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Abteilung Hydrologie

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Factsheet

Hydrological data analysis and cleansing

The **Hydrology Department of the Federal Office for the Environment (FOEN)** monitors the quantity and quality of surface water and groundwater through a dense network of monitoring stations. By evaluating and analysing the data, it is possible to give discharge forecasts for the following few days, issue warnings of extreme events and manage water resources sustainably.

Long-term, consistent measurement series are an essential requirement for resolving many hydrological issues. As part of the quality control of hydrological data, the consistency of the water level and discharge time series was analysed. Measurement series available since the start of digital recording of measured values in 1974 were included.

Inconsistencies in a time series are due to various causes, the advances in technology being a crucial factor. Improvements in metrology and recording methodology, advances in electronic data processing and changes in data management (including errors in data handling and migration) can lead to inconsistencies which have to be cleansed.

Any inconsistencies found during analysis of water level and discharge time series data from over 170 stations are now continuously cleansed (start of implementation: January 2014). This means that continuous, freely aggregatable data is now available dating back to 1974 with significantly higher quality.

As a result of these improvements to the underlying data, figures previously published differ slightly from the data currently available.

Examples
1) Rhone – Brig: The maximum annual average for the period 1965-2011 is almost 4% lower.
2) Doubs – Ocourt: The minimum (daily average) in February for the period 1921-2011 is now in 1963, not in 1954.
3) Maggia – Locarno, Solduno: The discharge peak in September 1992 is now 2973 m^3/s rather than 2900 m^3/s.
4) Reuss – Mellingen: The change in underlying data does not affect the period values.

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