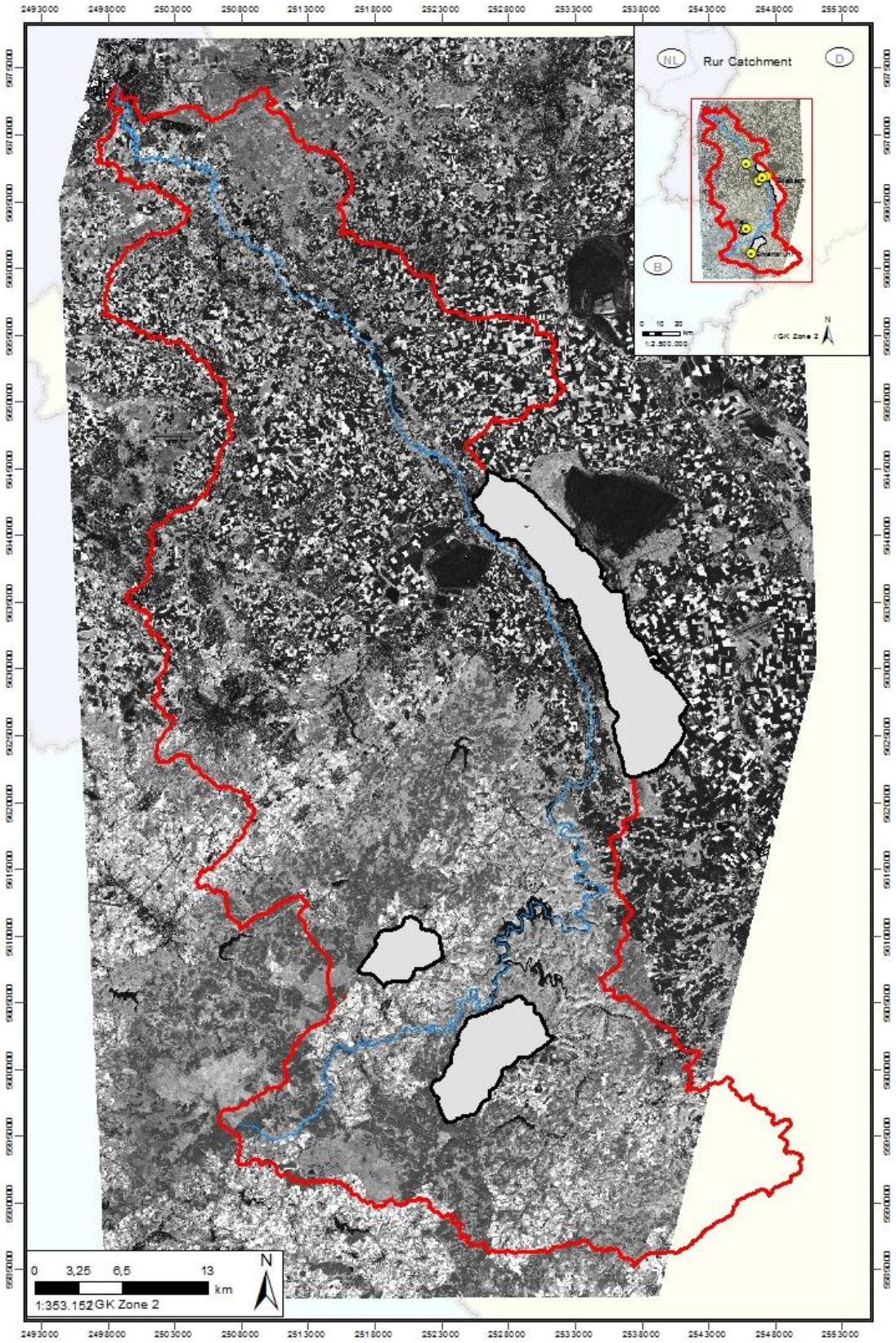
Documentation – LAI atcor_landsat_27_07_2009

Content	
files:	data atcor_27_07_2009_mosaic_mlw_75_u8_flx Tiff File with atmospheric filter including documentation this file atcor_27_07_2009_mosaic_mlw_75_u8_flx.jpg
data size:	data folder: 82 MB entire folder: 37 MB
extend:	Rur Catchment as seen in the overview map
provider:	USGS (rs data)
Dataset production:	Susanne Haas
language:	English
date of publication:	2013
date of purchase:	27th of July, 2009
Description	
description:	**L**eaf **A**rea **I**ndex data produced with ATCOR, based on Aster RS data of May the 27th of July 2009. To carry out an atmosphere correction by means of ATCOR, the following parameters are required: the height about zero, **a „Calibration file“**, the **Solar Zenith**, the **Solar Azimuth**, **Satellite Azimuth**, the choice of an **atmosphere model** and an **aerosol type** as well as the evaluation **"visibility"**. To elect the **atmosphere model** adequately and to determine correctly the "**Visibility**", middle "**Water Vapour Column**" and the "**Visibility**" was calculated first by means of the products MODIS MOD04 (aerosol MODIS Product) and MOD05 (MODIS Totally Perceptible Water Product) for the investigation area. Besides, were used excluding "Very Good Confidence Pixels". The results are shown in the following chart. Nevertheless, the so calculated values often did not present themselves adequately.

	Water Vapour Column **Visibility** **27/07/2009** 15m ASTER 0,62 75,43 In the following the parameters the atmosphere correction was carried out with should be briefly documented. **27th of July, 2009 (3 scenes): ASTER** **Calibration file:** The Calibration file was constructed on the basis of the headerfiles and after the manual by Geosystems **Atmosphere model:** Mid Latitude winter **Visibility:** (estimated: 39,49.39) 75 **Solar Zenith:** 34.18; 33.89; 33.36 (Mosaic: 33.89) **Scale Factor:** 4 **2) Calculation of the LAI by means of ATCOR** The coefficients calculate the LAI by means of the attempt of BARET & GUYOT 1991 assumed from CHOUDURY et Al. in 1994. The coefficients were chosen for cotton, because the originated picture was relatively poor in contrast. On this occasion, the relation was used between LAI and SAVI. The coefficients read in detail: a0 = 0.82, a1 = 0.78, a2 = 0.6. The LAI data are in Layer2. They suffice from 0-10 000 and a Scale Factor of 1000 was used. ***Literature*** *Geosystems (2002): Calibration Files for ASTER in ATCOR. http://gis-lab.info/docs/calibration_files_for_aster_atcor_v20x.pdf. 2011-09-18.* *KLISCH, A. (2003): Ableitung von Blattflächenindex und Bedeckungsgrad aus Fernerkundungsdaten für das Erosionsmodell EROSION 3D. Dissertation. Universität Potsdam.*
abbreviations used in data:	not necessary

Example



With atmospheric filter

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