# Documentation – LAI atcor_landsat 24_05_2009 Scene a/b

| Content | |
|---|---|
| files: | Data<br>Scene A<br>atcor_24_05_2009_a_us_65_flx<br>Tiff File with atmospheric filter including LAI data<br>Scene B<br>atcor_24_05_2009_b_us_65_flx<br>Tiff File with atmospheric filter including LAI data<br><br>documentation<br>this file<br>atcor_24_05_2009_a_us_65_flx.jpg<br>atcor_24_05_2009_b_us_65_flx.jpg |
| data size: | data folder: 746 MB<br>ZIP file: 278 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 2008 |
| Description | |

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| description: | **L**eaf **A**rea **I**ndex data produced with ATCOR, based on Rapid Eye RS data of May the 24th 2008. Two scenes.<br><br>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"**.<br><br>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.<br><br>**Water Vapour Column** **Visibility**<br>**24/05/2009** 5m Rapid Eye 1,29 26,14<br><br>In the following the parameters the atmosphere correction was carried out with should be briefly documented.<br><br>**'24th of May, 2009: RAPIDEYE**<br><br>**Calibration file:** The calibration file contains the Radiance Scale Factor<br><br>**Solar Zenith:** 30<br><br>**Solar Azimuth:** 178<br><br>**Sensor Tilt:** 4.5<br><br>**Satellite Azimuth:** 305<br><br>**Visibility:** 65<br><br>**Atmosphere model:** The US standard<br><br>**Reflecance Scale Factor:** 100<br><br>**Comment:** to be able to go to court together the georeferenced mosaic, it was placed of the sensortilt on 0; on account of an artefact shows the Rapideyescene some Nullvalues<br><br>**2) Calculation of the LAI by means of ATCOR**<br><br>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. |

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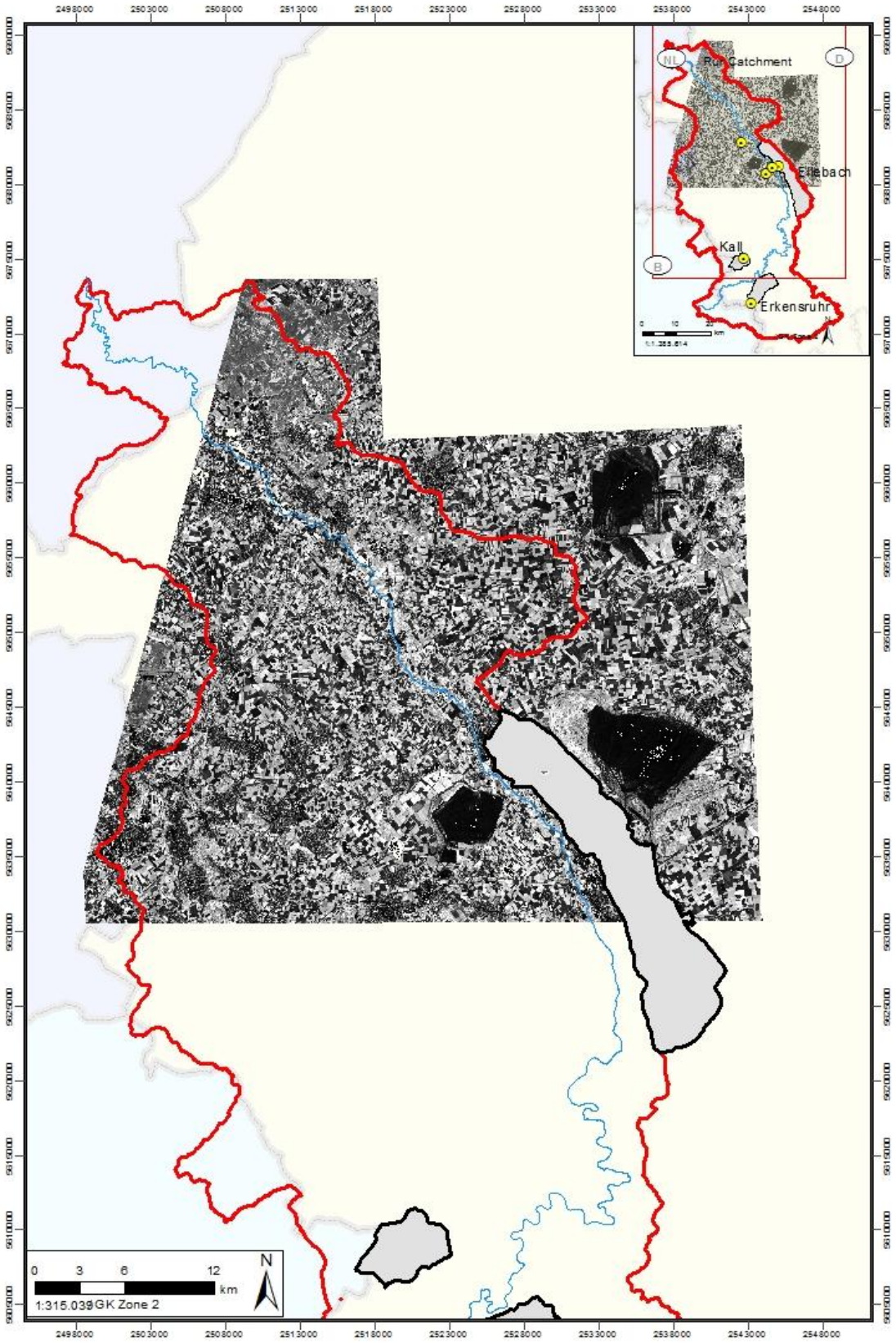
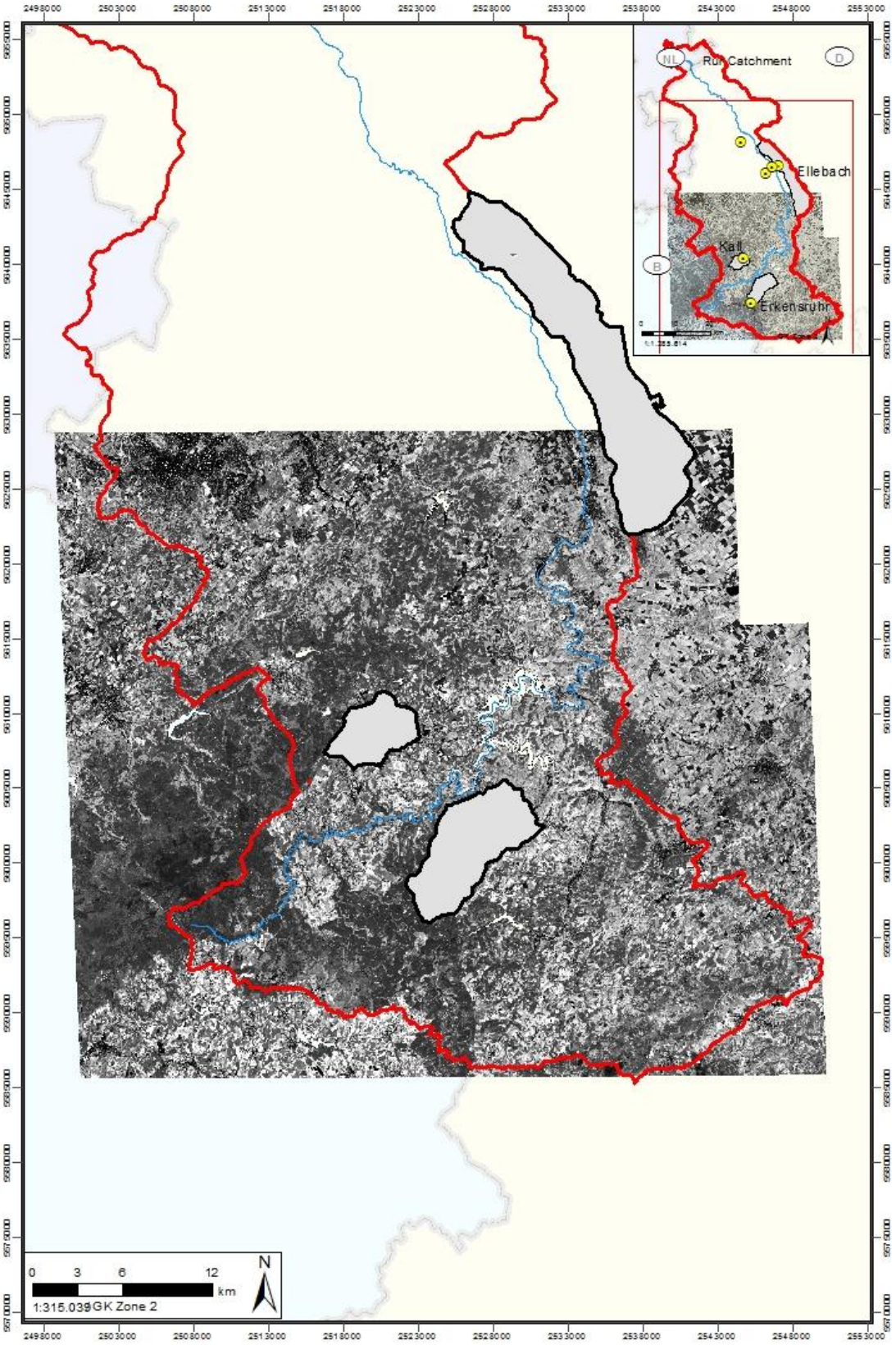
| | ***Literature***<br><br>*Geosystems (2002): Calibration Files for ASTER in ATCOR. http://gis-lab.info/docs/calibration_files_for_aster_atcor_v20x.pdf. 2011-09-18.*<br><br>*KLISCH, A. (2003): Ableitung von Blattflächenindex und Bedeckungsgrad aus Fernerkundungsdaten für das Erosionsmodell EROSION 3D. Dissertation. Universität Potsdam.* |
| abbreviations used in data: | not necessary |

## Example




**Scene “A” with atmospheric filter**




**Scene “B” with atmospheric filter**

## Author

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