



Comparison of retrieved water vapour from Modis with simulations from Remo

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The Knowledge of the distribution of water vapor is essential for understanding the hydrological cycle as well as for estimating its influence on the climate system. Models help to quantify these processes. It is essential to validate models with observations to improve them. Remote sensing provides an opportunity to derive atmospheric parameters from measurements over most parts of the earth.

The regional climate model REMO was developed to analyse the hydrological cycle in a coupled atmosphere-ocean system. The model covers the whole drainage basin of the Baltic Sea as well as major parts of Central Europe with a horizontal resolution of $1/6^\circ$ (approx. 18 km).

The Moderate Resolution Imaging Spectroradiometer MODIS, on board the polar-orbiting Terra and Aqua satellites, acquires data in 36 spectral band ranging in wavelength from $0.4 \mu\text{m}$ to $14.4 \mu\text{m}$. These measurements are used in an algorithm developed at the institute of space sciences, Free University Berlin. The algorithm is based on absorption of backscattered solar radiation by atmospheric water and allows a retrieval of integrated water vapour above cloudfree land areas.

We will present a comparison between water vapour retrievals from MODIS and simulation outputs of REMO for the period from October 2001 to October 2002.

The results are in a close agreement. However, there are some regions in the Po plane and the Hungarian plain with higher deviations in water vapour.