



## **Evaluation of evapotranspiration processes in global models (hydrological and LSMs) using flux tower data at different time scales during dry-down**

Emma Robinson, Alberto Martinez-de la Torre, and Eleanor Blyth

Centre for Ecology and Hydrology (CEH), Wallingford, United Kingdom (emrobi@ceh.ac.uk)

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.

In addition, evapotranspiration in the first hours after a precipitation event is dominated by evaporation from water intercepted by the canopy. The interception component has a much faster dry-down and we investigate how the difference in dry-down rates can be used to evaluate the interception fraction in global models.

Our dry-down analysis characterizes different models on their response to water limited conditions and their interception fraction and provides a potential constraint for future climate change model projections.