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**Development of a water balance for the Atankwidi catchment, West Africa -
A case study of groundwater recharge in a semi-arid climate**

The weathered zone covering the base rocks of the West African Man Shield serves as the primary source of groundwater in wide areas of the Volta River basin. Knowledge of the processes and the annual rate of groundwater recharge is a prerequisite to sustainable groundwater resources management. This study assesses the water budget of a 275 km² river catchment in the semi-arid north of Ghana. The core of the presented research is the determination of groundwater recharge using an integrated approach which combines field methods with water budget and groundwater modelling. The study also presents a conceptual model of the hydrogeological system and relevant aquifer parameters.