Land use

CORDEX group

5. Observational datasets and scientific discussion on the results (....)?

DKRZ (Peter Hoffmann)

Available observations:

- **42 operational stations** (Meteo-France) recording standard meteorological parameters, but with only 1 station in Paris (Paris-Montsouris urban park): T, HU, DD, FF for all stations + GLO, PRES, RR for some of them. Data available with a 6 min timestep (netcdf format)
- **Gridded precipitation products** at 1-km resolution with a 1-hr timestep since 1997
- **Gridded TN/TX products** at 1.25-km resolution since 2000 (only covering the Île-de-France region)
- **MODIS LST** data at 1-km resolution 2000-2017
- **FLUXNET stations** in the NW, SIRTA supersite in the SW (20km from city center) with 50 variables observed since 2003-2004 (see reobs.aeris-data.fr)
- **ICOS flux stations** at Grignon (crops) and Barbeau (forest) with radiation and turbulent flux measurements, and soil water content and temperature
- **Meteorological station + microlidar** in the city center (stops in 2017 for lidar)
- **Ceilometers at SIRTA**, and the two airports (one in NE, one in S).
- **NetATMO citizen stations** (T) available since 2017 (mainly in Paris and first suburbs)

Accessible?

ANALYSIS PROTOCOL

STAGE-0 Test Simulations

FPS URB-RCC

1). Description / aim

The main aim of the analysis protocol is to coordinate the analysis of the data produced during the STAGE-0 Test Simulations.

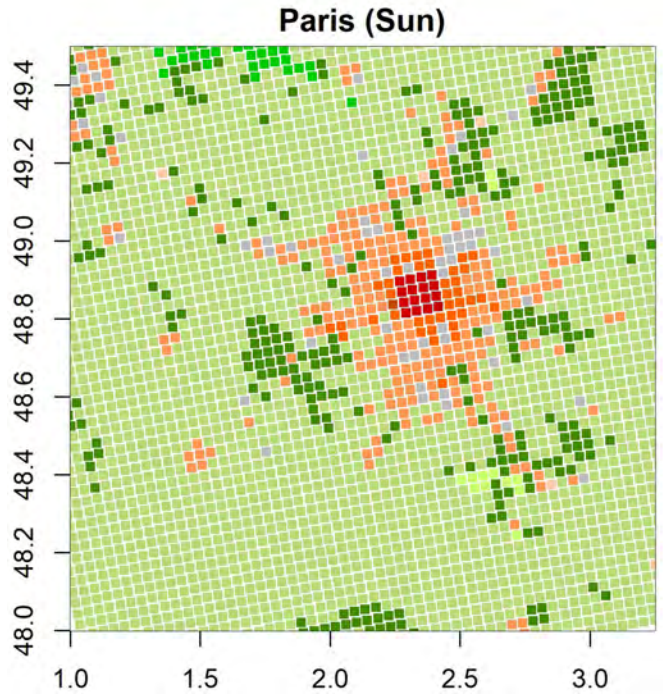
STAGE-0 simulations entail the double-nested downscaling of 2 short events for the Paris region: a severe convective event and a heat-wave. Both extremes occurred in 2020 and are simulated within a period of 4-5 months using ERA5.1 reanalysis data. The months in between the extremes can be used as a "benign" benchmarking period.

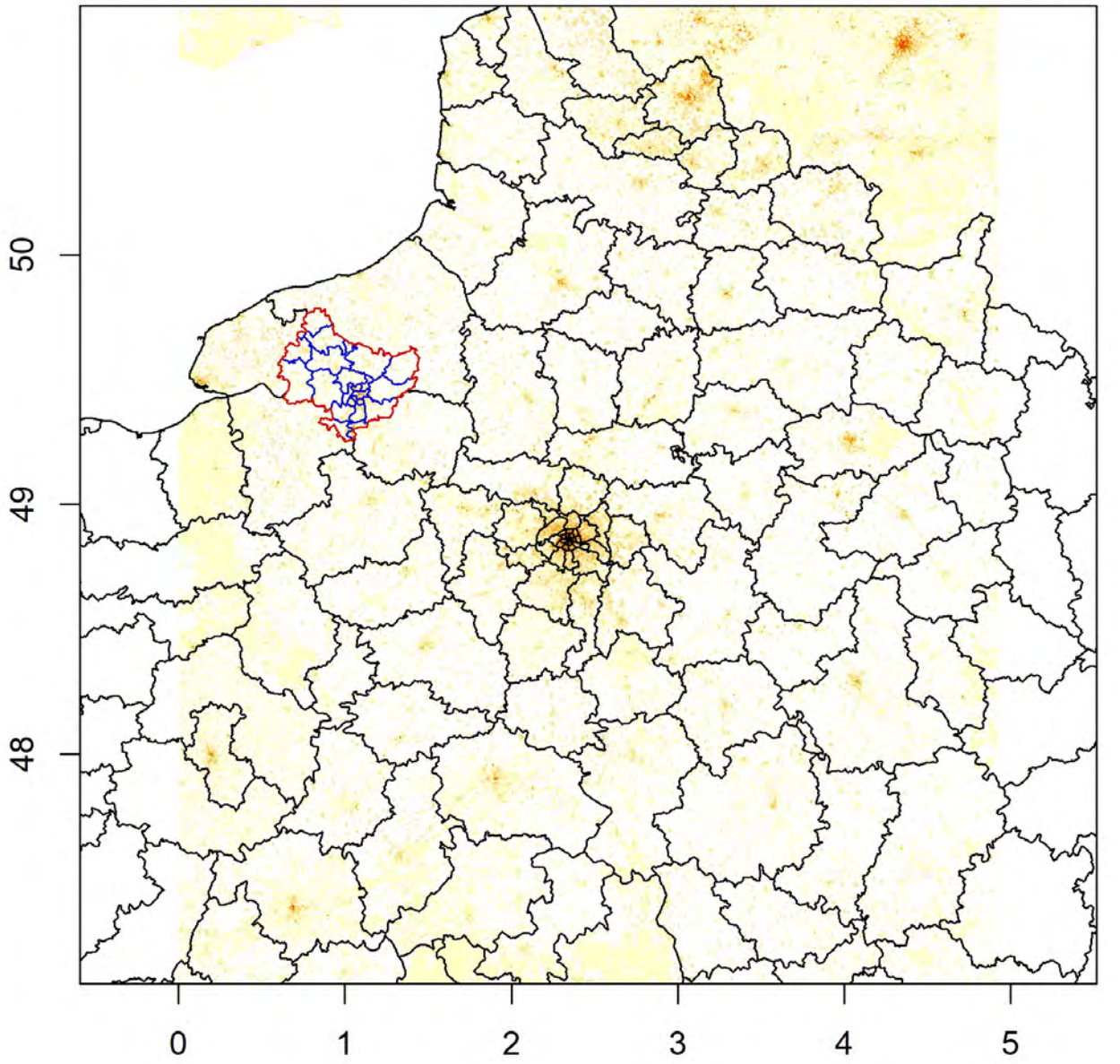
2). Main events / periods of interest for the analysis

- 1x Convective event / thunderstorm (9-10 May 2020), characterised by:
  - Precipitation: 35.6 mm (night of 9 May) + 15.2 mm (10 May). (= three weeks of average rain within a few hours).
  - Windspeed peak: 63.7 km/hr
- 1x Heatwave (7-13 Aug 2020), characterised by:
  - Maximum temperatures ~38°C, average mean temperatures ~33°C
  - 8-days long heatwave (one of top 5 longest in Paris history)

Building fraction

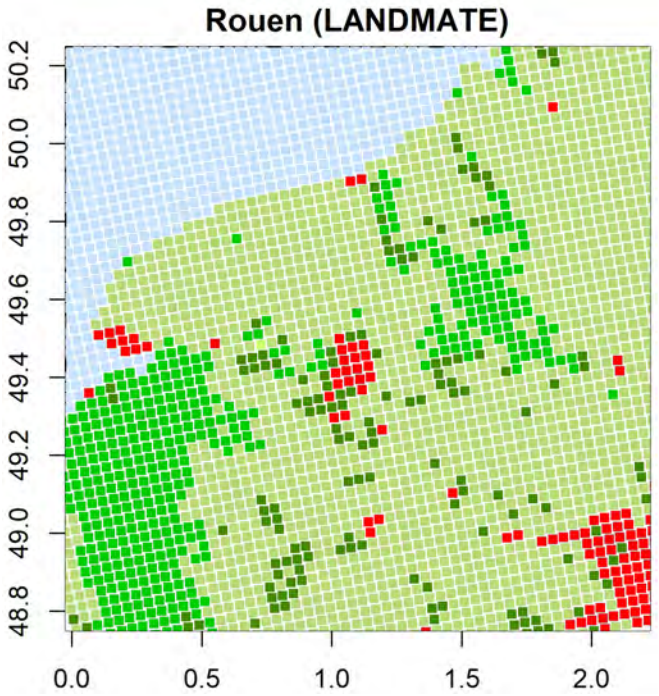
- https://github.com/orbisgis/geoclimate/wiki/References

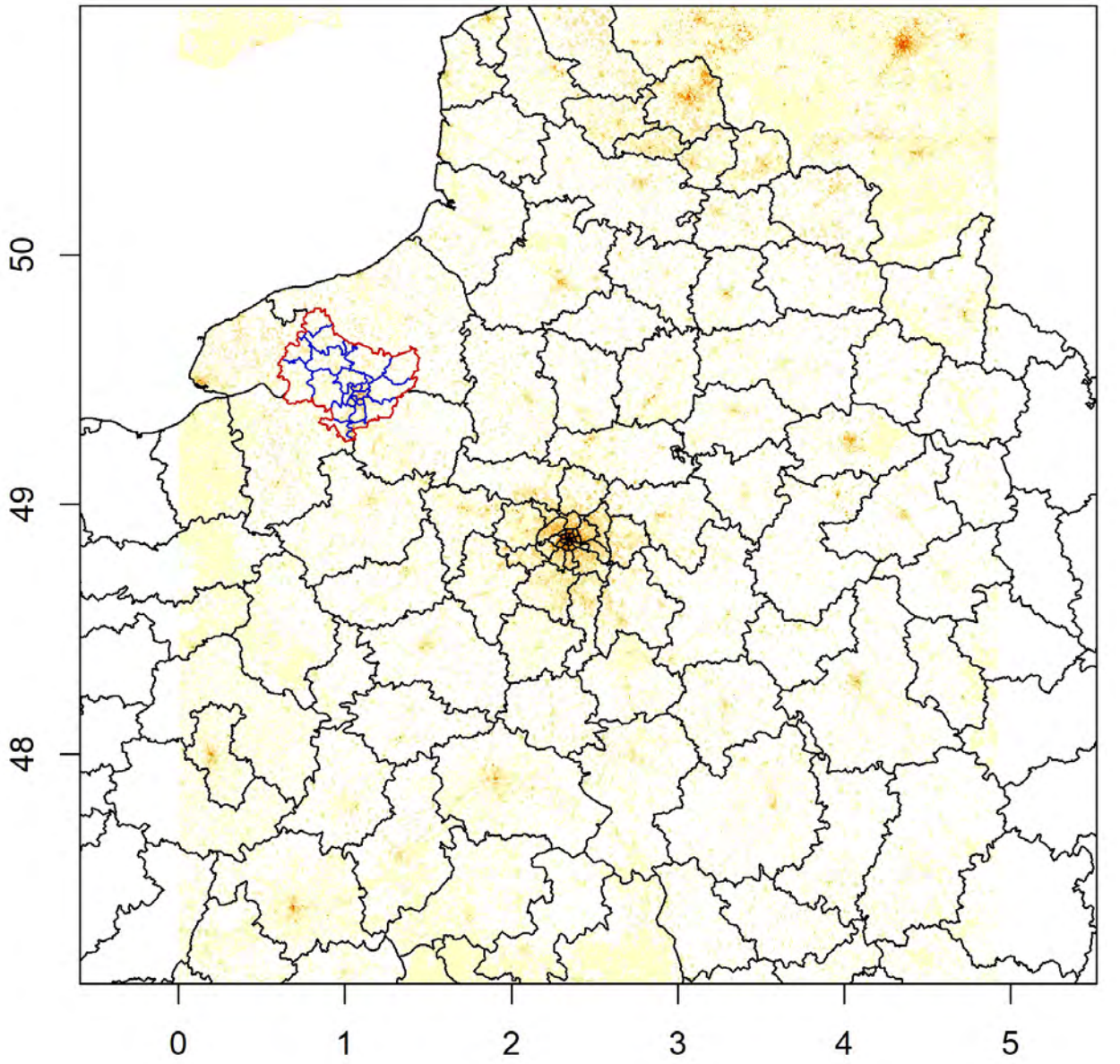




Building fraction

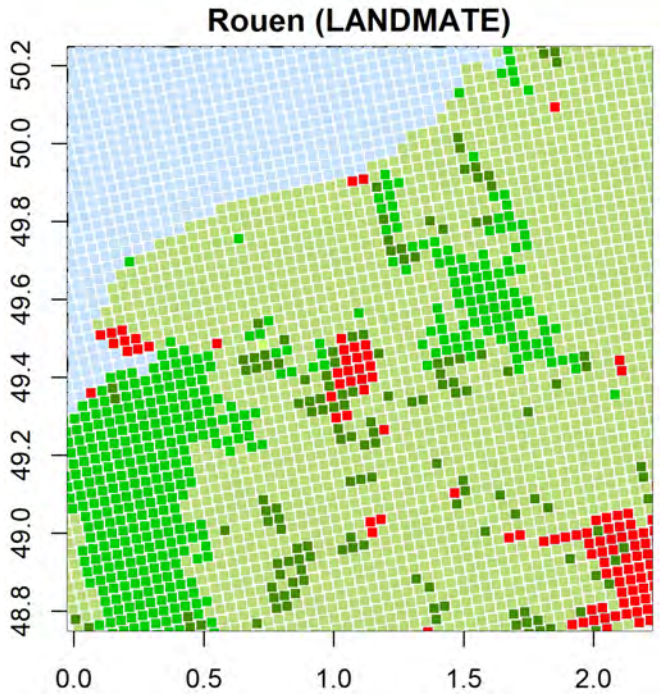
- https://github.com/orbisgis/geoclimate/wiki/References

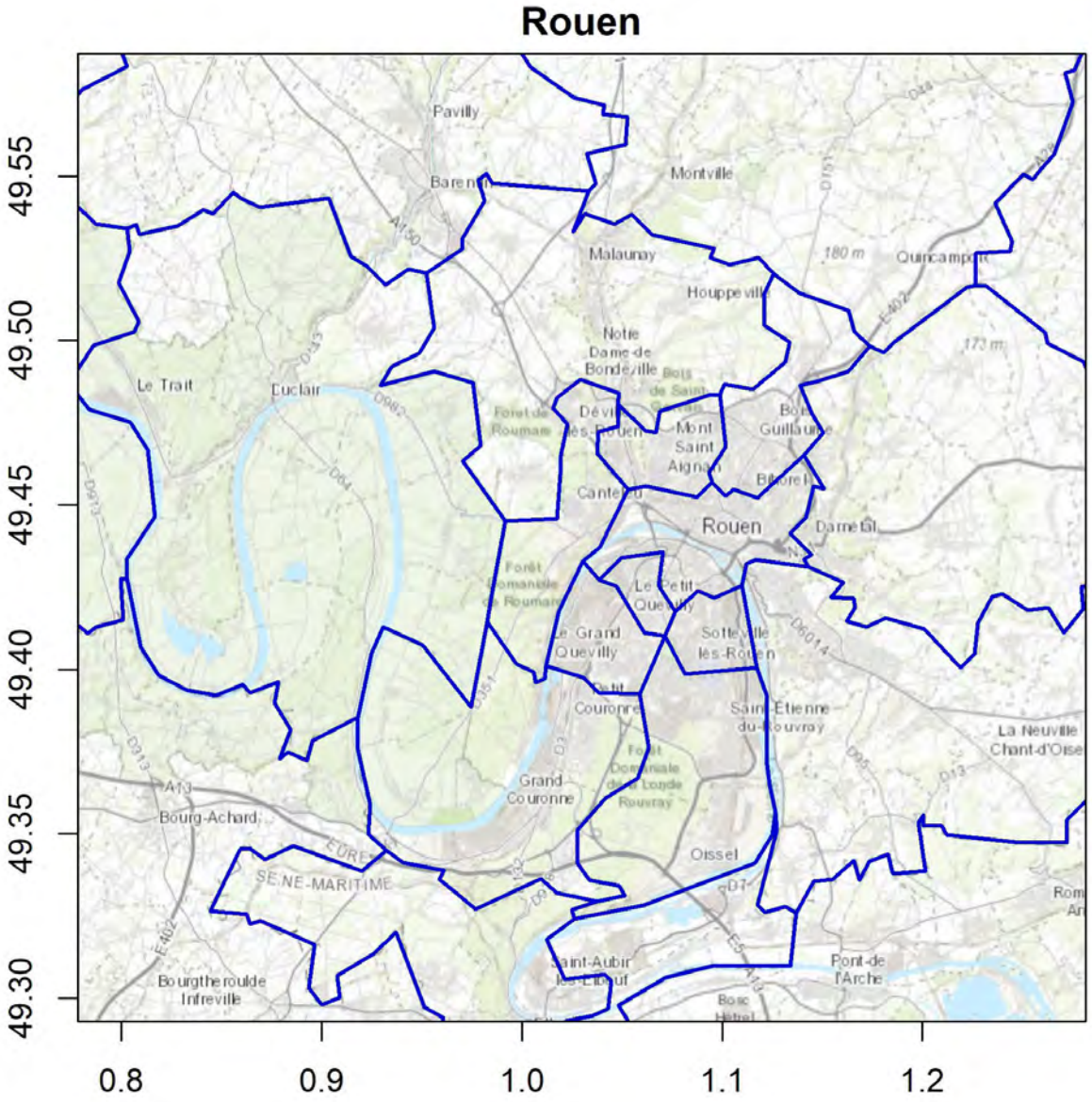




Building fraction

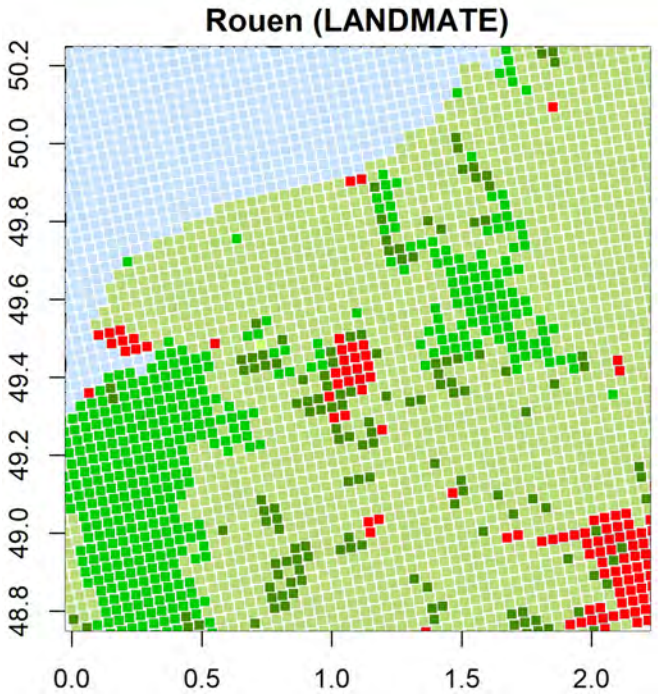
- https://github.com/orbisgis/geoclimate/wiki/References

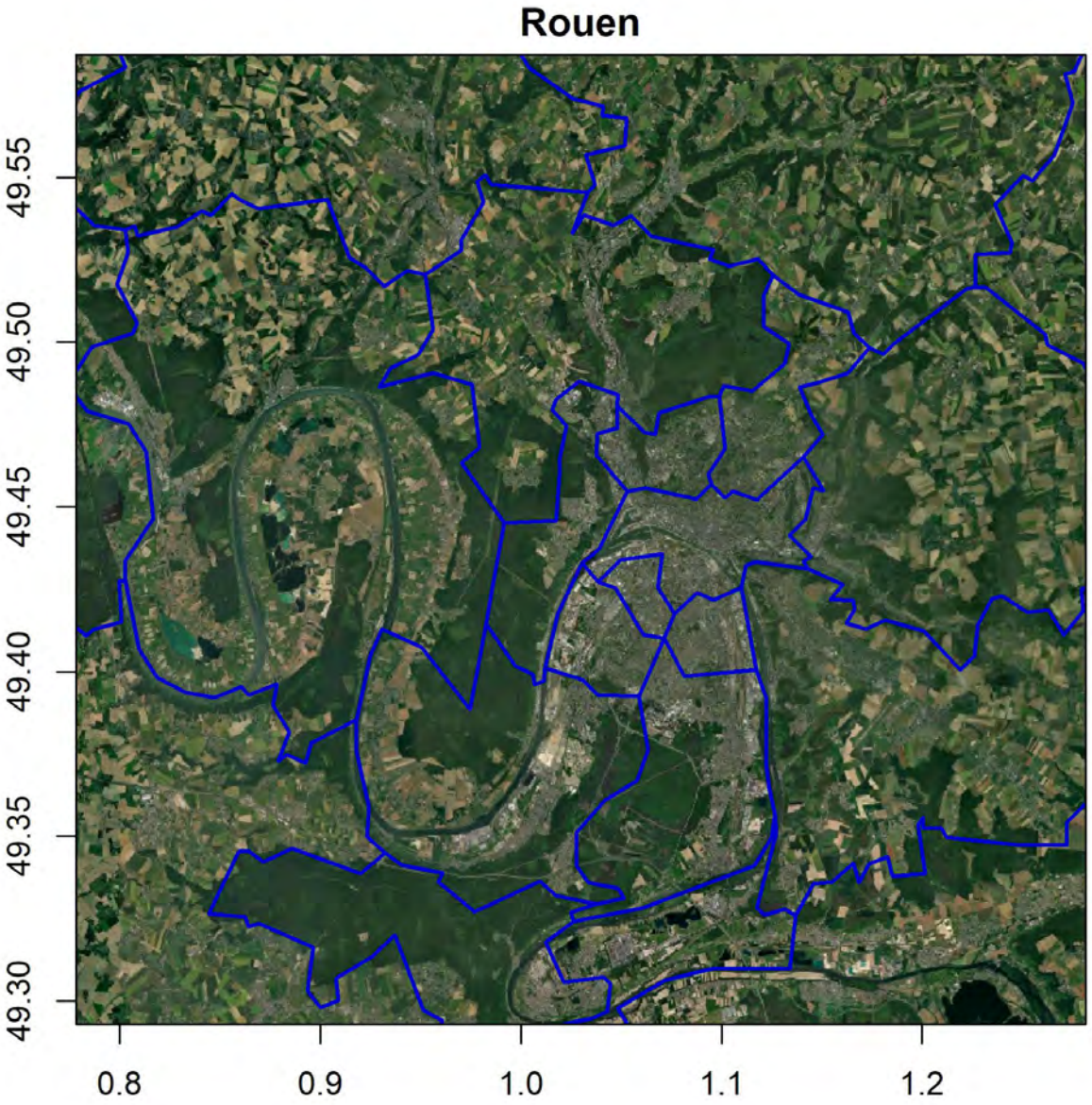




Building fraction

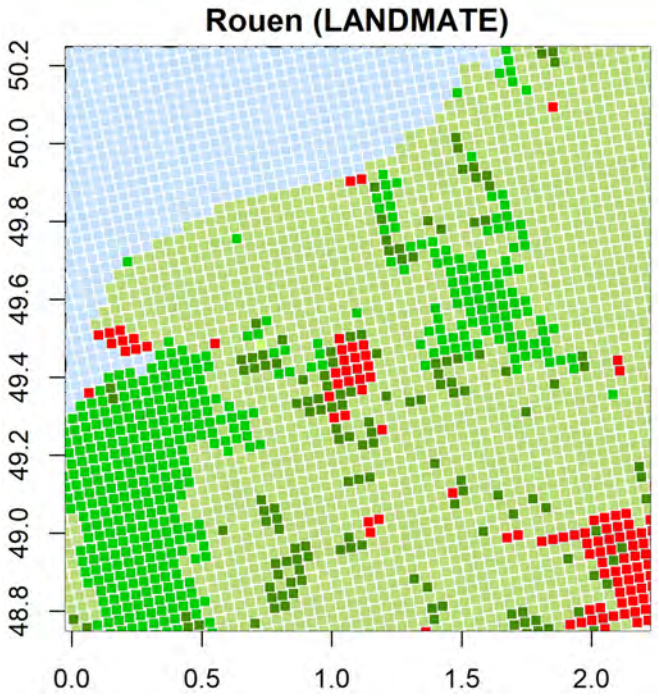
- https://github.com/orbisgis/geoclimate/wiki/References

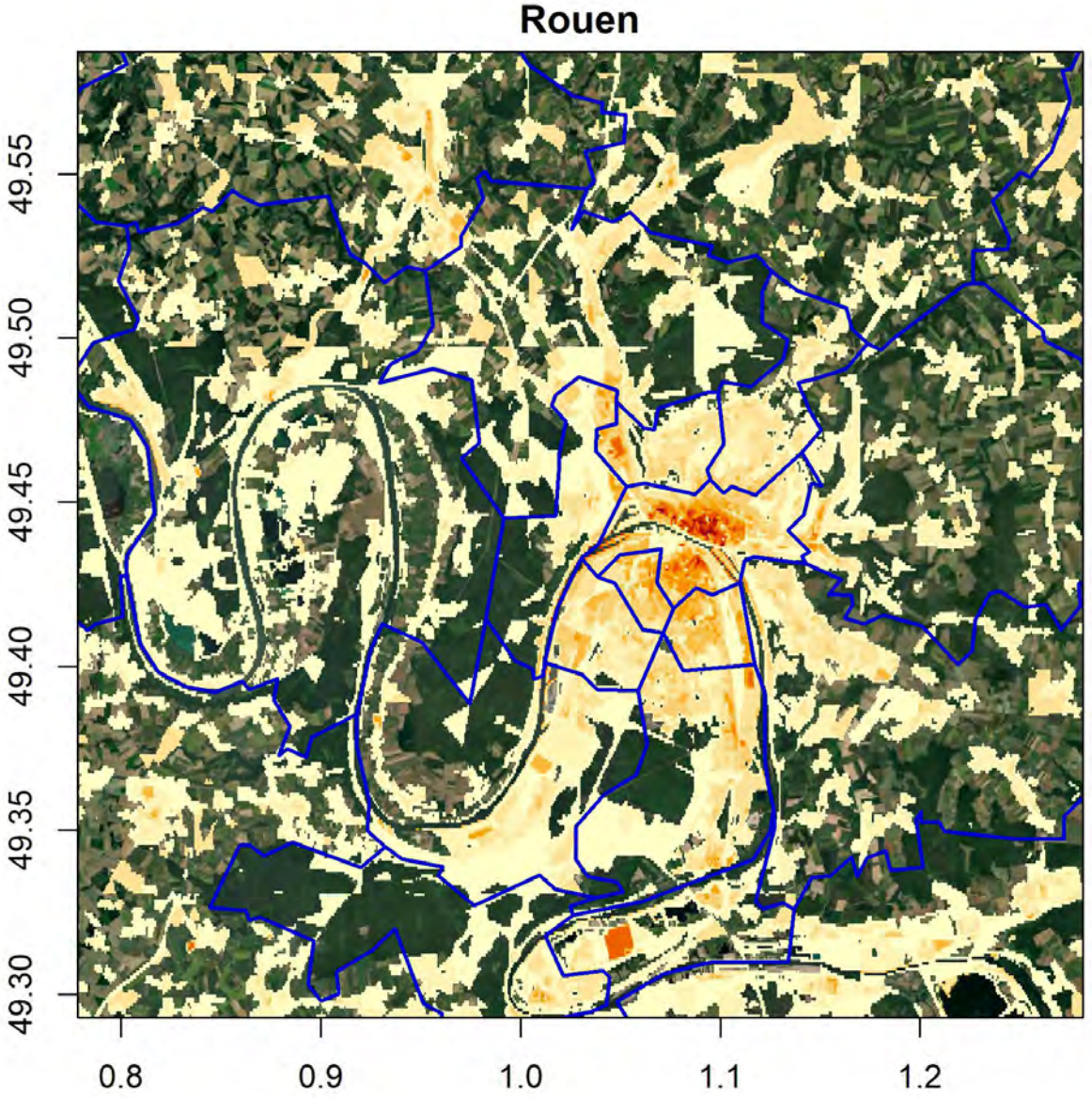




Building fraction

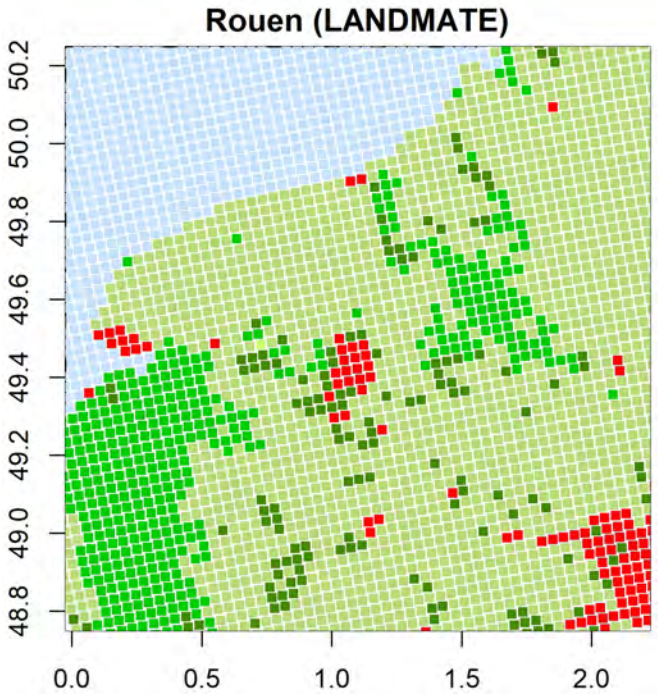
- https://github.com/orbisgis/geoclimate/wiki/References

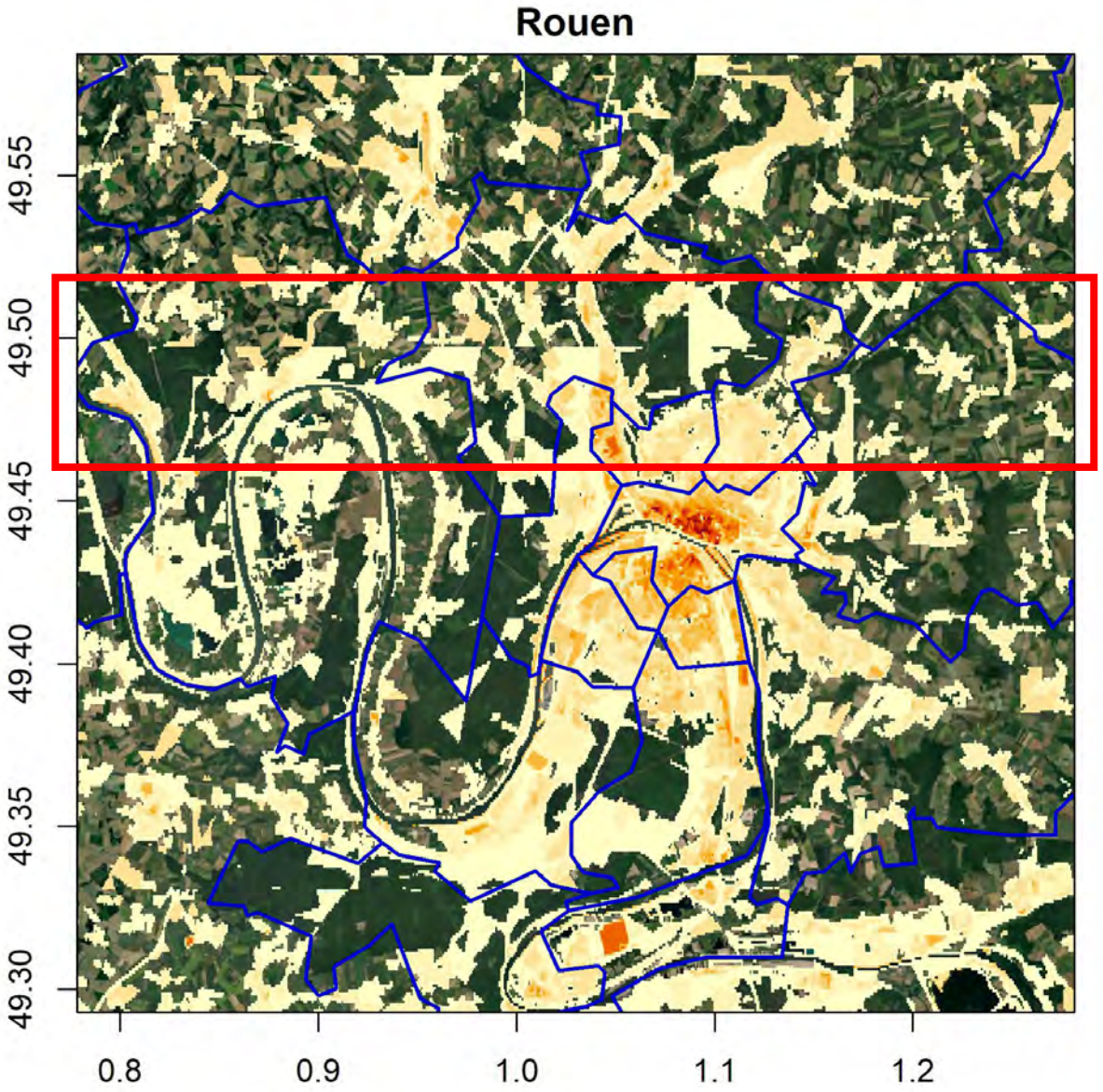




Building fraction

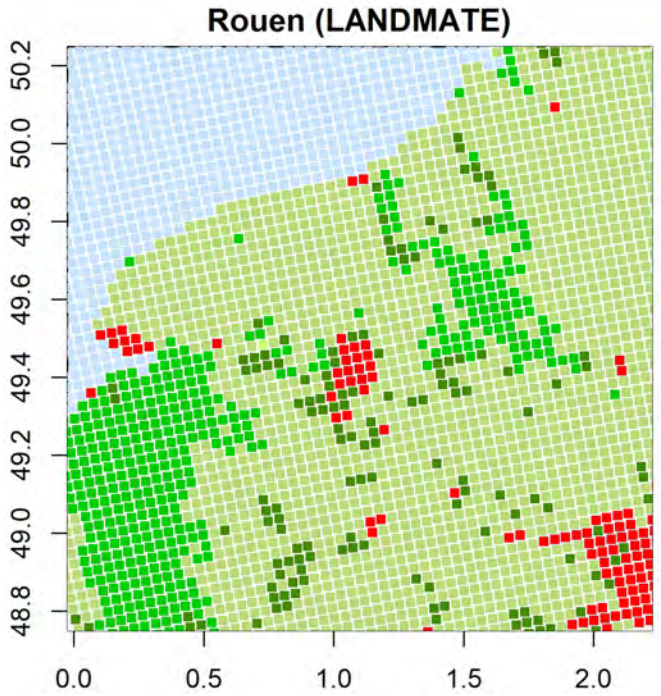
- https://github.com/orbisgis/geoclimate/wiki/References

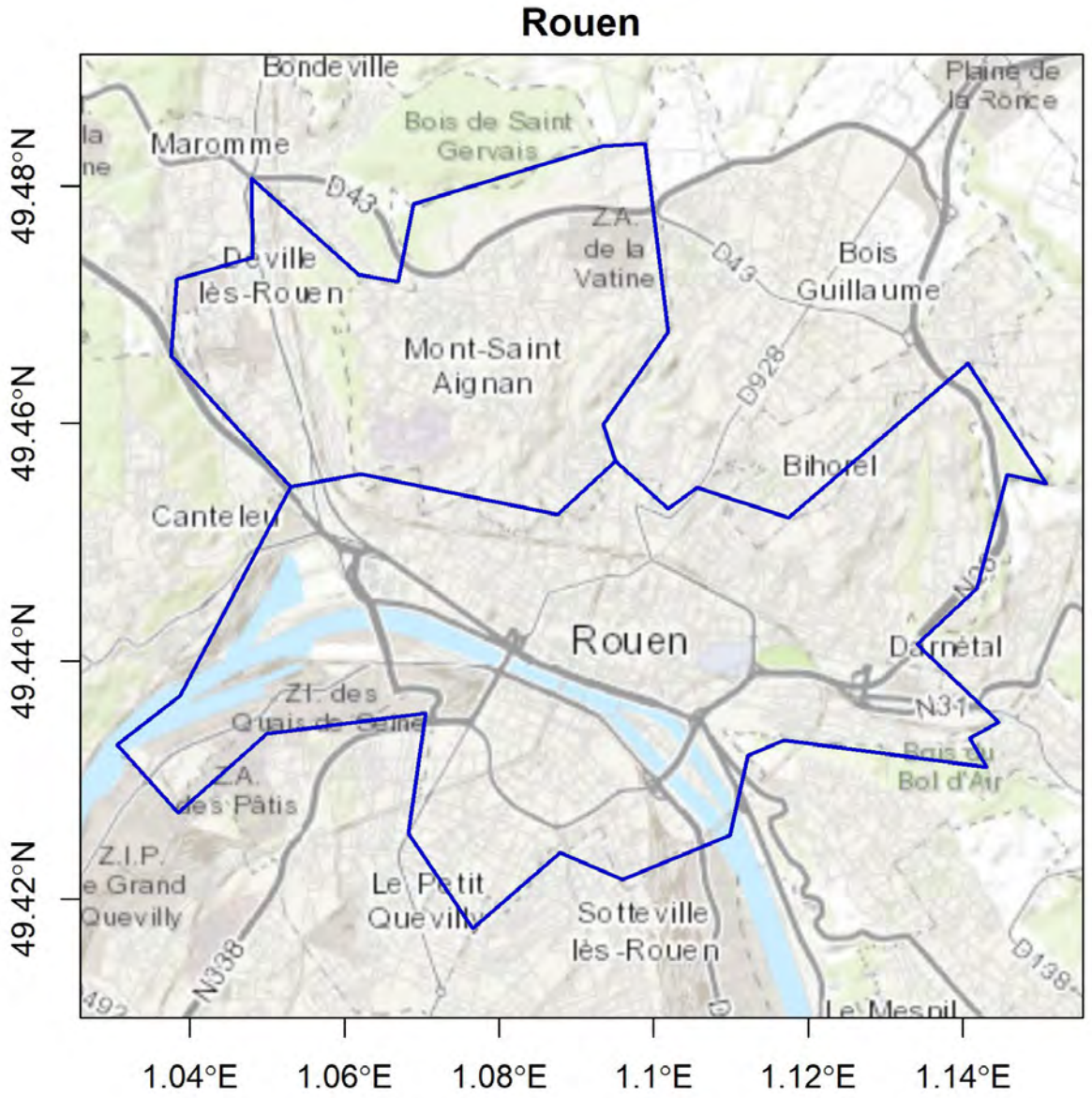




Building fraction

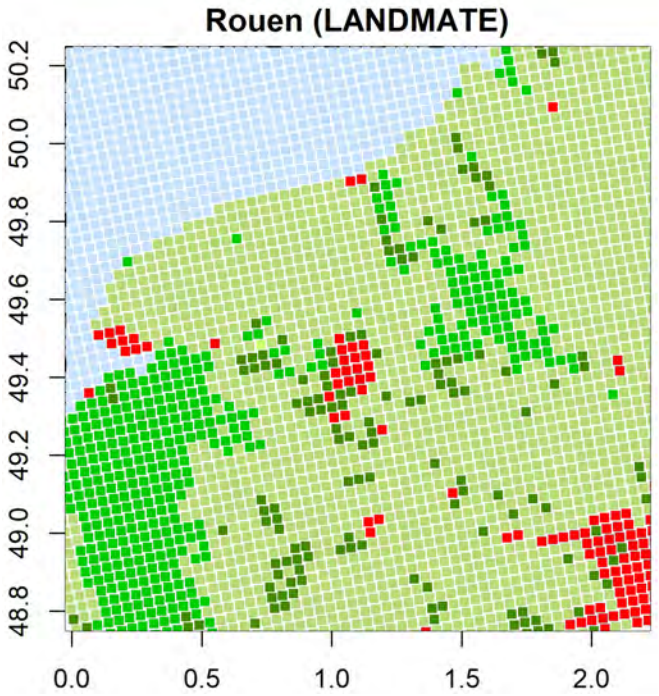
- https://github.com/orbisgis/geoclimate/wiki/References

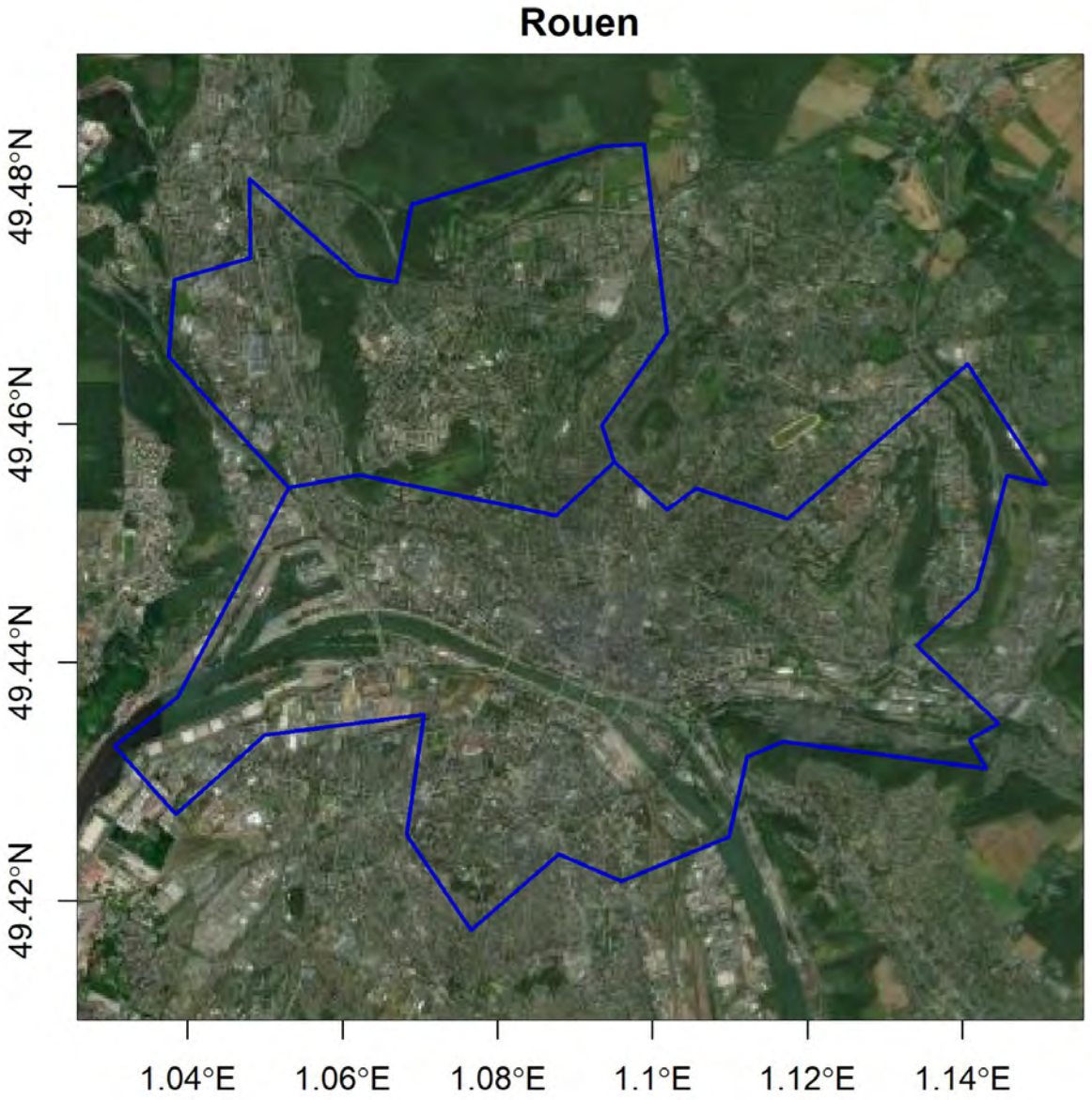




Building fraction

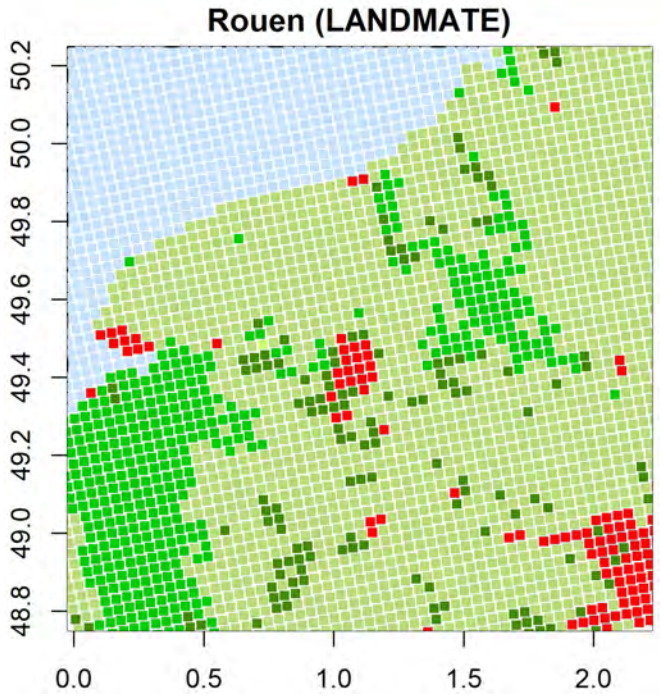
- https://github.com/orbisgis/geoclimate/wiki/References

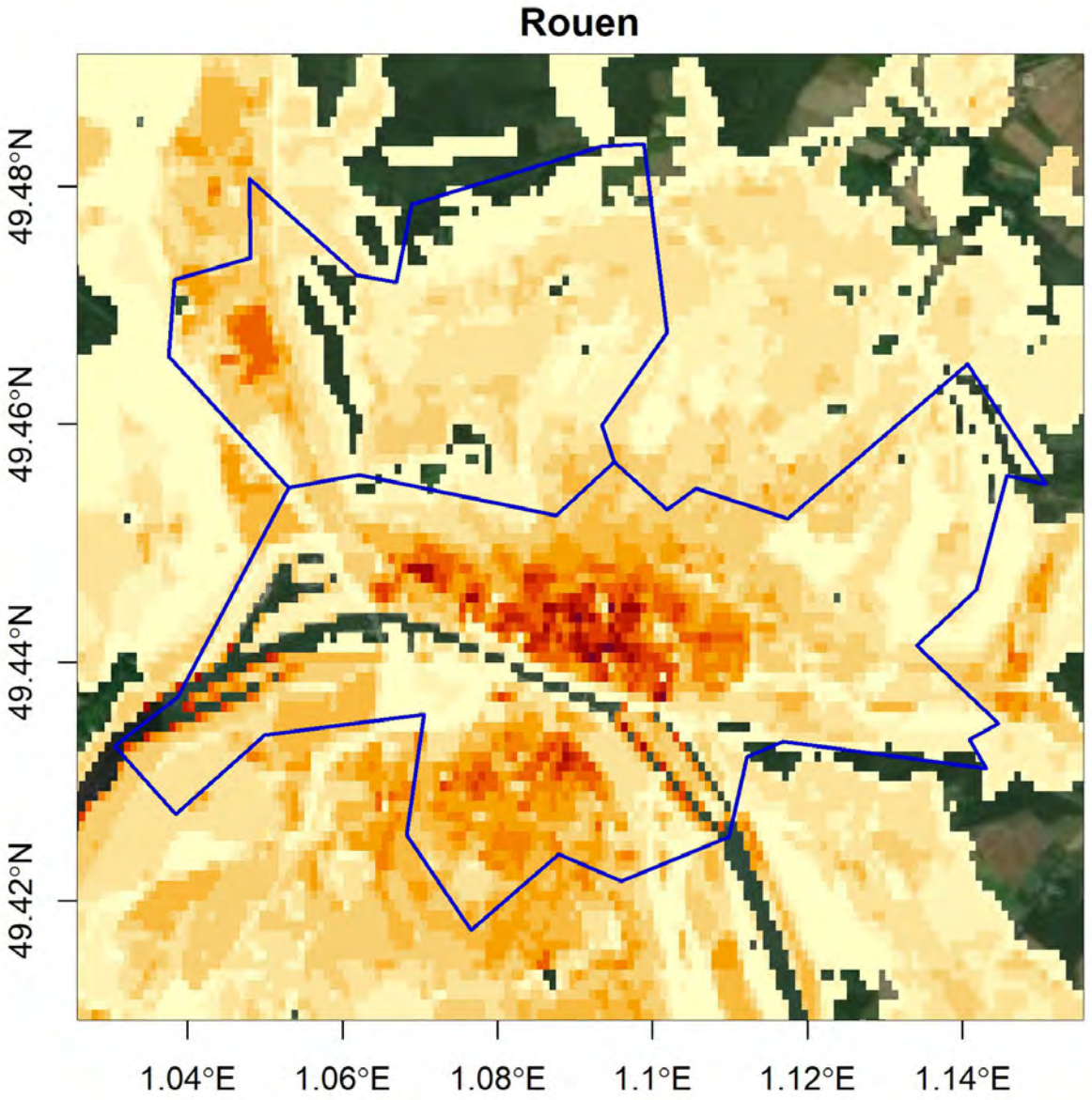




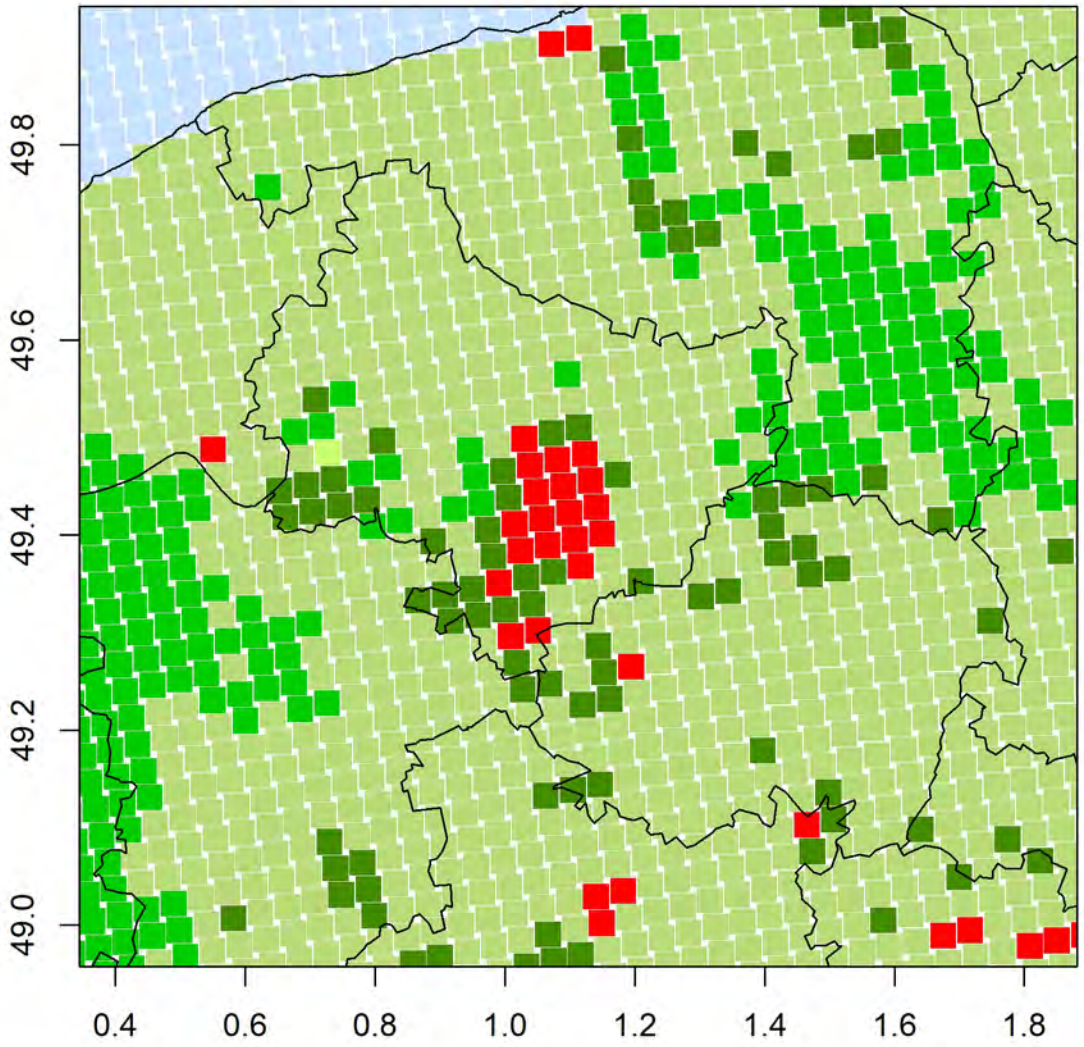
Building fraction

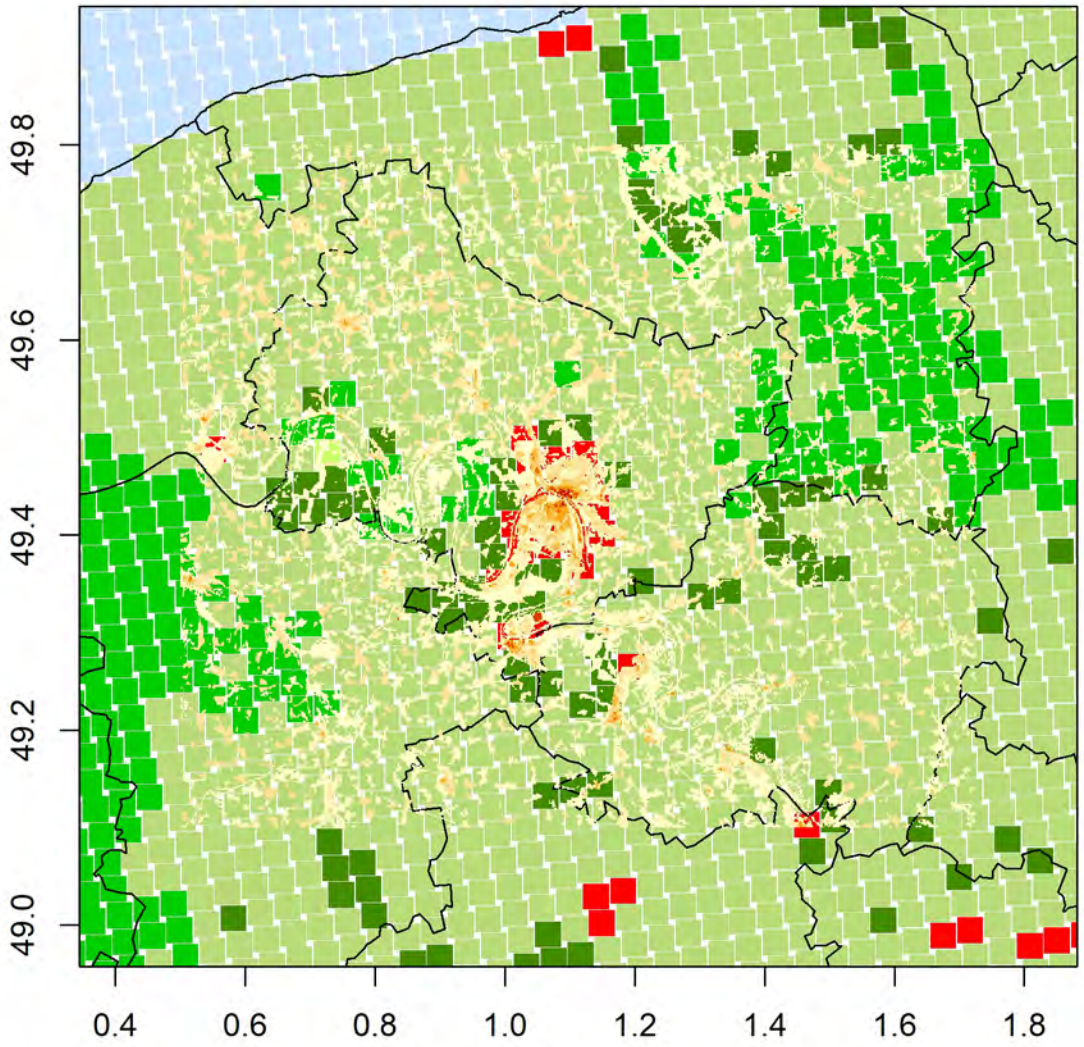
- https://github.com/orbisgis/geoclimate/wiki/References





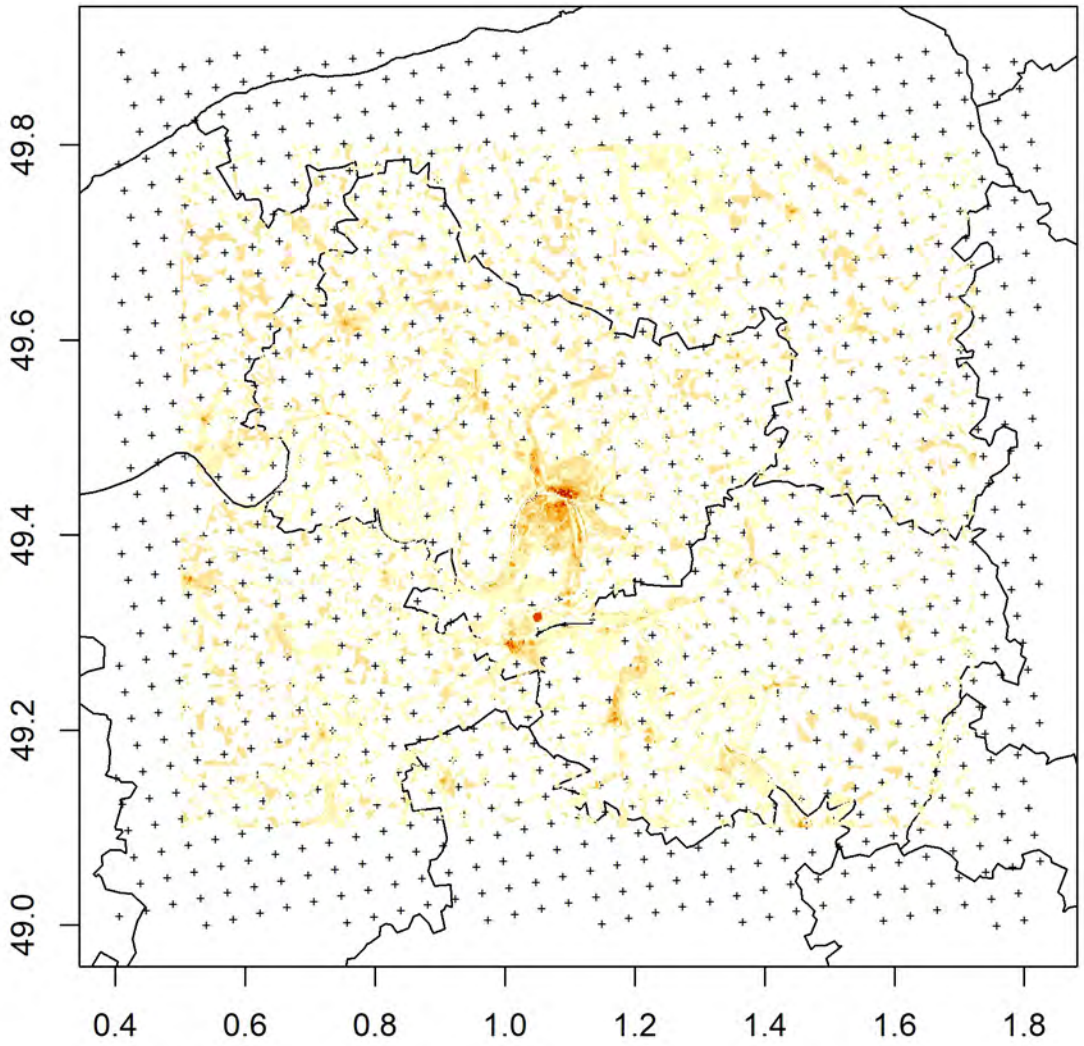
Thiessen Polygon Analysis

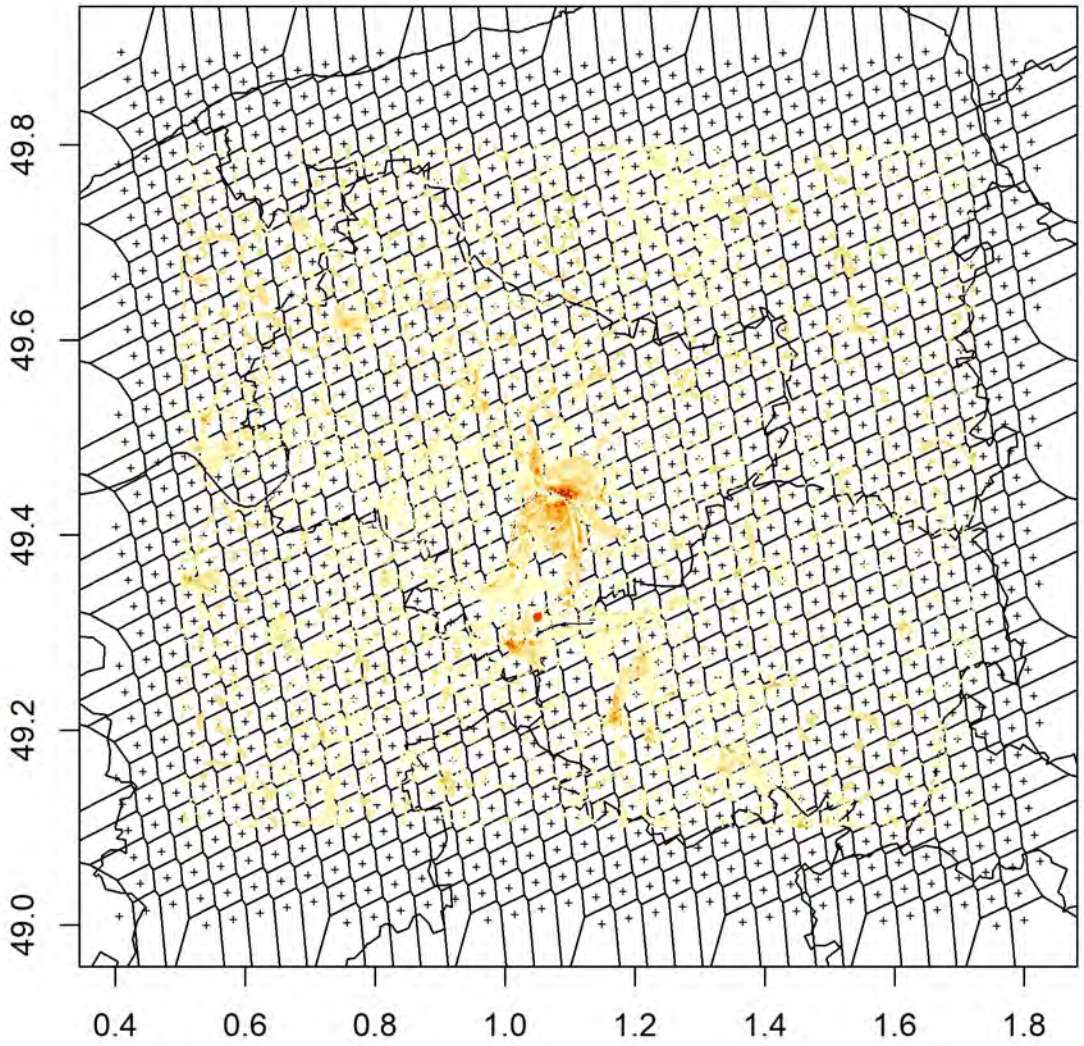




Thiessen Polygon Analysis

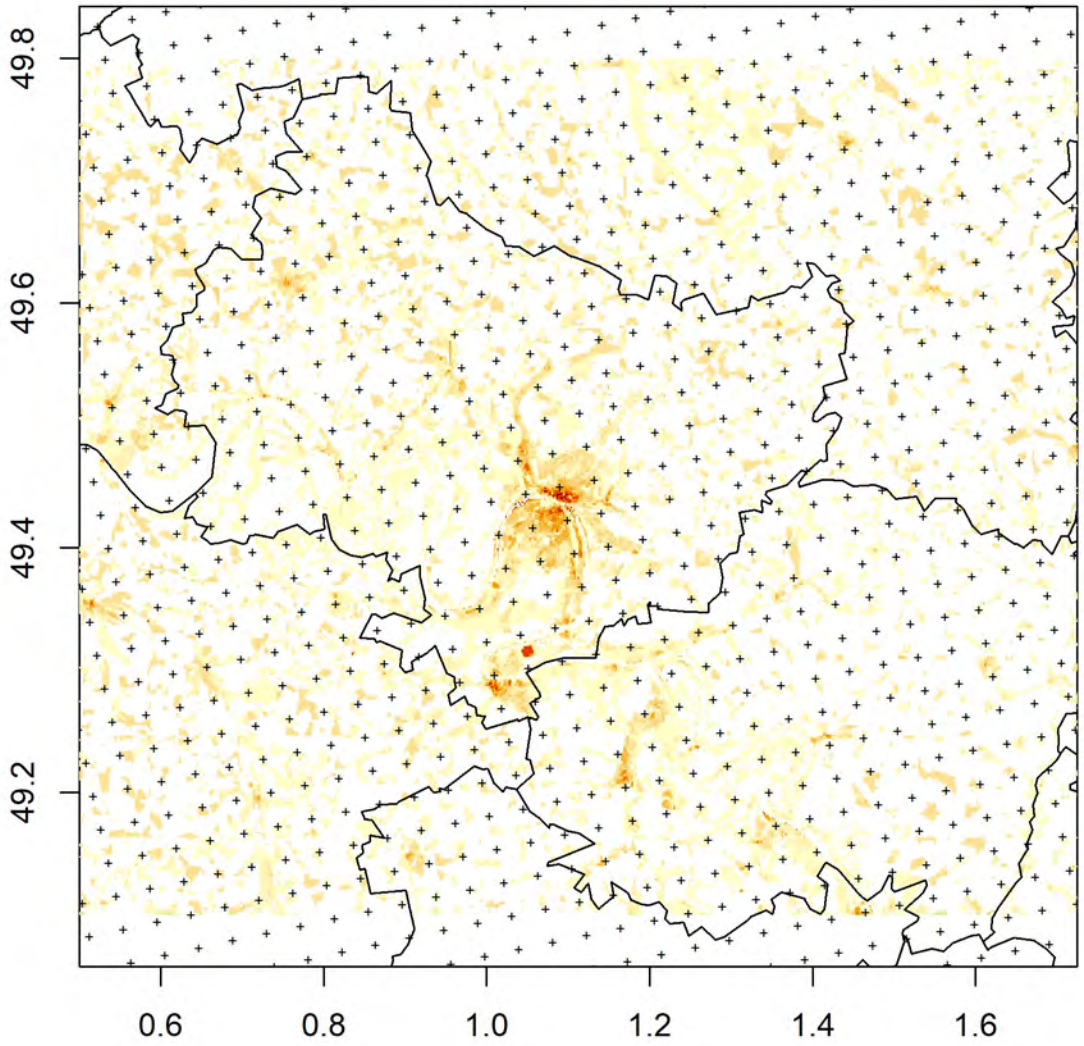
Building fraction

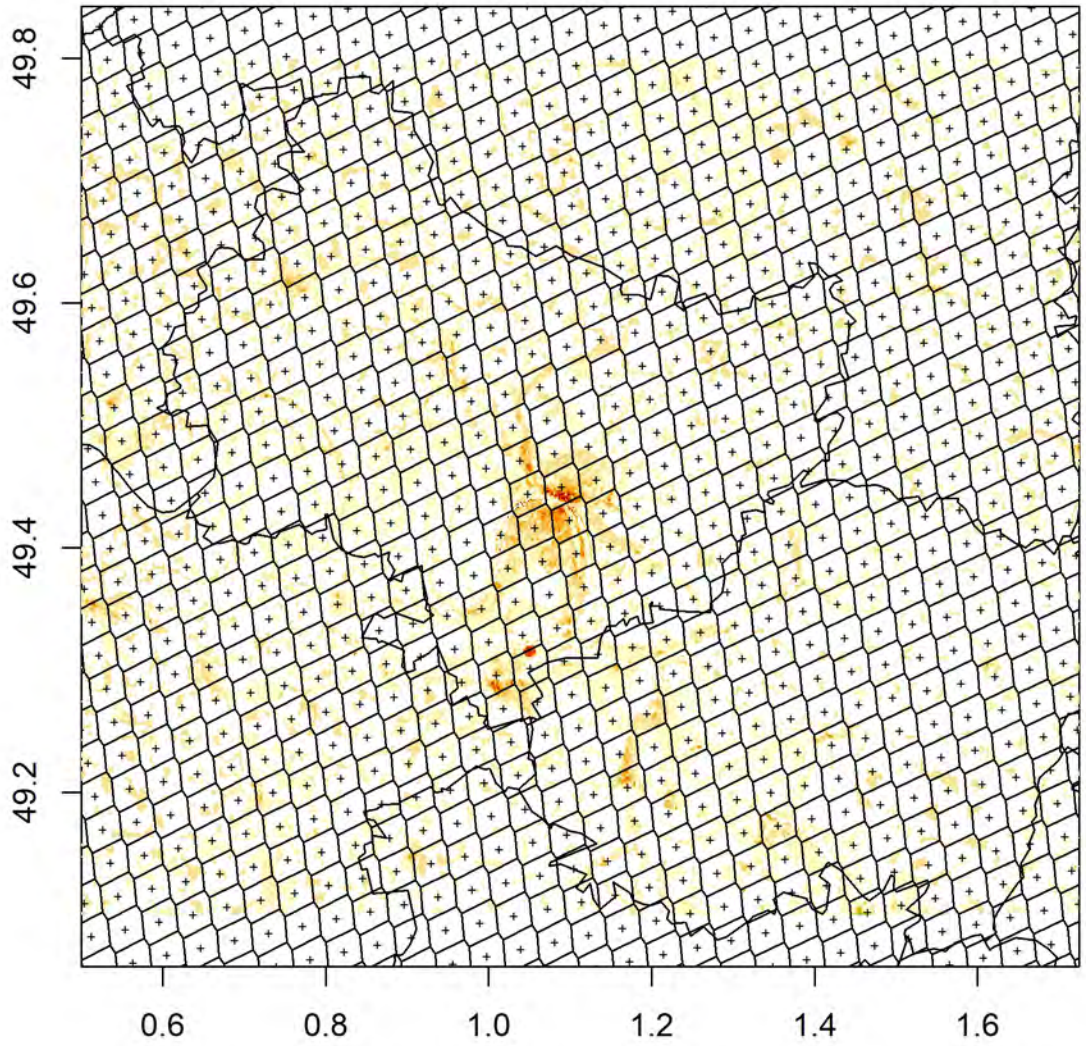




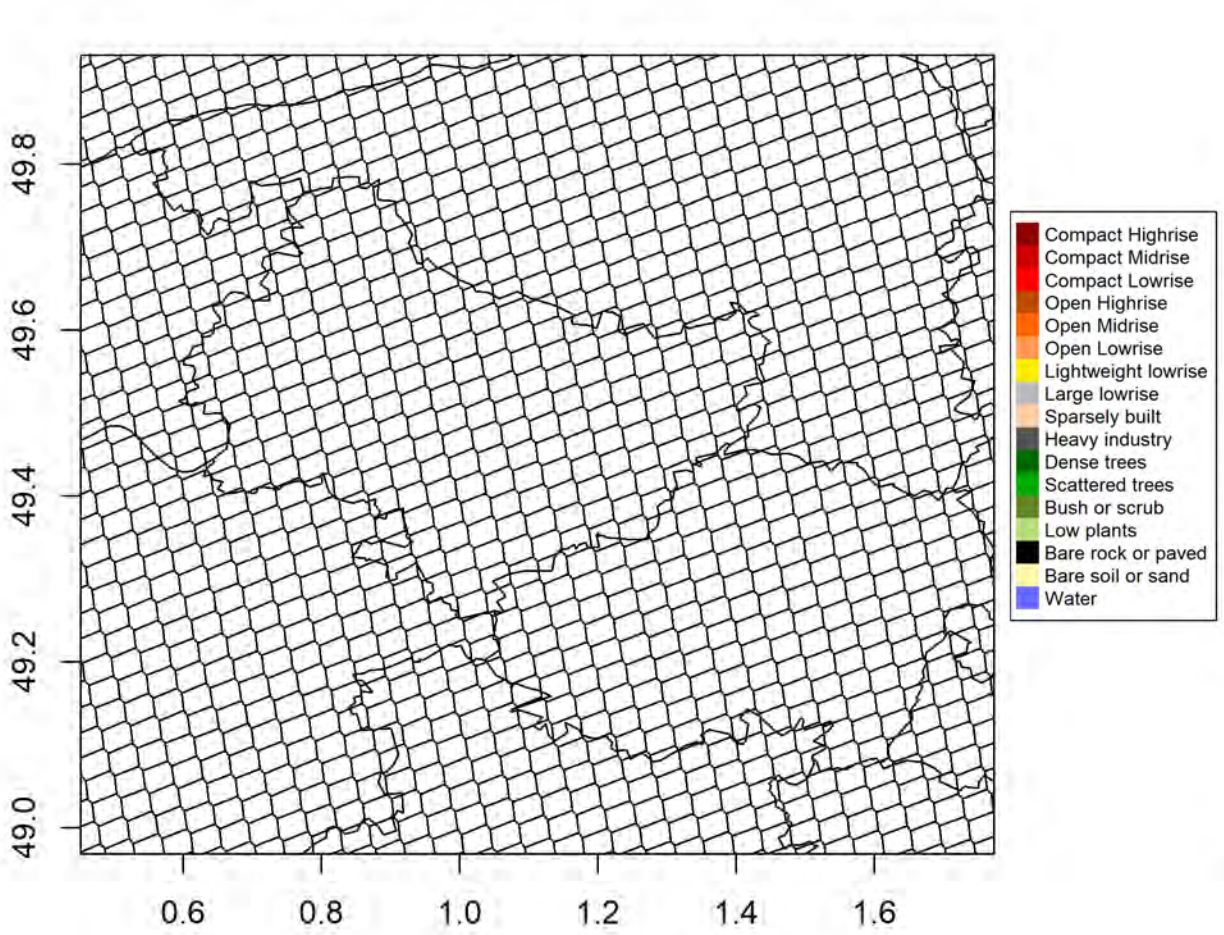
Thiessen Polygon Analysis

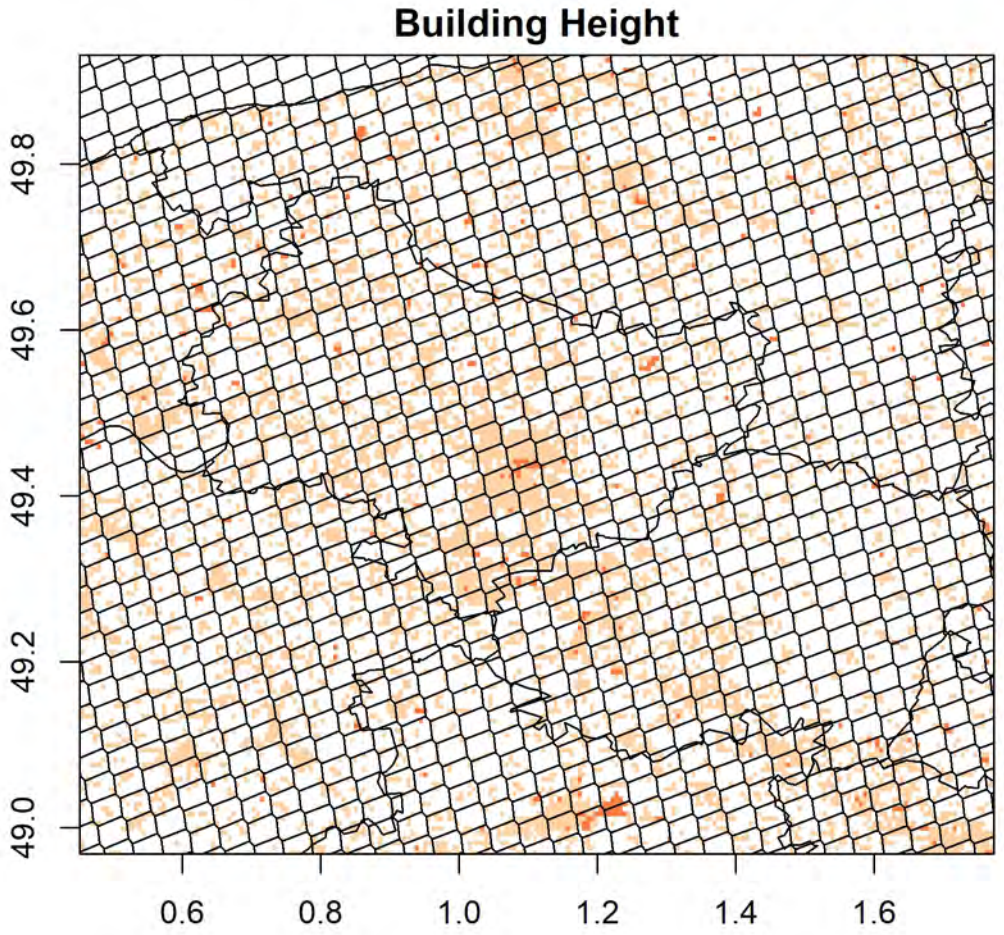
Building fraction



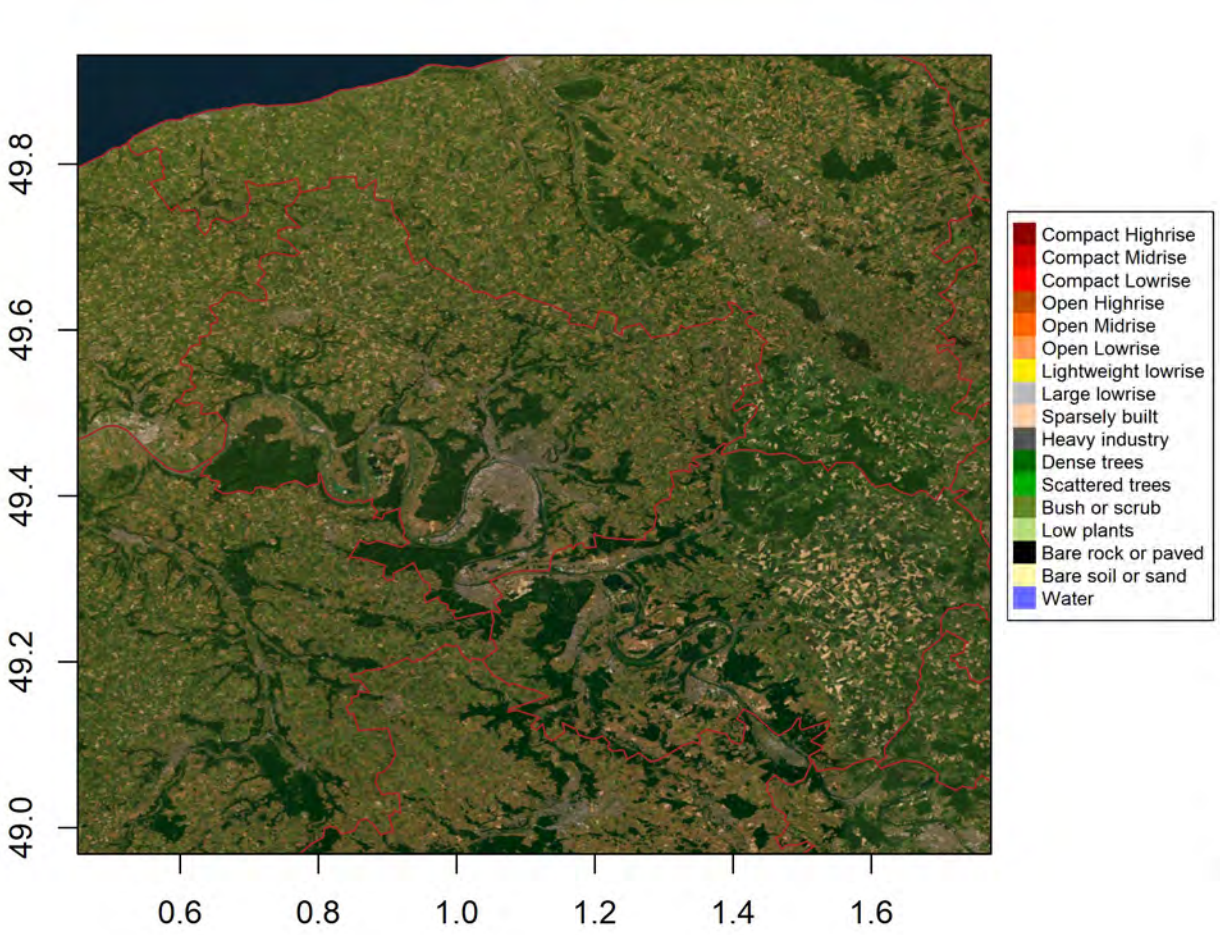


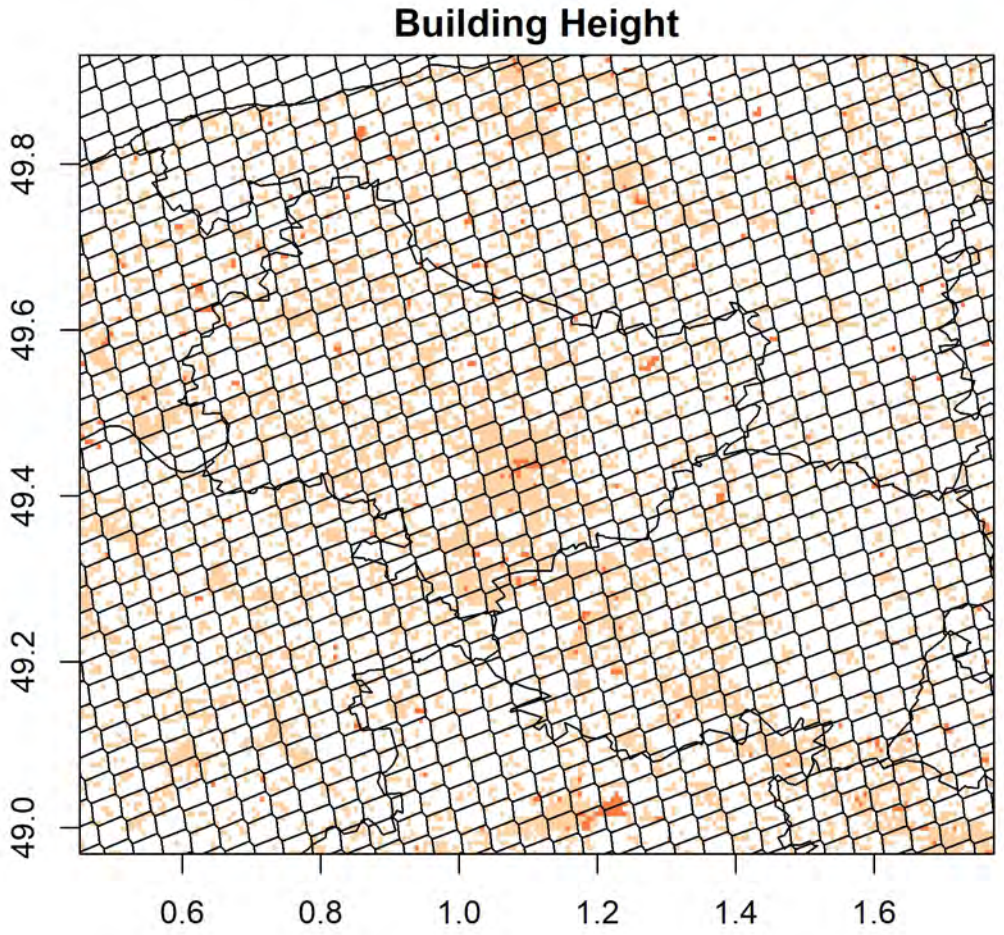
Thiessen Polygon Analysis



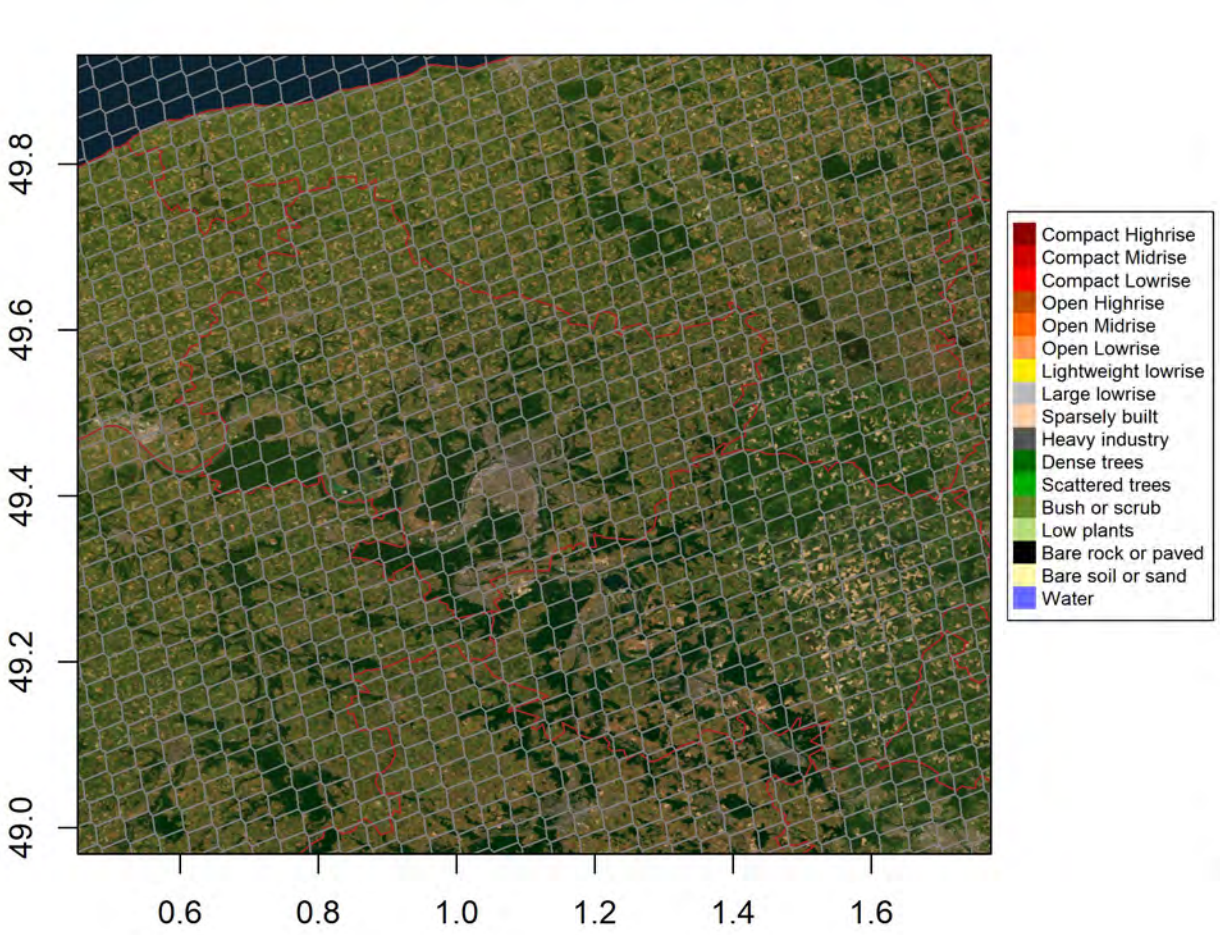


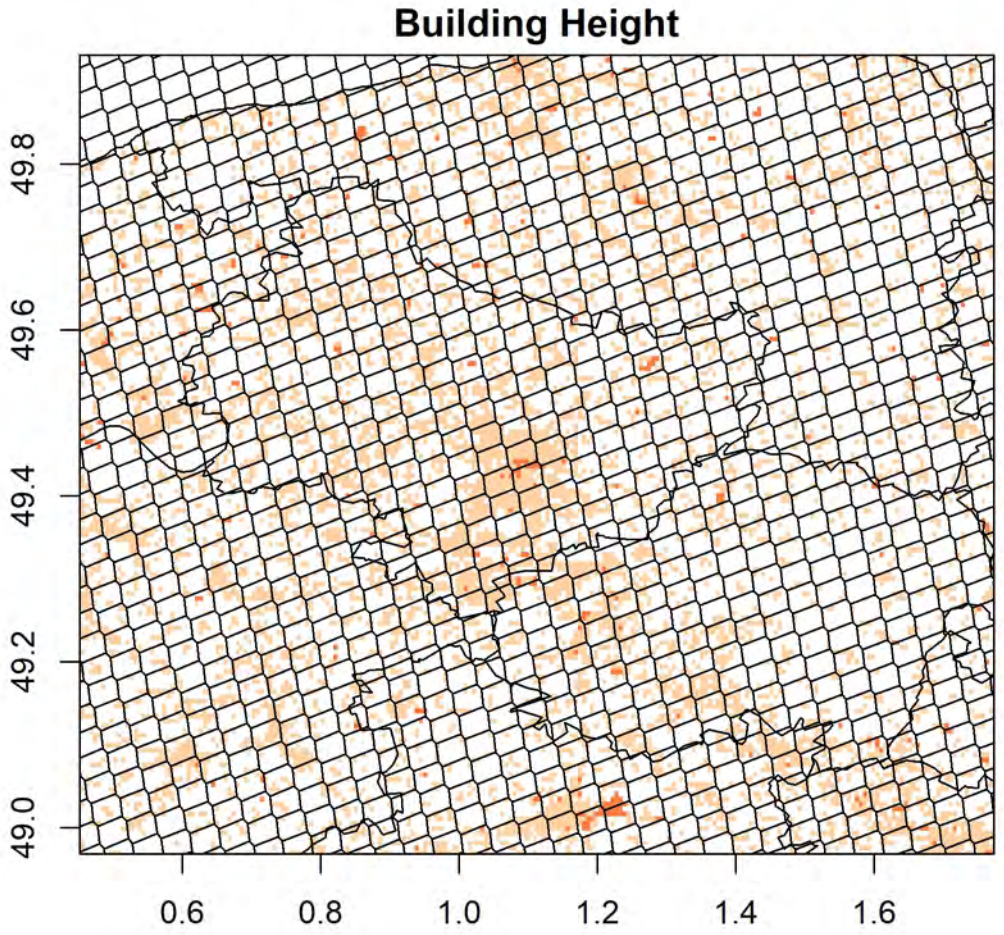
Thiessen Polygon Analysis



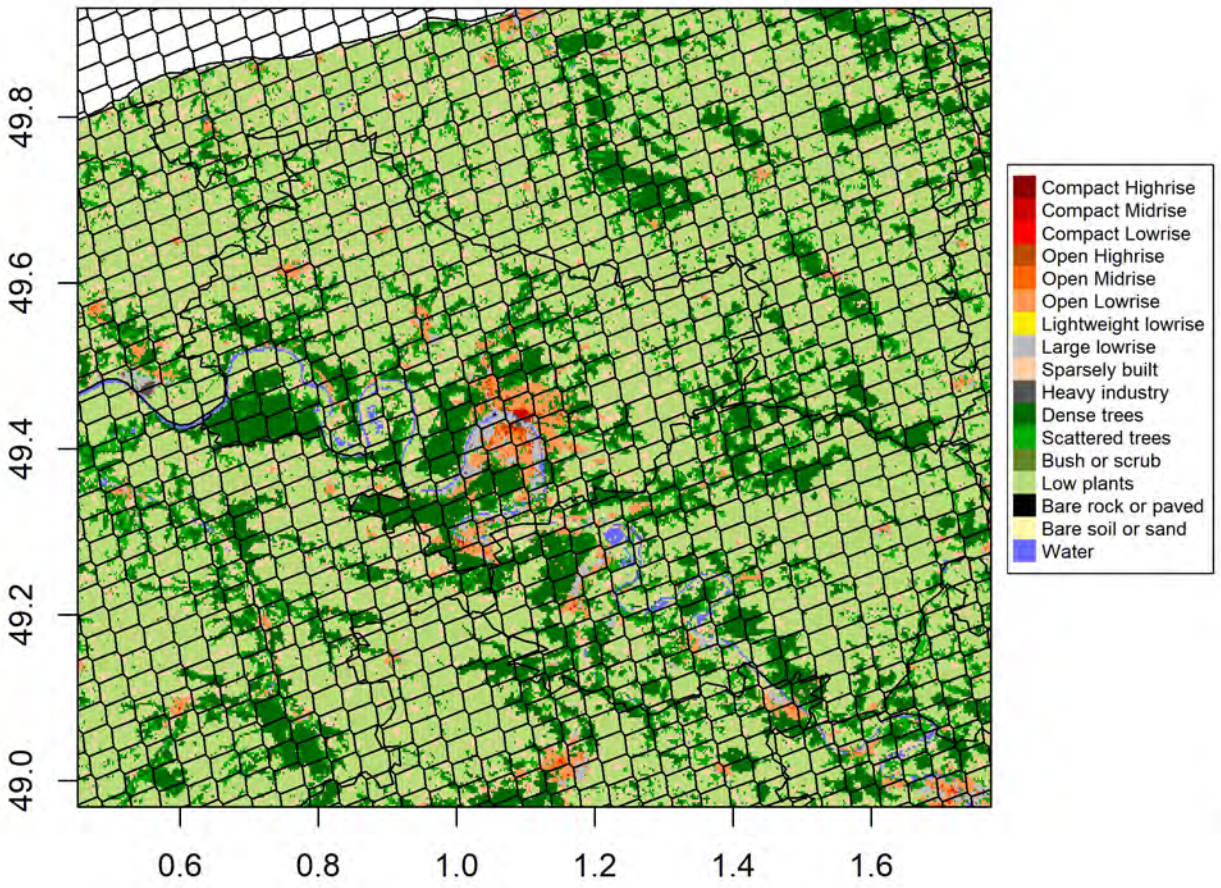


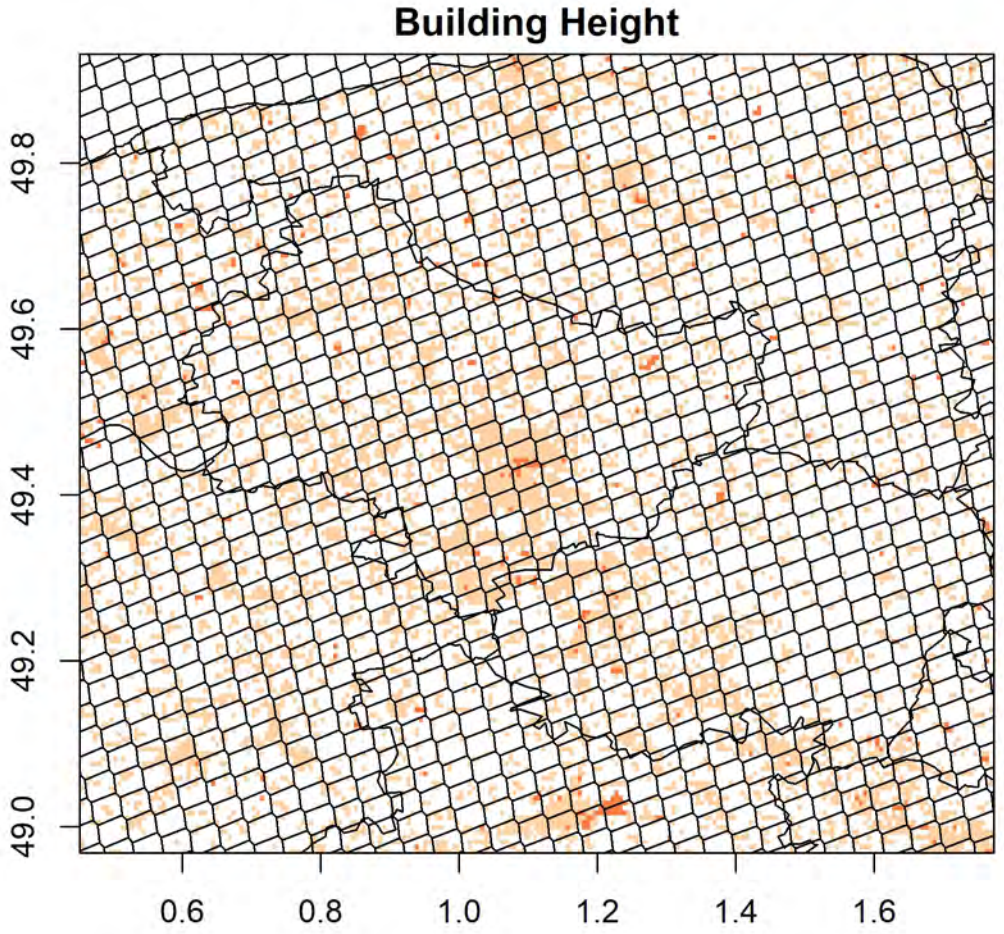
Thiessen Polygon Analysis



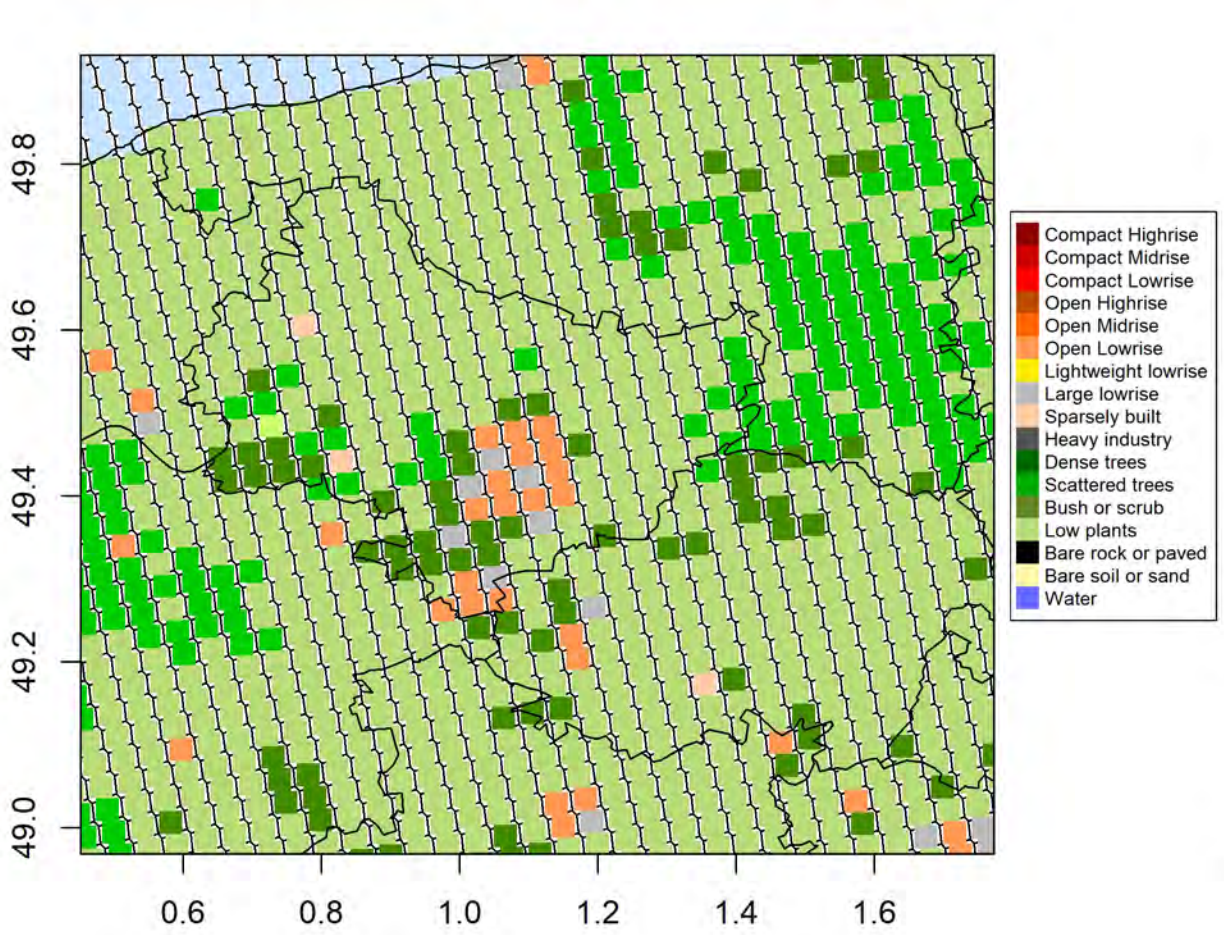


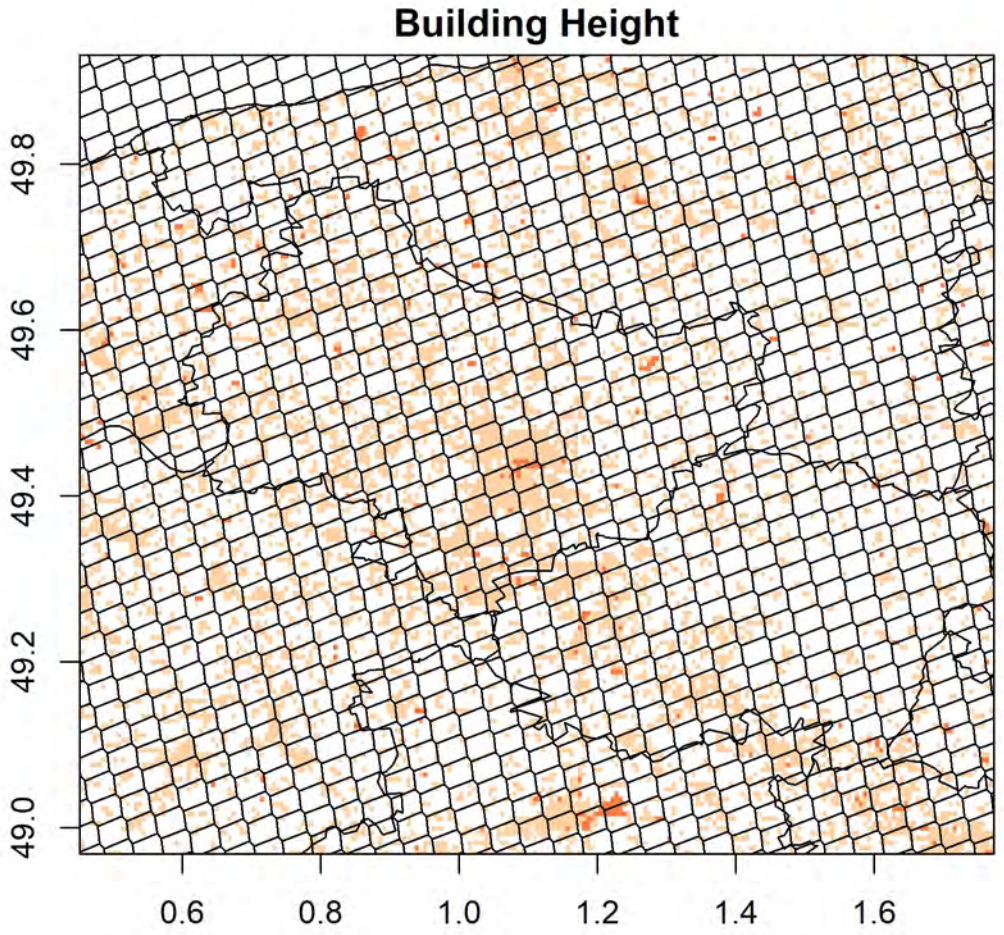
Thiessen Polygon Analysis



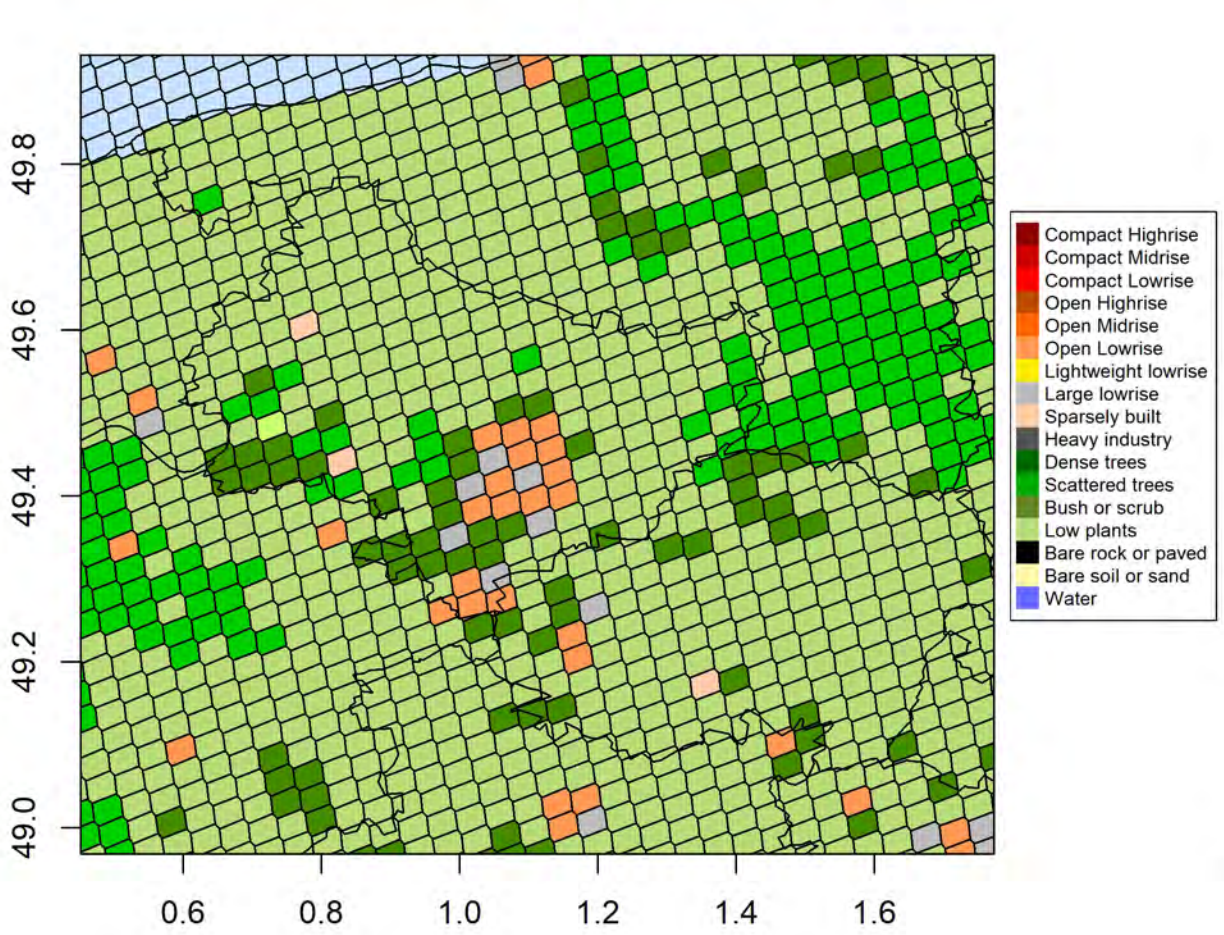


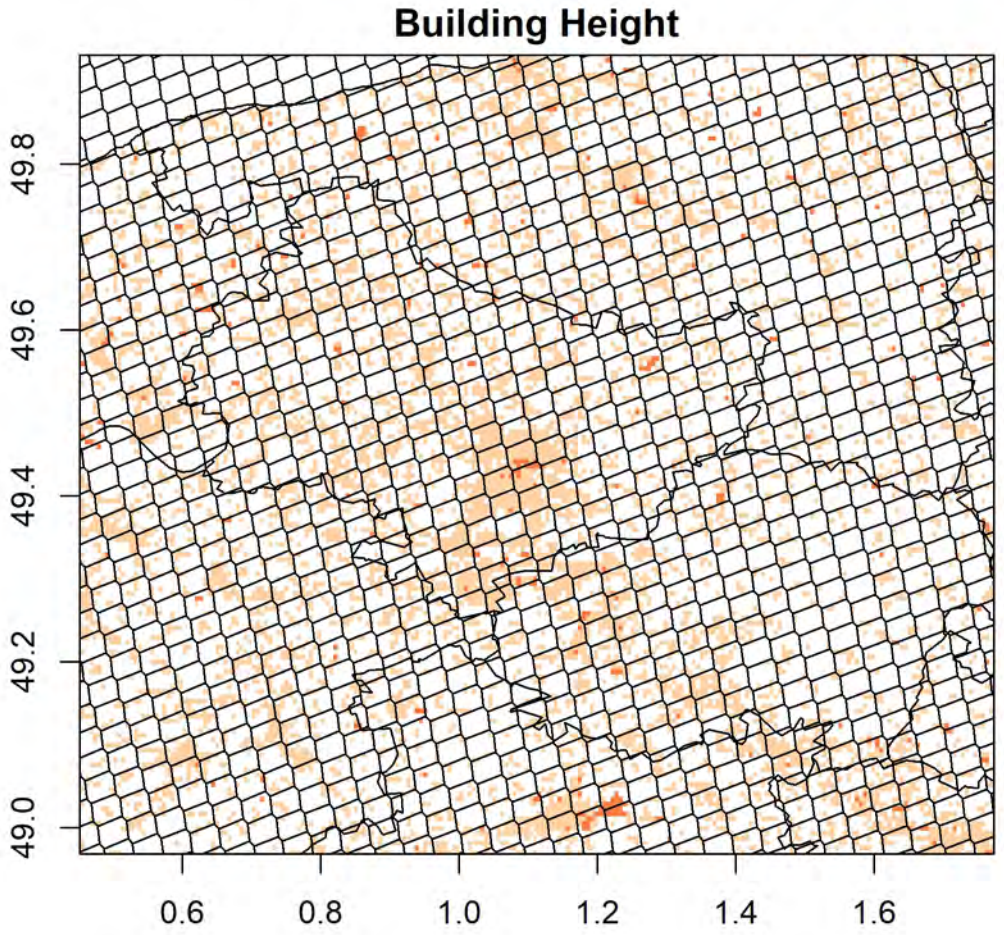
Thiessen Polygon Analysis



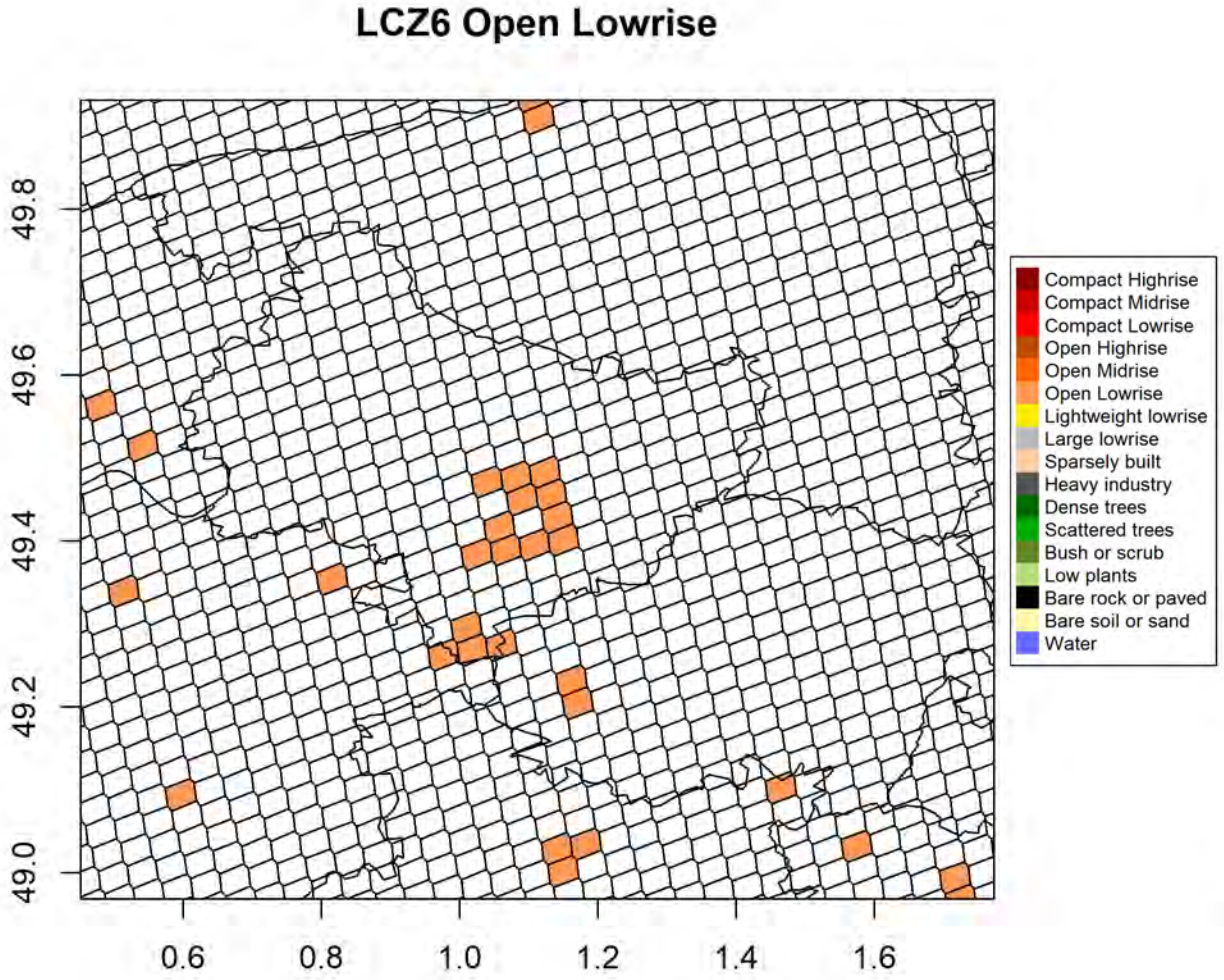


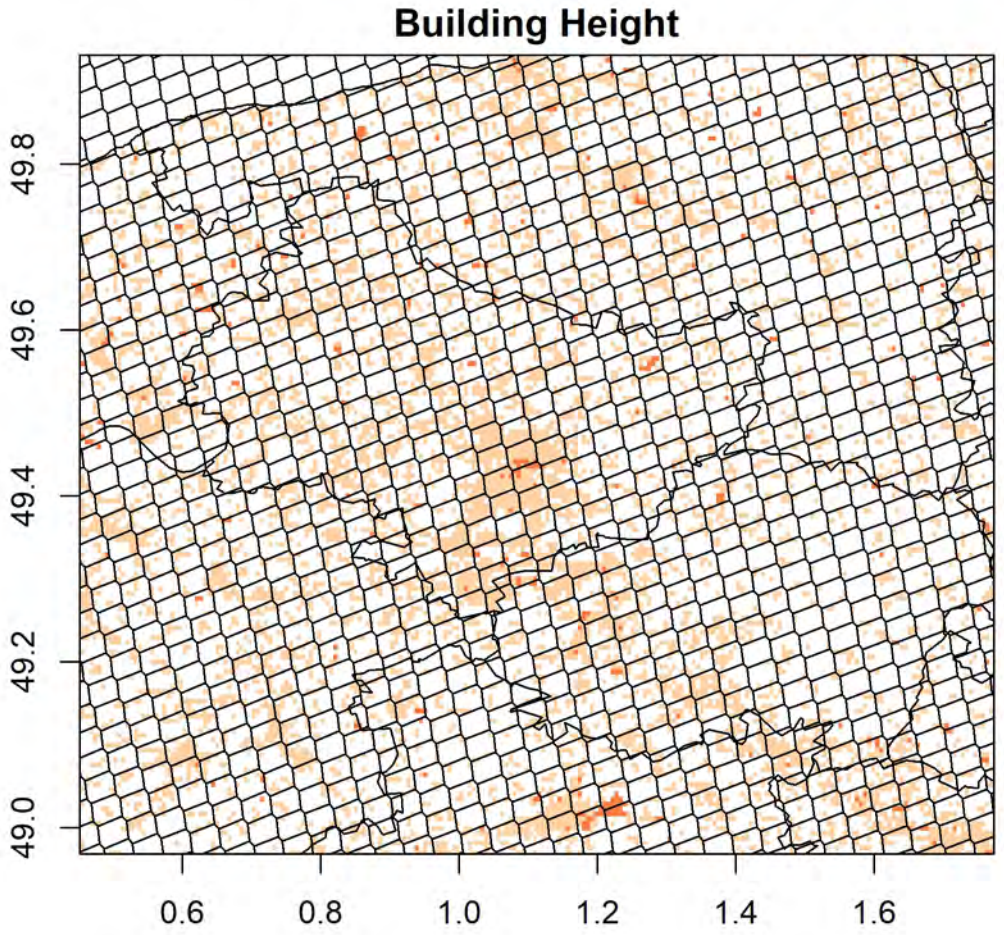
Thiessen Polygon Analysis



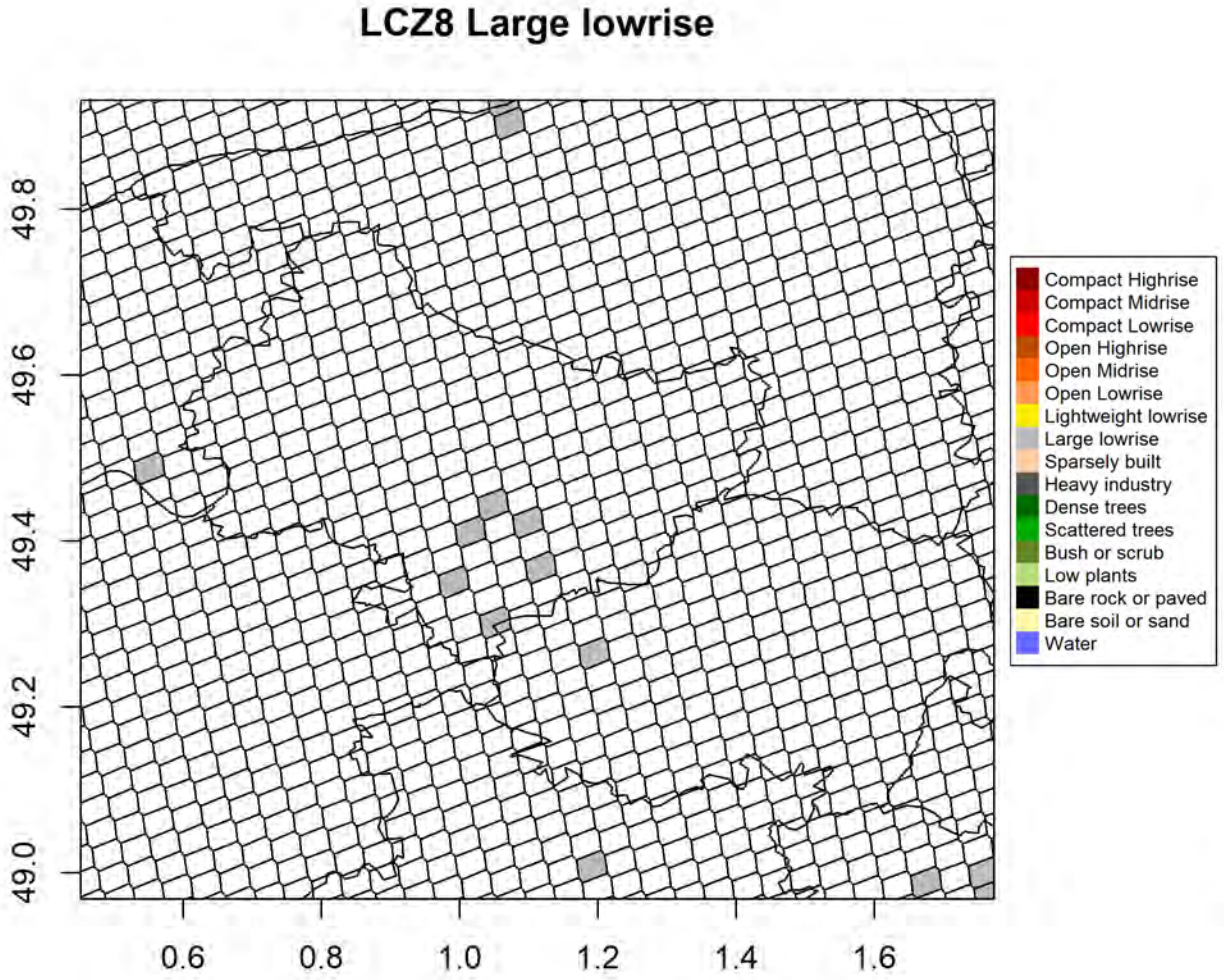


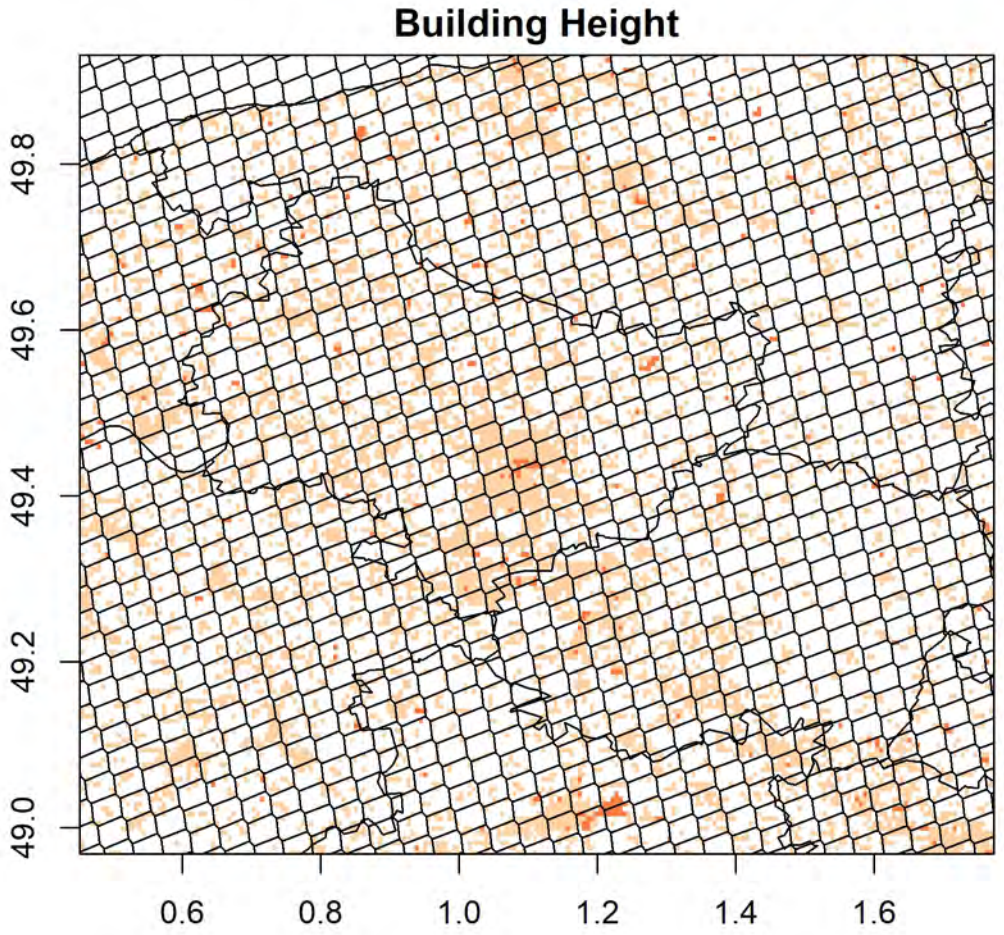
Thiessen Polygon Analysis





Thiessen Polygon Analysis





Thiessen Polygon Analysis