REGREEN
NATURE-BASED SOLUTIONS

City Explorer Toolkit

Policy Recommendations

- City plans should be based on locally-relevant information on the benefits of nature-based solutions

- Decisions on where to place new green and blue space should consider multiple challenges (e.g. heat, air pollution, noise) and multiple beneficiary groups (i.e. socio-demographics)

- Tools like City Explorer Toolkit can help planners make well-informed decisions, and balance many competing requirements

This brief shows how REGREEN research has contributed to an online tool to help city planners make informed decisions on locating new NbS.

Approach

Building on an earlier prototype, REGREEN funding has developed an online version of City Explorer Toolkit, for the city of Aarhus (Fig. 1), which includes the following models (those in italics will be added later):

- Reducing air pollution
- Urban cooling
- *Reducing water flow under high rainfall*
- *Access to green space*
- *Reducing man-made noise*
- *Improving water quality*

Why City Explorer Toolkit?

There are existing tools to help city officials make decisions, but very few combine three key elements needed for effective decision-making:

- Spatial information
- City-specific estimates of the benefits of NbS
- User's ability to create new scenarios and assess their own city plans

Need

Deciding where to put new nature-based solutions (NbS) is not simple, because the best place for NbS (e.g. trees) to tackle one challenge, like providing cooling on hot-days, may not be the best location for that same NbS to address another challenge, such as reducing air pollution.

Many cities are developing ambitious plans to use NbS to help address multiple urban challenges and make cities more liveable for their residents. These plans often include targets like planting 10,000 street trees, or creating new large parks. However, planners usually don't know the best place to implement these measures, and they lack appropriate tools to guide those decisions.

The City Explorer Toolkit helps users understand where best to create new green or blue space, or plant trees, to achieve a range of outcomes including taking into account social equity issues.
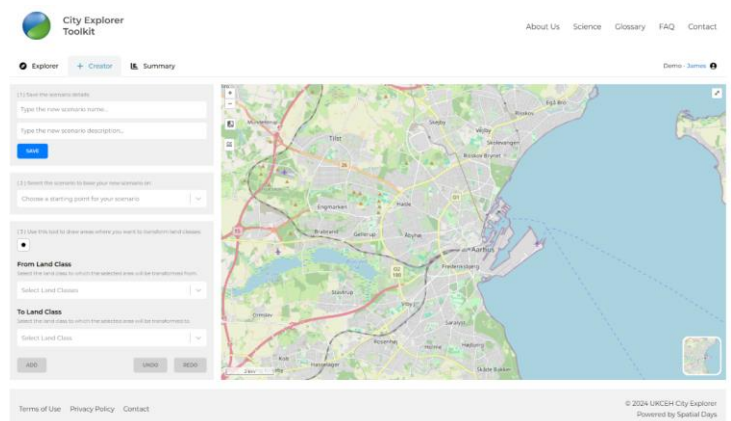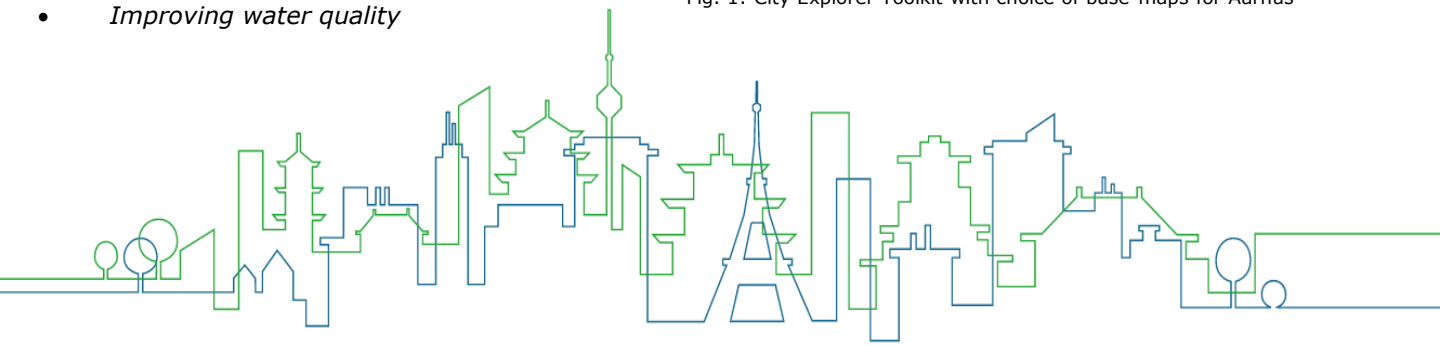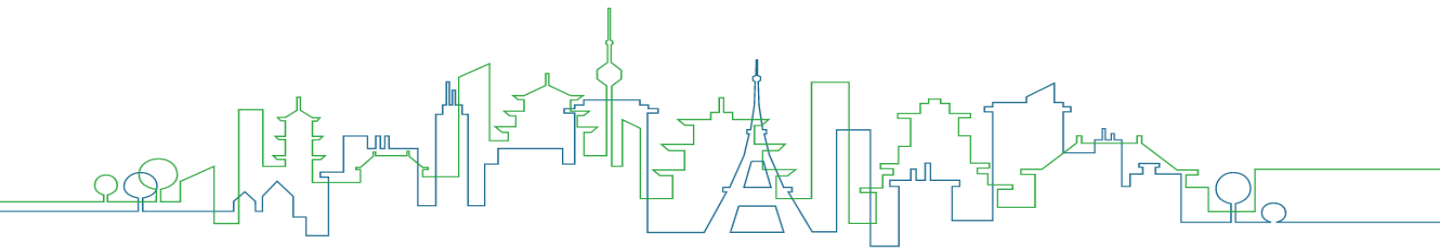

Fig. 1: City Explorer Toolkit with choice of base-maps for Aarhus

Impact

Experts from Aarhus Municipality have been involved in the development of the toolkit from an early stage and their planners are testing the first production version, with scenarios based on their city plan: "A Greener Aarhus".

Do you know that...

... you can register as a user and try the Aarhus version of the City Explorer Toolkit?

Find out more here:
https://www.ceh.ac.uk/city-explorer
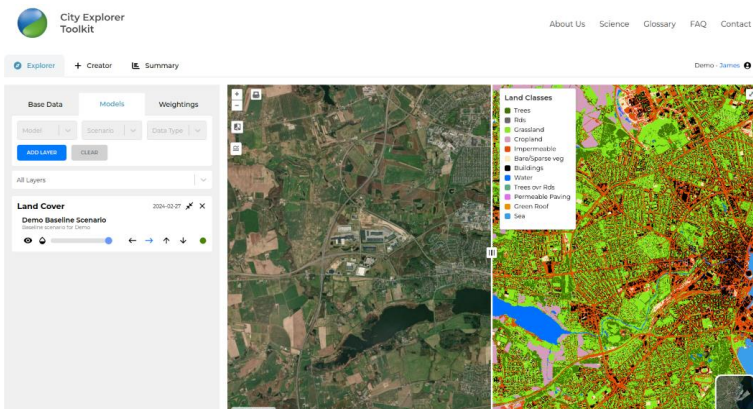
Functionality

City Explorer Toolkit allows users to:

- Explore and overlay multiple data layers including aerial images, land cover, urban pressures

- Create weightings to account for the spatial distribution of various socio-demographic groups.

- Run models to estimate and map how green space reduces pressures: e.g. the amount of cooling on a hot day, amount of air pollution removed by vegetation, etc.

- Create layers of 'potential' showing the locations that give the greatest ability to address each pressure.

- Visualize and download summary statistics

Fig. 2: Screenshots of City Explorer Toolkit. A swipe tool allows easy comparison of layers (top), and users can create their own scenarios to test city plans (bottom).

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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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