



Land use signals from eddy covariance data

Corinna Rebmann (1,2), Werner Leo Kutsch (3,2), Axel Don (3,2), Olaf Kolle (2), and Ernst-Detlef Schulze (2)
(1) Helmholtz Centre for Environmental Research - UFZ, Computational Hydrosystems, Leipzig, Germany
(corinna.rebmann@ufz.de, +49 341 235-451599), (2) Max-Planck-Institute for Biogeochemistry, D-07745 Jena, Germany, (3)
Johann Heinrich von Thünen Institute, Institute of Agricultural Climate Research, D-38116 Braunschweig, Germany

Eddy covariance fluxes have been measured for up to 10 years at different land use types in Thuringia, Germany. The different behaviour of ecosystem fluxes of CO₂, water vapour and sensible heat will be discussed in the presented paper. Carbon dioxide fluxes are clearly driven by weather and climatic effects, but the type of ecosystem has the most pronounced influence on the seasonal course of net ecosystem exchange of CO₂. For water vapour fluxes, land use seems to play a minor role, whereas sensible heat flux shows similar patterns for forests (mixed deciduous and spruce) in contrast to agricultural land and grassland. This behaviour has significant effects on the energy partitioning of the different land use types and has to be taken into account in land management with respect of water management and also in modelling efforts of regional and continental scales.