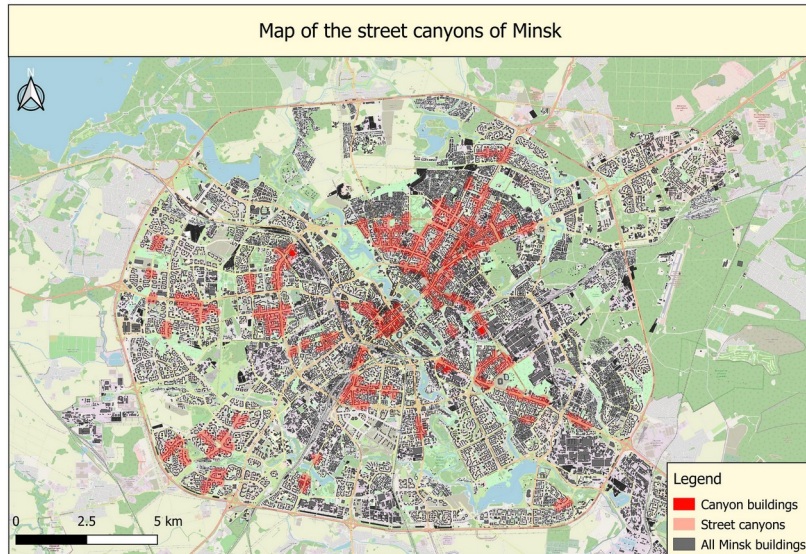




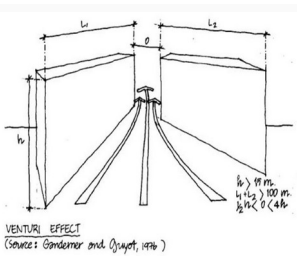
Siarhei Barodka* (1), Tsimafei Schlender (1,2), Piotr Silkov (1,2), Aliaksei Borisovets (1), Aliaksei Sycheuski (1,2), Ilya Bruchkouski (1,3), and Tatiana Tabalchuk (1,2)

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Urban canyon analysis for Minsk



- Algorithm for automatic identification of street canyons in Minsk is developed and applied to OSM buildings data.
- Observational studies of some specific urban canyons in Minsk: wind measurements, influence of buildings, topography and canyon orientation (azimuth) on wind regime.
- Problems when taking into account this data for Minsk urban morphology in WRF-BEP modelling (wide avenues, spaces between buildings away from streets).



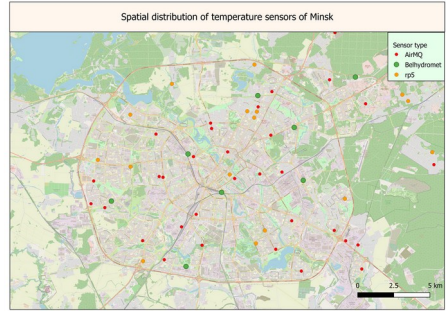
Temperature and air pollution observations

Ground-based observations:

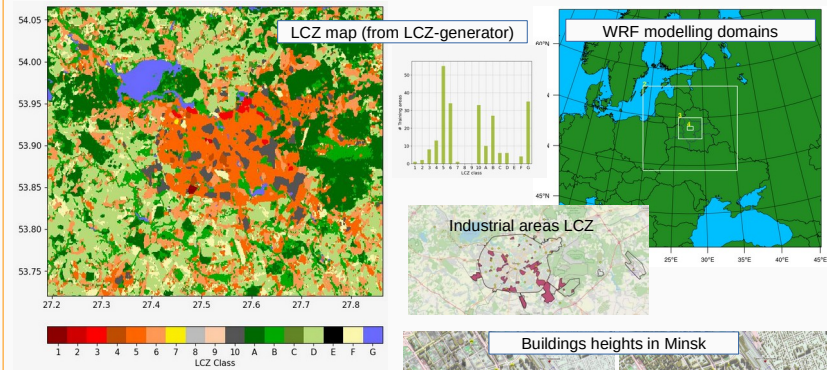
- **Belhydromet** meteorostations (weather, trace gases)
- Citizen meteorostations via **rp5** (weather)
- **AirMQ** project sensors (temperature, PM air quality)

Satellite data (**Sentinel-5P**, **MODIS**):

- Surface temperature
- Tropospheric trace gases



WRF-BEP modelling of UHI/UPI effects



Urban morphology generated from OSM data with ML-reconstruction of missing building heights using SIAM networks (A. Hancharenka 2021)

