



Evaluation of dry-down processes of global models (hydrological and LSMs) using flux tower evapotranspiration data

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Can we find a physical parameter that characterizes model dry-down processes in water limited conditions?

In the context of model evaluation for a total of 10 global hydrological and land surface models, we analyse model performance in terms of evapotranspiration decay during dry events (10-day periods of no precipitation). For the evaluation, we use a set of flux tower sites that provides half-hourly evapotranspiration data and represents different land covers and climates around the world. In order to focus on water limited conditions, the dry-down curve dependency on soil moisture conditions is also analysed.

Our dry-down analysis characterizes different models on their response to water limited conditions and provides a potential constraint for future climate change model projections, linking global model processes to local behaviour through a physical parameter.