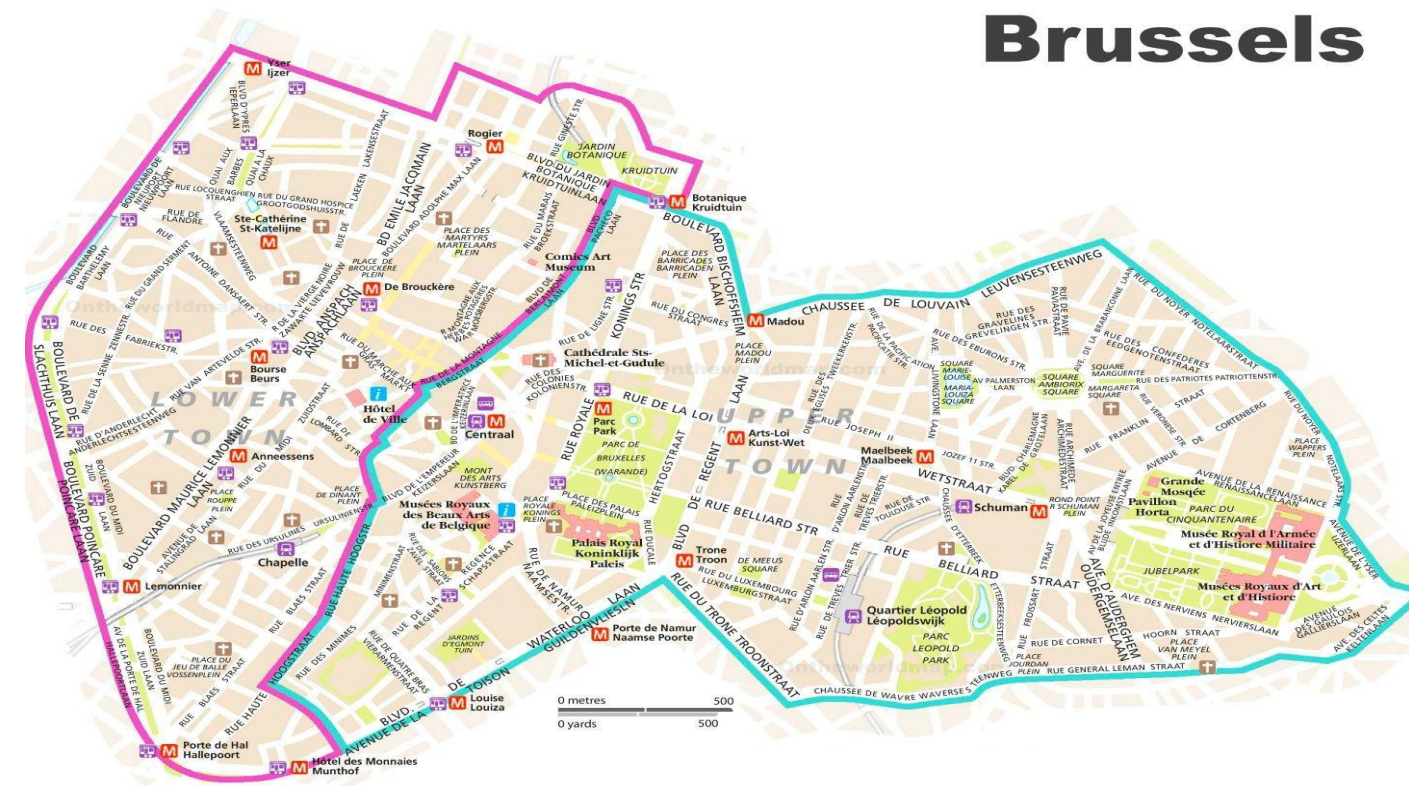


# BeBrit Extreme Heat Risk Project City Case Study Brussels

## About Brussels

Brussels is situated in the central part of Belgium, in the region of Flanders.



It is the largest urban agglomeration in Belgium with 1.4 million inhabitants in 2011 and along with Antwerp it is one of the most densely populated areas (Belgian Statistical Office). Brussels holds immense political significance as the administrative capital of both Belgium and the European Union.

Image: <https://maps-brussels.com/>

## Key Climate Challenges in Brussels

- Urban Heat Island and Heatwaves
- Drought
- Seasonal nature of precipitation strengthening

## Predicted heatwave impact

**+23**  
heatwave days  
by 2100

**+9.4**  
moderate heat stress  
days by 2100

Source: PROVIDE: Climate Risk Dashboard.  
<https://climate-risk-dashboard.climateanalytics.org/>

## Key Social Challenge

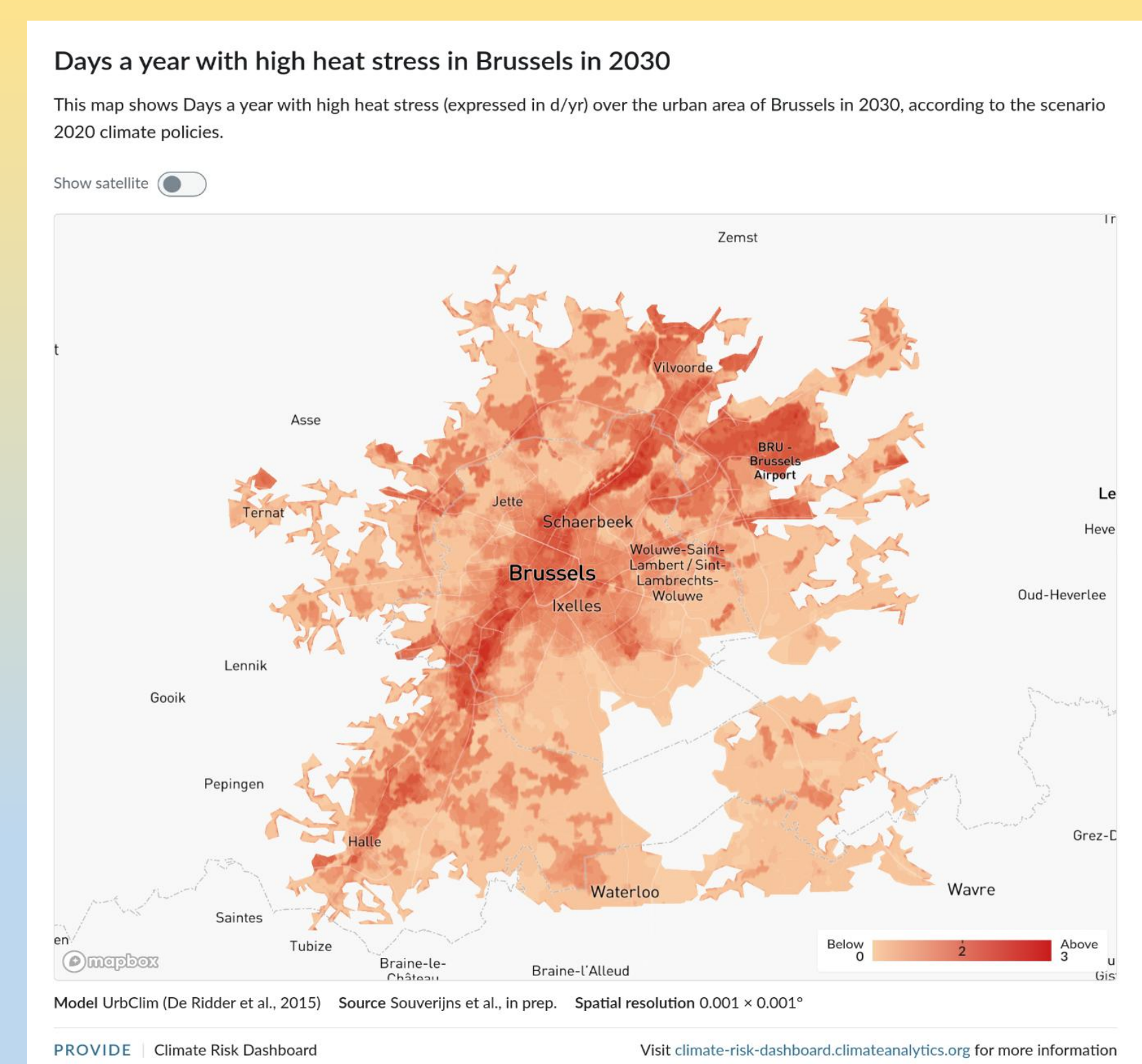
Brussels faces a significant challenge with over 7,000 homeless and poorly housed individuals, including more than 800 who sleep on the streets.



Picture: elavuk81 - stock.adobe.com

## Key climate related policies

City of Brussels Heatwave Plan	The City of Brussels sets up a heat wave plan each summer. People who suffer from isolation or who are in a precarious situation can register on a free hot line.
City of Brussels Climate Plan 2022	The City of Brussels accepted a new Climate Plan in 2022. The Climate Plan has 11 themes: biodiversity, energy, governance, water, city services, events, tourism, sports and culture, mobility and public space, youth, economy, food and urban agriculture, resources and waste.



## A selection of areas for improvement

**Heat Risk Specificity:** The Climate Plan (2022) addresses heatwaves primarily in the context of biodiversity, which indicates a lack of specific measures focused on keeping the city and its citizens cool.

**Updating Data and Vulnerability Mapping:** The existing heat island maps for Brussels are based on outdated data from 1987 to 2016, which limits their effectiveness in current planning and response efforts.

**Responsibility for Hot Weather Plans:** Currently, Samusocial manages the cold weather plan for the homeless, a role that could be logically extended to include the management of a hot weather plan.

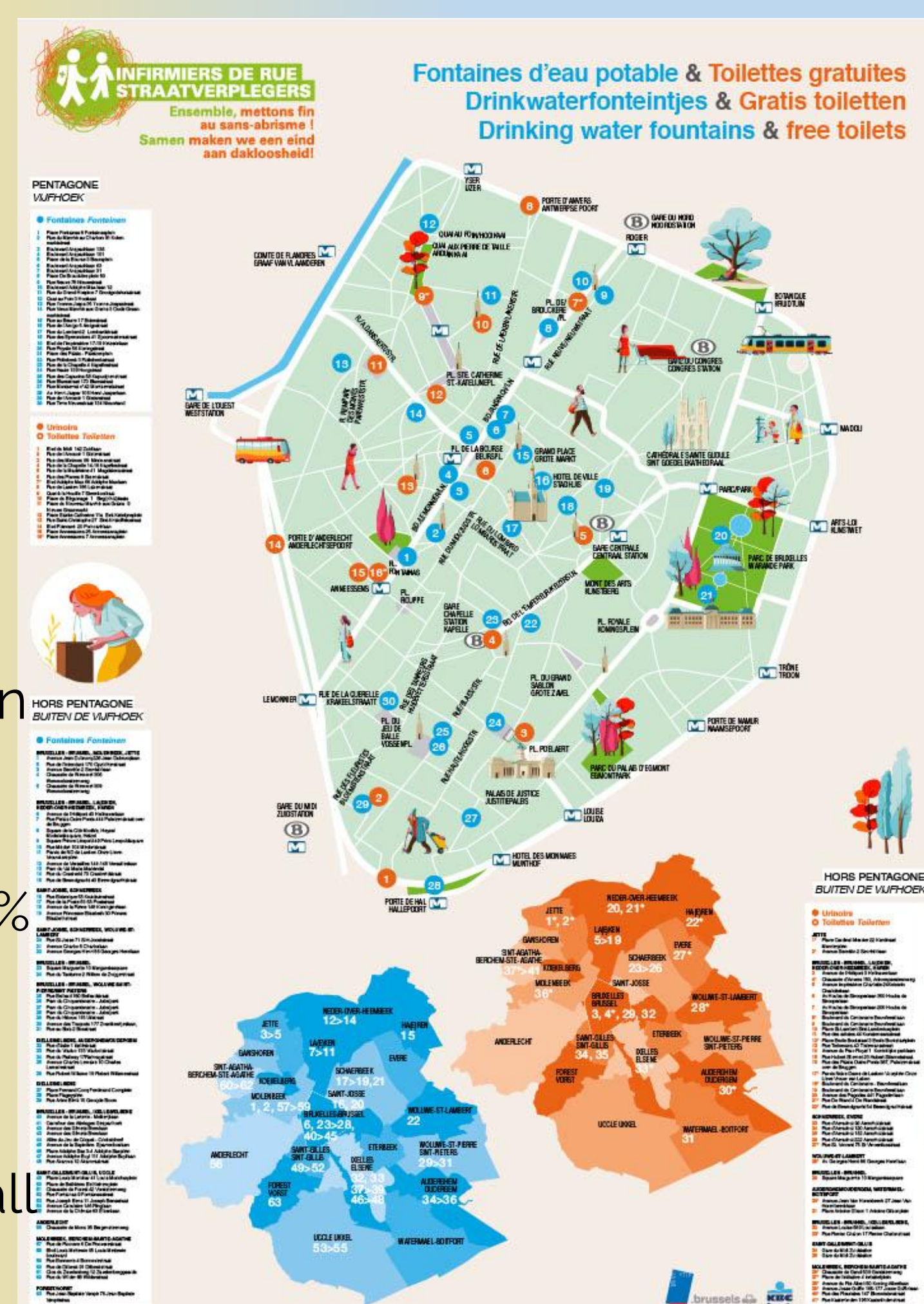
**Coordinate Green and Cool Spaces Maps and Information:** To enhance the city's preparedness for extreme heat, it is crucial to improve the coordination and dissemination of information regarding green and cool spaces.

**Rethinking Heat Thresholds:** The study conducted by De Troeyer et al. (2020) highlights significant differences in the heat-mortality relationship between Antwerp and Brussels, despite their proximity.

**Enhancing City Preparedness with Federal Climate and Biodiversity Assessments:** The upcoming federal-level assessments of climate and biodiversity risks conducted by CERAC, along with the updated climate projections from the CORDEX project anticipated in 2026, are significant advancements in understanding and managing climate impacts.

## City Actions in Place to Reduce the Impacts of Heatwaves (a selection)

- Water Fountains Map
- Telephone helpline
- Riothermal Air Conditioning for BruCity – uses sewage water
- Home Outreach – community centres and Samusocial mobile teams on the streets
- Street Nurses, established in 2006, play a crucial role year-round, particularly during heatwaves and cold spells.
- Climate Plan – aiming to improve livability in buildings without using AC and increasing energy consumption (increase photovoltaics, District Heating Network, 40% reduction in building energy use by 2030)
- Green premiums for certain postcodes for green roofs, improving permeability/ removing impermeable ground cover, install solar water heaters etc



Dr Andrea Armstrong & Wim Pulinx