Testing the regionalization of a SVAT model for a region with high observation density

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The variable soil moisture is an important quantity in weather and climate investigations, because it has an essential influence on the energy exchange between the land surface and the atmosphere. However the recording of soil moisture in high spatio-temporal resolution is problematic. The planned Tandem-L mission of the German Aerospace Center (DLR) with an innovative L-band radar on board provides the opportunity to get daily soil moisture data at a spatial resolution of 50 meters. Within the Helmholtz Alliance Remote Sensing and Earth System Dynamics this data is planned to be used to regionalize a Soil Vegetation Atmosphere Transfer Model, in order to analyze the energy flux and the gas exchange and to improve the prediction of the water exchange between soil, vegetation and atmosphere. As investigation areas selected regions of the TERENO (TERrestrial ENviromental Observatoria) test sites and, later on, a region in South Ecuador will be used, for which data for the model initialization and validation are available. The reason for testing the method for the TERENO test sites first is the good data basis as a result of the already established high observation density there.

The poster will present the methods being used for the model adaptation for the TERENO test sites and discuss the improvements achieved by these methods.