REGREEN
NATURE-BASED SOLUTIONS

Using dasymetric mapping

What is the socio-spatial distribution like in your city?

Policy Recommendations

- Localise socio-demographic data by means of dasymetric mapping
- Use available socio-economic data to derive advanced knowledge on socio-spatial differentiation in your city
- Identify hotspots for interventions, taking into account people's livelihoods.
- Implement nature-based solutions in neighbourhoods with socially weaker groups
- Co-create green spaces with socially exposed groups based on dasymetric mapping

This brief provides information about the incorporation of socio- economic data into spatial assessment of NBS. The outcome serves to provide equity in access to urban green spaces

Mapping socio-economic variables and attribute them to individual houses is of great spatial knowledge for stakeholders. Dasymetric mapping is the tool of choice applied in the REGREEN project.
It can make for a more comprehensive approach when studying access to green spaces.

Why dasymetric mapping?

- Increased understanding of the of the service areas of green spaces
- Deeper look into topics such as disadvantage and social equity

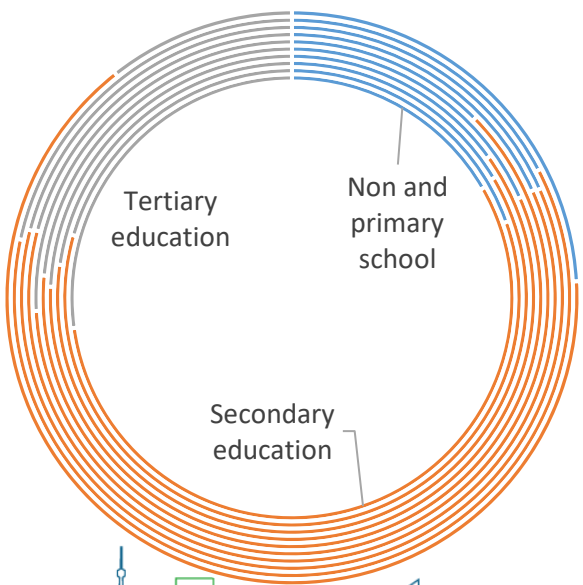
What is the benefit?

It helps cities advance their strategies for implementing nature-based solutions with their accompanying ecosystem services on neighbourhood level in a more just way.
Workflow and associated results comprise

- Parcel information
- Building footprints
- Gridded population data and socio-economic variables
- Location of urban green spaces

Relevance

Dasymetric mapping is vital tool for cities where localised information about their citizens and their socio-economic status is not available (see maps on next page).



Example for the distribution of education levels in a service area of ten different parks

It is based on the assumption that data distributed over a given area may only be existent in certain places, i.e. citizens within the municipal boundaries of a city have a place of residence. By assuming this relationship, the number of residents per city, district or statistical grid cell can be redistributed into individual houses, either by type, area or cubic volume of a given building. This approached is visualised within the graphic below, which shows gridded population data, building footprints and remapped residents per building.

Need

Socio-economic variables refer to the social and economic characteristics of a population. They include indicators like income levels, employment rates, education levels, and housing conditions. These variables can significantly shape the potential accessibility of urban ecosystem services, such as clean air, water, and green spaces. For instance, residents living in poverty may have less access to these services due to lack of resources or opportunities.
The service area of parks assumes a certain distance residents are willing to travel to access. This is usually 300 to 500 meters. Access to larger parks might have a greater distance. The influx area may either be calculated by a network analysis, i.e. routing of residents along streets and pathways, or a simple Euclidian distance as an approximation.

Do you know that...

… residents living in poverty may have less access to urban ecosystem services?

.. the distance people are willing to travel to parks varies greatly depending on age and income group?

…the UN SDG (11.7) sets the target of creating equity in access to green infrastructure?

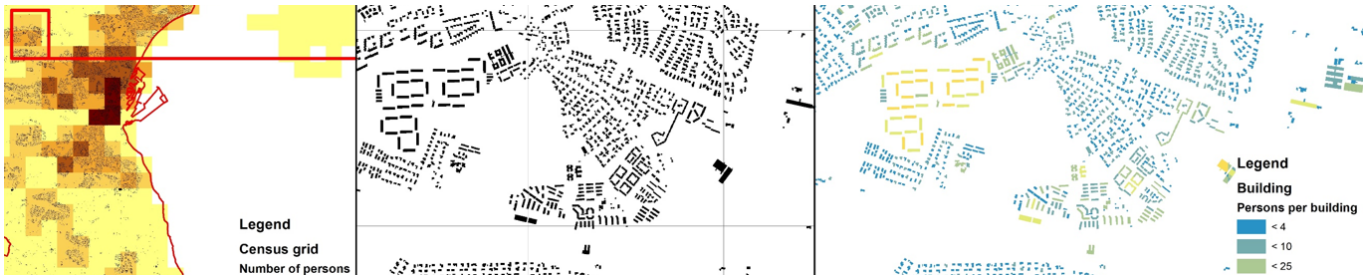
Approach

In this order, the steps include the following
Identification of suitable existing parks

- Identification of suitable sites for new interventions
- Filtering by UGS area, distance assume which people are willing to travel
- Service area, either by linear distance or through routing and network analysis
- Analysis of the residents affected/ in need

Results

Detailed mapping for the city districts and their residents helps to identify potential hotspots. This is an important step in planning new green and blue infrastructure.



Stepwise dasymetric mapping for Aarhus

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You want to know more?

REGREEN webpage
www.regreen-project.eu

REGREEN repository zenodo
https://zenodo.org/communities/regreen

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