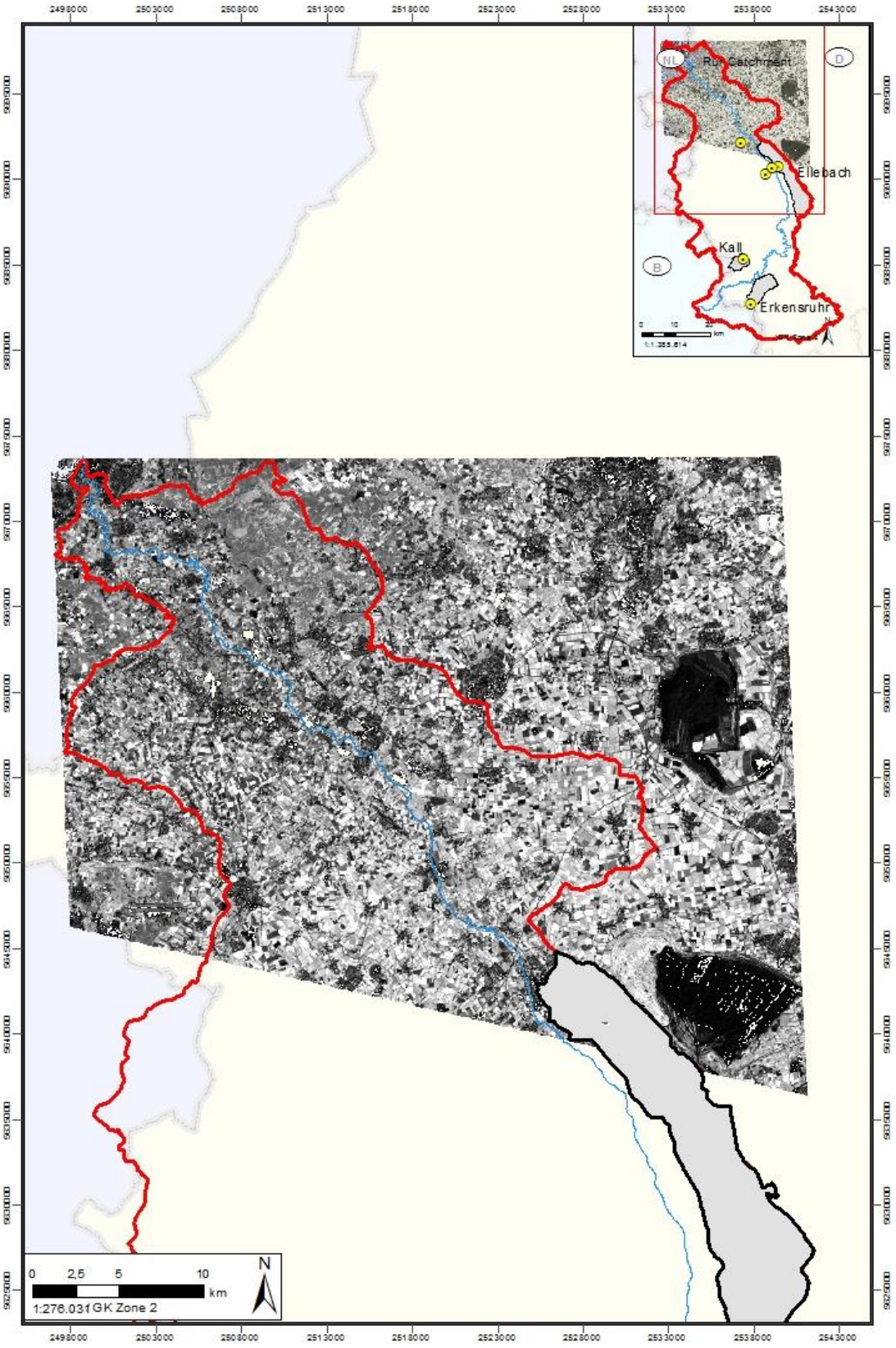
Documentation – LAI actor_landsat_24_06_2009 Scene 24&25

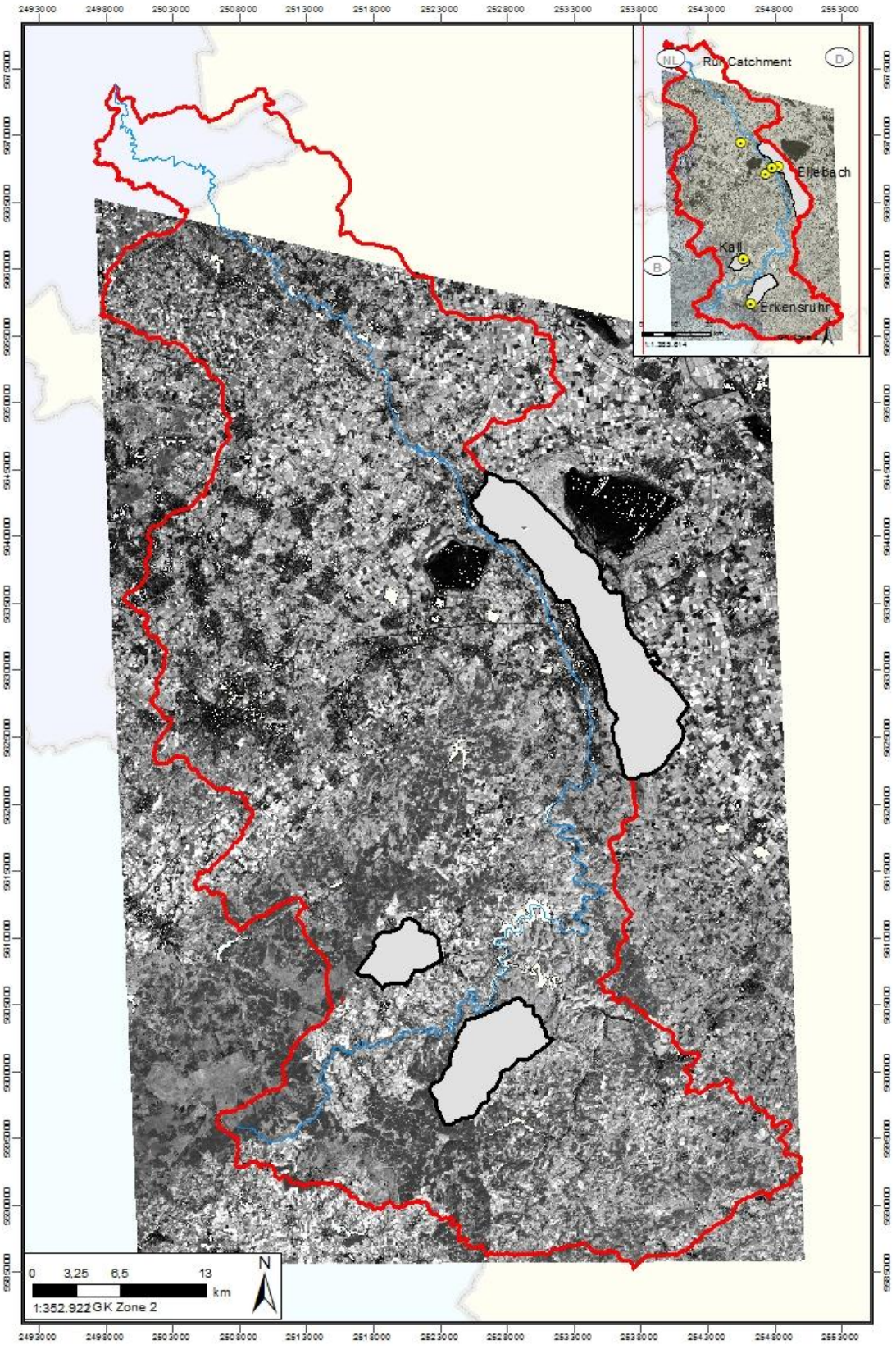
Content	
files:	**data** **Scene 25** atcor_24_06_2009_us_85_essen_flx Tiff File with atmospheric filter including LAI data **Scene 24** atcor_24_06_2009_us_85_essen_24_flx Tiff File with atmospheric filter including LAI data documentation this file atcor_24_06_2009_us_85_essen_flx.jpg atcor_24_06_2009_us_85_essen_24_flx.jpg
data size:	data folder: 35 MB entire folder: 14 MB
extend:	Rur Catchment as seen in the overview map
Dataset production:	Susanne Haas
provider:	USGS (rs data)
language:	English
date of publication:	2013
date of purchase:	24th of May, 2009
Description	
description:	**L**eaf **A**rea **I**ndex data produced with ATCOR, based on Rapid Eye RS data of June the 24th 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** **24/06/2009** 30m Euromap/GAF 1,45 32,05 In the following the parameters the atmosphere correction was carried out with should be briefly documented. **24th of June, 2009 (2 scenes) LANDSAT** **Calibration file:** The coefficients were taken from the Header file and are right with the publication of CHANDER et Al.; because, nevertheless, with the Calibrationfile provided by ATCOR better results could be achieved, this was used **Atmosphere model:** US standard **Visibility:** (estimated: 39) 85; 120 **Solar Zenith:** Scene 24: 32.16; Scene 25: 31.23 **Scale Factor:** 4 **Comment:** Scene 24 shows radiometric broad differences in the west and the east; scene 25 can be worked on for some obscure reasons hard **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



Scene 24 with atmospheric filter



Scene 24 with atmospheric filter

Author

Jonas Brands

brandsj@smail.uni-koeln.de
Albertus-Magnus-Platz
50923 Köln