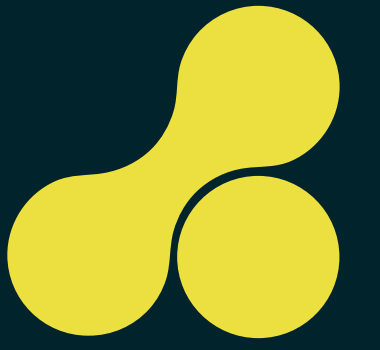




Local Climate Resilience: Turning Plans into Action

SDG Forum - 13/10/2026

cerac

Program – 11h00 – 12h30

- CERAC presentation – climate risk in Belgium and municipalities realities
- Municipality of Saint-Gilles (Bxl) + QA
- Municipality of Antwerp + QA
- Municipality of Liège + QA
- Panel debate

Objectives

- Raise awareness of the Belgian National Climate Risk Assessment
- Connect national climate risks with the realities faced by municipalities
- Highlight the implications of climate change for local authorities
- Encourage action to strengthen local resilience and preparedness

CERAC – Climate Risk Assessment Center



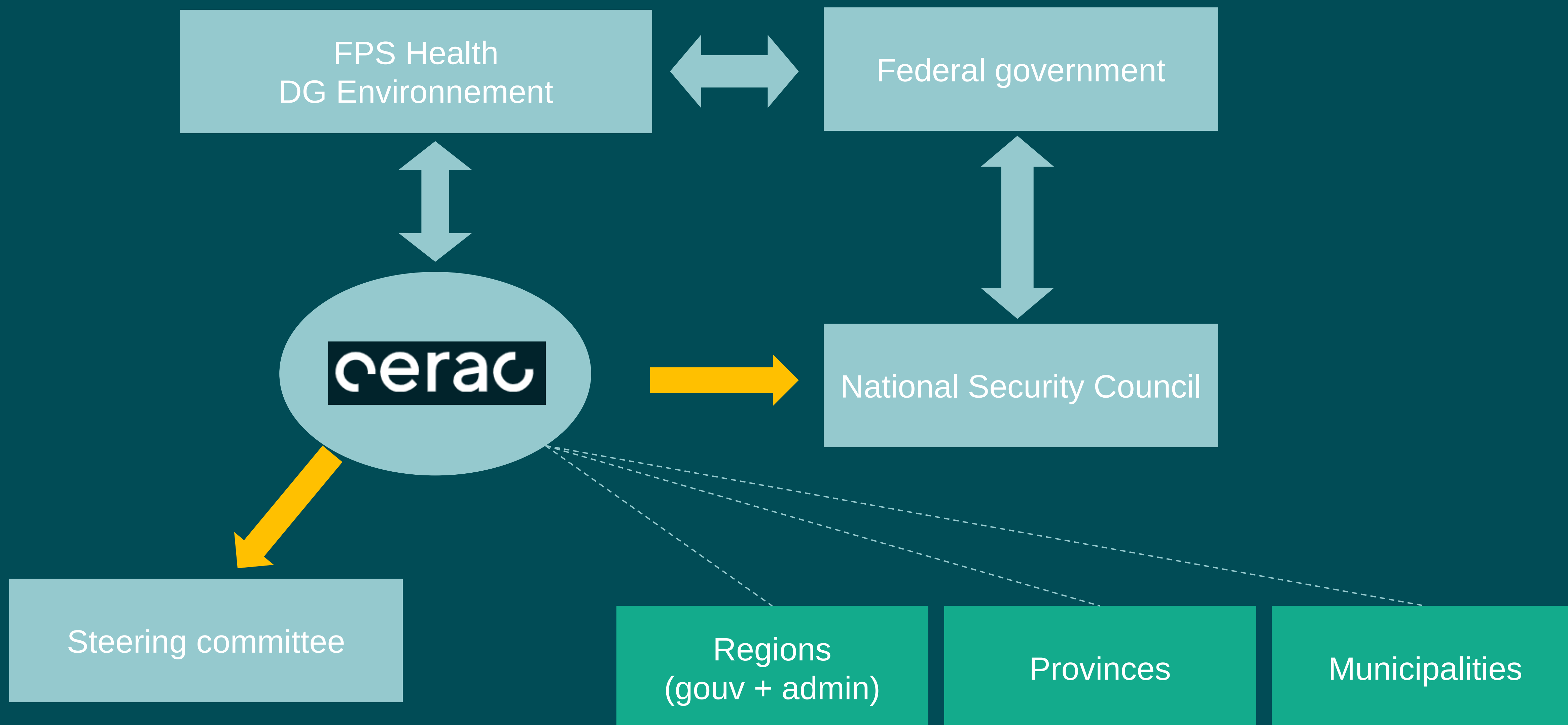
CERAC is the federal public reference centre responsible for strengthening Belgium's resilience to **climate and environmental risks**, with a focus on prevention and preparedness, in order to ensure the protection of the entire country and society.

A team of 13 people with a range of specialist areas (health, ecosystems, security, infrastructure and buildings, etc.)



CERAC within the institutional landscape

ceraac



cerac

The Belgian Climate Risk Assessment (BCRA)



ICEDD



vito



LIÈGE université
Spiral

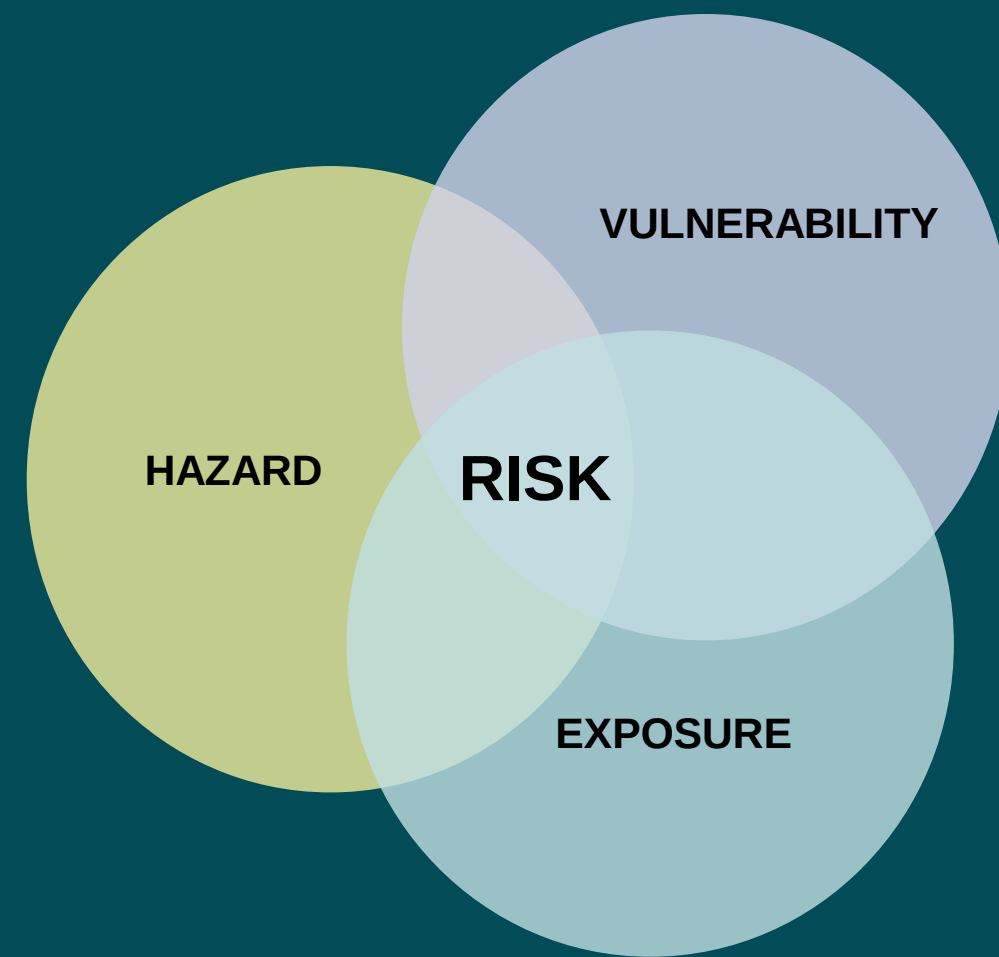


möbius

RAMBOLL

First climat risk analysis in Belgium (BCRA)

Sept 2024 - sept 2025

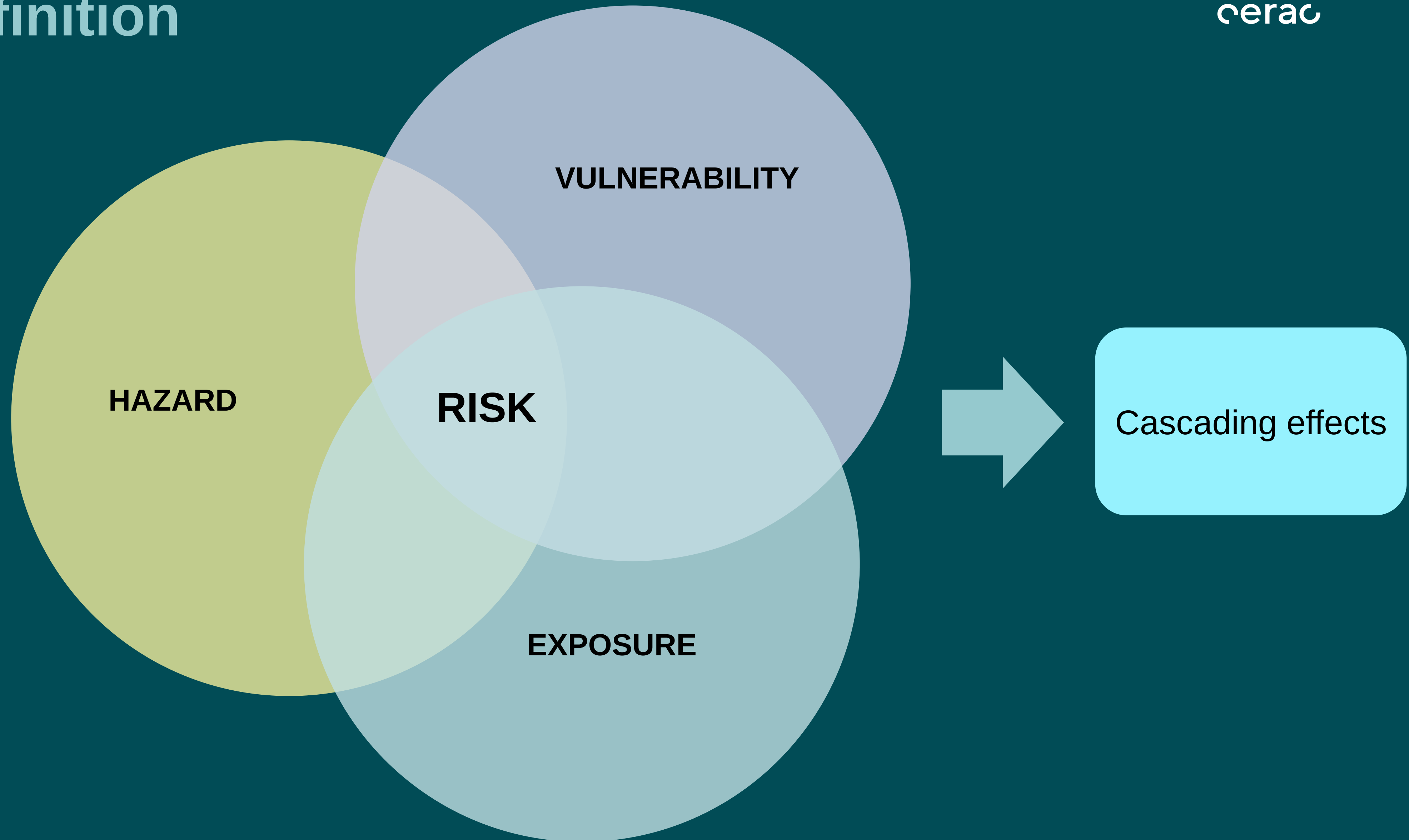


- First national assessment of climate change and biodiversity loss risks in Belgium
- Key objectives:
 - Prioritise the most significant climate and biodiversity risks facing Belgium
 - Identify critical knowledge gaps and research needs
 - Deliver initial recommendations to the National Security Council, policy makers and sectors on risk management and preparedness efforts.



Risk: a definition

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Clusters

cerao



Ecosystems



Food



**Infrastructure &
buildings**



Health & wellbeing



Economy & Finance

28 selected risks



Climate risks

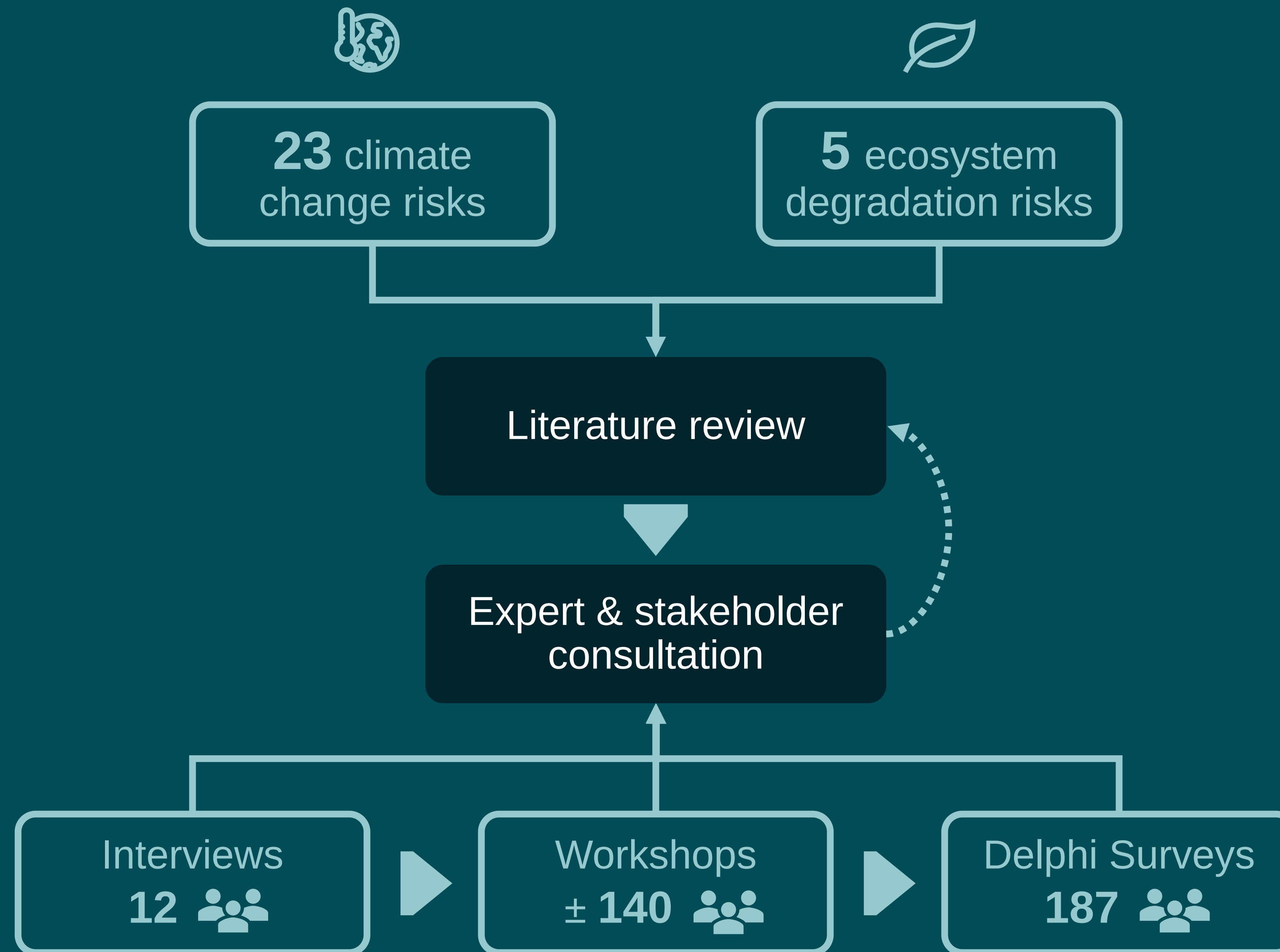


Ecosystem degradation risks

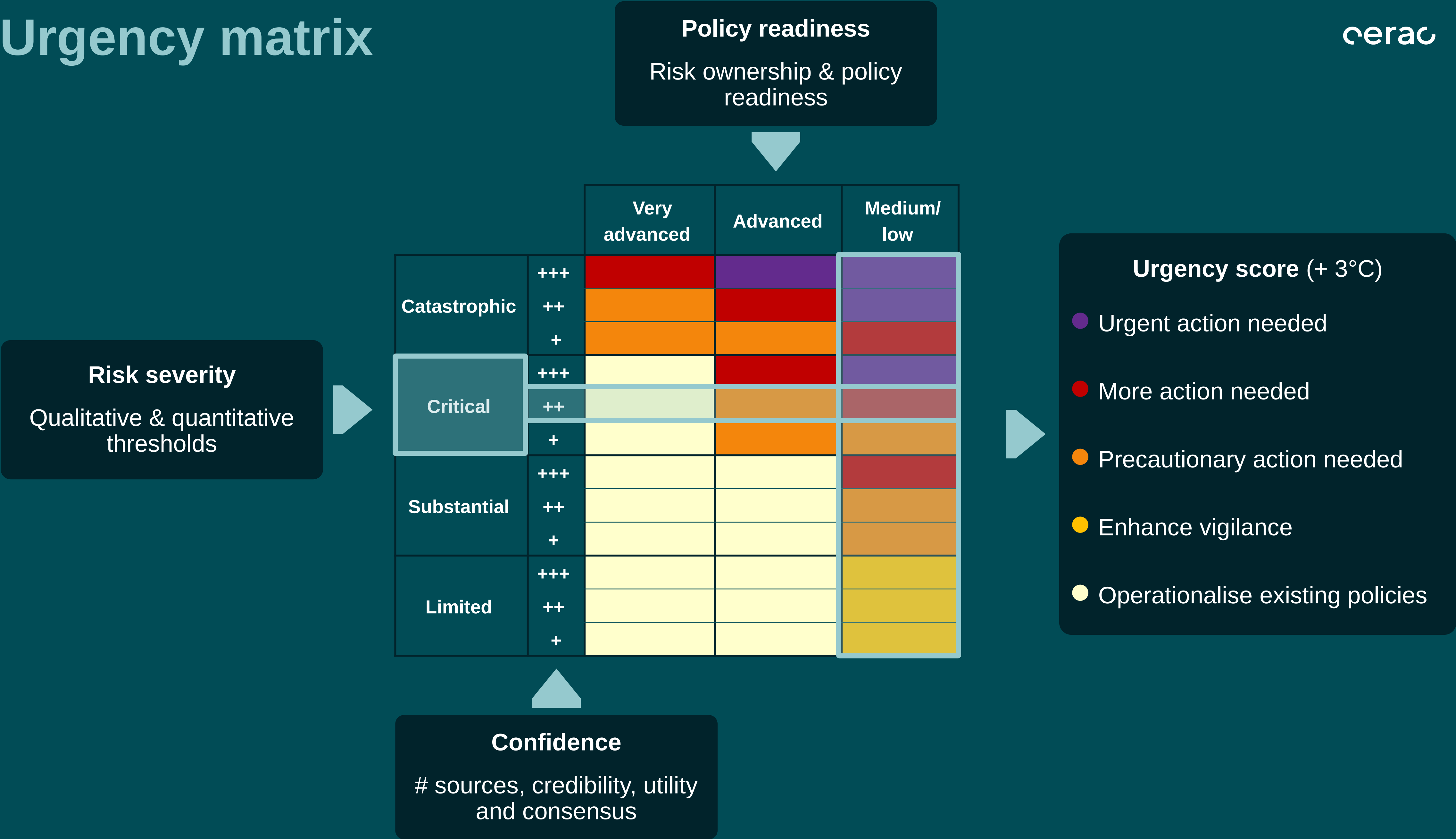
Ecosystems 	Food 	Infrastructure & Buildings 	Health & Wellbeing 	Economy & Finance 
Risk to forest ecosystems due to gradual climate change	Risk to crops due to adverse weather conditions	Risk to buildings due to flooding	Risk to human health due to heat stress	Risk to property insurance due to flooding
Risk to forest ecosystems from wildfire	Risk to food production from soil ecosystem degradation	Risk to buildings due to changing moisture regime	Risk to human health due to the increase of vector-borne disease	Risk to public finances due to climate change
Risk to soil ecosystems due to droughts and erosion	Risk to food production due to pollinator decline	Risk to infrastructures and buildings due to invasive alien plant species	Risk to human health due to the increase in non-communicable disease	Risk to international food prices due to climate change
Risk to freshwater ecosystems due to droughts	Risk to livestock production from increased spread of diseases	Risk to energy & transport due to extreme weather conditions	Risk to mental health due to climate change	Risk to strategic imports due to climate change
Risk to terrestrial coastal ecosystems due to sea level rise, coastal flooding and changes in soil salinity	Risk to food safety due to climate impacts on global agricultural production	Risk to civil and domestic water infrastructures due to droughts	Risk to human health due to the increase of pandemic zoonotic diseases	Risk to industry from water stress
			Risk to health systems and social care delivery due to climate change	
			Risk to social cohesion and inequalities due to climate change	
			Risk of internal people displacement in Belgium due to flooding	

Information sources

cerac



Urgency matrix



Policy aspects

4 dimensions:

- Risk awareness
- Risk ownership
- Policy framework
- Policy analysis

e.g. Risk to buildings due to flooding



Maps and flood risks management

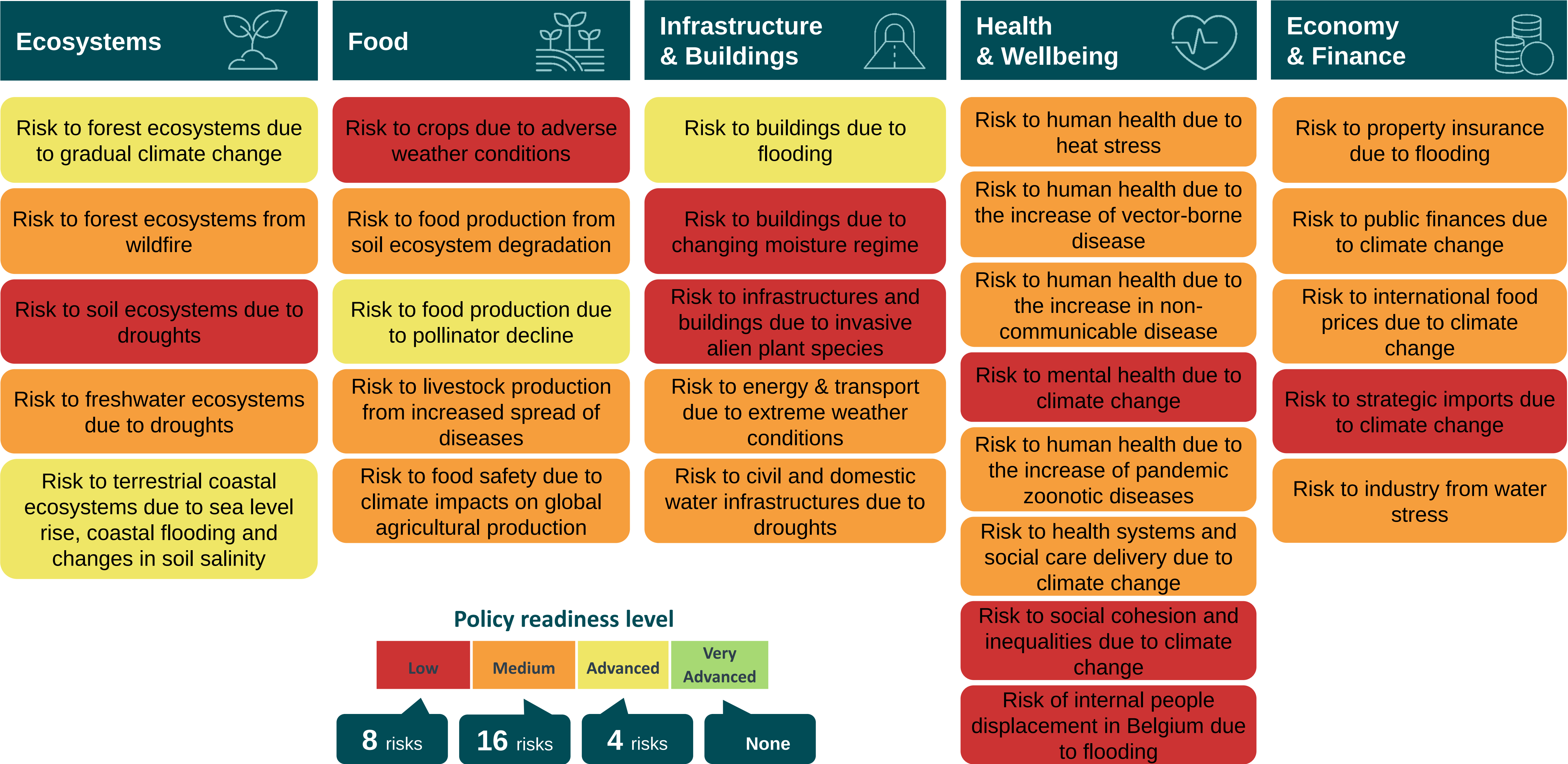
Regions, Provinces,
Municipalities,...

European Floods Directive
(2007/60/EC)

Tools & frameworks BUT need improved
implementation, LT planning, coordination

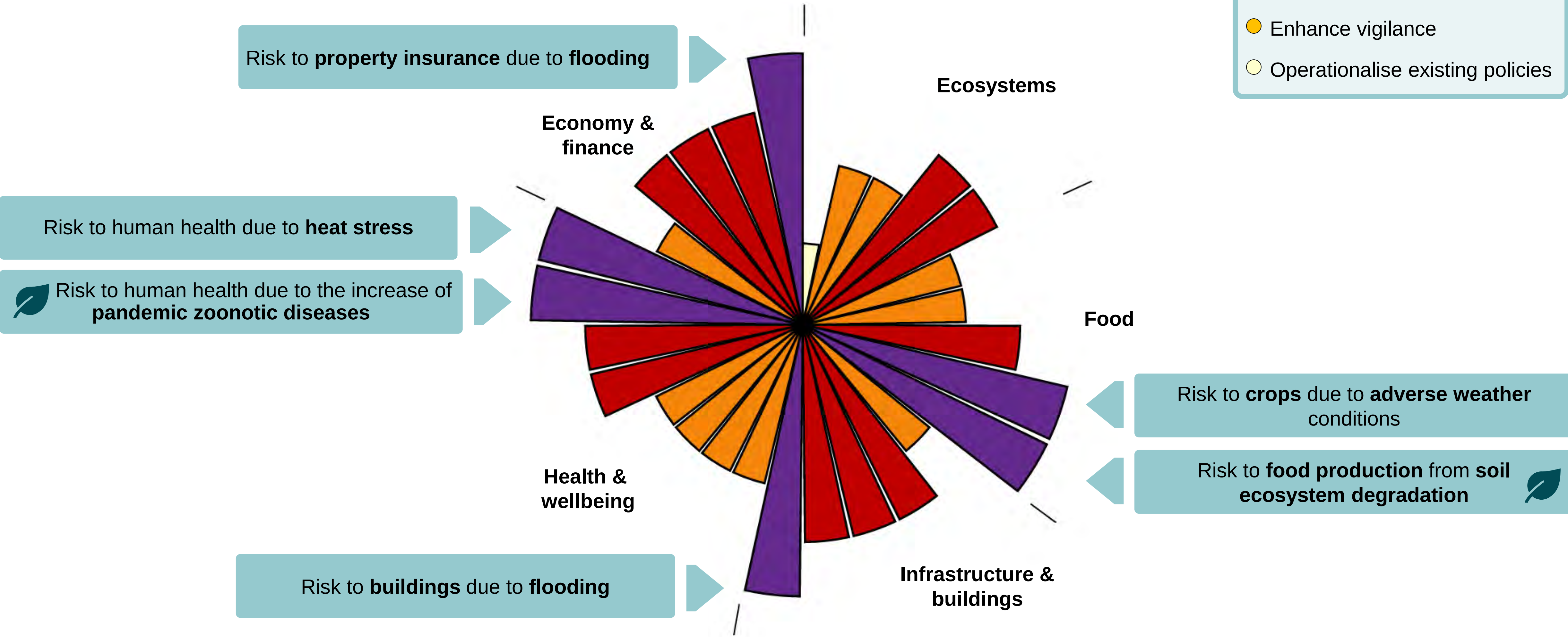
Score: **Advanced**

Current policy readiness



6 risks demand urgent action

- Urgency score**
- Urgent action needed
 - More action needed
 - Precautionary action needed
 - Enhance vigilance
 - Operationalise existing policies



Publications

cerac

Rapport final



Rapport méthodologique



28 analyses techniques



28 résumés



Website

NL

cerac.be/nl/bcra

FR

cerac.be/fr/bcra

EN

cerac.be/en/bcra

A photograph showing a row of multi-story brick and stone houses built into a hillside. In the foreground, there is a large, chaotic pile of debris, including broken concrete, twisted metal, and tangled black cables. A blue and white striped caution tape is strung across the debris field. The sky is clear and blue.

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What does it mean for municipalities?

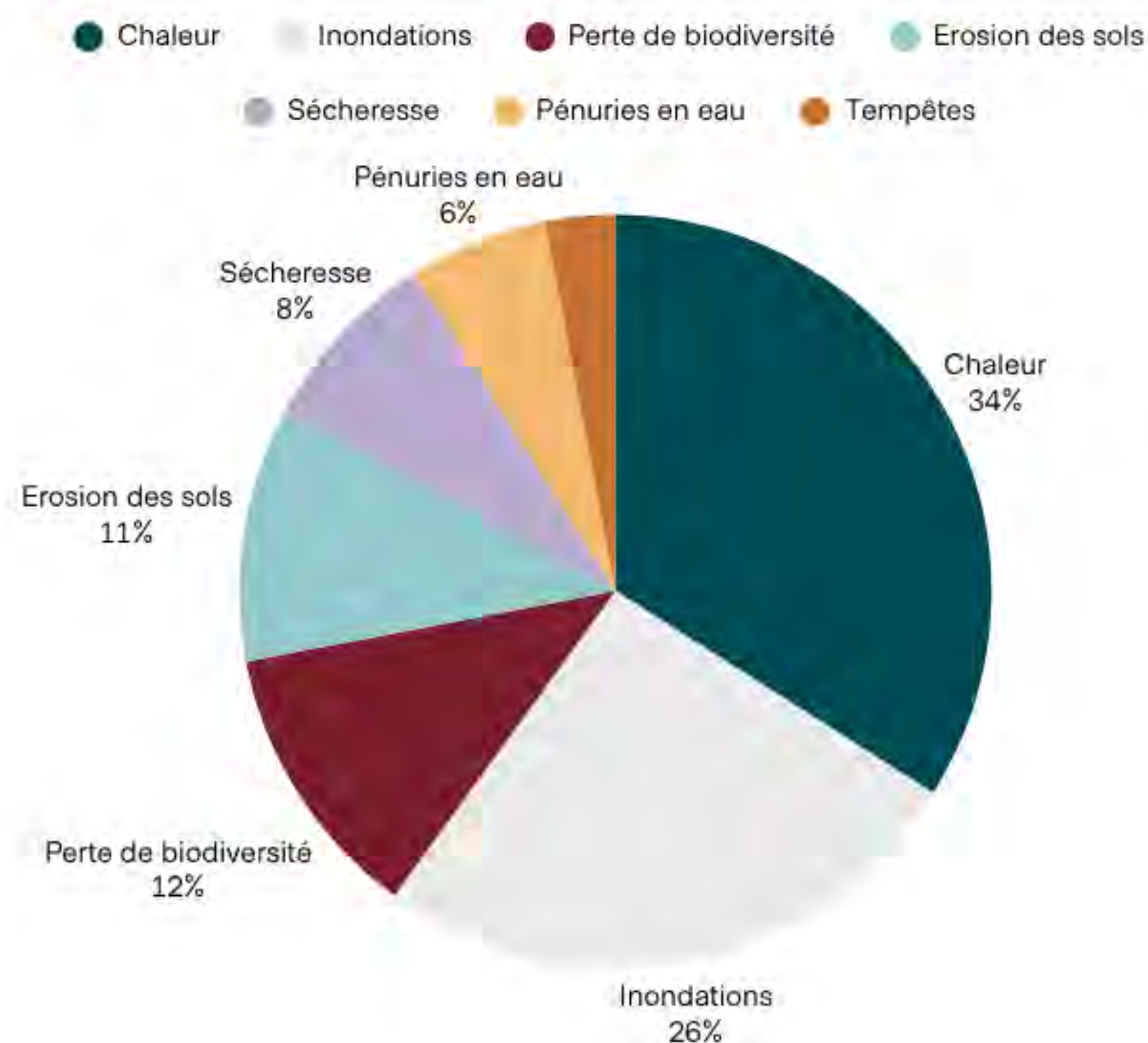
Belgian municipalities: key actors in climate risk management cerao

- Being closest to citizens
- Land-use planning and permitting
- Water management
- Risk prevention and emergency planning
- Crisis response and recovery

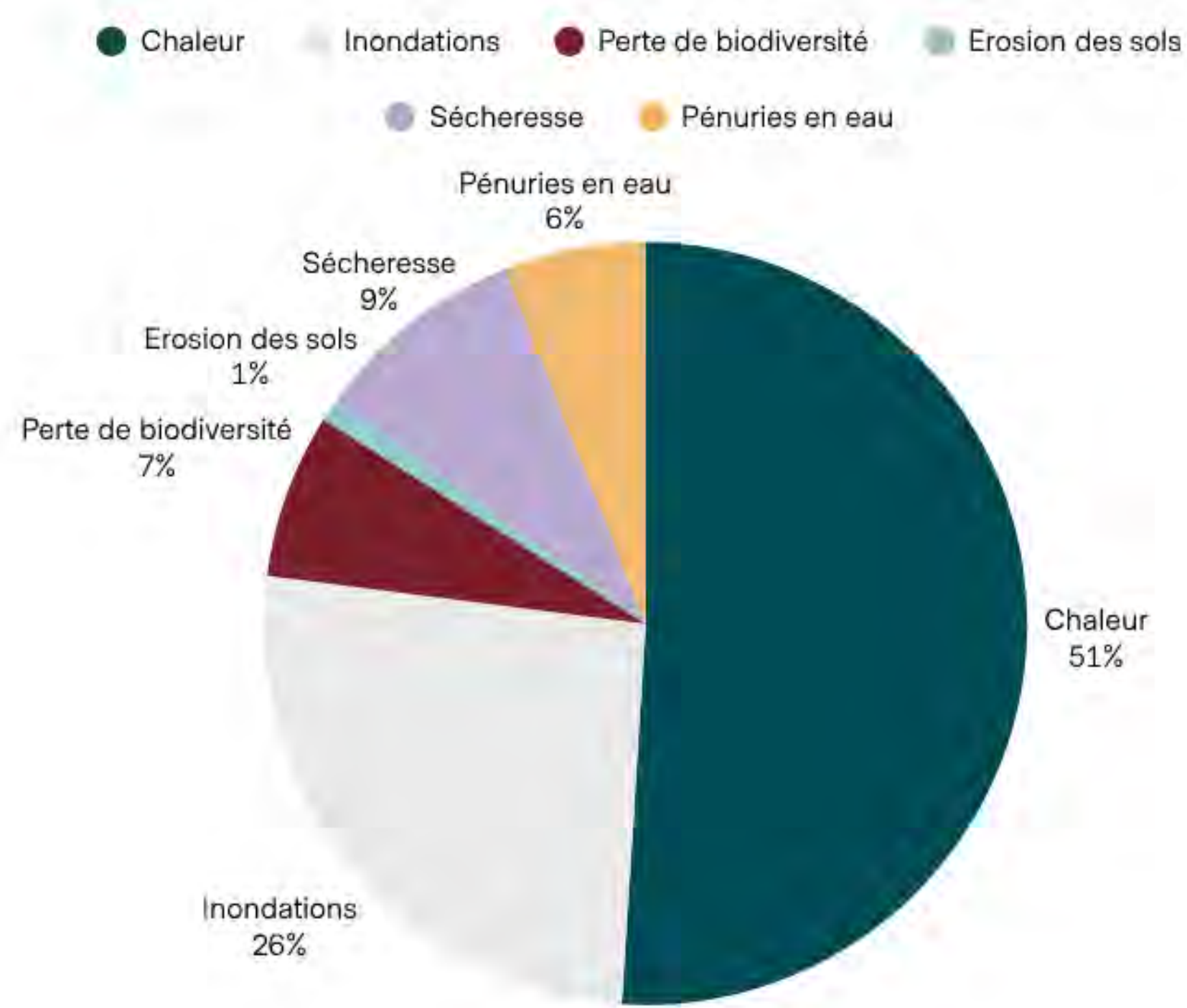
→ Are municipalities prepared for climate risks?

Recurring risks at regional level

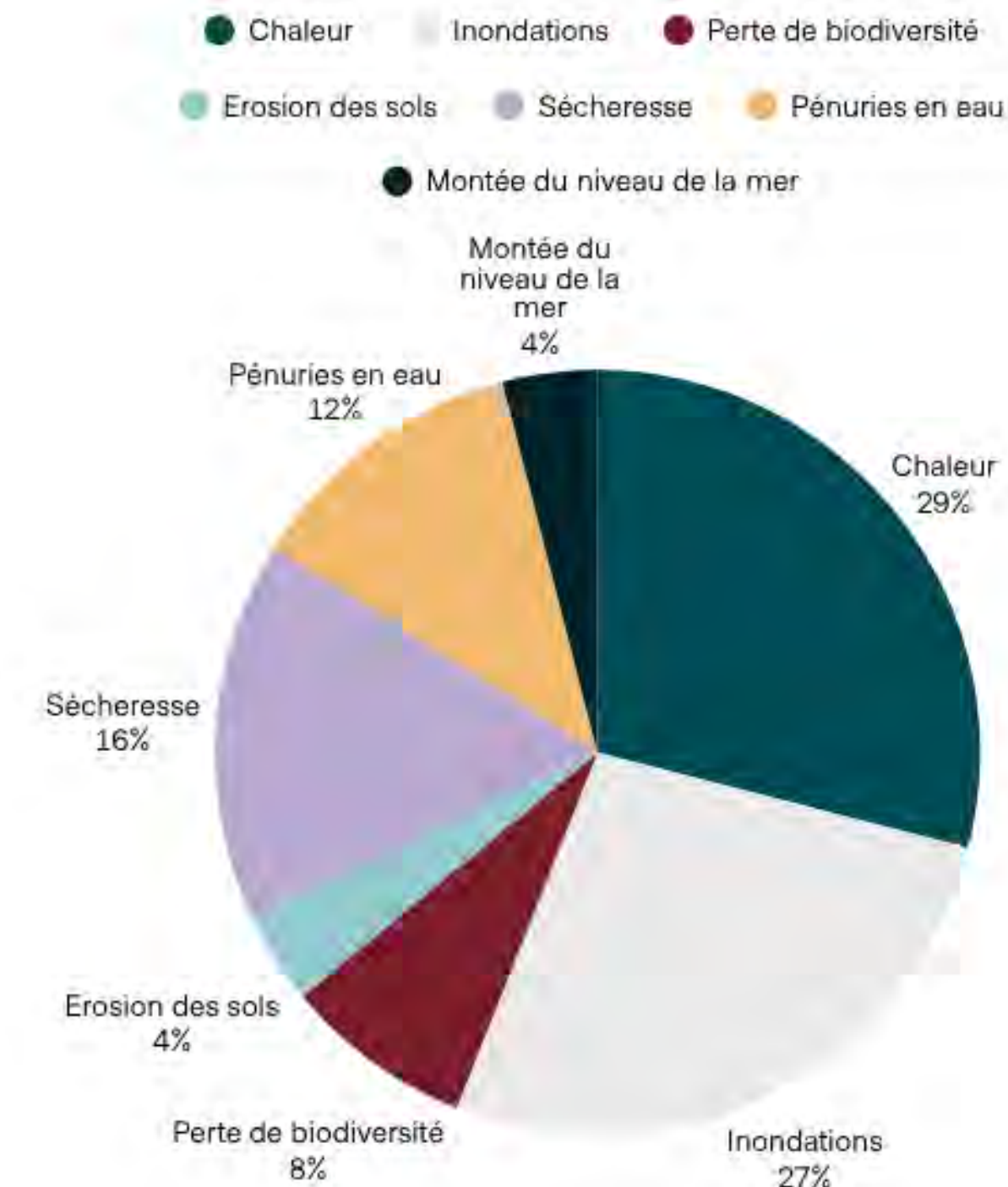
Wallonie



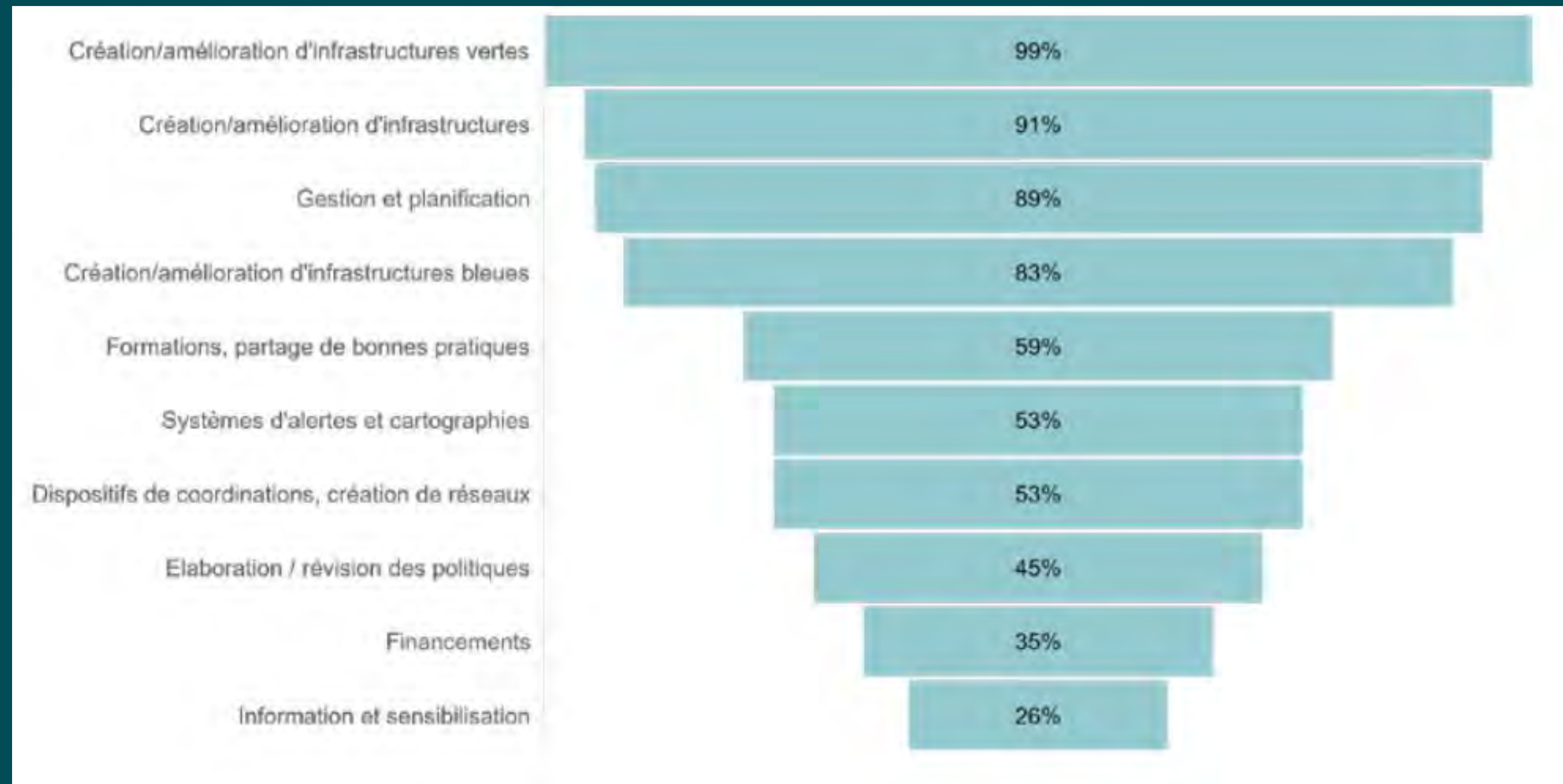
Bruxelles



Flandre



Main adaptation measures



Key findings

- The municipalities are already taking action, but the levels of preparation remain very uneven
- Adaptation remains too sectoral, and is still poorly integrated into urban planning, water management, health or emergency plans
- The tools exist, but are difficult to mobilise
- Human and financial resources are lacking
- Funding remains too often temporary
- Governance is fragmented

As a result, local action is progressing, but remains too fragile in the face of intensifying risks

Recommendations

- Sustaining climate/adaptation functions in municipalities and strengthening human resources
- Guaranteeing structural, predictable funding dedicated to local adaptation
- Systematically integrate adaptation into regulations, plans, permits, public procurement and social arrangements
- Develop decision-support tools based on vulnerability, co-benefits and the cost of inaction
- Strengthen coordination between levels of government, particularly at the level of watersheds and functional territories
- Mobilising more private actors and citizens in adaptation efforts

Publications

cerac



[Site web](#)



Vulgarisation

Risques climatiques:
Quel est l'état de
préparation des
communes ?

Le CERAC a analysé l'état de préparation des communes belges face aux risques climatiques, entre 2024 et 2026. Cette étude a pour but de rappeler l'importance de l'échelle communale face aux risques climatique et le besoin de soutien supplémentaire qu'elles doivent recevoir pour adapter leur territoire.

Des communes en première ligne

Les communes occupent une place centrale dans la gestion des risques climatiques. Elles sont en première ligne face à des aléas plus fréquents et plus intenses: **vagues de chaleur, sécheresse et inondations**. Une évidence s'impose face aux impacts de ceux-ci : **la résilience du pays se joue en grande partie à l'échelle communale**.

Le rôle des communes s'avère primordial dans le cadre d'une gestion d'une crise, notamment en amont via l'aménagement du territoire, la gestion de l'eau, l'entretien des voiries ou la protection des publics vulnérables.

En raison de leur position de proximité, les communes ont la responsabilité de traduire concrètement les enjeux climatiques dans l'organisation quotidienne du territoire.

Une dynamique engagée, mais encore insuffisante

Le rapport montre qu'un nombre important de communes s'est déjà saisi des enjeux climatiques. Une prise de conscience nourrie par la multiplication des événements extrêmes existe et se matérialise par les outils mis progressivement à disposition des autorités locales.

L'analyse met en évidence des risques identifiés comme prioritaires par les communes :

- les effets de la chaleur sur la santé,
- les dommages causés par les inondations aux bâtiments et aux infrastructures, dans les territoires ruraux,
- les conséquences de la sécheresse sur les écosystèmes, l'agriculture et la disponibilité de l'eau.

En réponse, les leviers les plus fréquents sont la végétalisation, la gestion durable de l'eau, l'intégration des enjeux climatiques dans l'urbanisme et notamment en ciblant les îlots de chaleur et la sensibilisation des citoyens.

Néanmoins, **par rapport à la hauteur de l'enjeu, les politiques d'adaptation doivent s'accélérer** et davantage d'efforts sont nécessaires.



© Sébastien Van Mallegem

Merci
pour votre attention

aurore.brunson@cerac.belgium.be

cerac

St Gilles/Gillis (BXL)



Loes SALOMEZ

Schepen NL
aangelegenheden,
gemeentelijke
eigendommen, energie,
klimaat en biodiversiteit



Nicolas PELLOQUIN

Coordinateur Plan
Climat Saint Gilles

Local climate resilience : local authorities facing the climate challenge

—

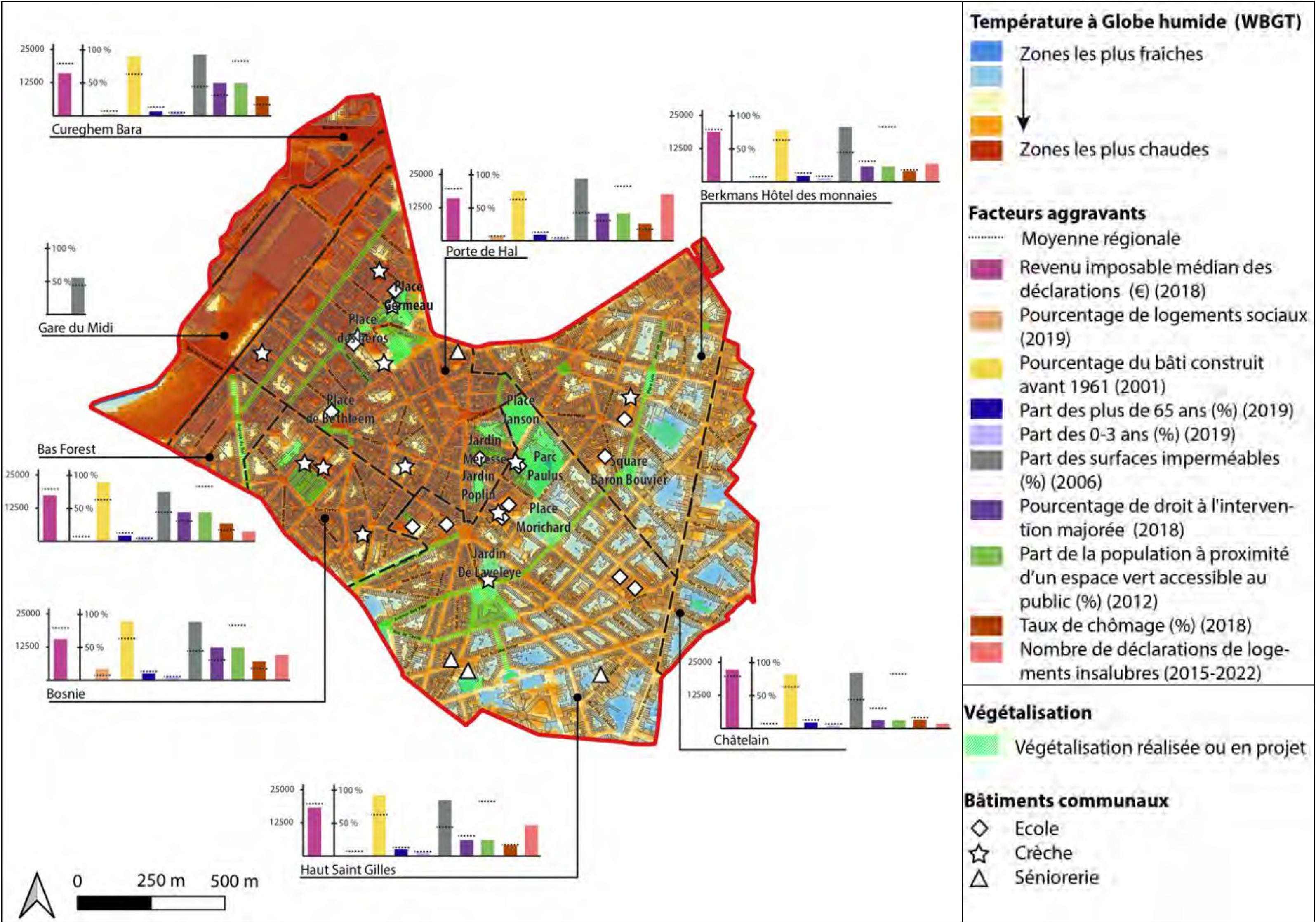
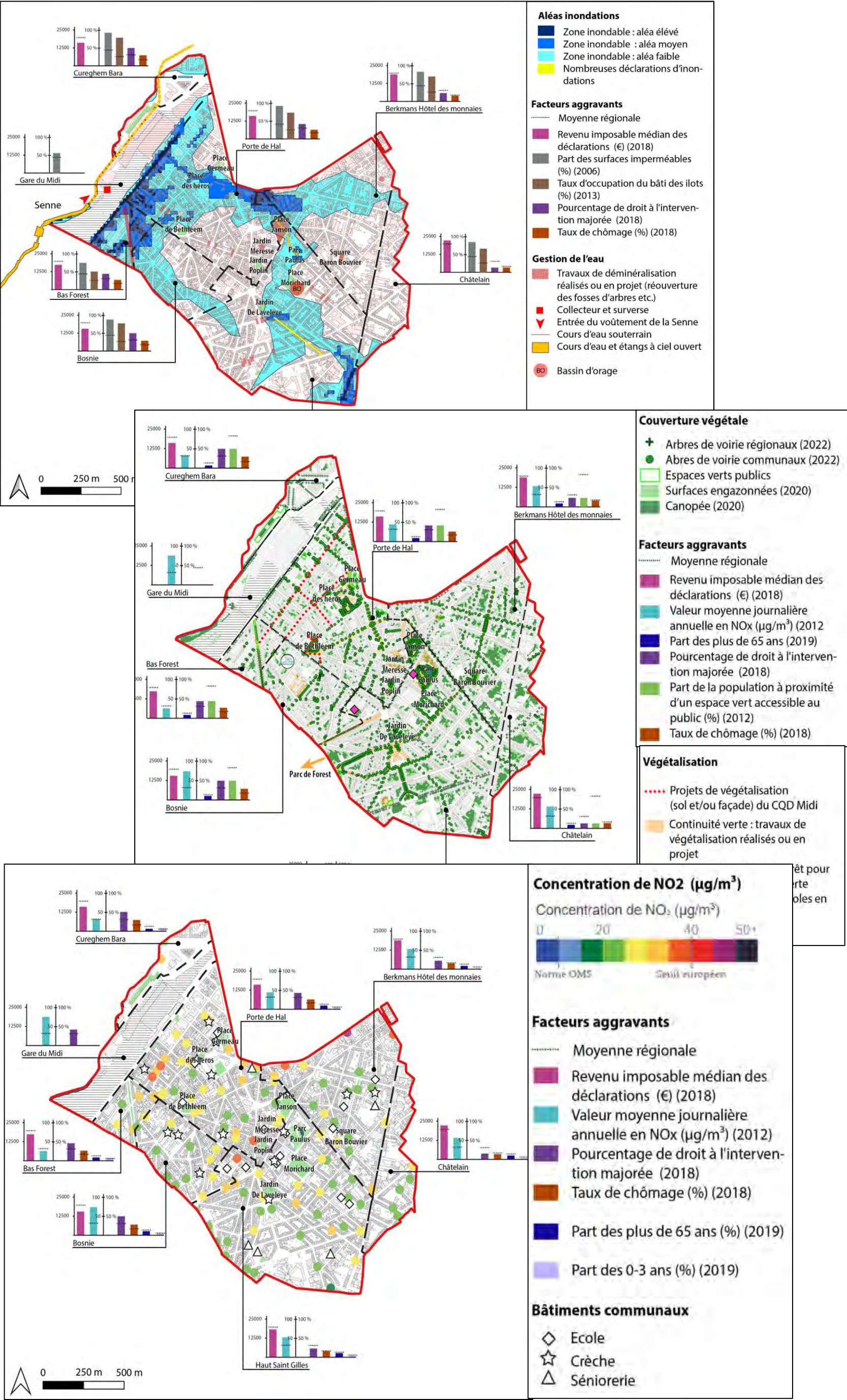
Commune de Saint-Gilles

Contexte

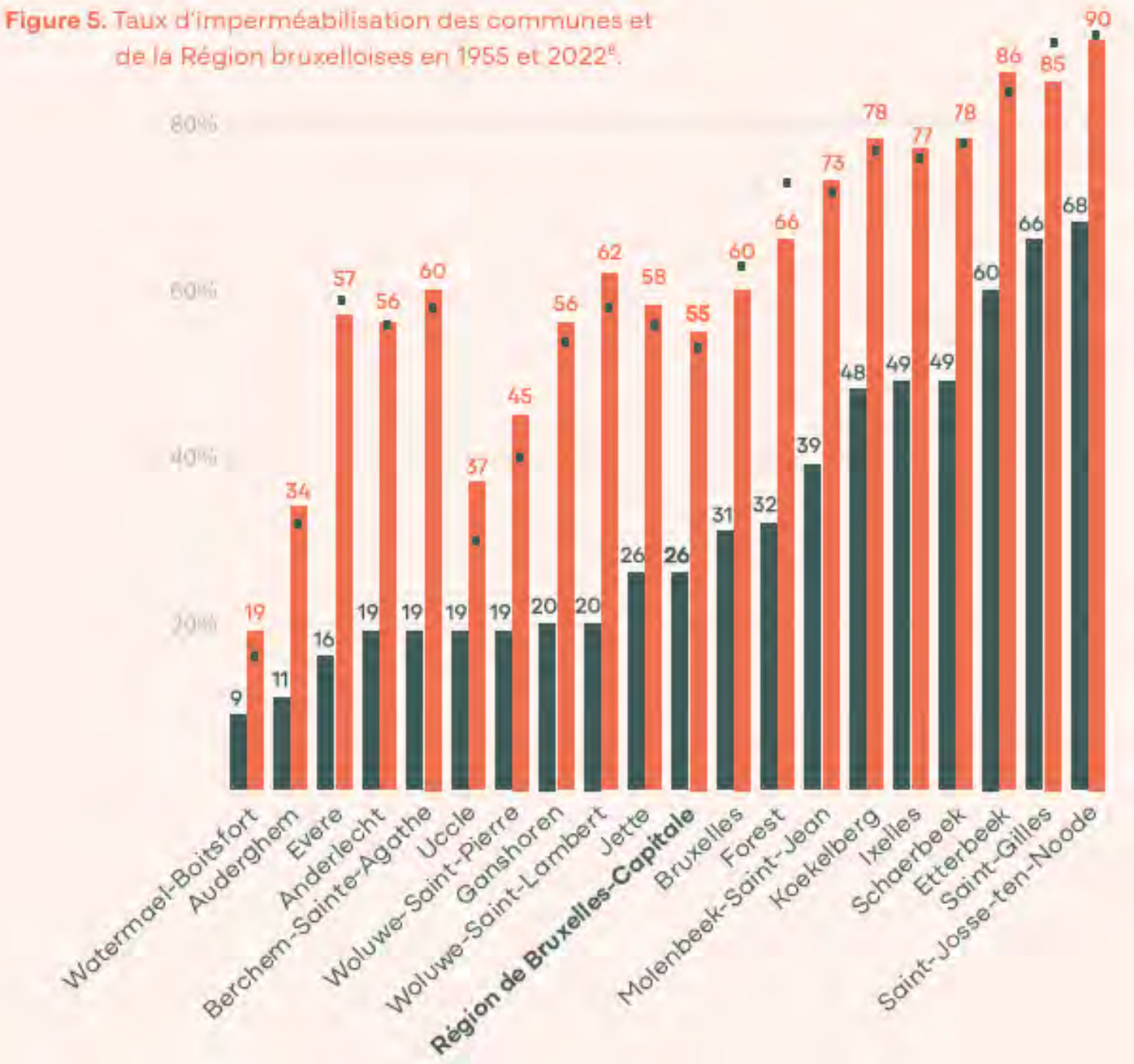
- 2019 Climate Emergency Motion
- 2024 Majority agreement integrating climate change and environmental justice
- Approval of the 2024 Climate Plan by the Council
 - ➔ 2026 progress review
 - ➔ Comprehensive update with collaborative development in 2027/2028
- Past support: BE Climate Call for Proposal
- Current support: BE Staff Call for Proposals



Starting point: Mapping environmental inequalities



➔ Flooding, vegetation cover, tree vulnerability, air quality and exposure to heat stress: maps illustrating socio-environmental inequalities in Saint-Gilles, produced in collaboration with the Centre for Urban Ecology



Source : *La vulnérabilité au stress thermique des usagers des quartiers proches de la Gare du Midi à Bruxelles*, Centre d'Ecologie Urbaine janvier 2026

➔ 85% of impervious surfaces in 2022 (compared with 66% in 1955) and unevenly distributed vegetation cover.

Two different contexts:

• Gare du Midi, Bosnie

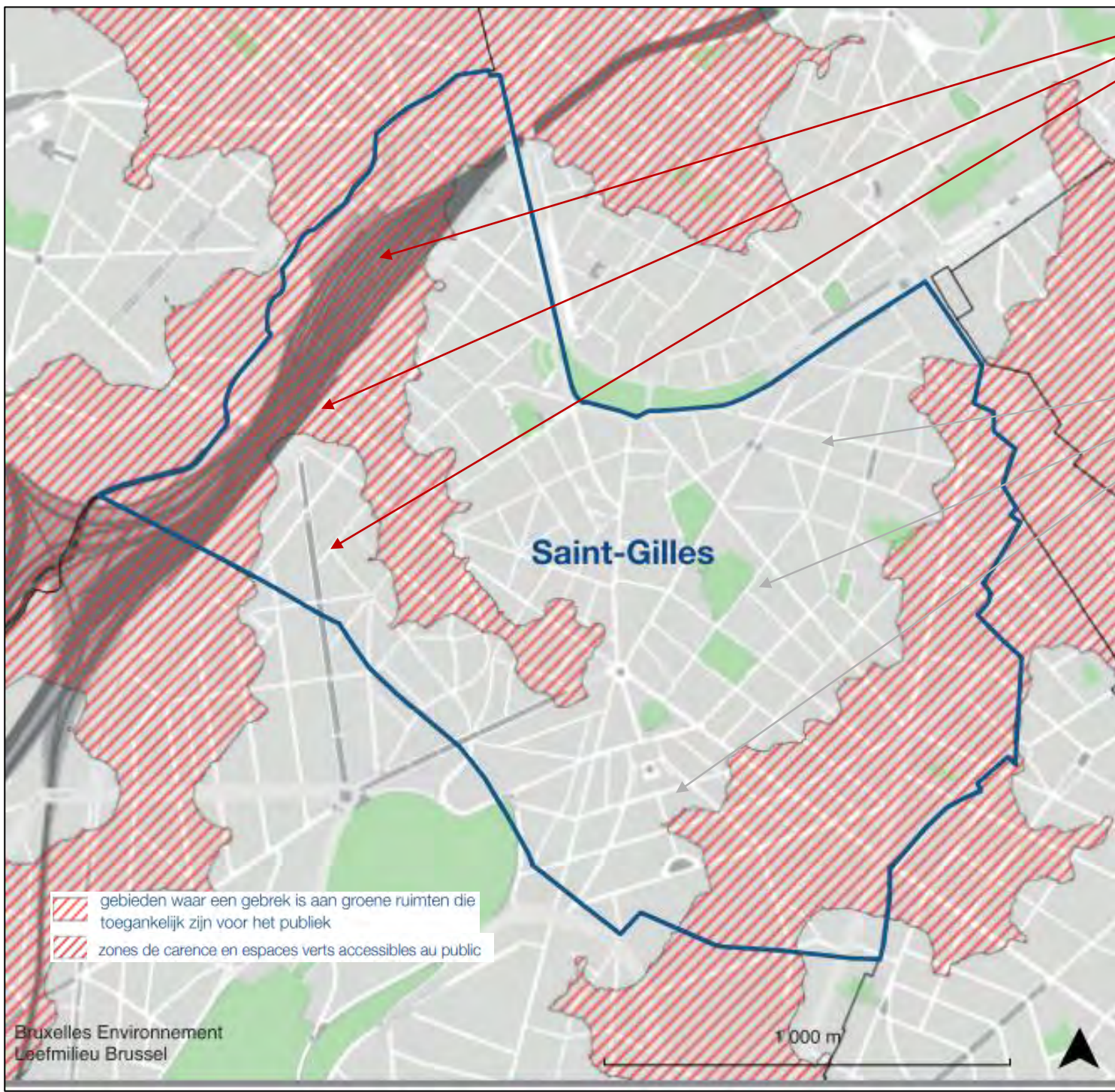
➔ shortcomings in a very densely built-up area (37,000 inhabitants per km² in the Bosnie neighbourhood) with few inner courtyards.

• Louise, Hôtel des Monnaies

➔ shortcomings compensated by private gardens (within blocks, see previous heat map)

➔ Certain areas stand out as priorities

➔ Adding green spaces is a main goal to tackle heat stress and fight environmental injustice.



Greening projects to reduce exposure to hazards

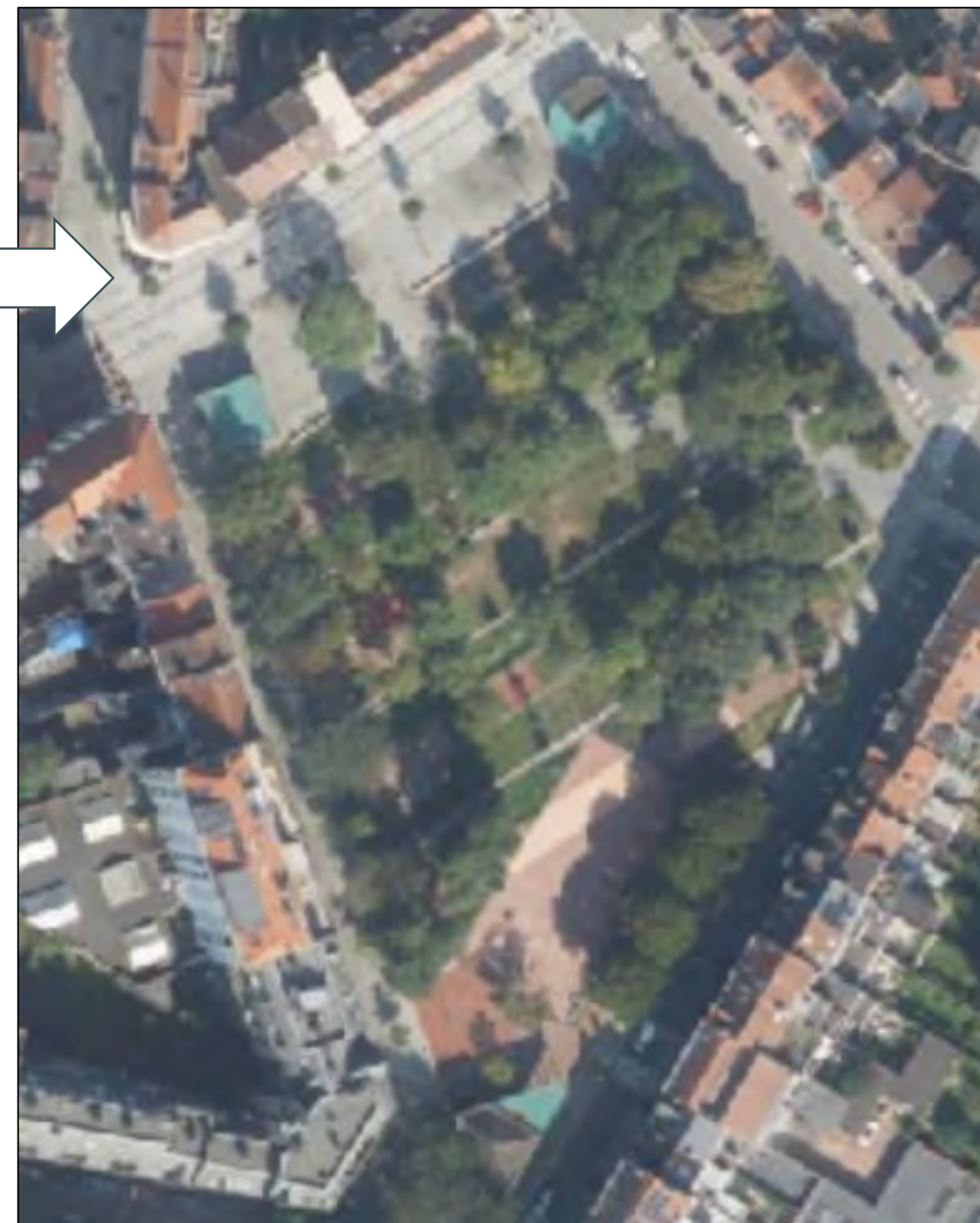
Place Marie-Janson (2023)

CQD Parvis-Morichar

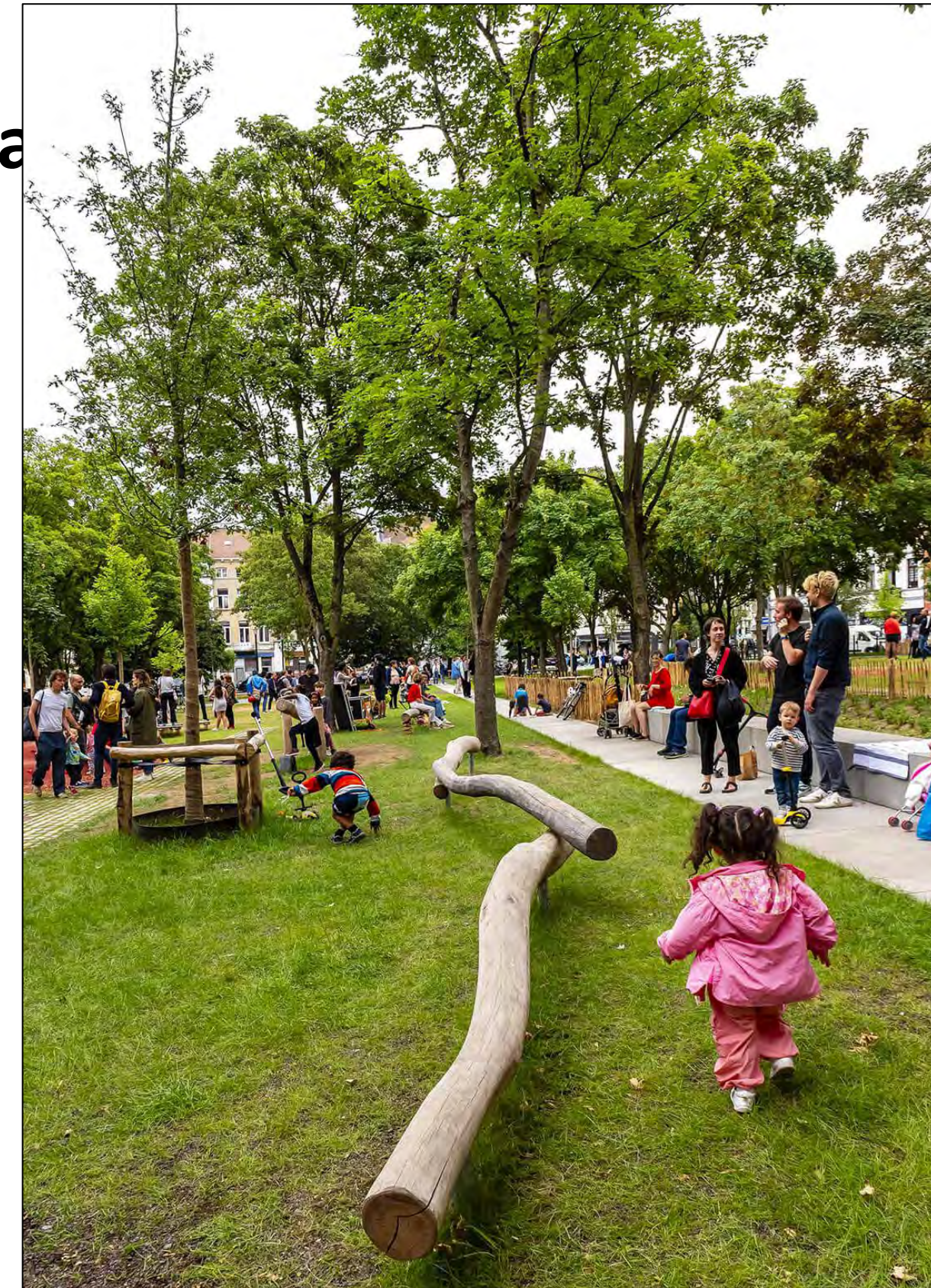
→ permeable paving, greening, installation of fountains and swales



Urban.brussels/brugis – orthoplan 2019



Urban.brussels/brugie – orthoplan 2024



Place Marie-Janson (2023)

Greening projects to reduce exposure to hazards

Less Beton: Redevelopment projects involving local residents / less concrete, more life



École 4 saisons, Photos : Frédérique Versaen

Greening schools : a first step toward resilience of public buildings



Avant/après École Léonie Lafontaine (anciennement école 1/2) Opération Re-cr ation, avr 2026 - Source photo : Bubble.brussels et  -Benedicte-Maindiaux

Greening projects to reduce exposure to hazards

Redevelopment of Place de Bethléem (Stade :
Permis d'urbanisme, travaux prévus pour fin
2026)



La place Bethléem actuellement (source : quartier1060.brussels)

Redevelopment of Square Jacques Franck (Stade :
marché travaux attribué, travaux en cours)



Situation projetée Square Jacques Franck (source : quartier1060.brussels et NewSouth)

- + Redesign of Rue Féron and Rue Claes as traffic-calmed streets (CQD Midi)
- + Continuous planting of climbing plants
- + Planting of ~50 trees per year within the municipal area (10-15% of replacements)
- + Partnerships for research on tree species adapted to new climate conditions (Green Spaces Dpt)

➔ Adapt public spaces by supporting biodiversity, improving soil permeability and tackling urban heat islands

Rethinking the importance of emergency response

- Emergency plans for different environmental hazards : floodings, air pollution, extreme cold, heatwaves... as explained in the CERAC research, with different/scaled competent authorities
- Heatwave emergency response (*Plan particulier d'urgence et d'intervention - Fortes Chaleurs*) :
 - Mobilization of public services (calls for vulnerable citizens, online publications, adding temporary water access...)
 - Recommendations for citizens,
 - Reduced shifts for public labor workers and extra breaks,
 - Extension of work-from-home for office workers,
 - Other actions to be implemented (work in progress to actualise the emergency response plans)

➔ Currently building climate shelters network with CUE

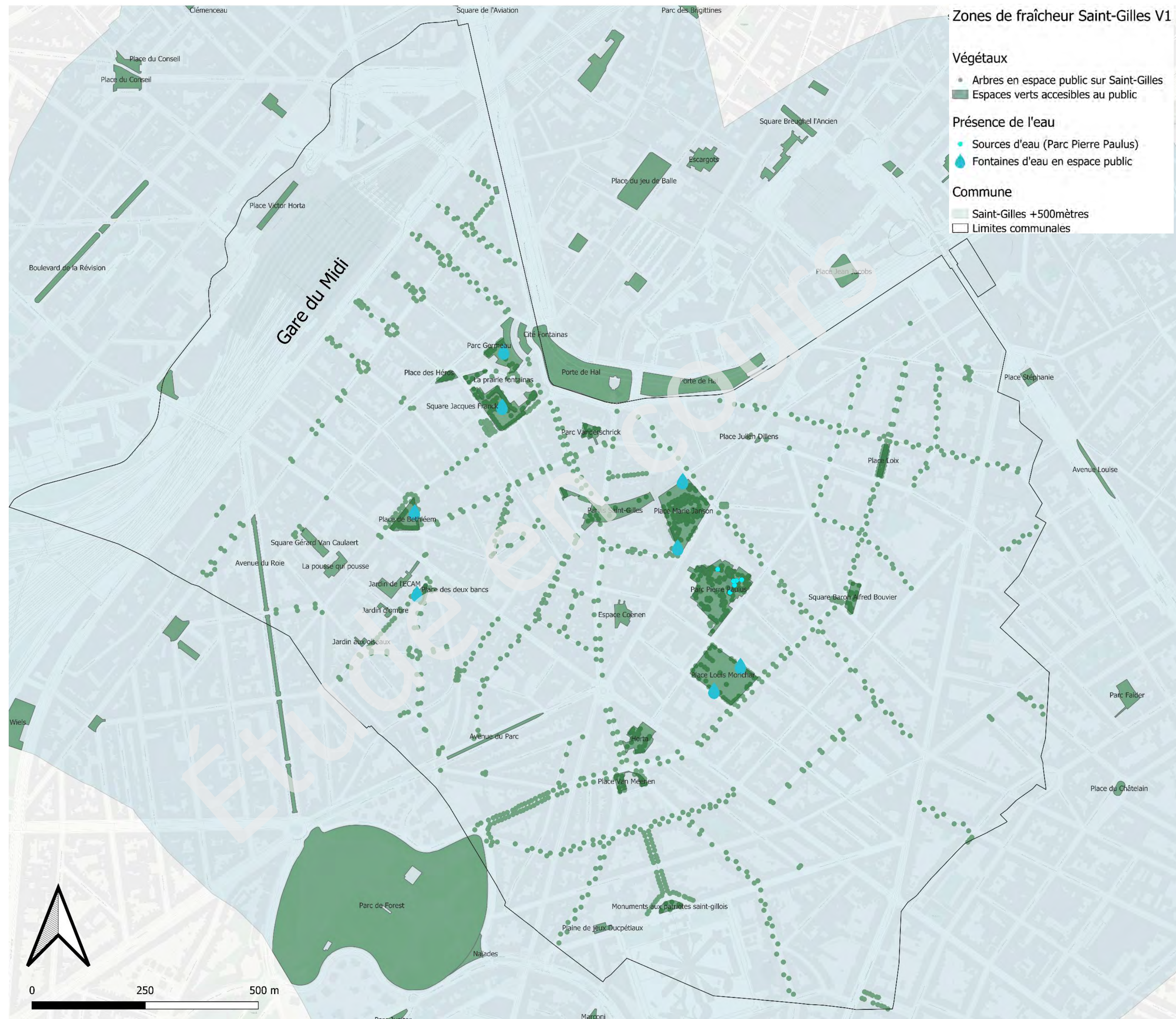
Climate Shelters Network Project (in progress)

A collective resilience project carried out by :

- Public services (Climate and Biodiversity ; Emergency planning ; Green spaces),
- Academic researchers (CUE : Tali Van Vaerenbergh, Simon DeMuynck)
- Inhabitants and local stakeholders

Objectives:

- Draw inspiration from existing initiatives (Barcelona, Paris, Lyon, etc.),
- Identify places offering respite from the heat,
- Bring together local stakeholders, standardise solidarity initiatives and best practice,
- Jointly develop a network of heatwave shelters with various levels of involvement.

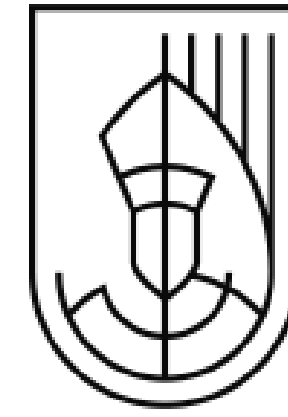


Key notions :

- In the municipality of Saint-Gilles – which enclosed, impervious and socio-economically diverse – heat adaptation efforts centre on greening shared spaces and facilities, with a focus on the most exposed neighbourhoods and the most vulnerable groups.
- Against the widespread of austerity, we must promote solidarity works and rethink the “emergency” plans that are set to become the new norm.
- New living conditions call for new long-term solutions

St Gilles Gillis

1 0 6 0



Thank you

Contact :

[https://maisonecohuis.be/
npelloquin@stgilles.brussels](https://maisonecohuis.be/npelloquin@stgilles.brussels)
lsalomez@stgilles.brussels

Antwerpen (VL)



Bart BRUELEMANS
Chief Resilience Officer
stad Antwerpen



Griet LAMBRECHTS
Projectleider
klimaatadaptatie stad
Antwerpen





Antwerpen
voor Klimaat

Heat stress & Cool spots in Antwerp

Griet Lambrechts (Projectleader Climate Adaptation – stad Antwerpen)

Bart Bruelemans (Chief Resilient Officer - stad Antwerpen)

SDGForum 2026

Climate Adaptation in Antwerp



2014
Signing
of the
Covenant of
Mayors Adapt



2015 – 2020
Heat stress
impact study
+
Multi-layer
Safety Model



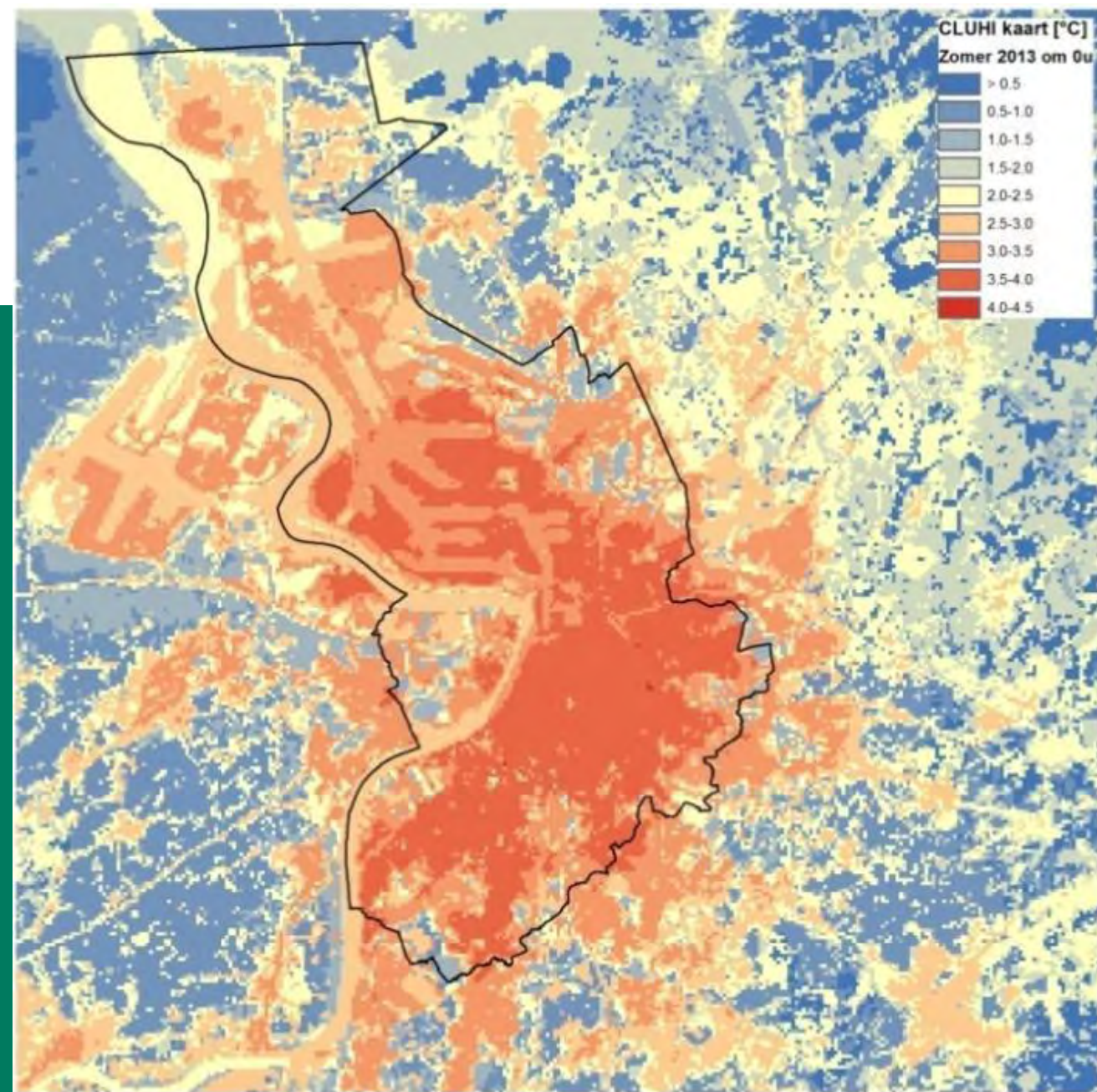
2020 – 2025
Implementation of
green infrastructure
+
Cool Spots



2025 – 2030
+ 100 Cool spots
+ 100 ha Parcs
+ 100 ha Tree canopy
+ 100 ha Desealed area
re. 2021

Knowledge Building on Heat Stress and Cool Spots

Urban Air Temperature & UHI :
Mitigation through overall greening
and expanding the tree canopy
cover



Heatstress (WBGT): Design of
parks as 'cool infrastructure'

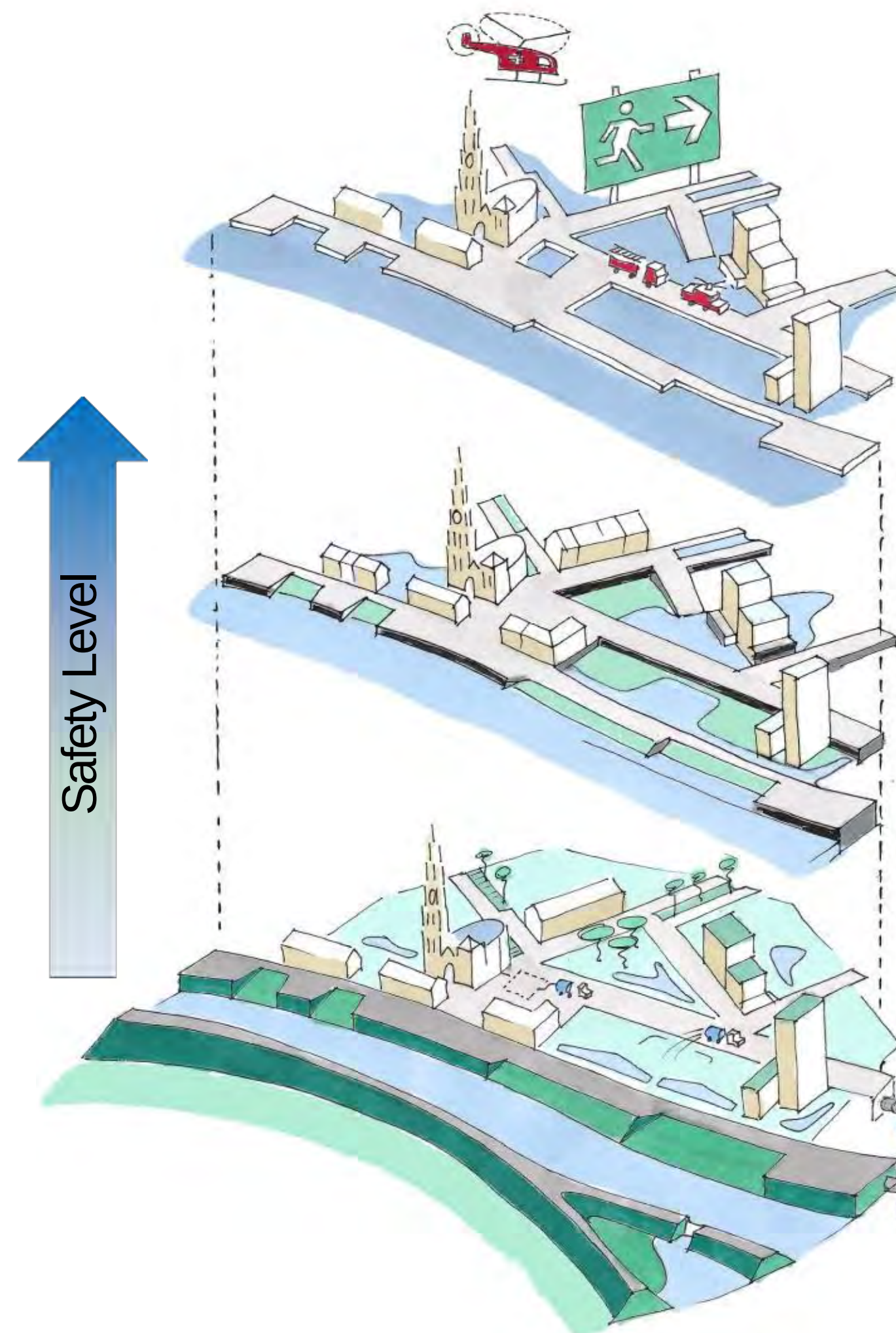


the 'Multi-layer Safety Model'

3- Dealing with climate events:
By enhancing the preparedness &
emergency response

2- Adapting to climate risks:
Avoiding flood damage
by resilient city planning

1- Mitigating climate risks:
Protect from flooding by
infrastructure



Preparedness for heatwaves
(shorter term)

Enhancing the livability during
heatwaves through a network of
smaller **Cool Spots** (shorter term)

Combat the UHI-effect through
overall greening (long term)

Layer 1: Greening the city at all levels

Greening streets: [Tuinstraten](#)



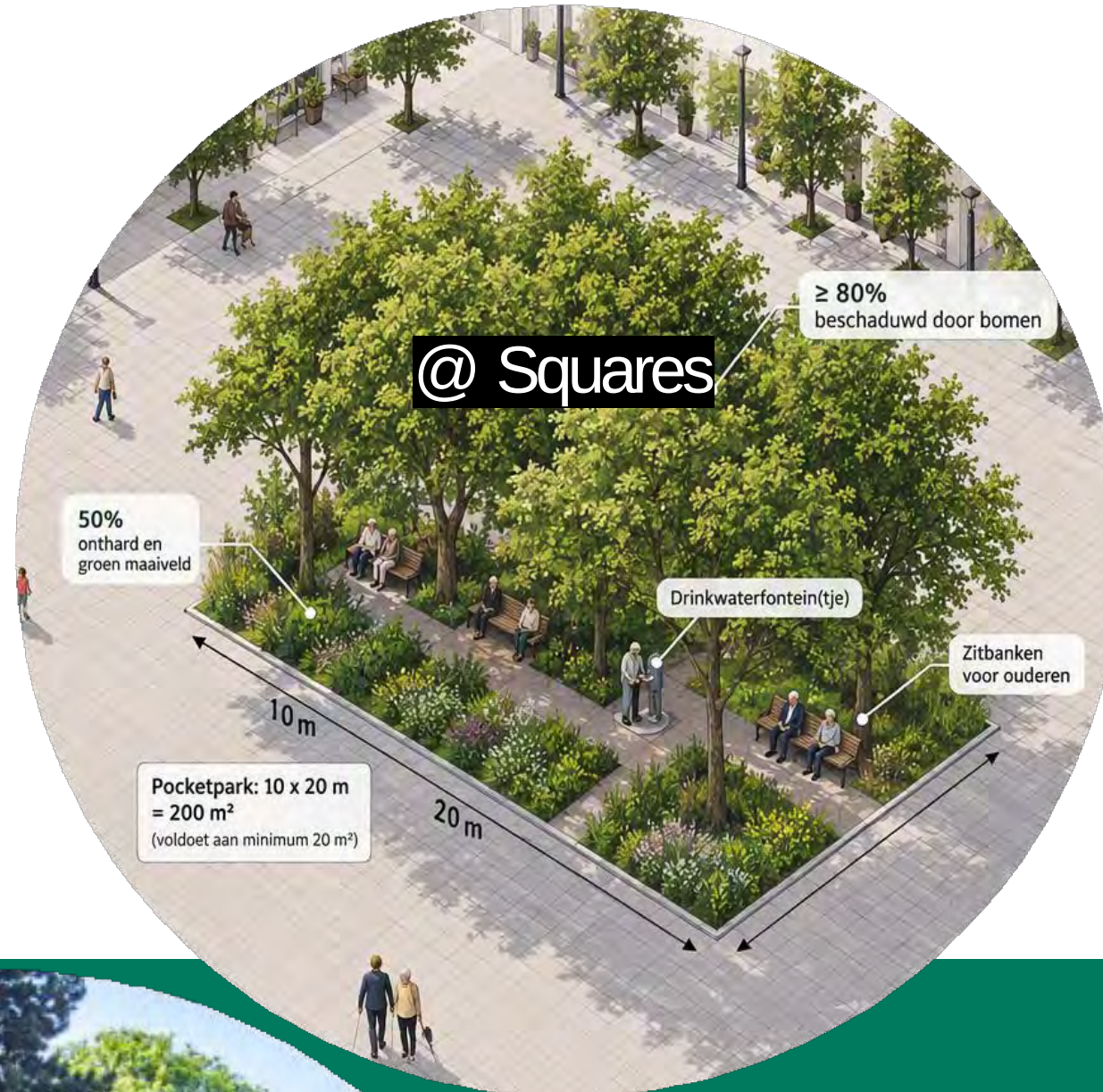
Greening squares : [Zuidpark](#)



Greening parks: [Ringparken](#)

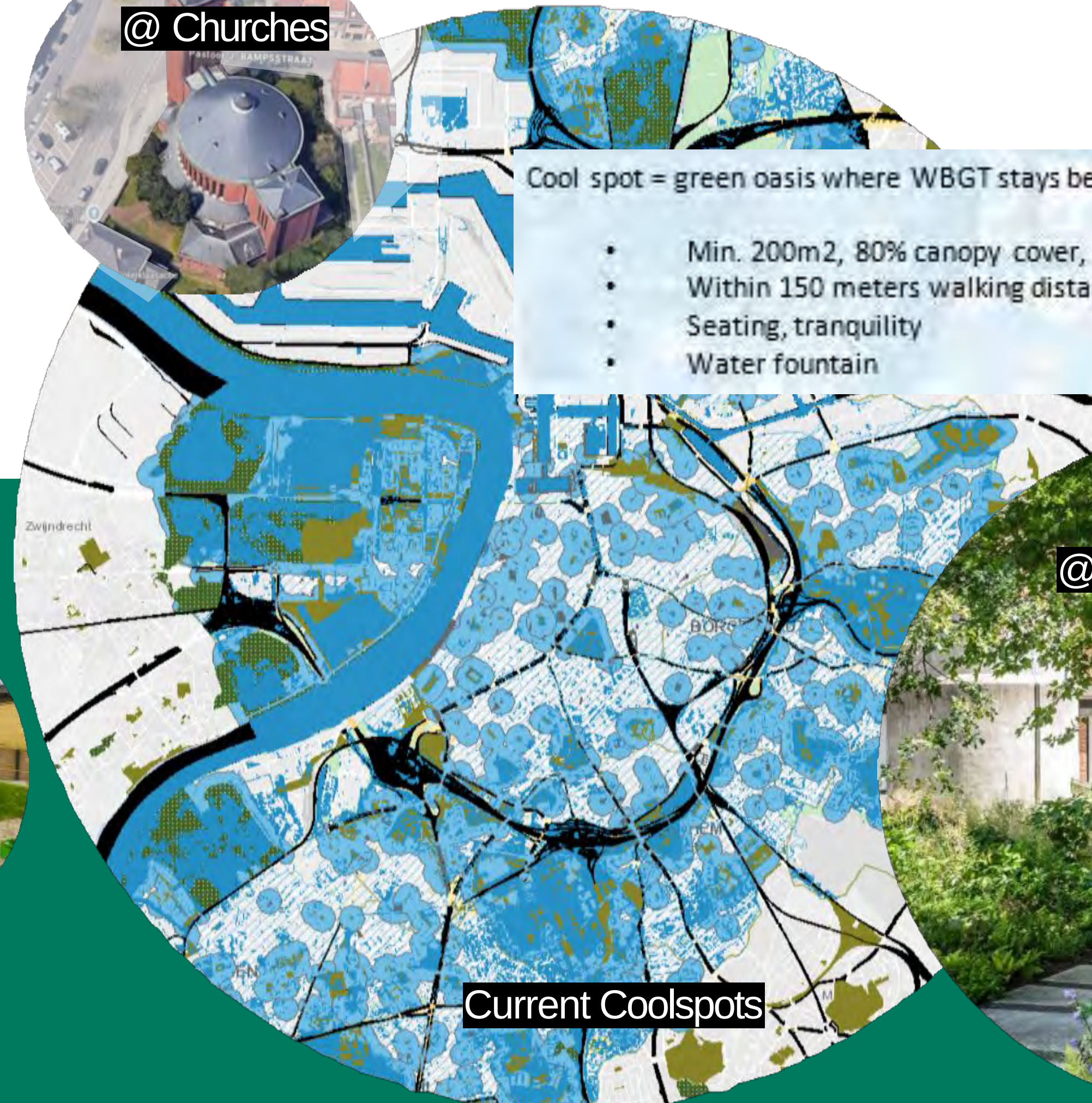


Layer 2 : Cool spots @ 2 minutes walking



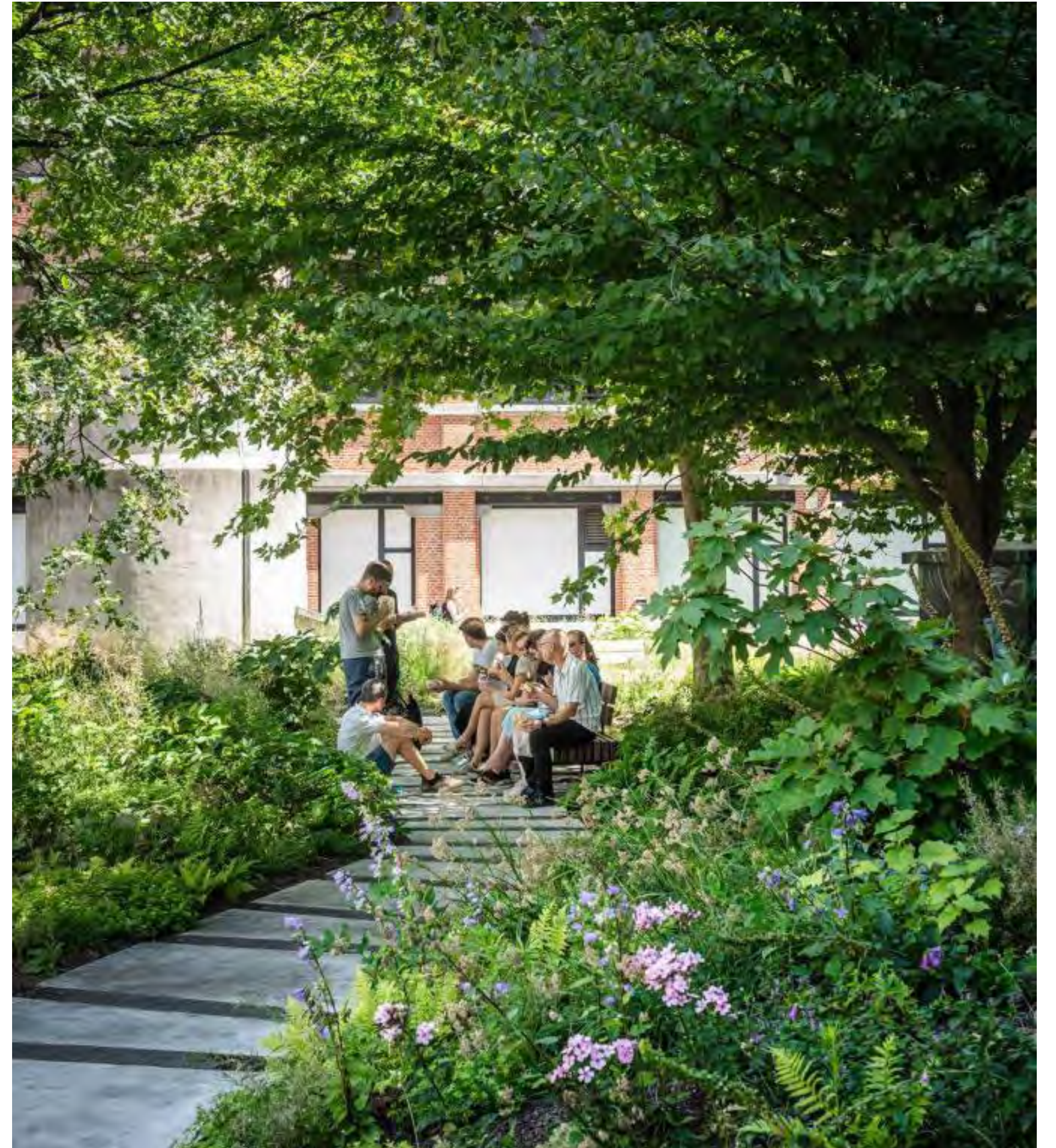
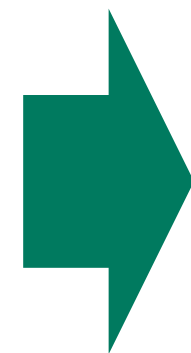
Cool spot = green oasis where WBGT stays below 24 degrees Celsius

- Min. 200m², 80% canopy cover, 50% depaved and green
- Within 150 meters walking distance (2-5 min walking)
- Seating, tranquility
- Water fountain



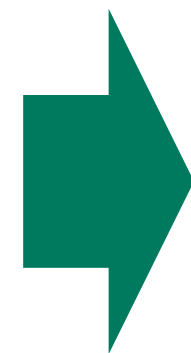
the Administrative Centre 'den Bell' as Cool Spot

- Setting a 'good example' as a city
- 3 x 200m² cool spots,
1700 m² depaved surface,
pergola for shading, green
façades
green roofs, drinking fountain
- Technical innovations: on top of
parkingdeck with poor load-
bearing capacity and circular
water mangement



Cool Spots @Schools and Community Buildings

- Eco-school': support for climate proof design and realisation of school playgrounds.
- New for all community buildings: financial and organizational support for elderly care, culture, youth, religion, health centres,...
- Innovation on opening private spaces for public by co-creative management en maintenance.



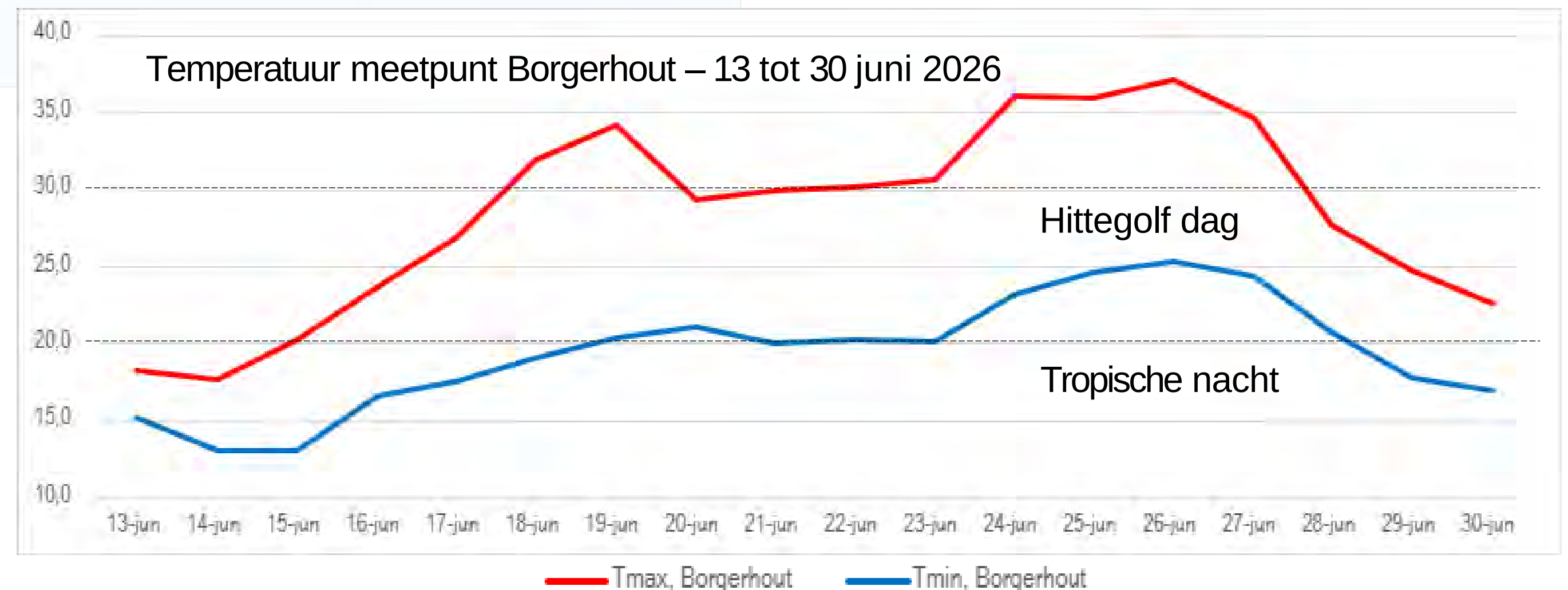
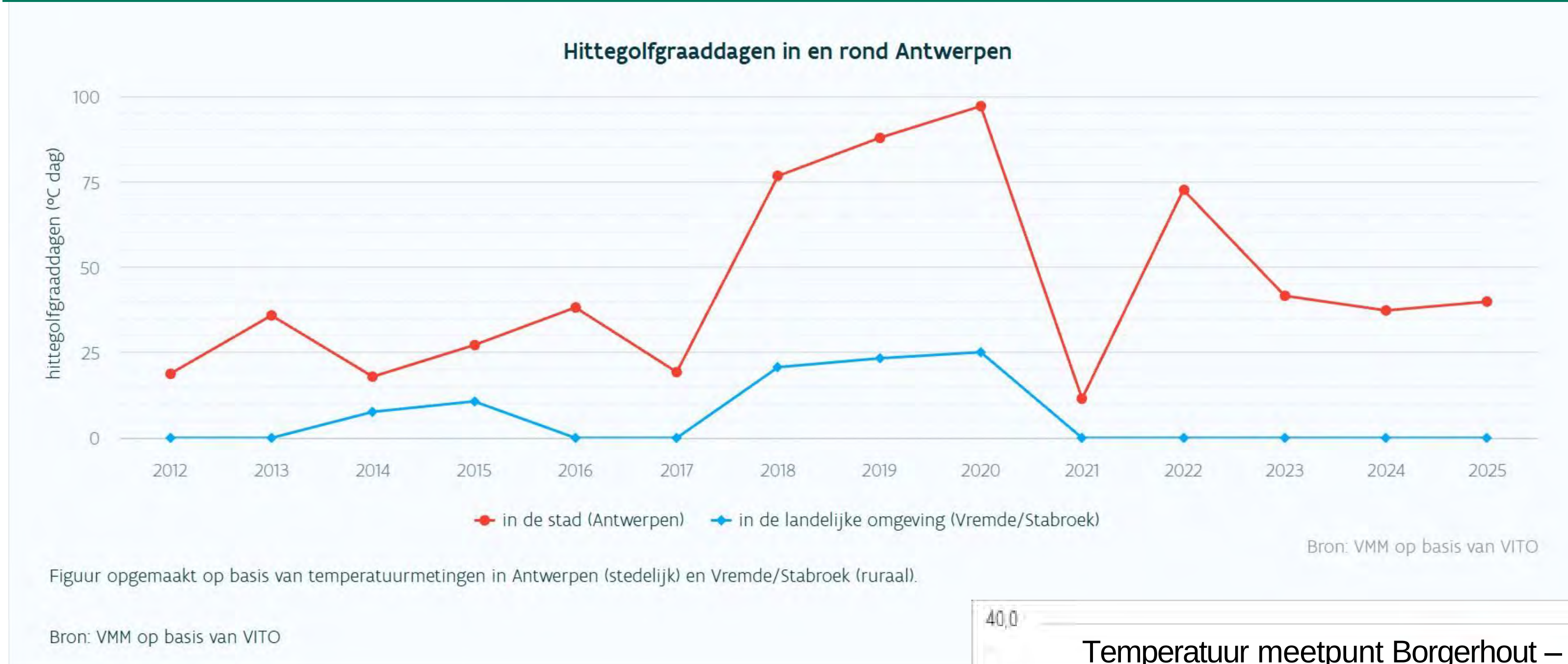
Samen bouwen aan een netwerk van toegankelijk buurtgroen

De stad wil samen met andere stedelijke actoren een netwerk van kleinschalige, groene en lokaal verankerde plekjes op semi-privaat domein realiseren. Deze 'buurtoases' bieden luwte, beschutting tegen hitte en een gevoel van geborgenheid en sociale verbondenheid. Deze groene plekjes zijn ook visueel aantrekkelijk en bieden een ontmoetingsplek op maat van de buurt in dichtbebouwde wijken.

Waarom dit project?

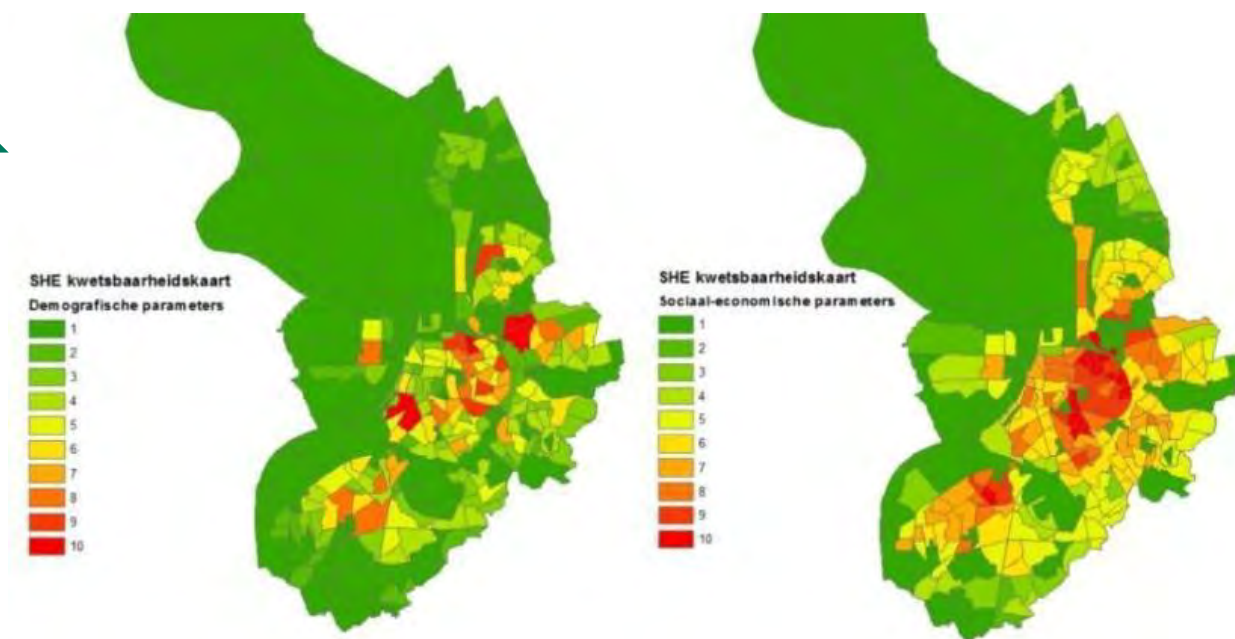
In een dichtbebouwde stad als Antwerpen is de nood aan toegankelijke buitenruimte die rust en verkoeling biedt groot. Daarom wil de stad onderzoeken hoe groene plekjes op semi-private locaties of de buitenruimtes van stadsgebouwen kunnen worden ontsloten voor de buurt.

Layer 3 : Preparedness for heatwaves

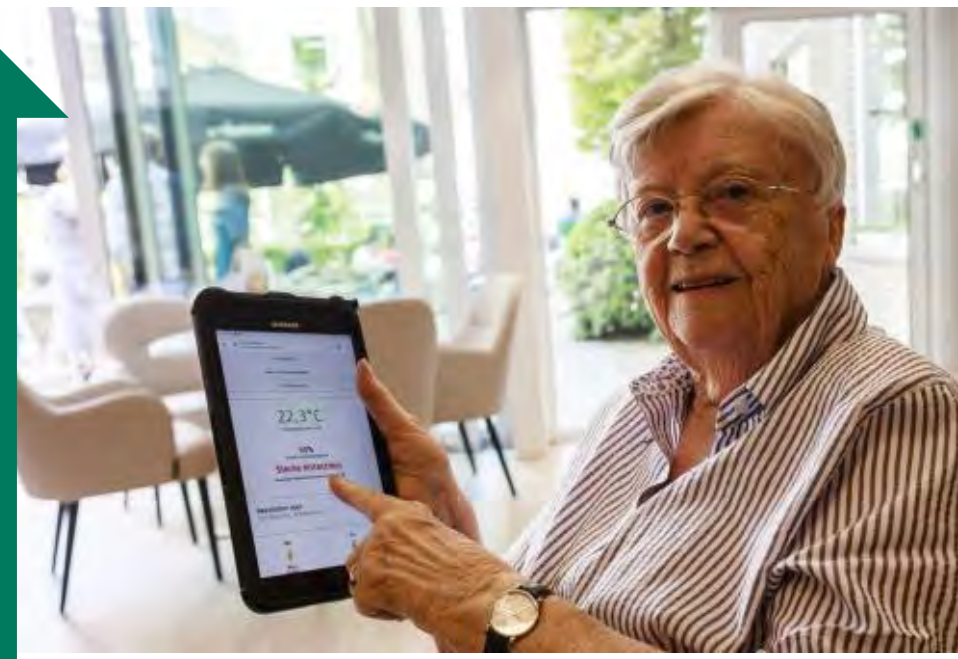


Layer 3 : Preparedness for heatwaves

2013 Mapping heatstress and vulnerable neighbourhoods



2019 'Hitteveklipper' as experimental early warning system for elderly care



Vind een koele plek in jouw buurt

Op de kaart hieronder kan je belangrijke voorzieningen en koele plekken, zowel binnen als buiten, vinden. Geef een adres in of gebruik je locatie om de koelste plekken bij jou in de buurt te vinden.



2020 Cool spots in Climate plan 2030



2014 Heat monitoring & urban forecast system



2019 Awareness by Citizen Science

May 2026 - Extreme heat exercise & crisis management
32 stakeholders & 19 different municipal services involved





Antwerpen
voor Klimaat

Thank you

Liège (WA)



Michel DUC

Conseiller au cabinet de
l'Echevin de l'Urbanisme,
de l'Aménagement du
territoire, des Espaces
verts et de la Propreté



Thomas HALFORD

Ingénieur forestier et
responsable du service
de Foresterie urbaine





The Canopy Plan of the City of Liège:

A **tree-based** innovative **climate adaptation** strategy

Thomas Halford & Michel Duc

City of Liège

13/10/2026

SDG Forum Belgium

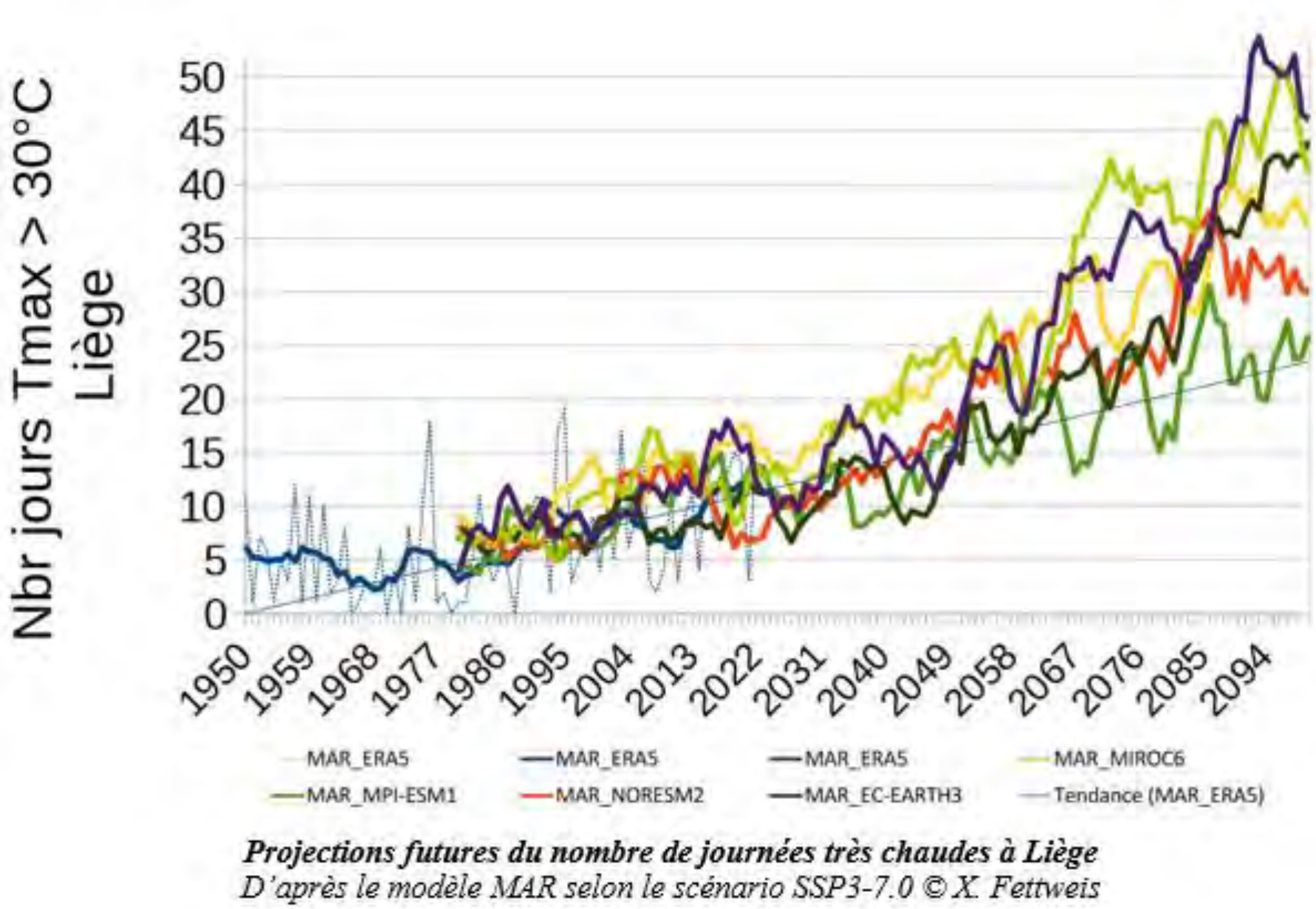
Bruxelles

Context



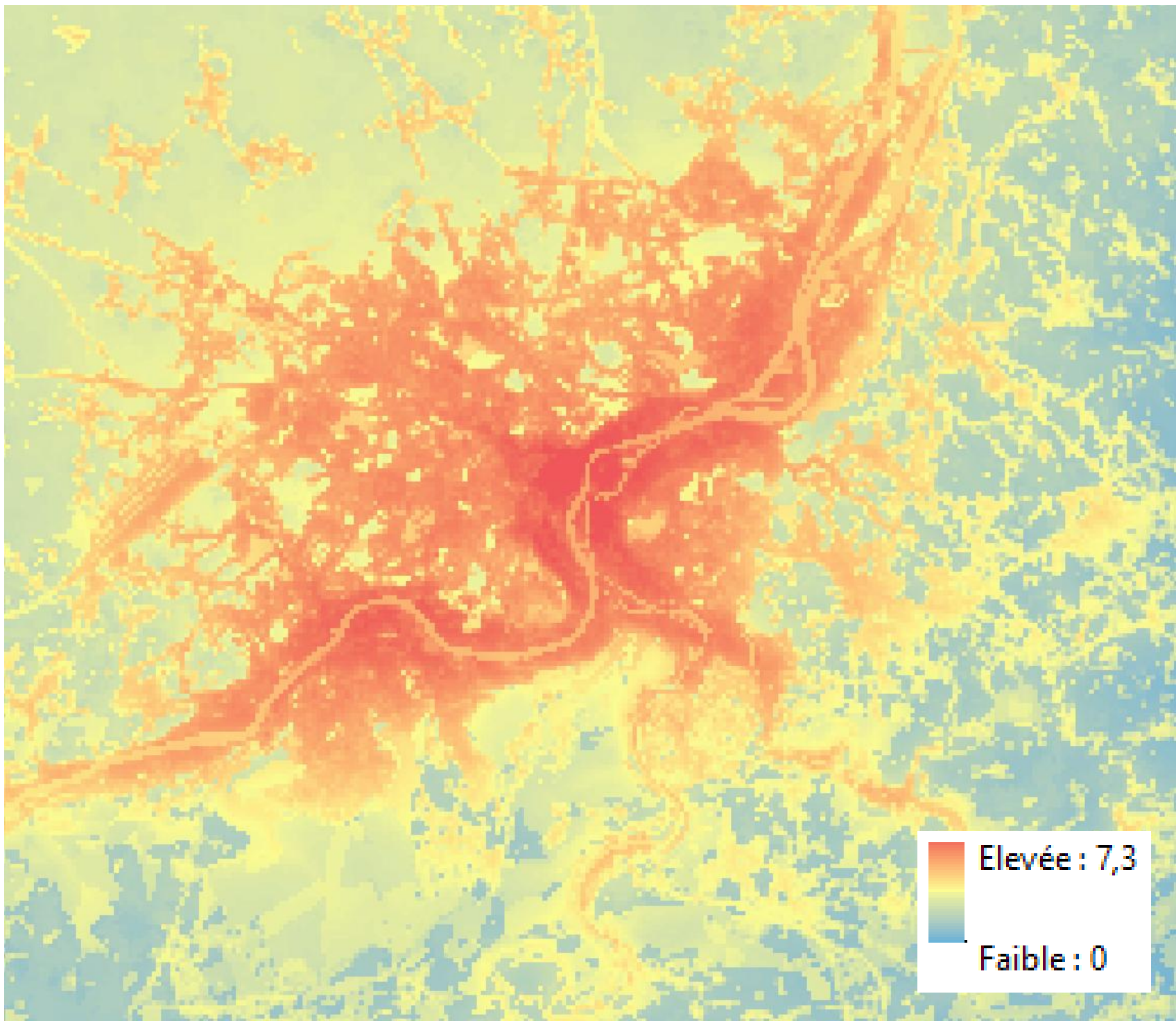
Global

Heat waves



Local

Urban Heat Island



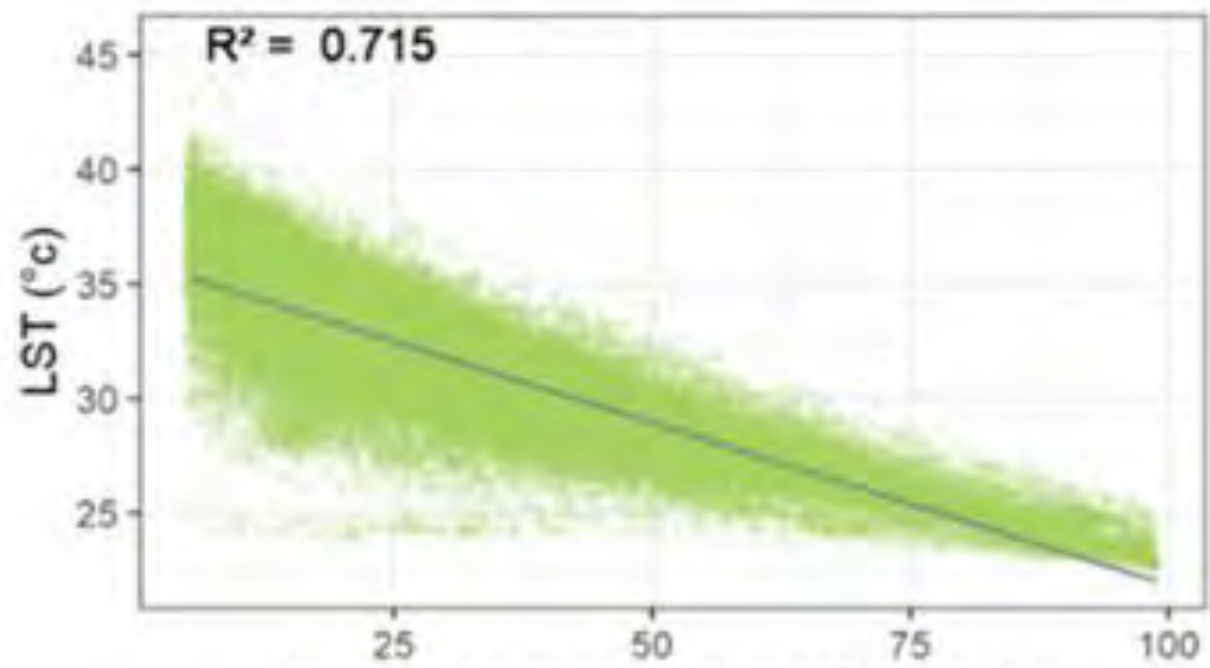
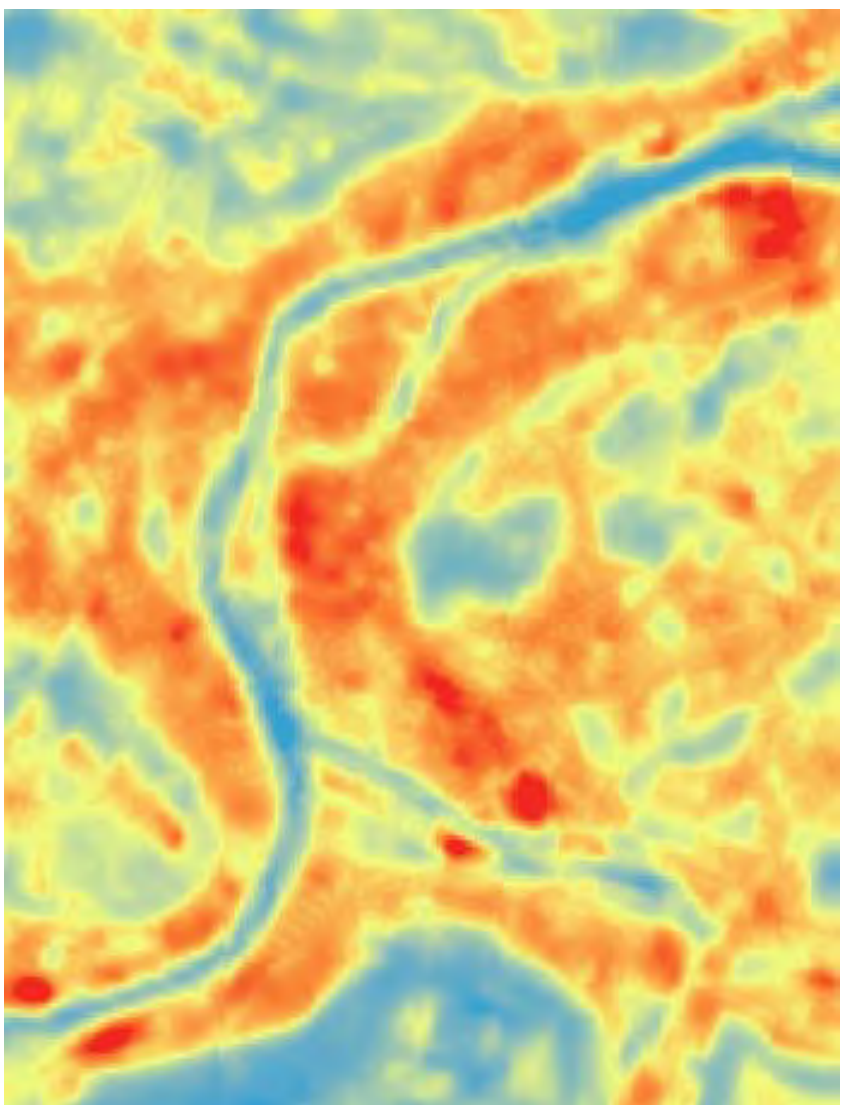
Response:

The Canopy Plan

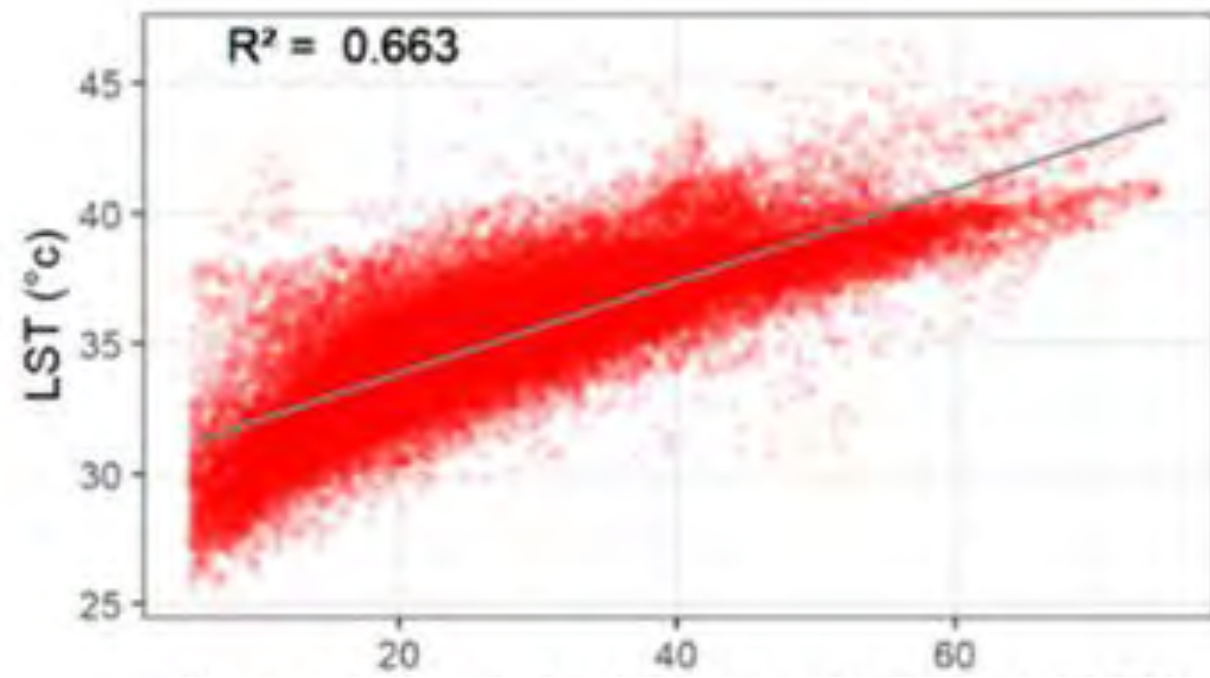


Trees are ecosystem infrastructure and particularly **thermal infrastructure**

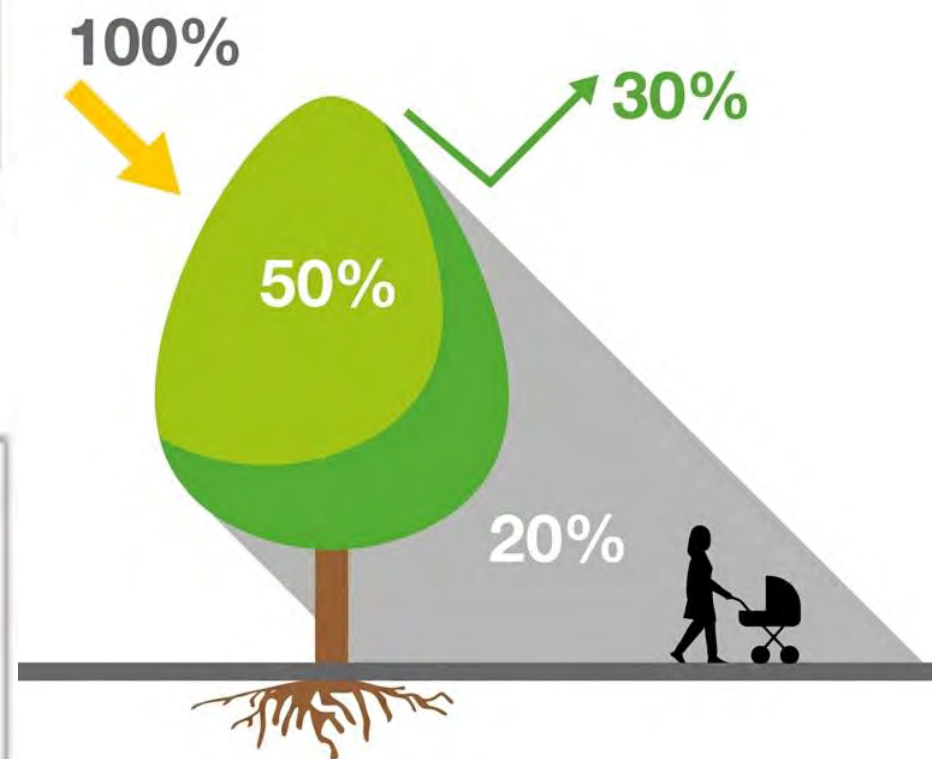
Landsat 8 – Thermal Infrared
Land Surface T°: -16°C



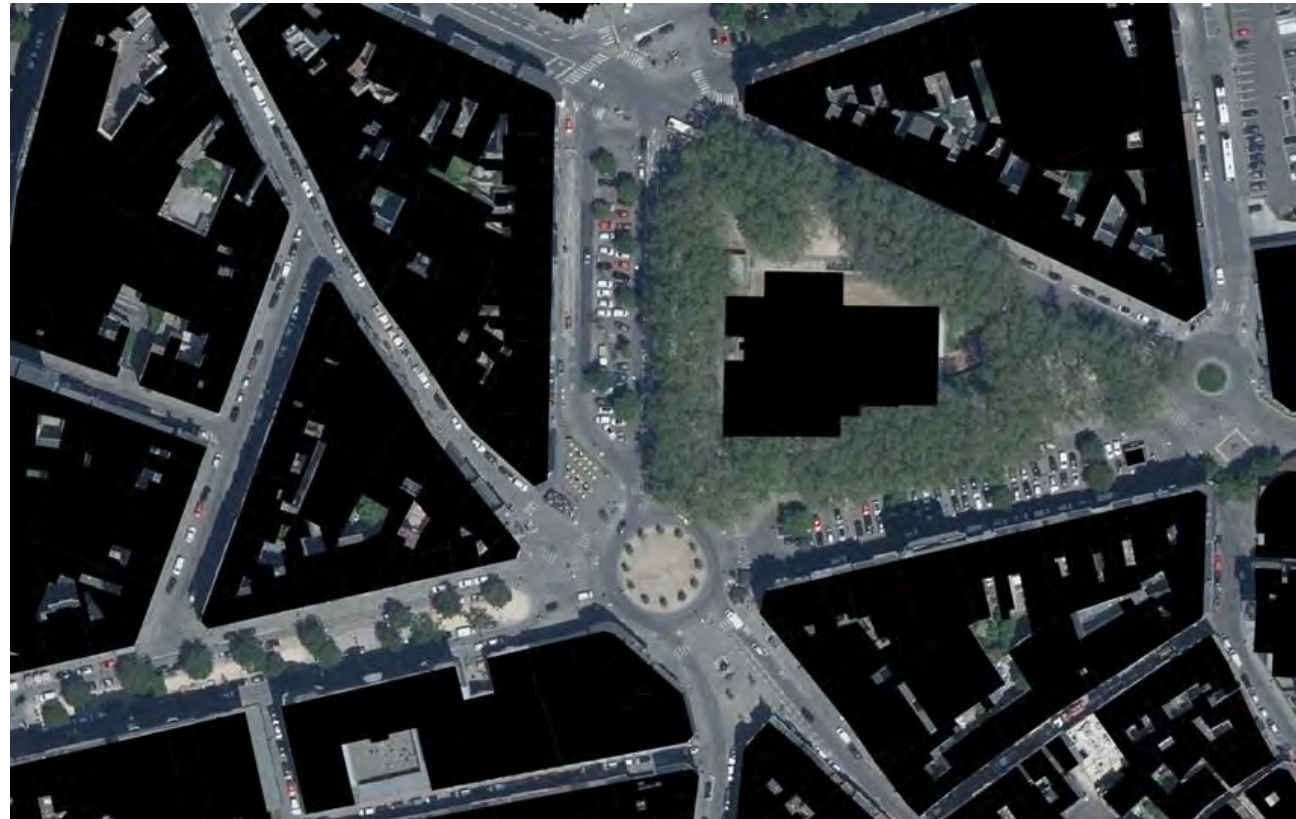
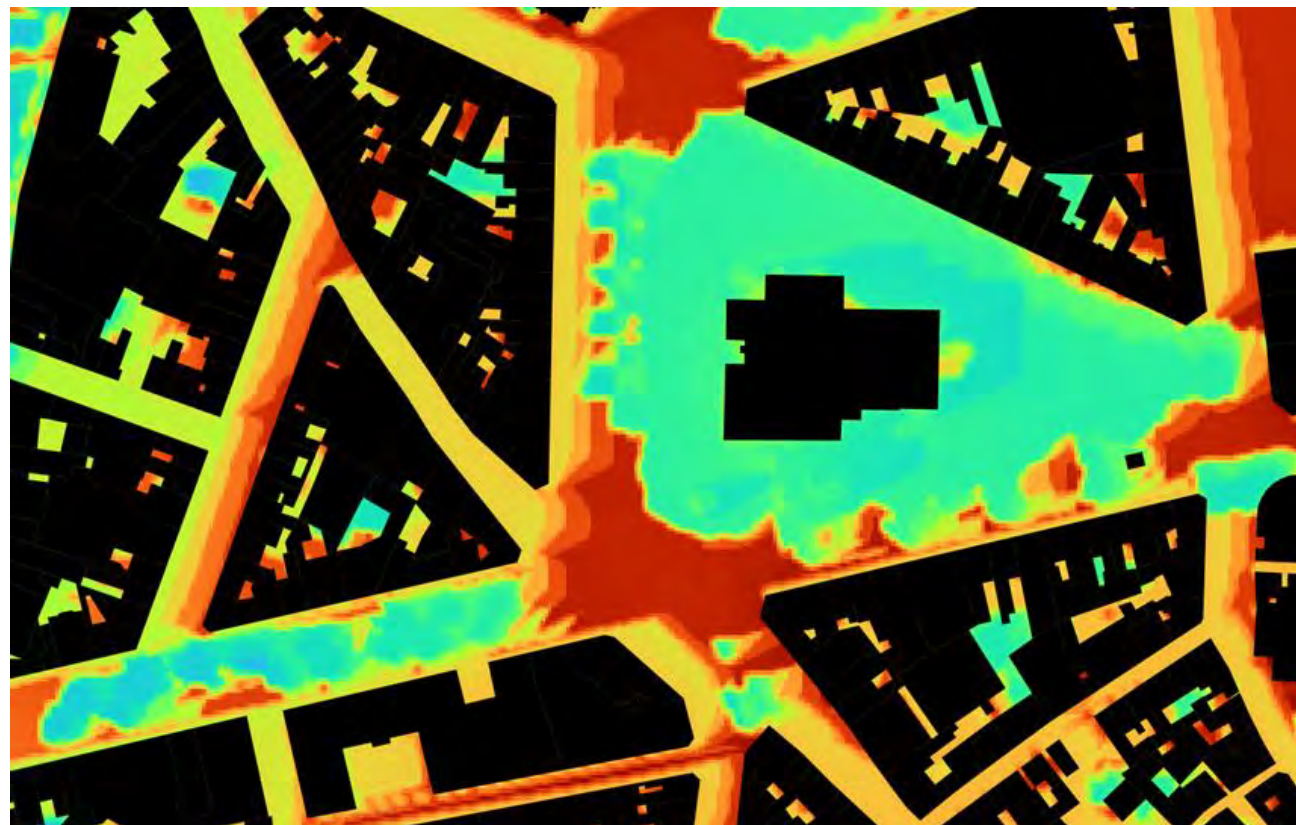
Broadleaves %



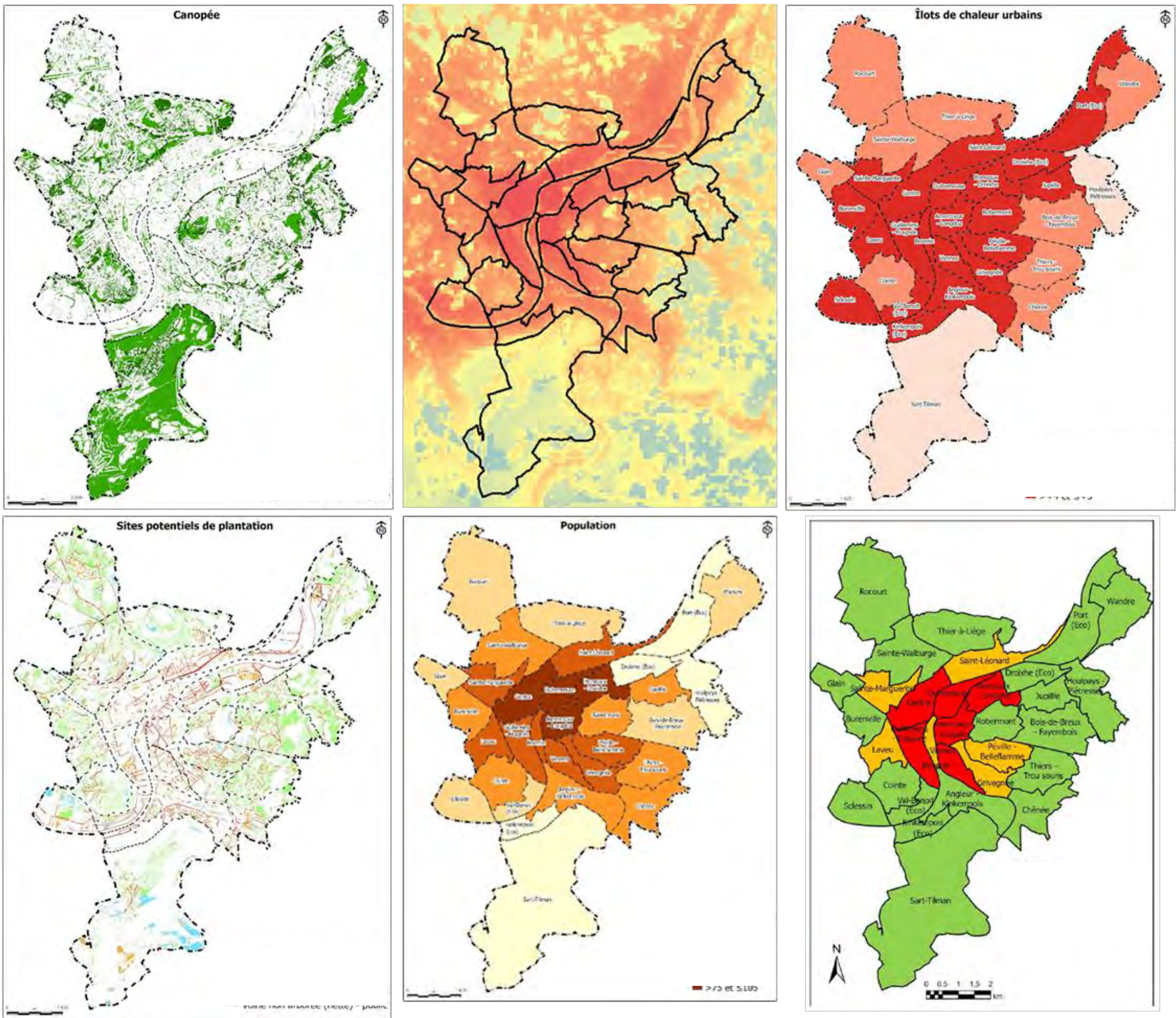
Built-up areas %



UrbClim model
Wet Bulb Globe T°: -5°C



2020 > Spatial Diagnosis



1 : Urban Tree Cover

2156 ha
31 %
Heterogeneity

2 : Urban Heat Island

+7°C
Heterogeneity

3 : Potential sites

Private garden = 887 ha

4 : Population exposure

High
Moderate
Light

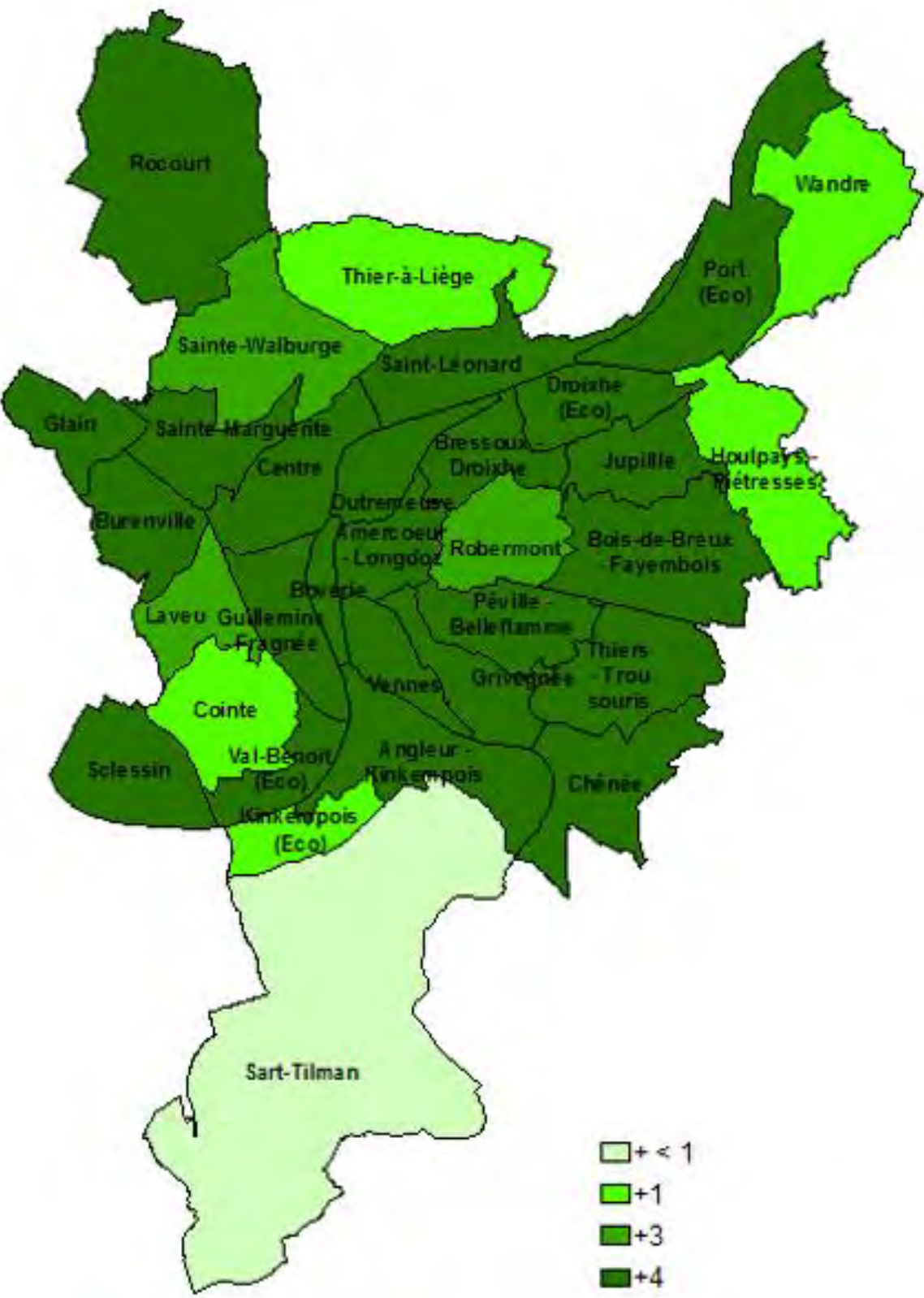
2021 > Objectives & Strategy



Global level
+3 %
+206 ha
+24 000 trees
1/3 public & 2/3 private



District level
Specific approach
+1 % or +3 % or +4 %

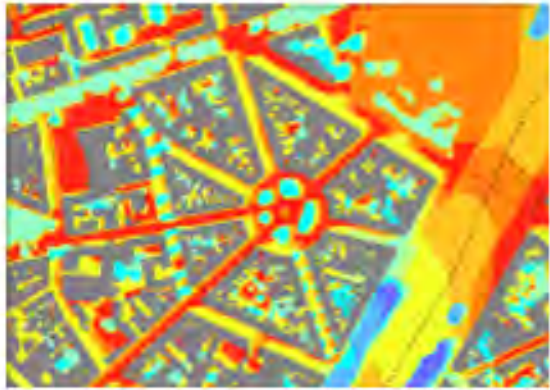


Strategy
4 pillars

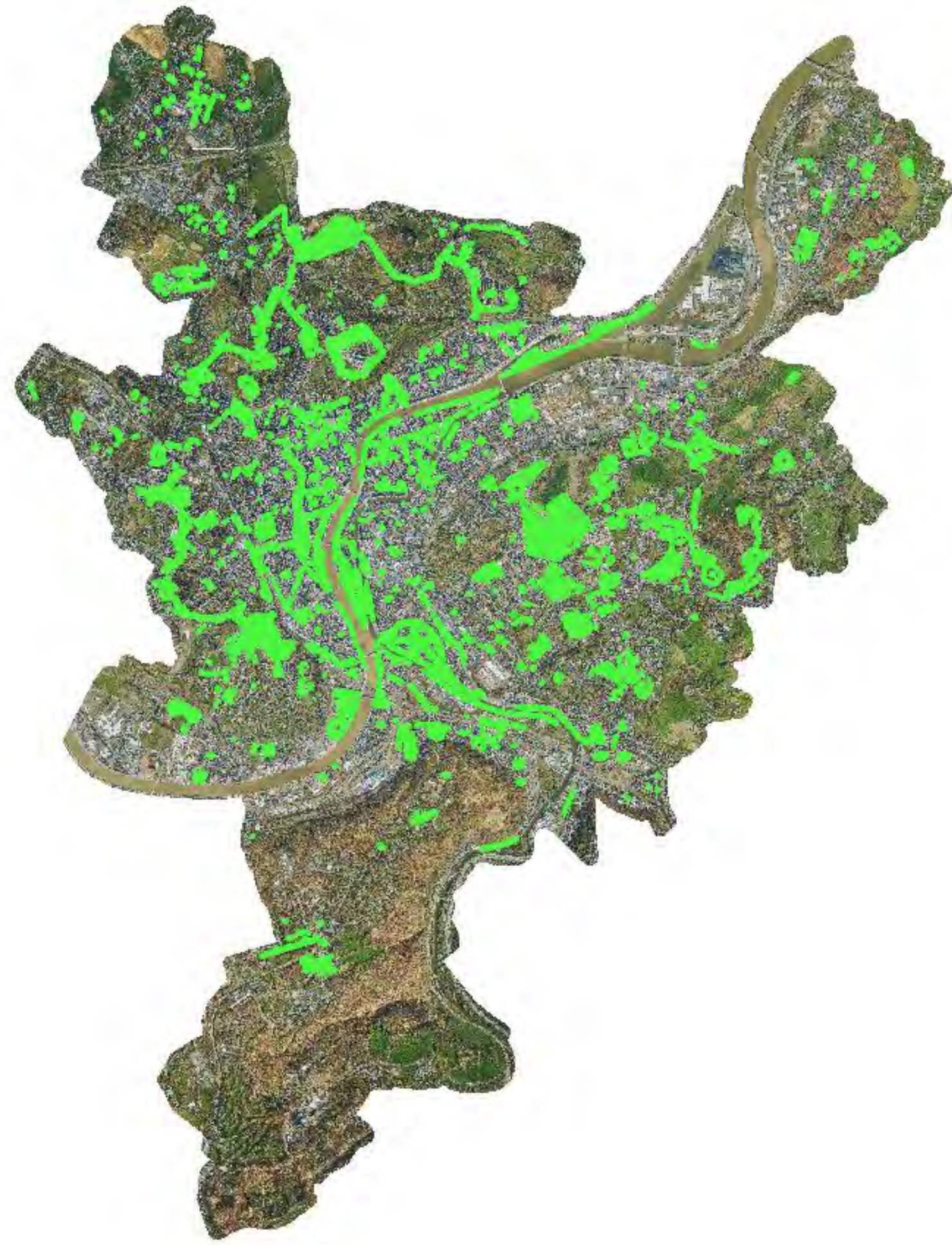


2021-2023 > Toolbox



A set of 7 tools to Preserve - Compensate - Increase the Urban Tree Cover and Involve all actors						
Tool #1	Tool #2	Tool #3	Tool #4	Tool #5	Tool #6	Tool #7
						
Official objectives	Public projects	Municipal rules	Urban Tree Guide	Tree Week	Urban planning directive	Citizen engagement
GO +3% SO +1% +3% +4%	Herbaceous layer Artificialized layer	Limit tree cutting in private gardens	Municipal Tree Policy Recommandations	Day > Weeks Private gardens	Conditions of planning permission	"Treeman" Training Awareness
2021 September	2021 September	2021 September	2023 November	2021 September	2022 December	2023 February
Increase	Increase	Preserve Compensate	Preserve	Increase	Preserve Compensate Increase	Preserve Increase

Toolbox > Tool #2



Publics Projects

+ 5 400 trees

From 23 000+

To 28 000+

In 6 winters

2020 - 2026



Toolbox > Tool #3



Urban Planning Directive

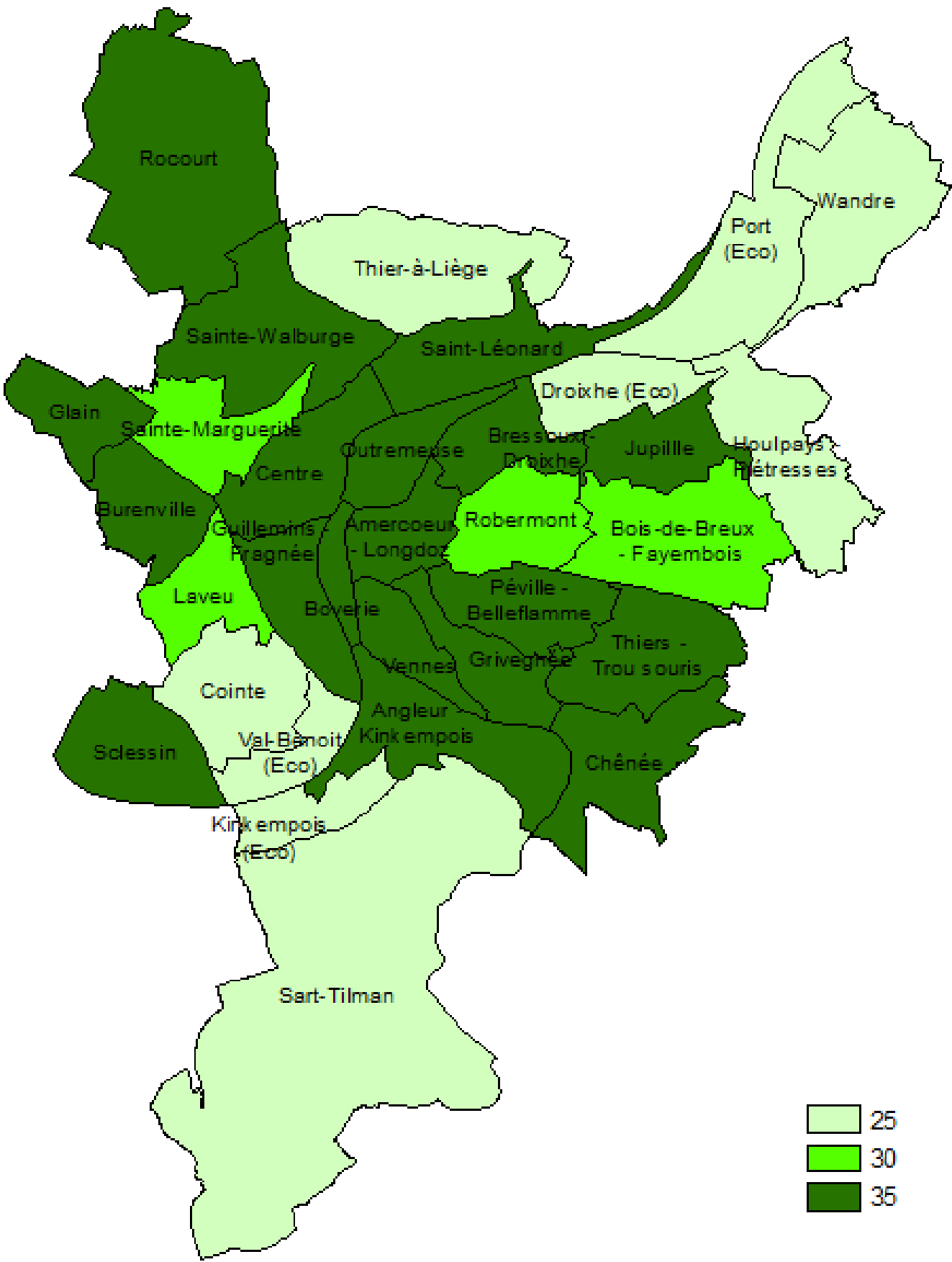
500 m²

Preserve

Replant

Increase

25-30-35 % (2050)



Taux de couvert arboré - Objectifs par quartier (%)

Toolbox > Tool #5 & #7



Citizen Engagement

Tree Week

Free distribution
Private gardens

Passeurs d'arbres

Canopy Plan
Ambassadors

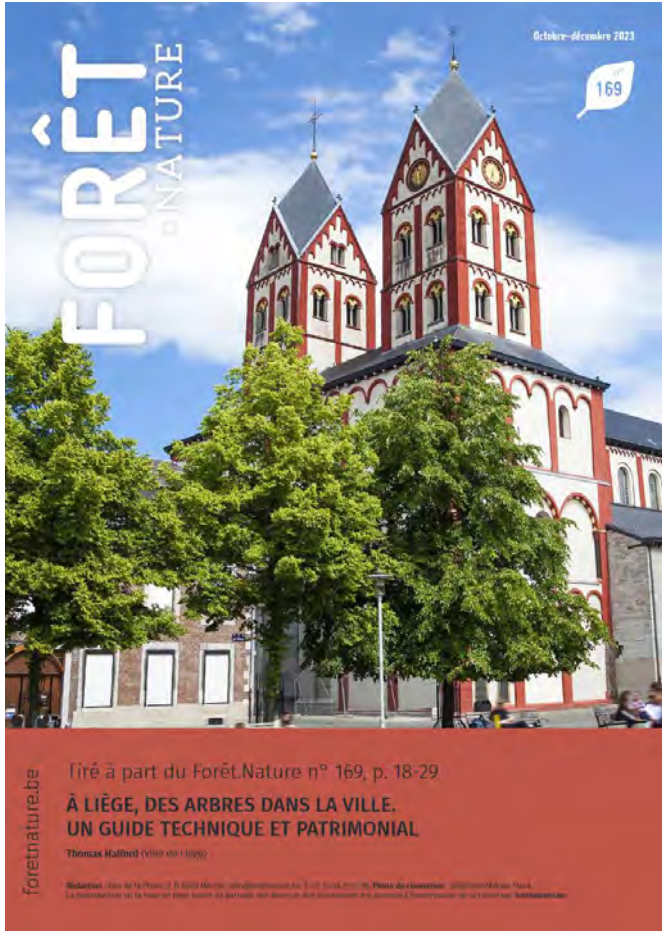
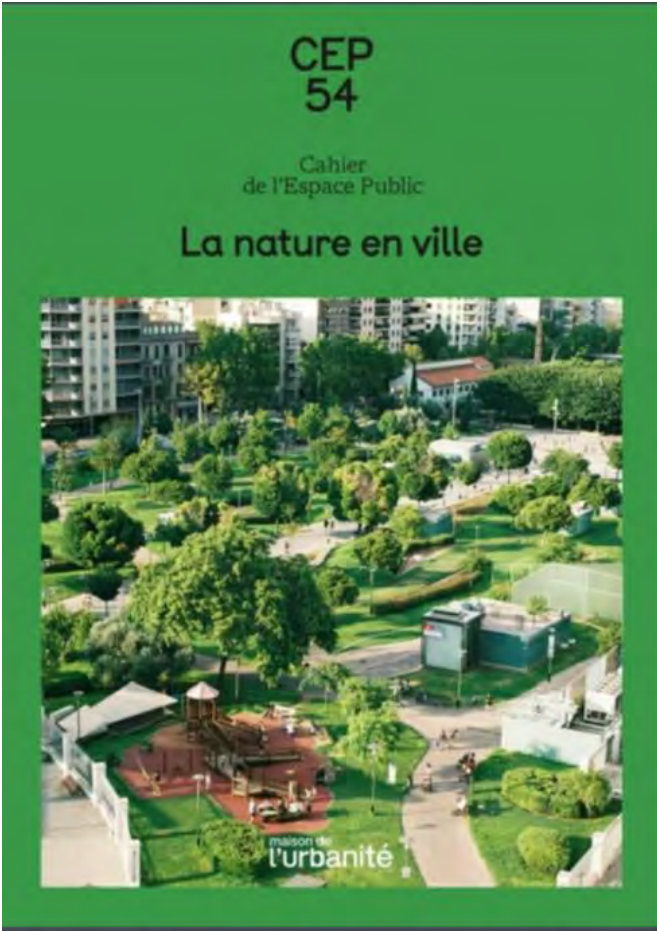
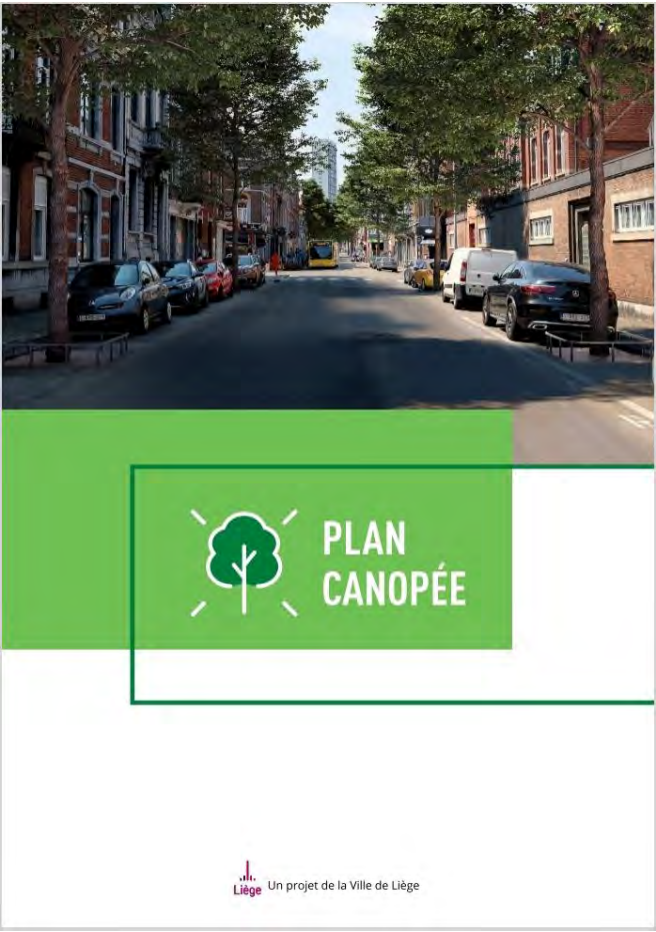
Awareness-raising

committees, professionals

Technical training

pruning, planting

Toolbox > Tool #5 & #7



Citizen Engagement

website

Décision support

Contact

Informations

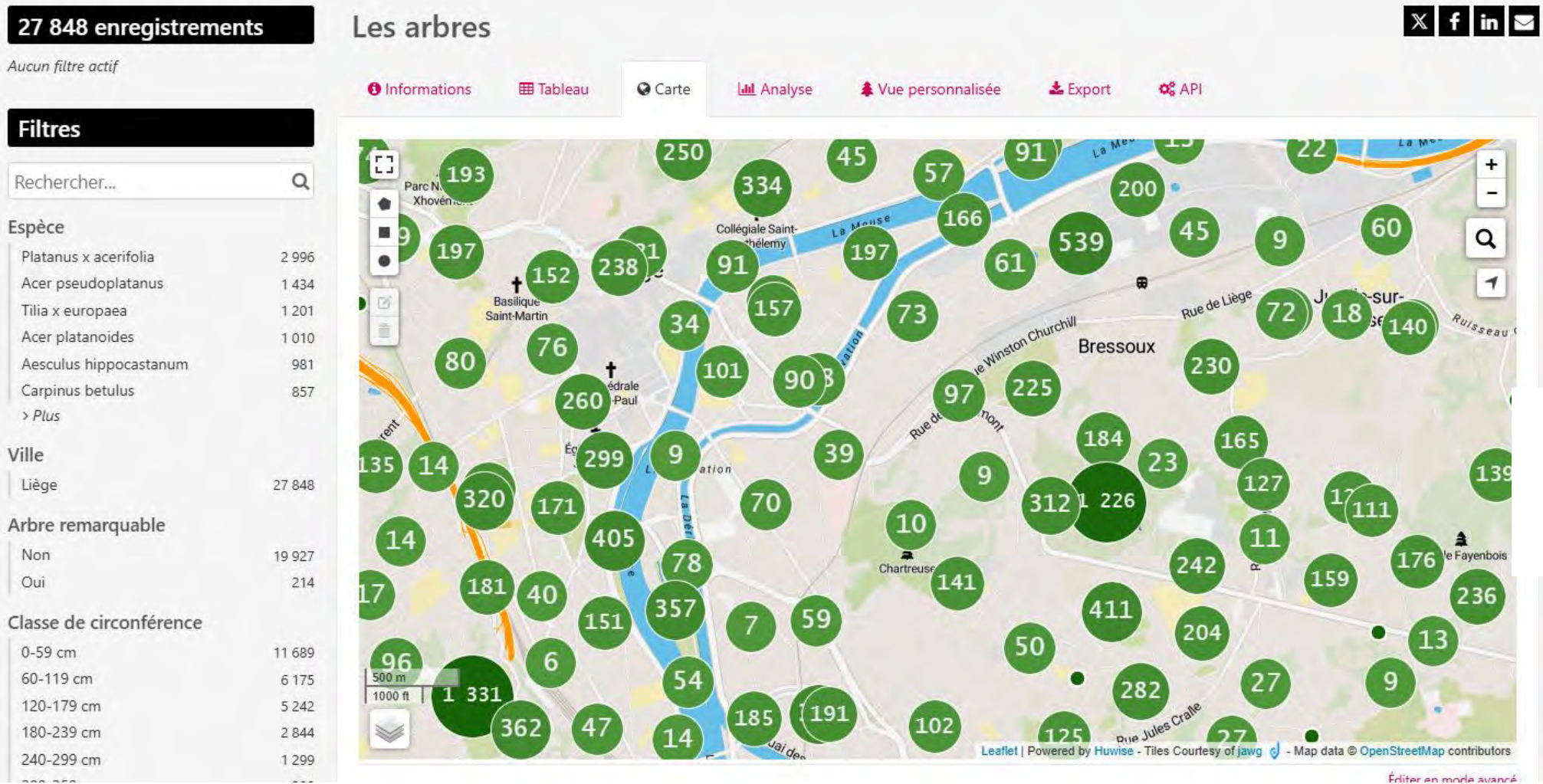
Brochures

Videos

Press

Opendata

Mapping - Monitoring



Semaine de l'arbre

Depuis 2021, les Liégeoises et les Liégeois ont reçu gratuitement des milliers d'arbres, arbustes et petits fruitiers grâce au partenariat entre l'asbl Liège Propreté et Environnement et la Ville de Liège. Pour le Plan Canopée, la Journée de l'Arbre s'est transformée en Semaine de l'Arbre. En 2026, poursuivons ensemble la végétalisation de notre cité !

Lire la suite

Choisir le bon arbre

Cet outil interactif vise à sélectionner les essences (espèces d'arbres) dont la hauteur, le diamètre de couronne et la forme du houppier (branchage) à maturité s'accordent aux dimensions d'un terrain décrit.

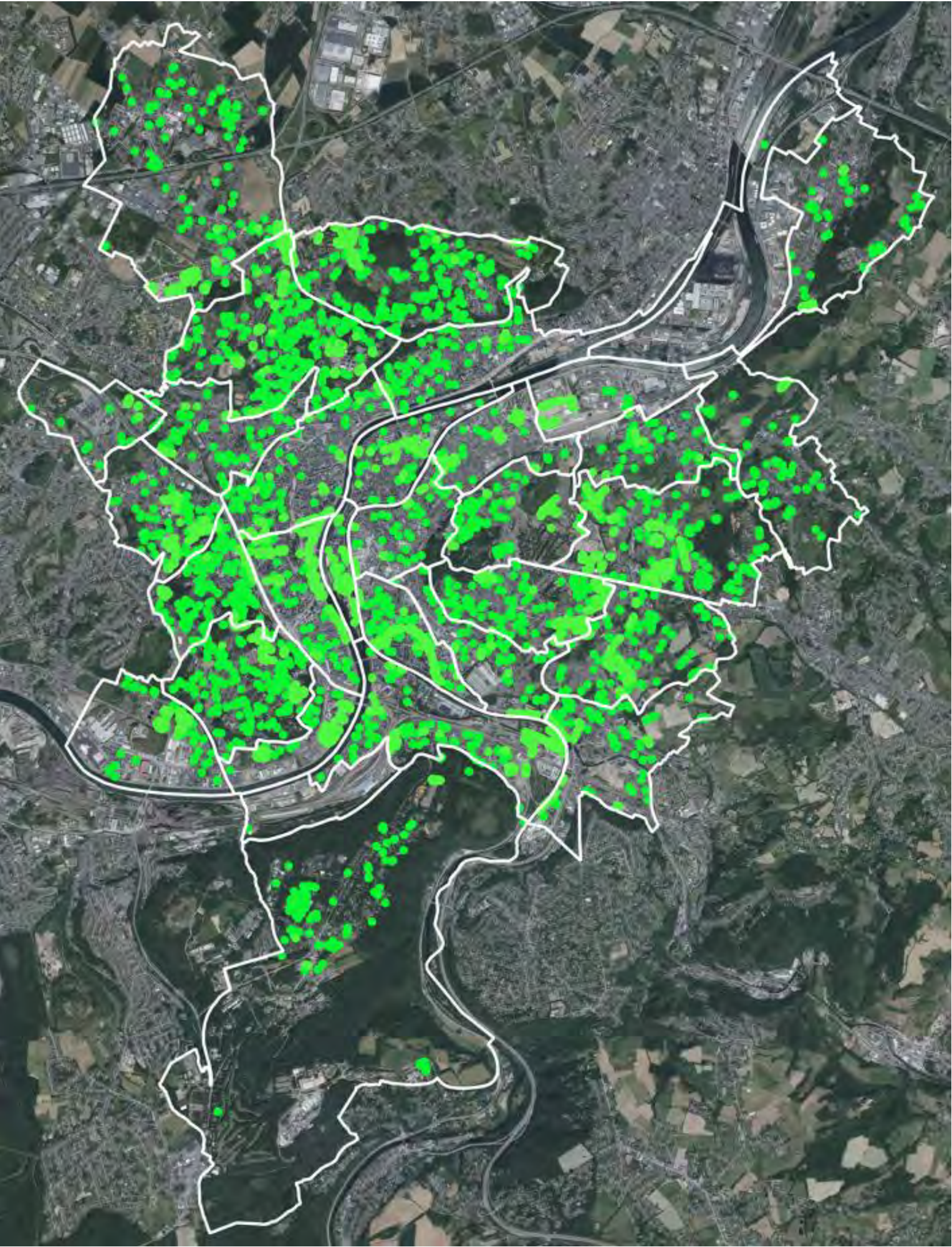
2026 > Results



Global level

+ 9 535 trees

40 % of the objective achieved in 6 years



Public paved sites

59 %



Public unpaved sites

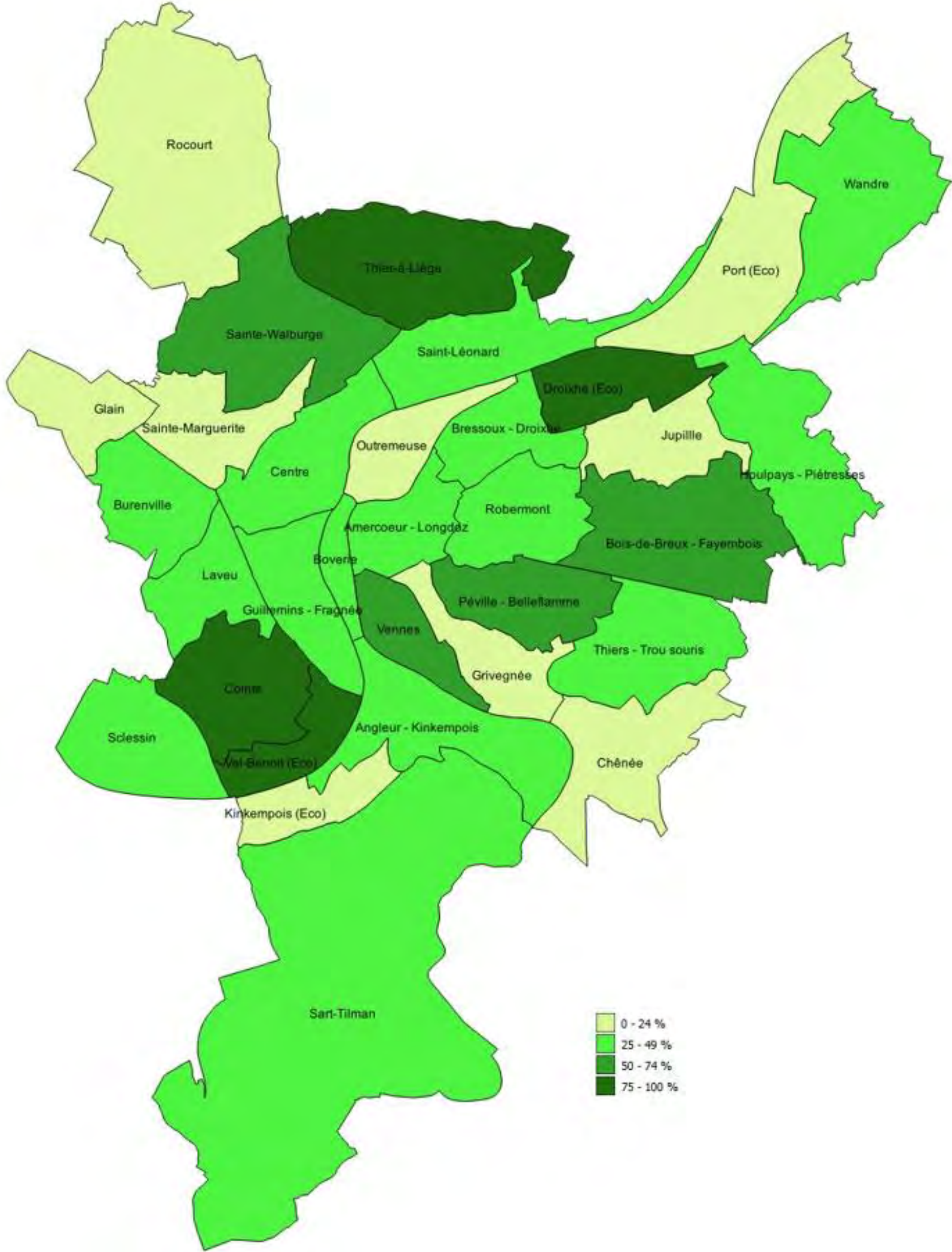
57 %



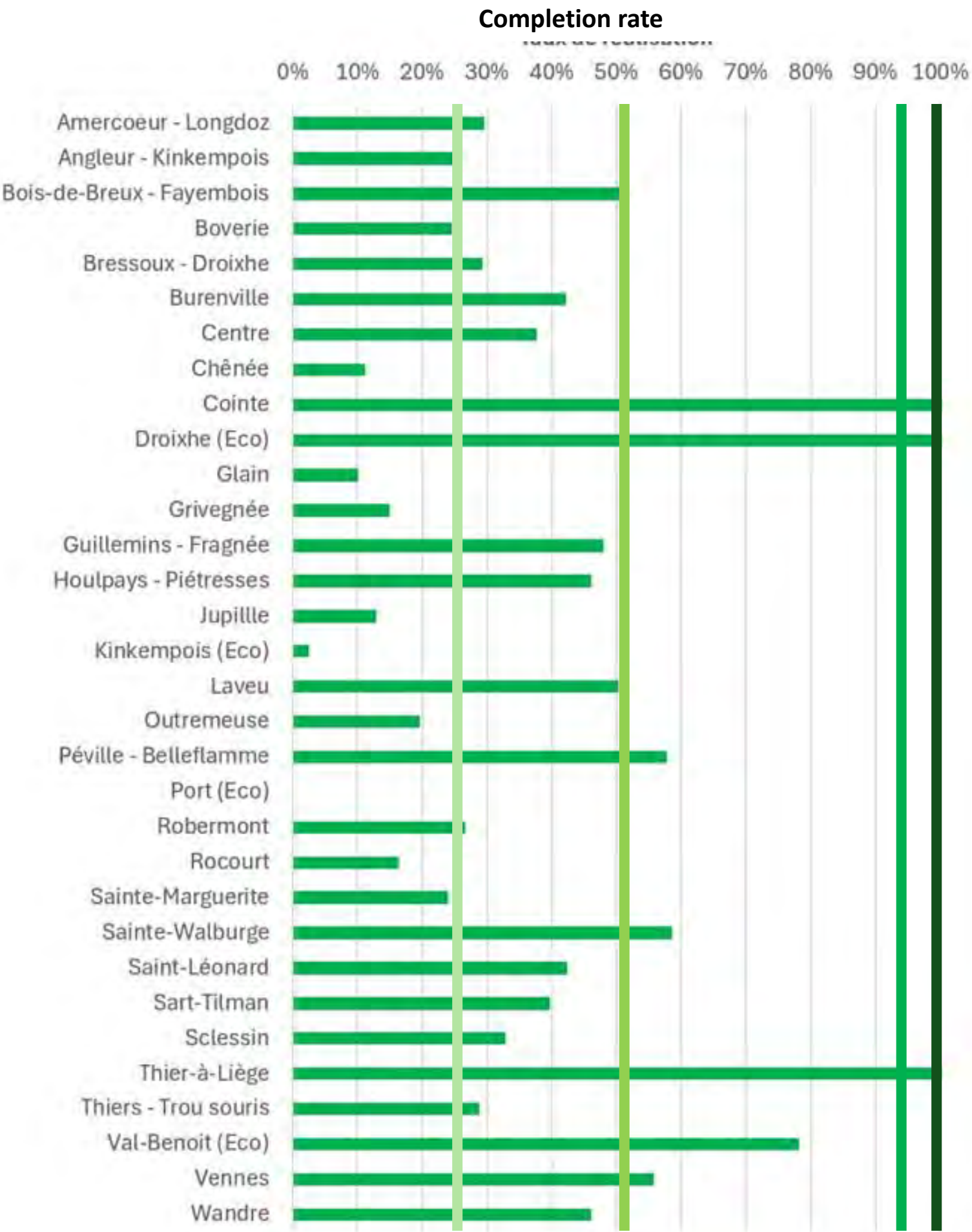
Private unpaved sites

28 %

2026 > Results



District level

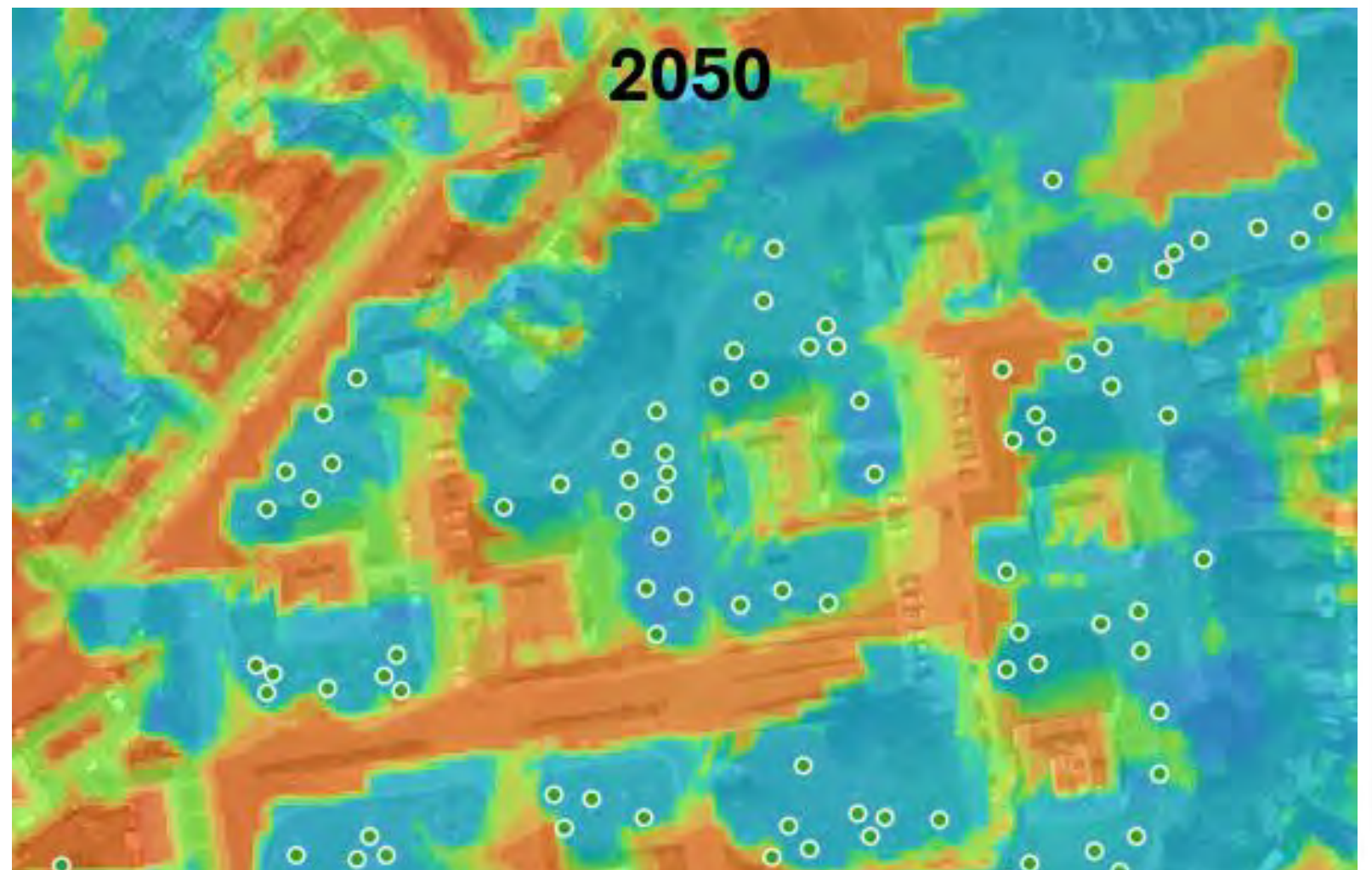
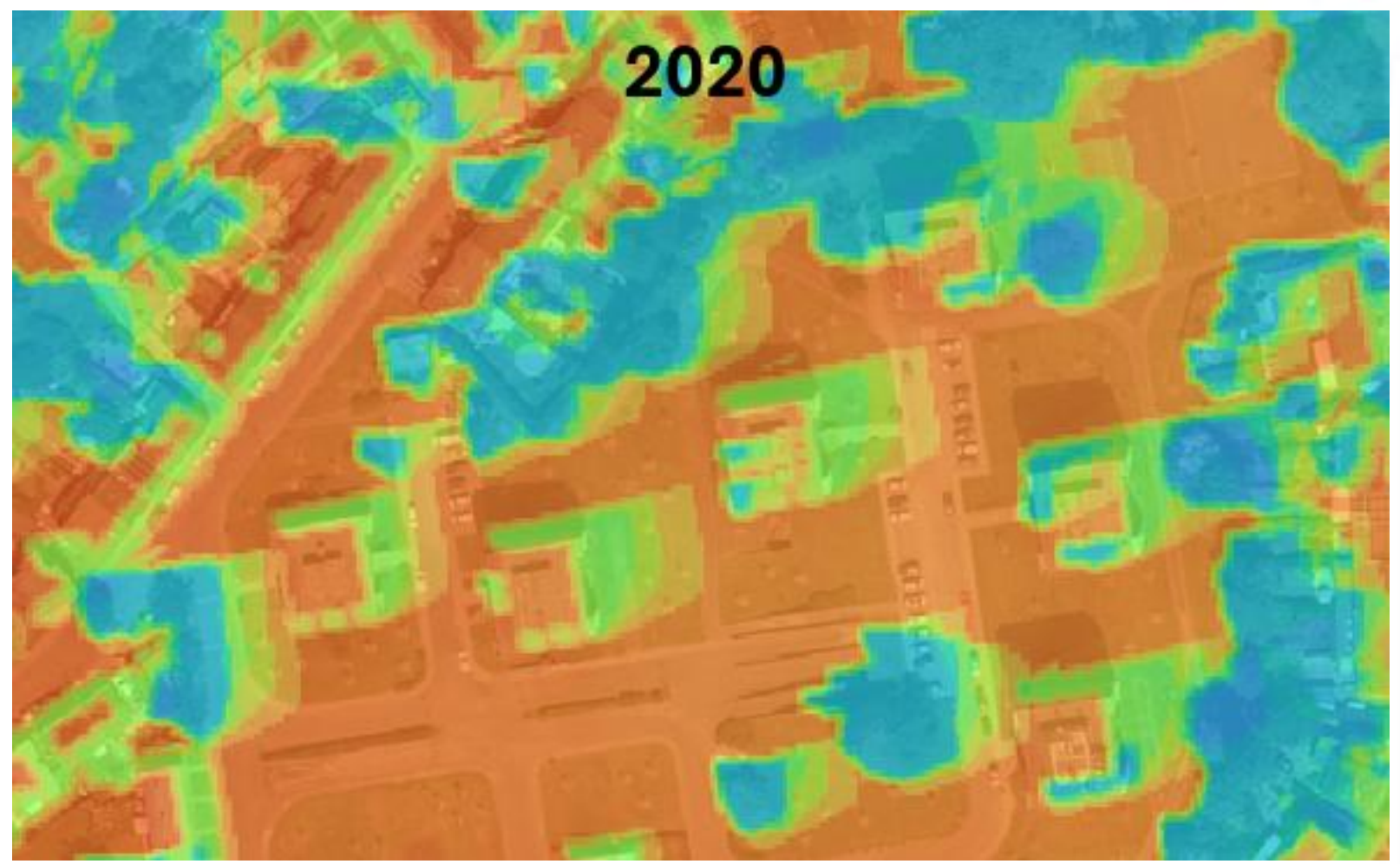


2026 > Results : unpaved sites

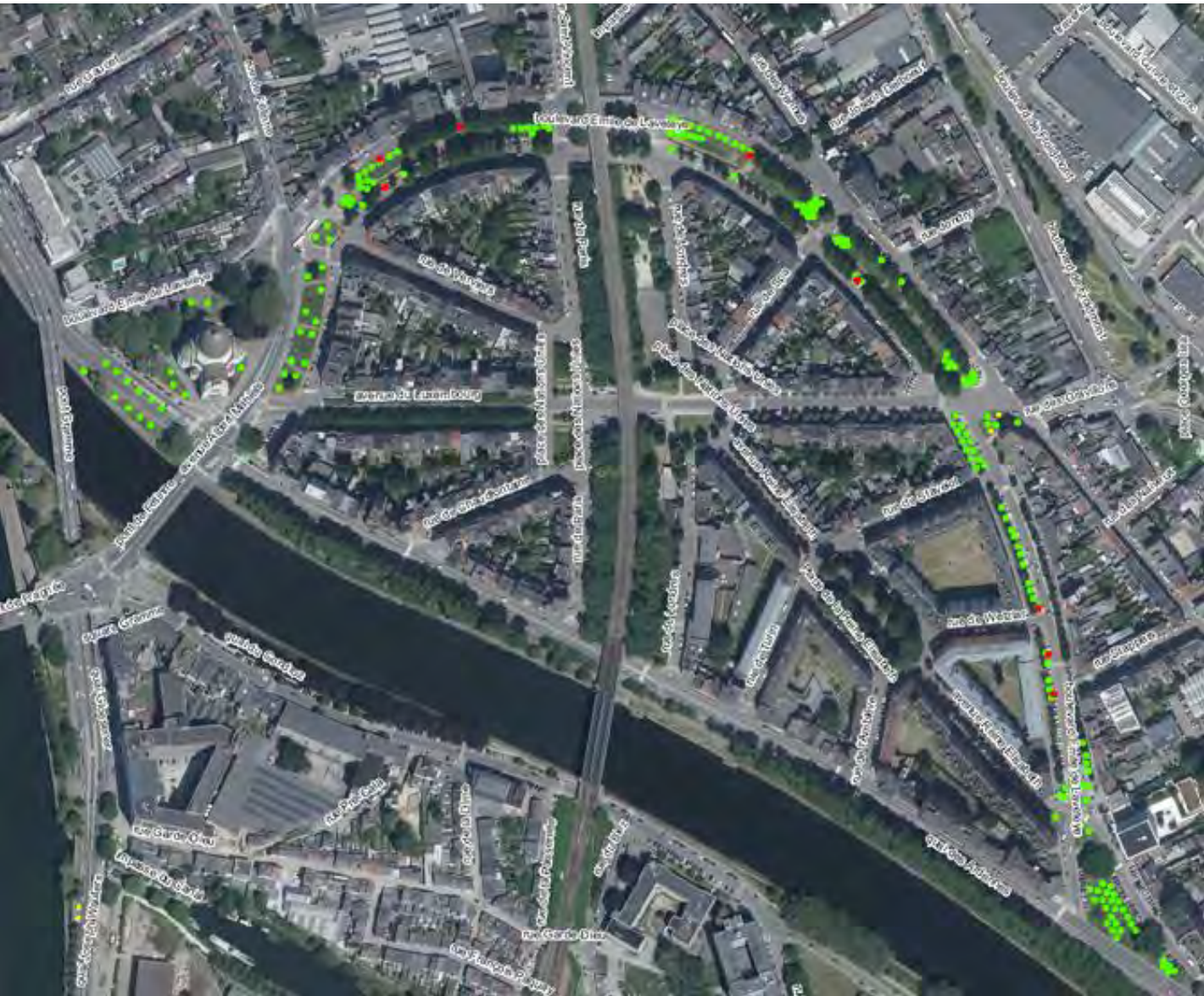


**Reduce
Urban Heat Island
Inequities**

UrbClim Model
Wet Bulb Globe T° (°C)



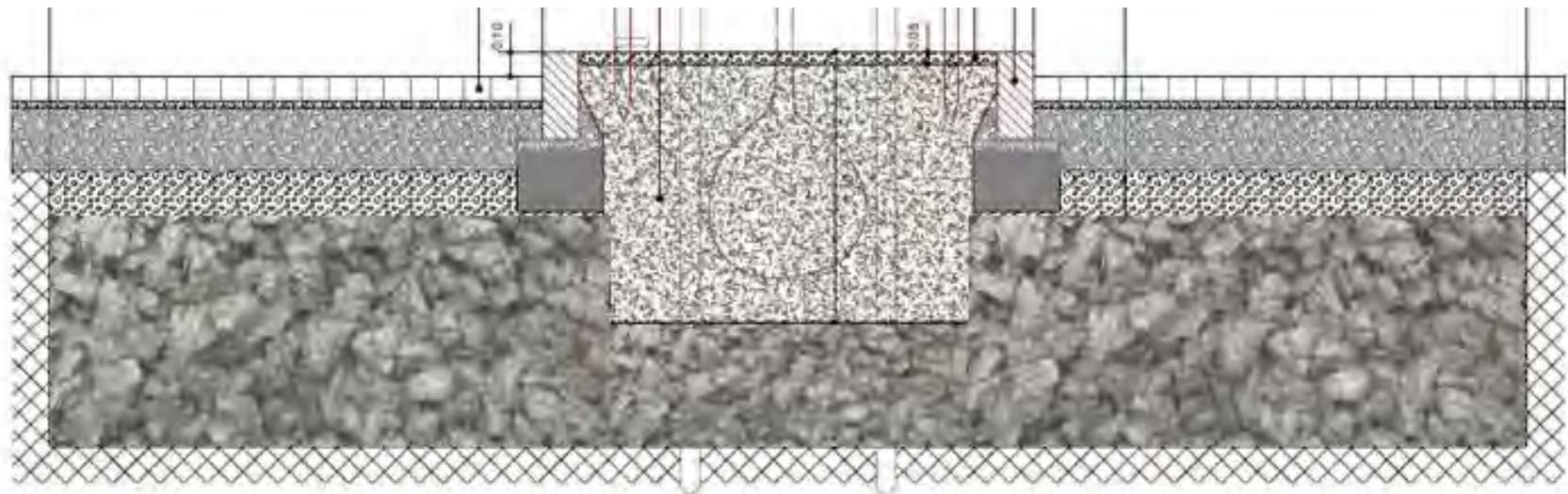
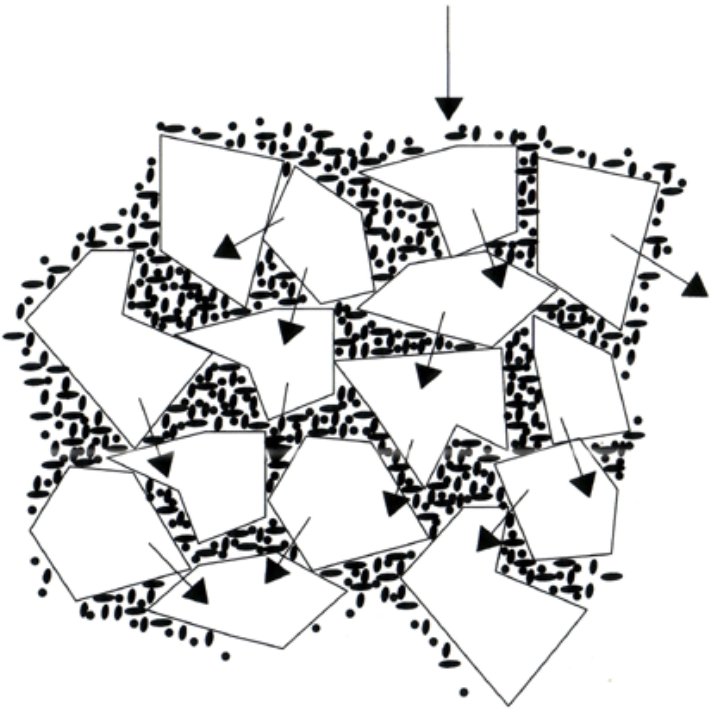
2026 > Results : unpaved sites



2026 > Results : paved sites



Structural Soil = The Future In The Streets



2026 > Results : paved sites



Thank you

www.liege.be/plan-canopee

Aller vers liege.be →



MÉTHODOLOGIE ▾

RÉSULTATS ▾

S'IMPLIQUER ▾

NOS CONSEILS ▾

RÈGLEMENTS ▾

PUBLICATIONS ▾



Plan Canopée



J'ai besoin d'information sur...



À LA UNE

Panel discussion



cerao
Els Barnard
Moderator



Seppe DE BLUST
Politiek adviseur Kabinet
schepen Patrick
Janssens, Lien Van de
Kelder en Karim Bachar



Loes SALOMEZ
Schepen NL
aangelegenheden,
gemeentelijke
eigendommen, energie,
klimaat en biodiversiteit



Michel DUC
Conseiller au cabinet de
l'Echevin de l'Urbanisme,
de l'Aménagement du
territoire, des Espaces
verts et de la Propreté



Bart BRUELEMANS
Chief Resilience Officer



Nicolas PELLOQUIN
Coordinateur Plan Climat



Thomas HALFORD
Ingénieur forestier et
responsable du service
de Foresterie urbaine

Antwerpen

St Gilles/Gillis

Liège