to enter and adjust their data in a database following the Observations Data Model (ODM) standard by QUASHI. RObsDat helps in the setup of the database within one of the free database engines MySQL, PostgreSQL or SQLite. It imports the controlled water vocabulary from the QUASHI web service and provides a smart interface between the hydrologist and the database: Already existing data entries are detected and duplicates avoided. The data import function converts different data table designes to make import simple. Cleaning and modifications of data are handled with a simple version control system. Variable and location names are treated in a user friendly way, accepting and processing multiple versions. A new development is the use of spacetime objects for subsequent processing.