

Improving the simulation of canopy fluxes over crop land in the community land model

Cho Miltin Mboh, Matthias Langensiepen, and Thuy Huu Nguyen

University of Bonn, Institute of Crop Science and Resource Conservation, Crop Science, Bonn, Germany
(cmboh@uni-bonn.de)

Recent research shows that considering plant specific physiological parameterization in land surface models can greatly improve simulated soil water and heat flow dynamics in addition to canopy fluxes including evaporation, transpiration and carbon dioxide exchange. The improvement of these fluxes especially over crop land in the community land model (CLM) is an ongoing domain of research interest. In this work, using a Terrestrial System modelling Platform (TerrSysMP) we run CLM 4.0 in a high performance cluster with a focus on options of improvement like the impact of the leaf area index, stomata behavior and root system conductance on simulated canopy fluxes over a wheat field. The impact of each these avenues of improvement are systematically investigated using modelling scenarios which consider individual or combinations of improvement options.