



SMOS Cal/Val activities in the Rur catchment (Germany)

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The Soil Moisture and Ocean Salinity (SMOS) mission will be launched in April/May 2009. Over the landmasses it will obtain global and regular measurements on soil moisture, which are essential for climate and hydrological modeling, among other purposes. In order to be prepared for validation and calibration of the SMOS payload MIRAS (Microwave Imaging Radiometer using Aperture Synthesis), we will present the activities performed in the Rur catchment (Germany).

With Terrestrial Environmental Observatoria (TERENO, a Helmholtz Association initiative), a comprehensive set of environmental data is recorded. E.g. soil moisture is measured by wireless soil moisture sensor networks at a high spatial and temporal resolution. In combination with further climatic and hydrologic data this serve as a basis for SMOS Cal/Val. We apply the hydrological model WaSiM-ETH in order to regionalise and upscale these measurements.

ESA will provide SMOS data in different processing levels, e.g. brightness temperature and soil moisture. We analyse both products for their accuracy and uncertainty, using the L-MEB model for conversion. Airborne radiometer data and manual soil moisture measurements received during the rehearsal campaign assist this processing.