



The role of vegetation in the SVAT model TERRA-ML

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Soil and land surface processes, described by Soil-Vegetation-Atmosphere-Transfer (SVAT) models, play an important role in regional climate modelling. They do not only provide the lower boundary conditions for the atmospheric model, but also give essential information about surface runoff, soil temperature, soil moisture, etc. Those parameters are important for agriculture as well as flood and drought risk management. To investigate the role of vegetation, we ran several simulations with the SVAT model TERRA-ML (implemented in the COSMO-model in CLimate Mode (CCLM, <http://www.clm-community.eu>)) in offline modus with changed vegetation parameters (e.g. Leaf Area Index, root depth, etc.). Meteorological forcing data was provided by the direct model output of CCLM in 0.5°x0.5° resolution and external parameters by the pre-processor PEP of the CLM-community (grid resolution 0.025°). We simulated soil temperature, soil moisture and surface runoff at the Main river basin (ca. 28.000m²) in Germany in a spatial resolution of 0.025°. The results show that there is substantial systematic impact on relevant parameters of the water and energy cycle.