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Soil water regime estimated from the soil water storage monitored in time

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During vegetation season, the water storage in the soil aeration zone is influenced by meteorological phenomena and by the vegetation cover. If the ground water table is in contact with the soil profile, its contribution to water storage has to be included. This impact can be either monitored directly or the mathematical model of the soil moisture regime can be used to simulate it. We are presenting the results of monitoring the soil water content in the aeration zone of the East Slovakian Lowland. The main problem is the evaluation of soil water storage as a year´s regime in the soil profile. The up to now used classification systems of the soil water regime evaluation are mainly based upon climatological factors and soil morphology. The classification is therefore realized on the base of indirect indicators. A new classification system based upon quantified data sets is introduced and applied for the measured data. The system considers the accessibility of soil water to plants, the excess soil water content and the duration for those characteristic periods. The time span is hierarchically arranged to differentiate between the dominant water storage periods and short time fluctuations. The lowest taxonomic units characterize the vertical fluxes over time periods. The system allows the comparison of soil water regime taxons in several years and under different types of vegetation cover or due to various types of land use.