Janicke Consulting

Environmental Physics

LASAT

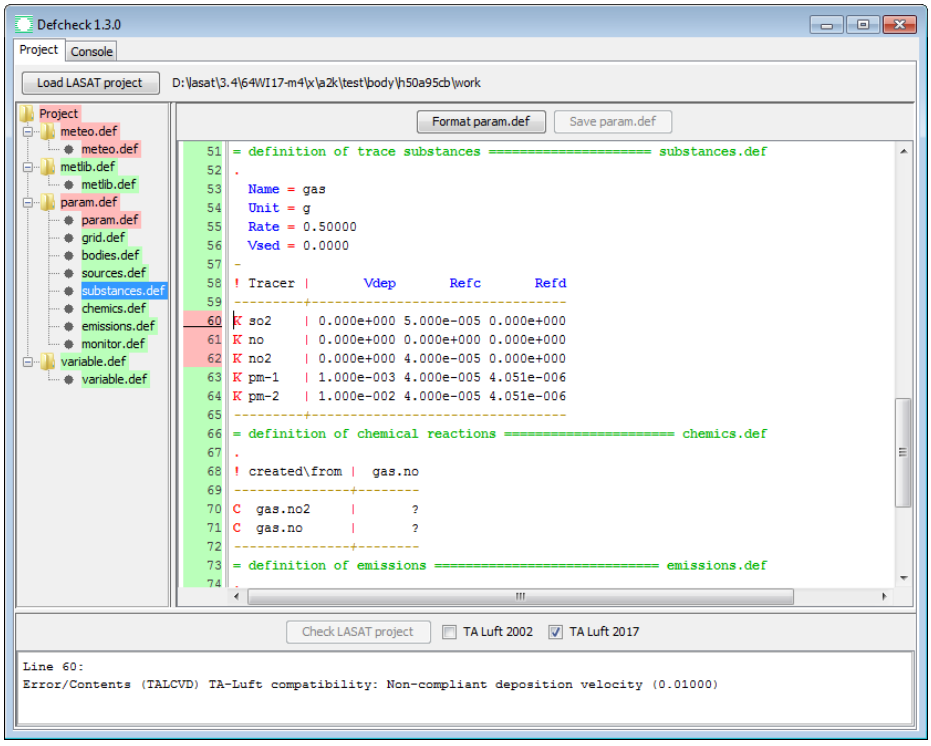
Update 3.4

Update LASAT 3.4 has been released in May 2017 and contains, among others, the following extensions:

Boundary layer model The boundary layer model of the revised guideline VDI 3783 Part 8 (2017) and regulation TA Luft 2017 has been implemented as meteorology version 5.3. It includes an advanced description of the profile of wind speed and direction with height (Janicke & Janicke, 2016: *Accurate numerical solution and analytical approximation for the wind profile over flat terrain*, 16th EMS Annual Meeting, Triest).

Plume rise The advanced plume rise model PLURIS (Janicke & Janicke, 2001: *A three-dimensional plume rise model for dry and wet plumes*, Atmospheric Environment 35, 877-890) has been integrated. The implementation accounts for the settings of the regulation TA Luft 2017 (see Project FZK 3714 43 204 0 of the Federal Environmental Agency; Reports on Environmental Physics No. 9, 2017).

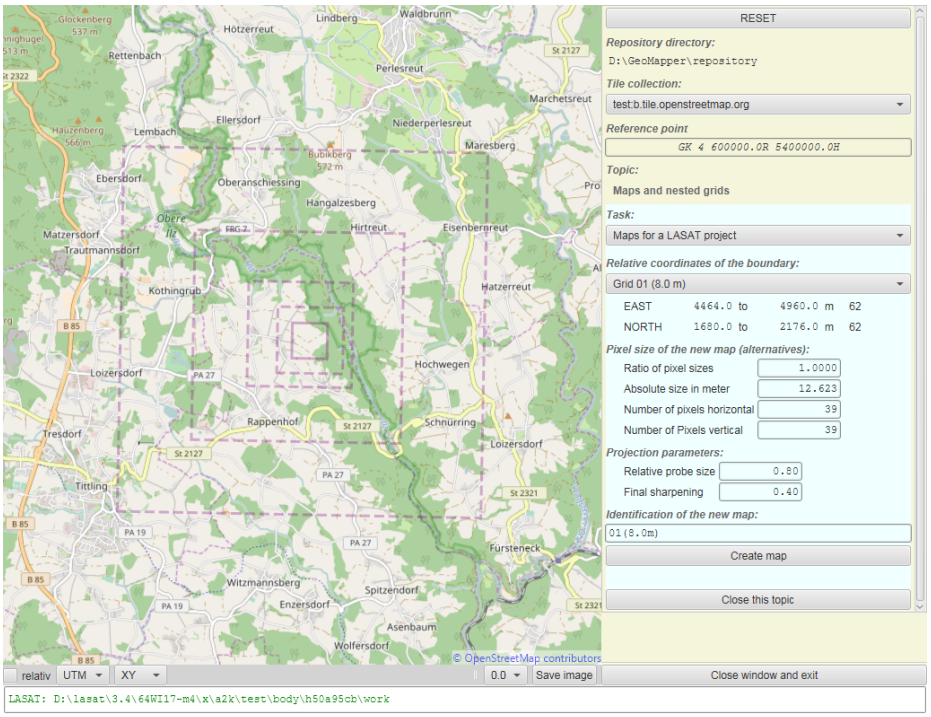
DefCheck The LASAT tool *DefCheck* for the interactive check of LASAT input files optionally accounts for the settings of the regulation TA Luft 2017.



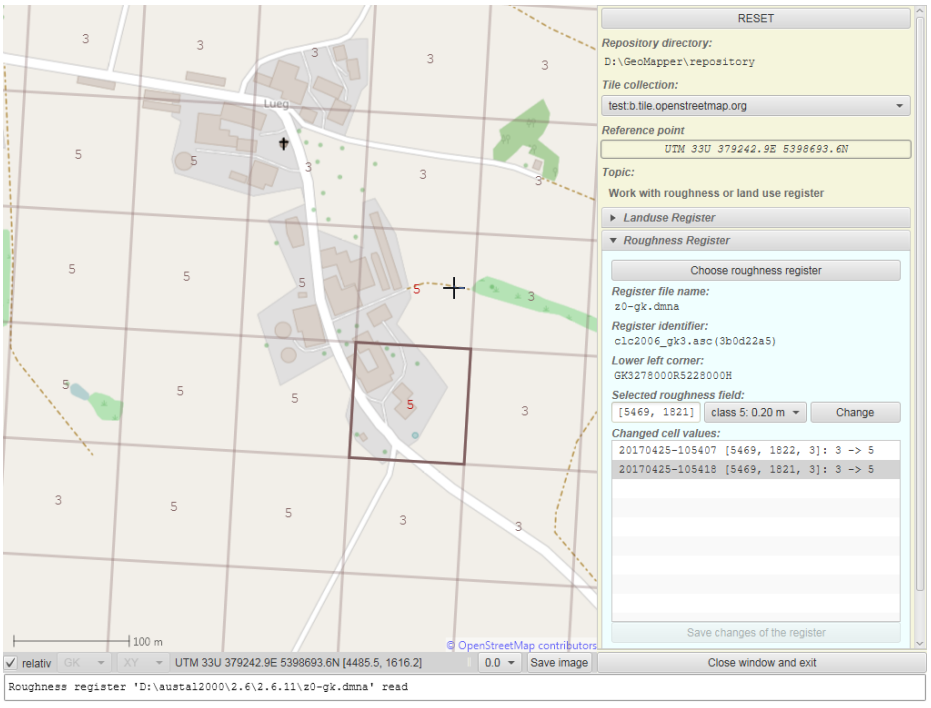
DefCheck:
Check of LASAT input files for compatibility with the regulation TA Luft 2017.

GeoMapper The LASAT tool set contains a new powerful tool, the *GeoMapper*. It allows, among others:

1. Display of maps from *OpenStreetMap* (OSM), worldwide and in a variety of resolutions. OSM maps are free of charge, with many up-to-date details.



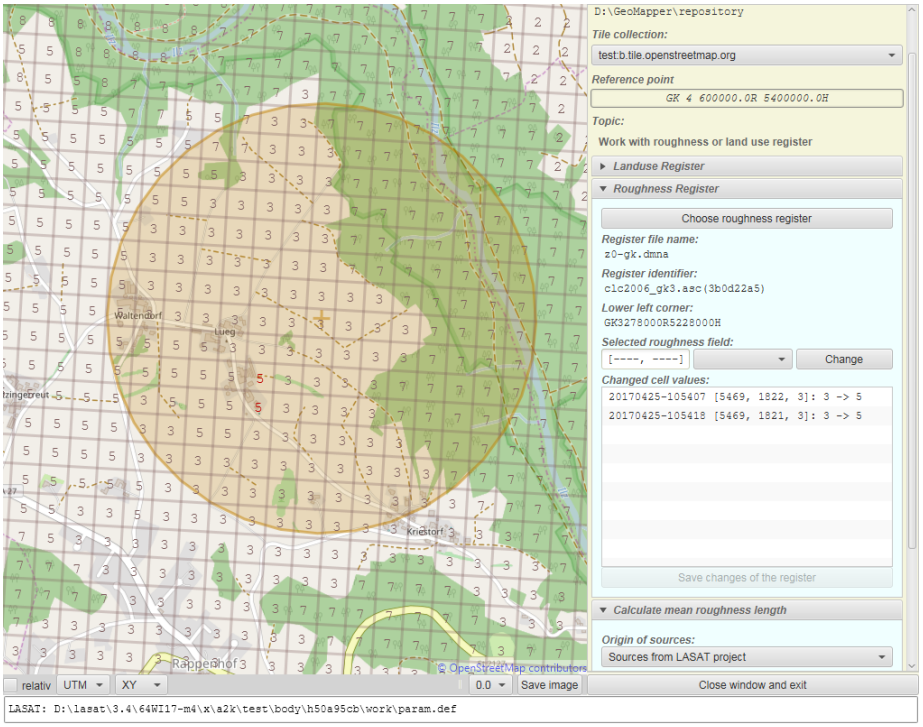
GeoMapper: Creation of a background map for a given set of nested grids from LASAT.



GeoMapper: Visualization and modification of a roughness register, here the register from the program package AUSTAL (subdirectory `x`).

The maps are loaded from the Internet and stored to a local repository. A refresh menu allows to update the repository. Coordinates can be displayed and entered in different coordinate systems (UTM, GK) and zones and are transformed as necessary.

2. Creation of OSM maps for given calculation grids of LASAT or AUSTAL and storage for further use, e.g. by the LASAT programs *IBJdis* and *IBJshape*.
3. Interactive definition of (optionally nested) calculation grids for LASAT or AUSTAL by means of OSM maps.
4. Display and modification of roughness registers of the AUSTAL package with background OSM maps.
5. Calculation of average roughness lengths according to TA Luft 2017 for given sources, either entered by hand or read from LASAT or AUSTAL input files.



GeoMapper: Calculation of the average roughness length according to TA Luft 2017 for a given set of emission sources.

LASAT 3.4 is provided for Windows (7 to 10) and Linux (preferably 64-bit systems).

The price for updating LASAT 3.3 to LASAT 3.4 amounts to net 4 200 EUR (single user licence). Please contact us for further information. A demo version of LASAT 3.4 is available at request.

Janicke Consulting
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Hermann-Hoch-Weg 1
88662 Überlingen
Germany

Phone +49 (0)7551 947 1818
Email info@janicke.de
Internet www.janicke.de