

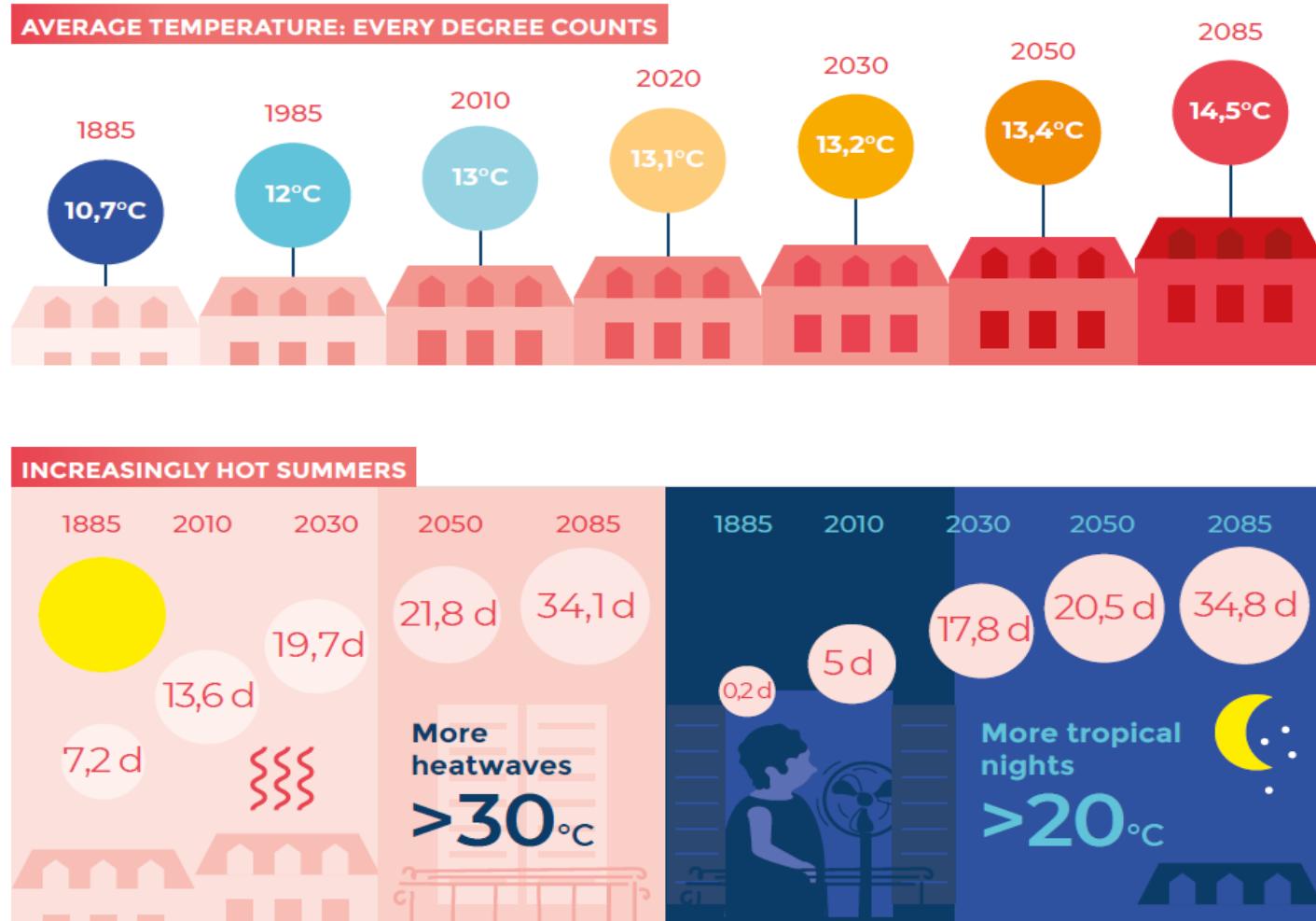


**How cooling centers provide relief during extreme heat:
Experiences from across Europe**

Paris – January 2026

Paris future weather – 2030 - 2080

More heatwaves in a warming climate

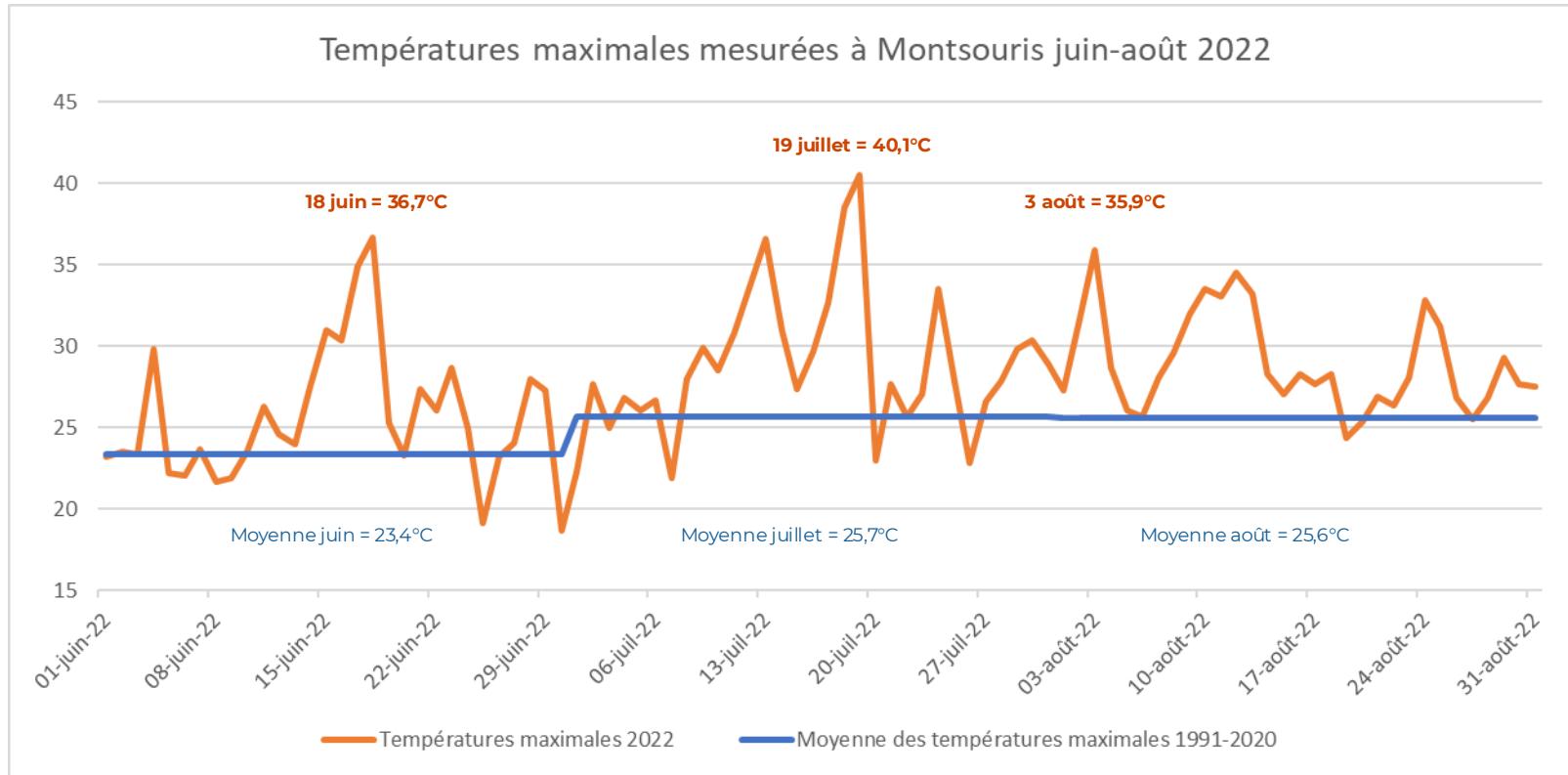


- **+2°C to +4°C**
- **Very hot days ($> 30^{\circ}\text{C}$): 20 in 2030, 22 in 2050 & 34 in 2080**
- **Tropical nights ($> 20^{\circ}\text{C}$): 18 in 2030 and 40 in 2080**
- **Periods of drought**

2050 → 2030

2022 Summer temperatures

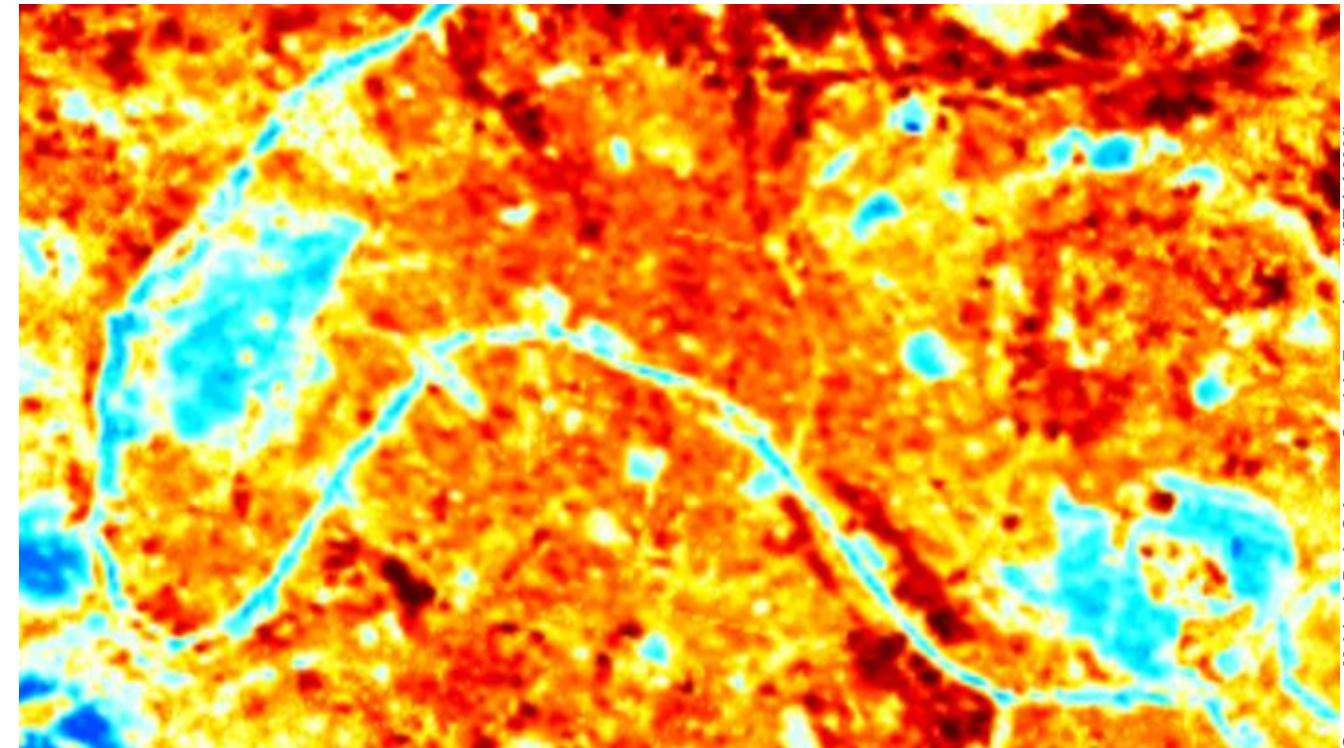
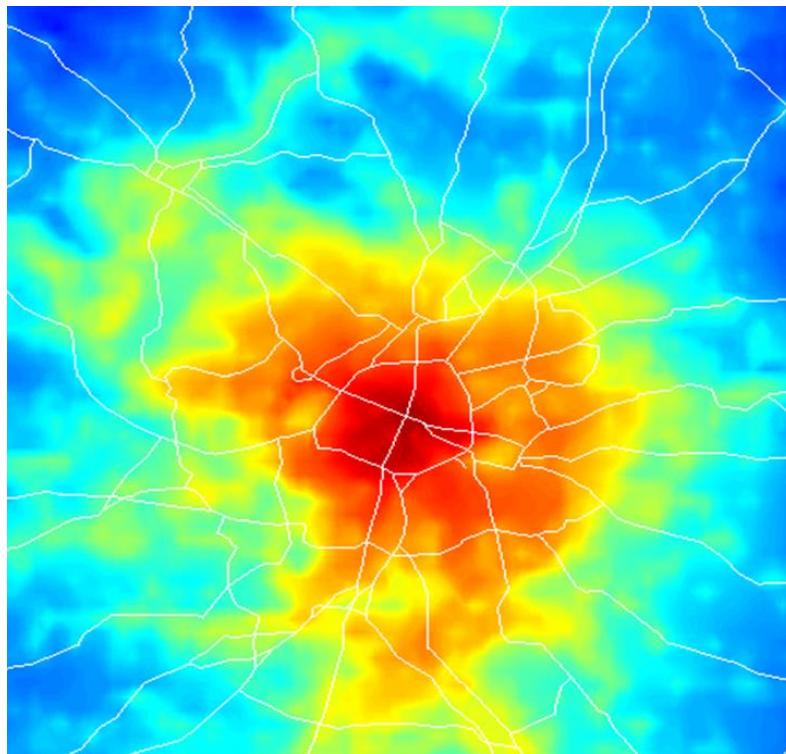
Equivalent to the temperatures projected for 2030



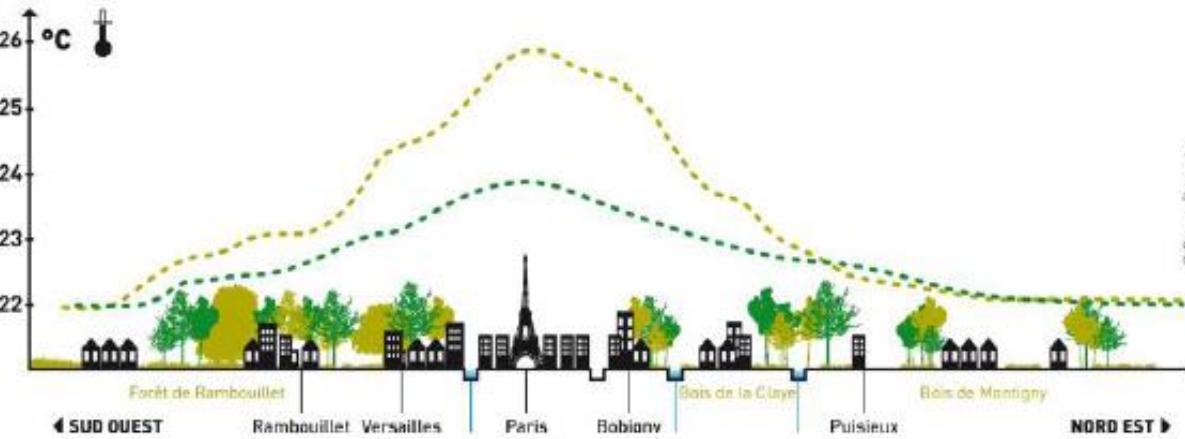
- **22 days above 30°C**
- **+2,2°C (June) to +3,4°C (August)**
compared to monthly average temperature 1991-2020
- **+21% excess mortality** over the period from 11 to 21 July

Source : <https://meteofrance.com/climat/releves/france/ile-de-france/PARIS-MONTSOURIS>

A strong urban heat island effect



Thermographie d'été de Paris par satellite le 30 juin 2006 à 10h30



Source : Mairie de Paris © Agence Spatiale Européenne (LST été 2006)

A GLOBAL COOLING STRATEGY



Building a strategy for climate adaptation



Protecting Parisians from the heat



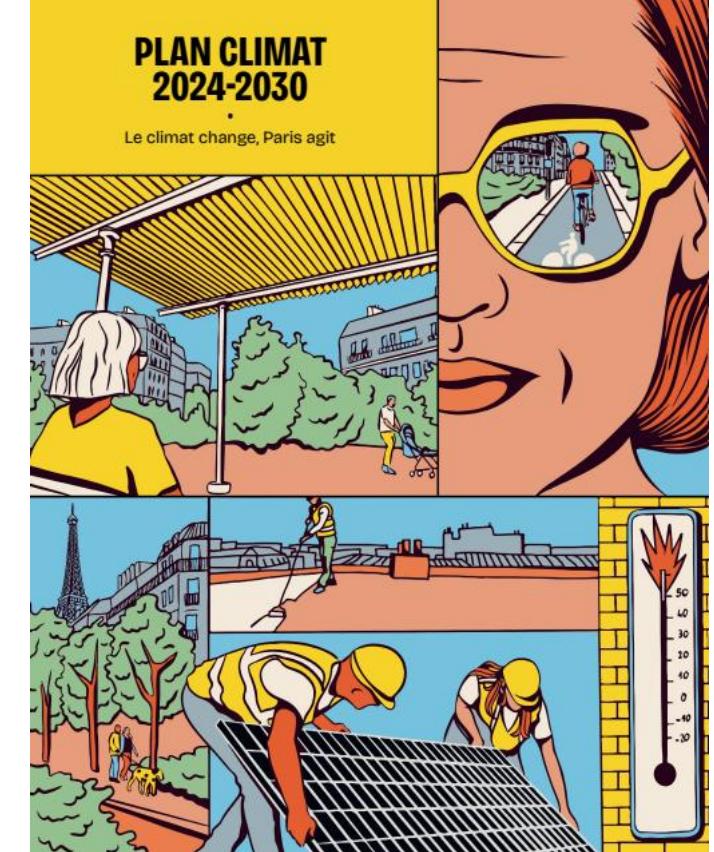
Tackling the risk of flooding



Preventing water scarcity



Protecting and enhancing biodiversity



Adapting the infrastructures to create more cool islands



Green solutions

Nature-based solutions involving vegetation



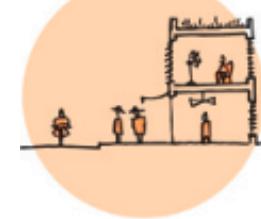
Blue solutions

Solutions involving water



Grey solutions

Technical solutions for urban infrastructure



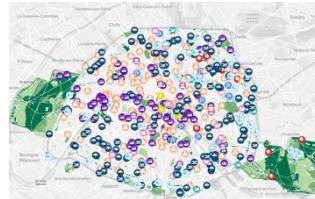
Behavioural solutions

Behavioural and urban management solutions



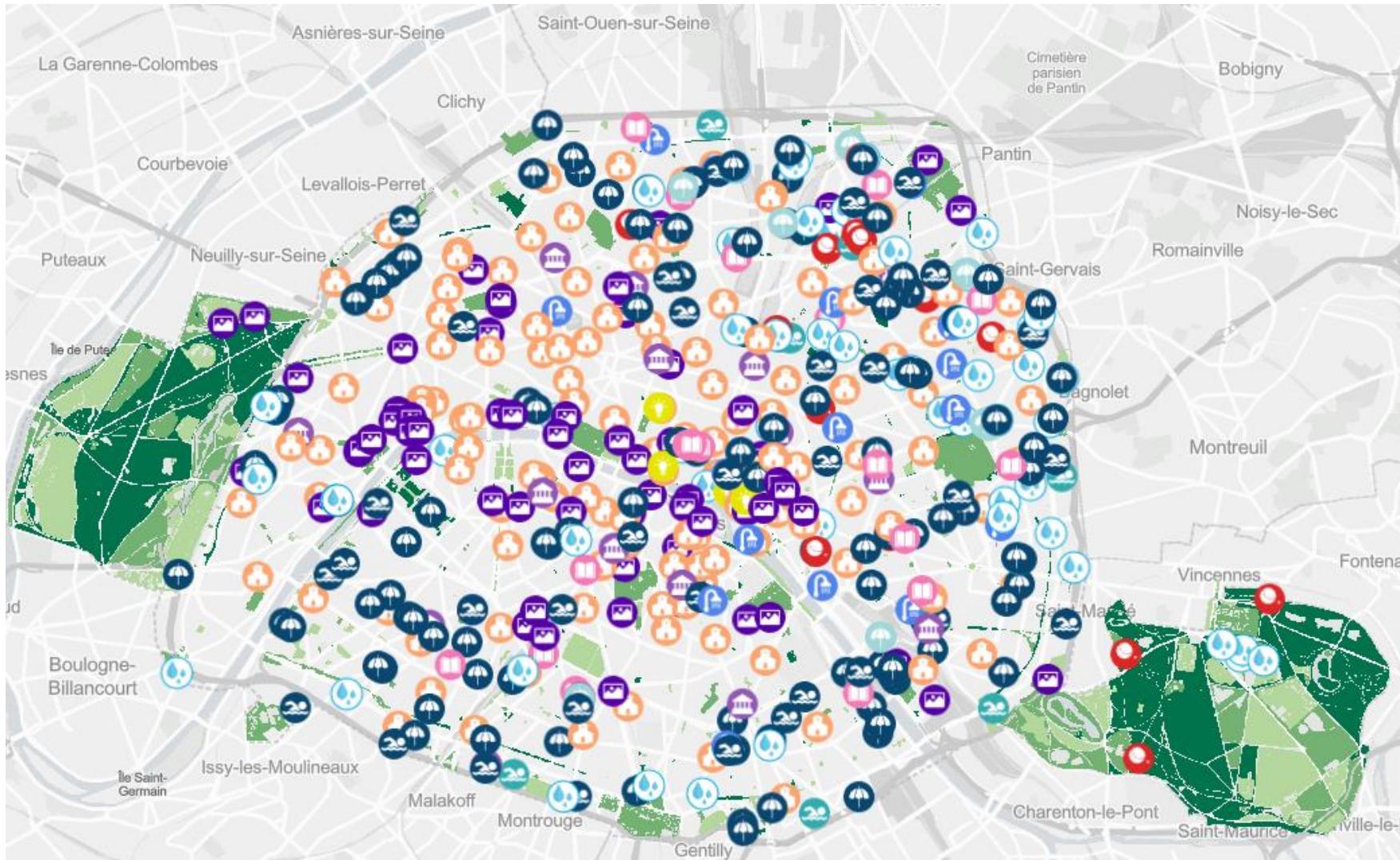
Actions and experimentations to create cool shelters in the city

- ▶ Create a network of « cool islands » in each neighborhood and plant more trees (already implemented)
- ▶ Create more « Oasis schoolyards » in Paris (already implemented)
- ▶ Find alternative use for under-used underground parking lots (to be tested)
- ▶ Partner with local artisans and businesses to develop a network of cooling locations (to be tested)



Focus – Cool Islands

2030 Goal : A cool island for everyone within a 7mn walk



Facilities / Activities

- Water spray
- Permanent shadehouse
- Temporary shadehouse
- Public shower
- Swimming pool
- Outdoor swimming
- Boules pitch
- Air-conditionned library
- Oasis school yard
- Museum
- Place of worship
- Borough hall
- Discovery & Initiation

Parks

Part vegetation haute

- Très ombragé donc frais (plus de 50% de végétation haute)
- Partiellement ombragé donc modérément frais (de 25 à 50% de végétation haute)
- Très exposé au soleil donc plutôt chaud (moins de 25% de végétation haute)

What is a Cool Island ?

A place where people can cool off during heatwaves – outdoor examples



Parks and gardens



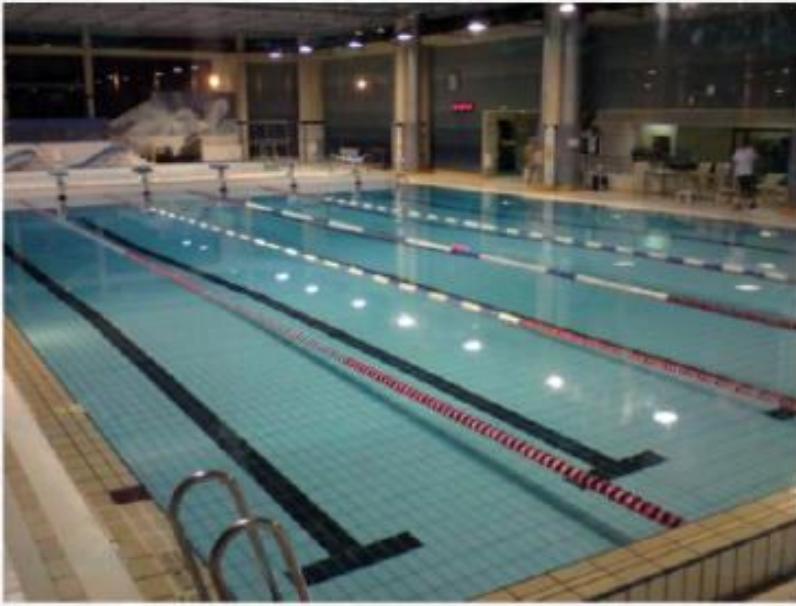
Water foggers



Shading furniture

What is a Cool Island ?

A place where people can cool off during heatwaves – indoors examples



Swimming pools



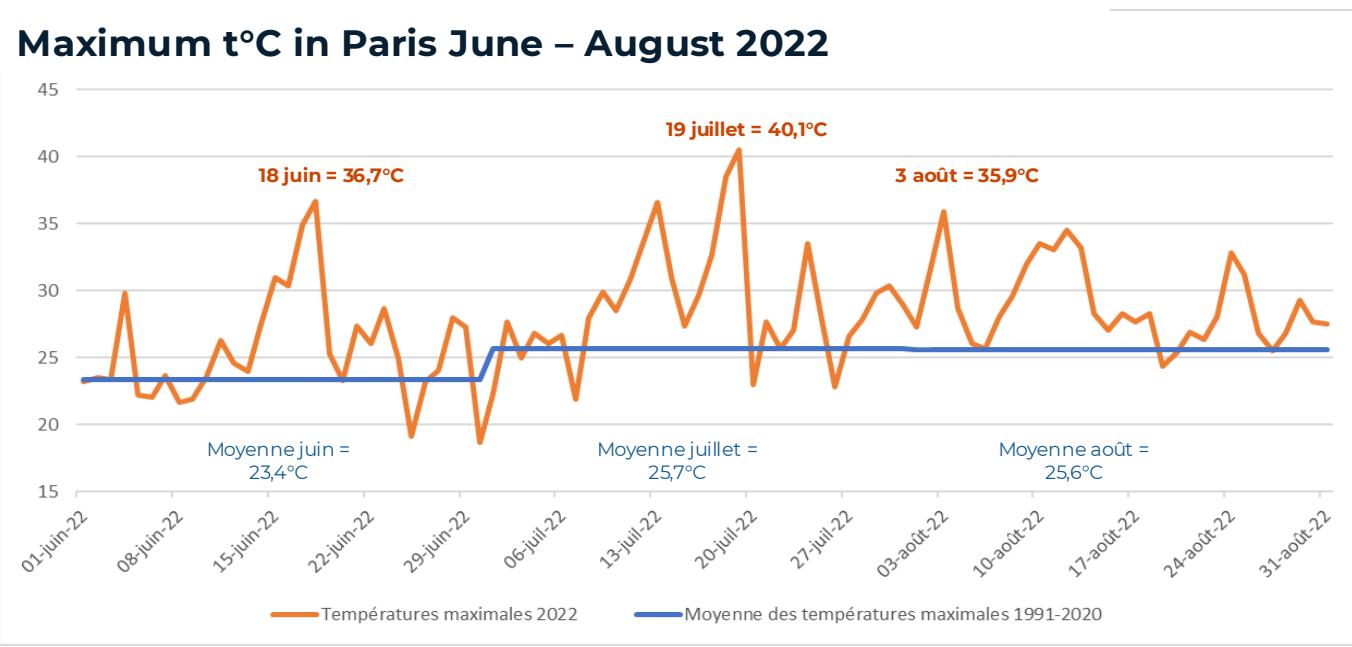
Libraries



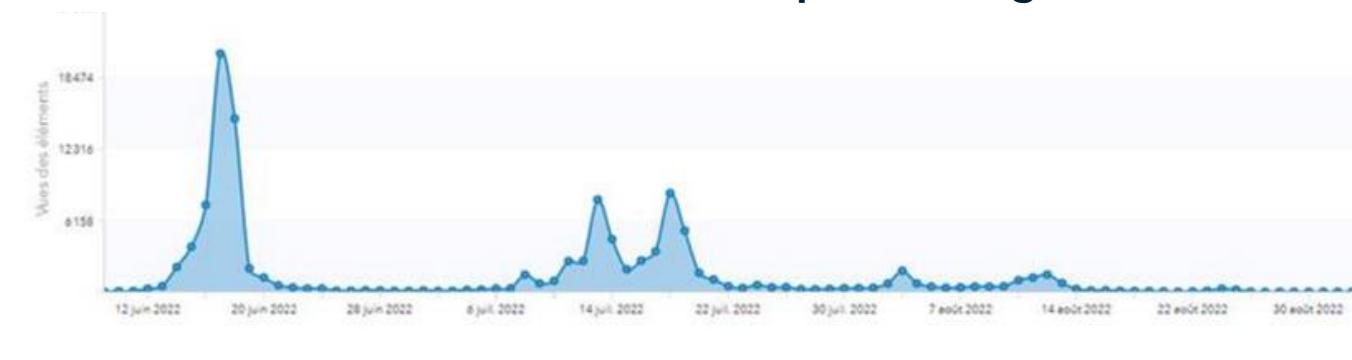
District city halls
with a cooling room
open to the public

An online map for everyone to see

Maximum t°C in Paris June – August 2022



Number of views of the cool islands' map June– August 2022



Summer 2022 :

- **22 days above 30°C**
- **121,094 views between 10 June and 10 September**
- **Peak number of views between 15 and 18 June**
- **Peak number of views between 11 and 19 July**

Reinforcing Cool Islands - Greening the city

A work in progress

2014-2020

- ▶ **27ha of new public gardens**
- ▶ **+17,000 trees**
- ▶ **116 ha of green roofs and walls**
- ▶ **33 « oasis » schoolyards**
- ▶ **2,000 greening licenses**
- ▶ **16 green streets**
- ▶ **First unasphalted areas tests**

2021-2026

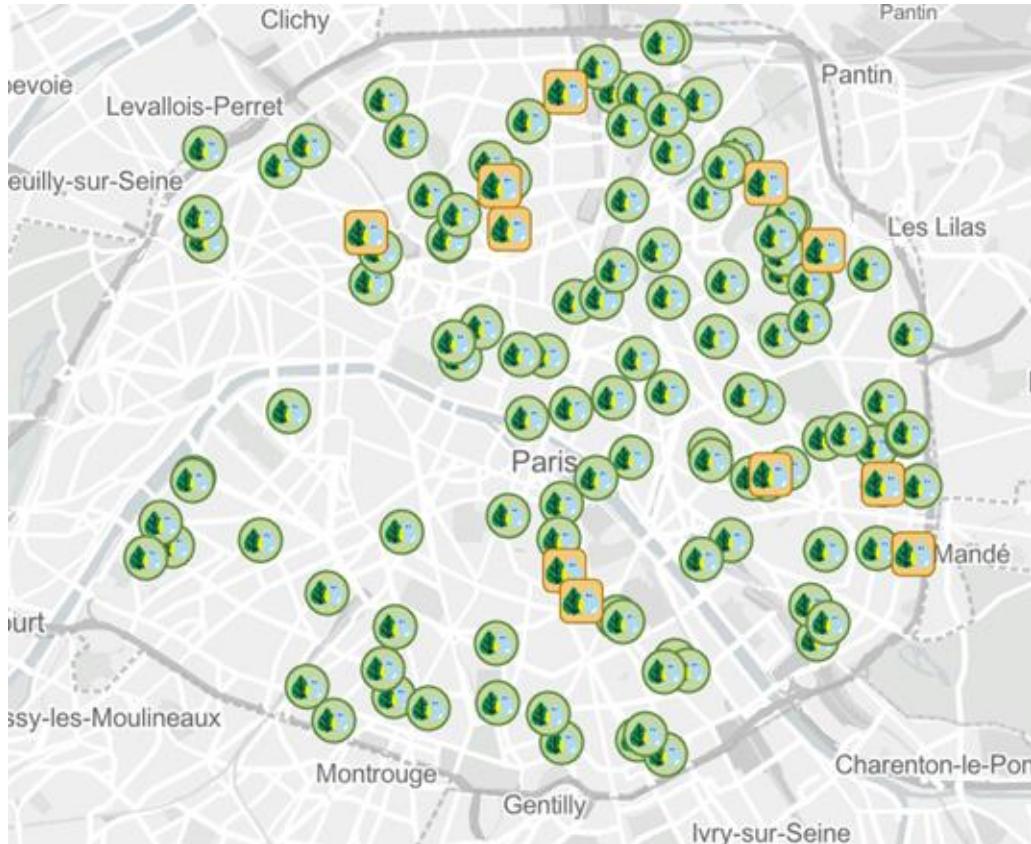
- ▶ **30ha of new public gardens**
- ▶ **+170,000 trees**
- ▶ **+30 ha of green roofs and walls**
- ▶ **300 « oasis » schoolyards**
- ▶ **5,000 greening licenses**
- ▶ **100 green streets**
- ▶ **100ha of unasphalted public spaces**



Reinforcing Cool Islands - Greening the city



« Oasis School Yards »



- **130 Oasis School Yards en 2023**
- **40 336 m² of permeable soil**
- **360 new trees**

Children Street



- School streets are made pedestrian or the number of cars is at least reduced
- When possible, they are redesigned with vegetation and light-colour surfaces
- Today 100 streets have less cars and 56 have been fully redesigned
- 2026 target : 300 streets with a reduced number of cars and 100 fully redesigned

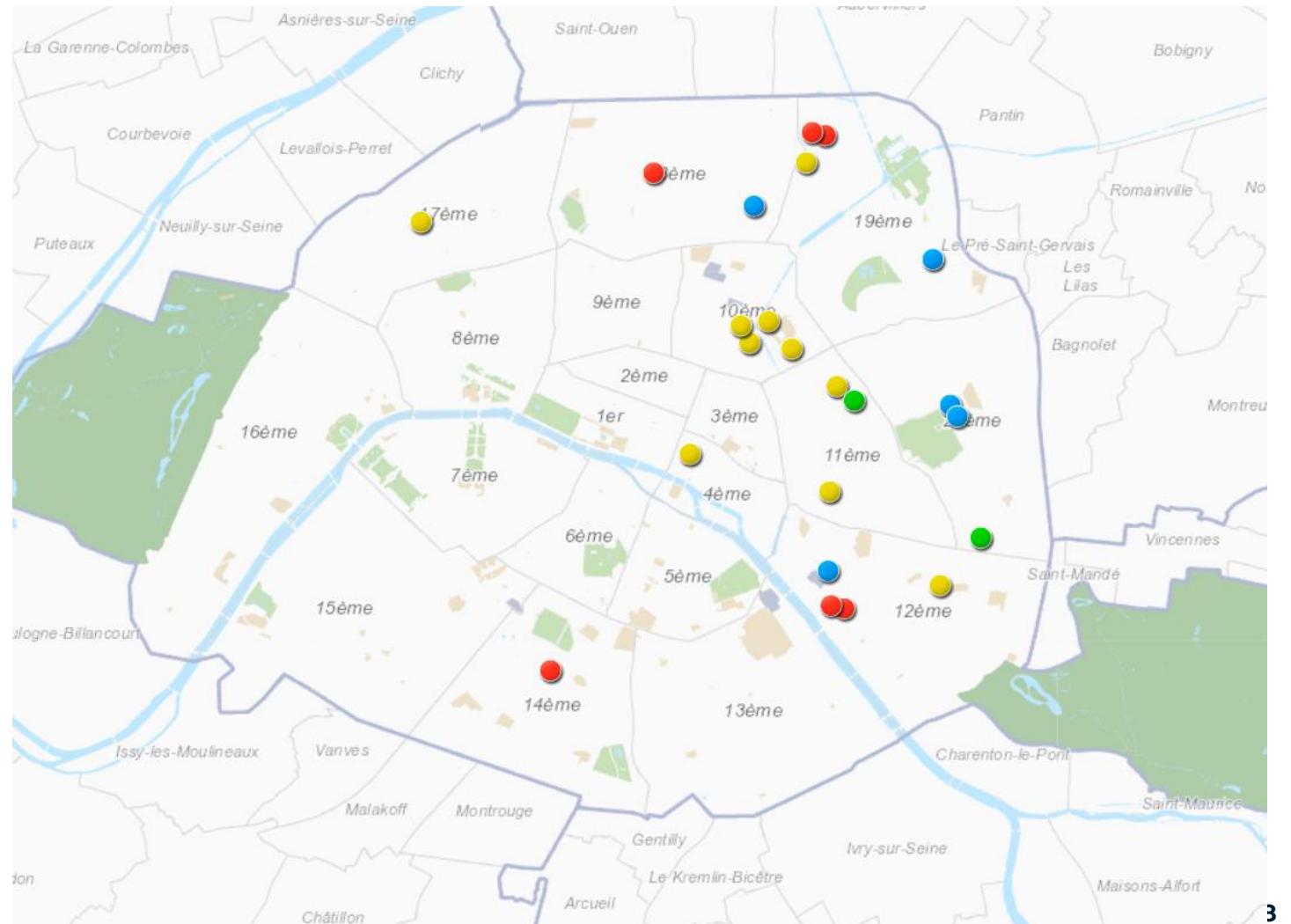
Reinforcing Cool Islands - Water for all

- ▶ 4 new open-water swimming in the Canal and the Seine
- ▶ 1,200 drinking fountains
- ▶ +100 water foggers



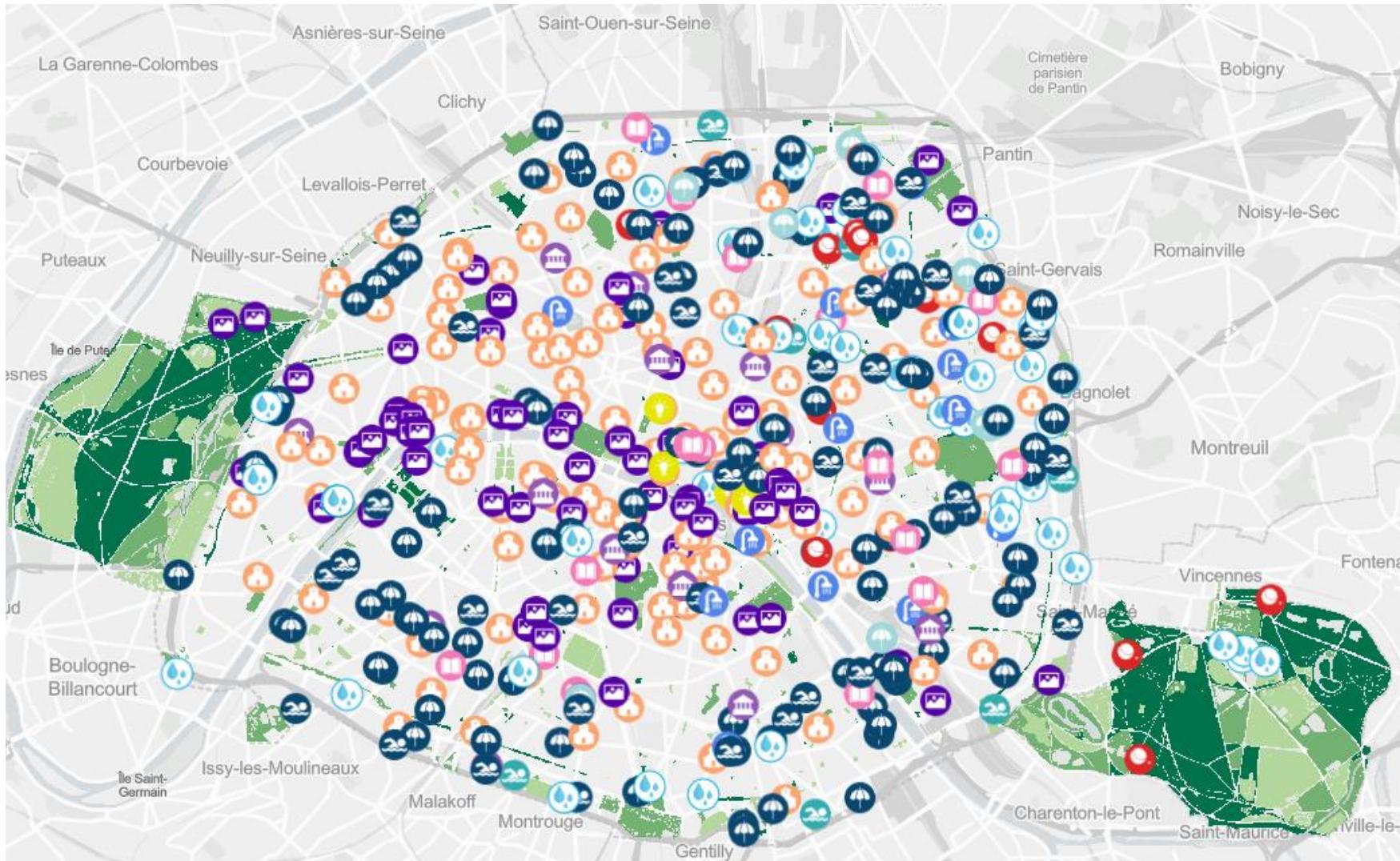
Reinforcing Cool Islands - A Shading Plan

Bringing shade when planting trees is not an option



The cool islands map during the day

2030 goal : A cool island for everyone within a 7mn walk



Facilities / Activities

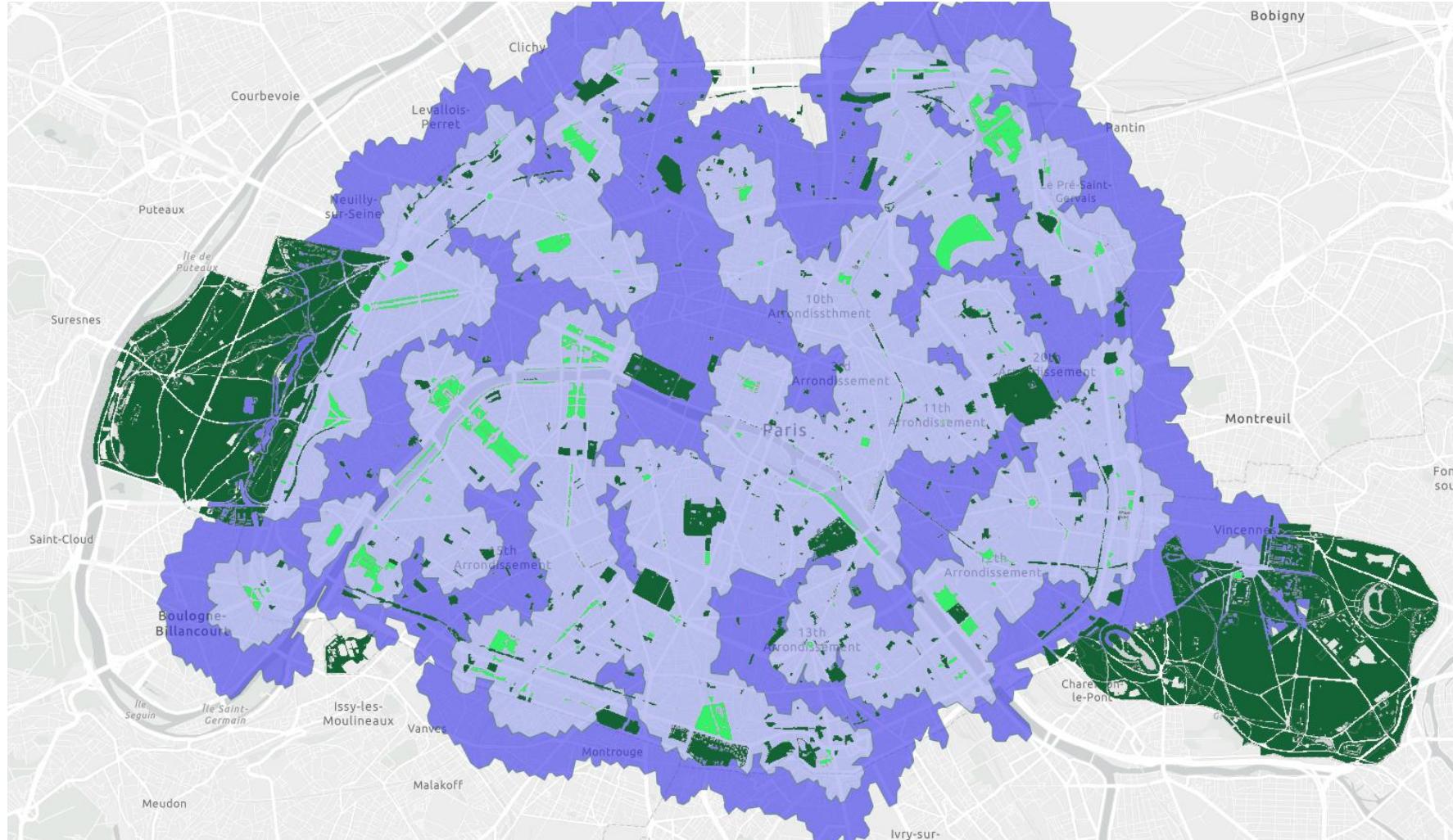
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The cool islands' map during night



Parks

- Closed
- Open

Isochrones

- 7 min
- 15 min

An online map that needs to be updated

- ▶ A constant update is needed : some places identified as cool islands can no longer be identified as shelter against heat (renovation works needed, places efficient up to a certain temperature, change in the ownership, etc...)
- ▶ We plan to create a climate refuge category with stronger requirements, to appear on the map
- ▶ We need to reinforce the communication around the existence of the online map



Focus : Use underground spaces as climate shelters

The case of the « Paris at 50° - crisis exercice »



In October 2023, a crisis exercise lead to the use of underground spaces (a former train station) as a shelter against heat



In March 2025 : experimentation of using a underground parking lot as a climate shelter

Trying to find an alternative use for underground spaces **raises many questions :**

- For security reasons, a reduced number of people can be sheltered – a need to prioritize vulnerable people
- Hard to find available underground spaces in every neighborhood
- Spaces not suited for a variety of activities (work, children..)

Experiment the creation of a network of climate shelters in the city

- ▶ Still needs to be defined and tested. Many questions remain : how many shelters would be needed ? Would they be shelters against heat only or for various climate risks ? What would be the business model ?
- ▶ In 2026 : lead an experimentation with local companies and craftsmen, identify who could be part of a local network at the district scale
- ▶ Reflect on other strategies : ex. Vancouver that does not provide cooling centers but reach out to vulnerable people through social workers and provide what they need to face the heat (cooling vests, etc...)

