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# Effect of precipitation downscaling for modeled discharge using a global hydrological model

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Global climate data sets are required to run global hydrological models. The WaterGAP Global Hydrological Model (WGHM) computes the water balance of each 0.5° x 0.5° grid cell with an internal daily time step. Therefore the (normally) monthly climate input has to be downscaled to daily resolution. For precipitation, GPCC data has established as monthly input for many models. Within WGHM, this input is downscaled using the CRU number of wet days. In contrast, the H08 data (which are scaled to monthly GPCC values) are based on observations of precipitation and should be more realistic. We want to find out if daily precipitation data helps to improve model results. For this purpose, both precipitation data are used as model input input. For validation modeled daily discharge is compared to measured daily discharge at several GRDC-stations. Analyzing the differences, we want to find out what can be learned learn from measured daily discharge and our model approach for global daily precipitation data.