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Interception by sphagnum in a bog mire catchment of central West-Siberia

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The hydrology of mires (pristine peatland ecosystems) hardly has been analyzed quantitatively. The general idea, that mires can retain precipitation water ('sponge effect') has never been proved by real field data. Missing data for evaluation of these properties are actual evapotranspiration, water conductivity and interception of rainwater by peatland mosses and peat layers below.
The newly opened Mukhrino Field Station, located in the centre of West Siberia (60,9oN, 68,7oE) at the margin of a giant mire complex gave the opportunity to start quantitative hydrological research. Water stage dynamics in mires has been recorded with pressure loggers in mires and in lysimeters to analyse the evapotranspiration, interception and the water balance. Air and water temperature and precipitation has been recorded simultaneously. By 1-Dimensional modelling interception appeared to be the most important water loss for mires. As expected, mostly snowmelt determined discharge dynamics of the studied peatland catchment area. Rainfall events resulted in relatively fast response in catchment discharge. The so-called 'sponge effect' of mire systems could not be verified this time.