



Vegetation dynamics monitoring and modelling using multi-temporal remote sensing data in a meso-scale catchment

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Annual changes of vegetation cover have important effects on the behaviour and response of hydrological systems at both global and regional scales. Especially for hydrological modelling of meso-scale catchments, time series of vegetation data would be beneficial for a better characterization of e.g. leaf area index and thus interception storage or evapotranspiration processes.

Remote sensing provides valuable spatial vegetation indices information (NDVI, EVI and LAI) at multiple time steps and at different spatial and spectral resolutions. In this study, MODIS vegetation products MOD13Q1 and MOD15A2 will be used to monitor different vegetation cover patterns for the years from 2003 to 2013.

These data will be filtered and smoothed using quality controls in order to achieve more accurate and reliable data sets for the dynamic analysis. NDVI, EVI and LAI data will be analyzed for representative vegetation covers in Attert Catchment/ Luxembourg in order to derive phenological models that are dependent on site specific environmental conditions.