Barcelona City Council
Barcelona Climate Shelters Network

ORGANIZATION / INITIATIVE LEAD

Barcelona City Council (Ajuntament de Barcelona), with the participation of municipal facilities, public services, private establishments and community organisations across the city.

Barcelona has developed a distributed network of indoor and outdoor spaces that provide thermal comfort during periods of extreme heat, turning existing urban assets into climate adaptation and public-health infrastructure.

TECHNICAL SOLUTION NAME

Barcelona Climate Shelters Network — Distributed Cooling & Climate Adaptation Infrastructure

HIGHLIGHT TITLE

Transforming existing urban spaces into a city-wide climate adaptation network that provides accessible protection from extreme heat close to where people live.

SHORT DESCRIPTION

The Barcelona Climate Shelters Network transforms existing urban spaces into accessible places offering thermal comfort during extreme heat. More than 500 libraries, civic centres, schools, parks and other neighbourhood spaces form a distributed network that provides 99.2% of residents with a shelter within a 10-minute walk during maximum coverage.

EXTENDED DESCRIPTION

Barcelona has developed a distributed network of more than 500 climate shelters using existing public facilities, outdoor spaces and neighbourhood establishments.

The network is designed around proximity and equity. During maximum coverage, 99.2% of residents have a shelter within a 10-minute walk, while expansion prioritises areas with greater heat vulnerability.

Some spaces are physically adapted to improve long-term resilience. An initial pilot transformed 11 schoolyards through vegetation, shade and water interventions. In 2026, the model expanded further through 90+ micro climate shelters in pharmacies, shops and community organisations.

Rather than relying on purpose-built cooling centres, Barcelona turns everyday urban spaces into a permanent climate resilience and public-health network.

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DEMONSTRATED METRICS

- 500+ climate shelters in summer 2026.
- Growth from around 70 shelters in 2020 to more than 500 in 2026.
- Almost 100 additional shelters compared with summer 2025.
- 99.2% of residents within a 10-minute walk during maximum coverage.
- 76.8% within a five-minute walk.
- 90+ micro climate shelters added in 2026.
- 11 schools transformed through the initial pilot.
- 1,000 m^2 of concrete replaced with planted areas.
- 2,213 m^2 of new shade, 74 trees and 26 water points.

REAL IMPACT

The network integrates heat protection into everyday urban infrastructure while prioritising proximity and vulnerable populations.

Key impacts include:

- Greater access to safe spaces during extreme heat.
- Climate adaptation integrated into neighbourhood services.
- Improved thermal and environmental conditions in adapted spaces.
- Expansion into underserved areas through micro-shelters.
- Reduced dependence on purpose-built cooling infrastructure.

The model demonstrates how existing urban assets can become a permanent climate resilience network.

IMPLEMENTATION LOCATION & DATE

Barcelona, Spain.
The first climate shelter initiatives were developed around 2019–2020, including the transformation of 11 schools through the European Urban Innovative Actions pilot. The city-wide network has subsequently expanded from around 70 shelters in 2020 to more than 500 in summer 2026.

The Climate Shelters Network continues to evolve as part of Barcelona's broader climate adaptation and heat-response strategy, with recent expansion prioritising neighbourhoods with higher vulnerability and lower existing coverage.

SIMILAR CASES IMPLEMENTED ELSEWHERE

Cooling centres and public cooling networks operate in cities including New York, Chicago, Phoenix, Montreal and Toronto.

Barcelona's distinctive approach is the integration of climate shelters into a permanent, city-wide network of everyday urban spaces, increasingly extended through neighbourhood businesses and community organisations.

TECH LEVEL

Low Tech

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CO-BENEFITS

Environmental
- Increased vegetation and shade.
- Improved thermal comfort.
- Integration of nature-based cooling.

Health
- Reduced exposure to extreme heat.
- Accessible spaces for thermal recovery.
- Protection of vulnerable populations.

Social
- Almost universal proximity to heat protection.
- Priority for vulnerable neighbourhoods.
- Community participation through micro-shelters.

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Urban / Spatial
- Existing spaces repurposed as climate infrastructure.
- Greener and cooler schoolyards.
- Integration with proximity planning.

Governance
- Coordination across multiple urban facilities.
- Data-informed expansion based on vulnerability.
- Replicable distributed-network model.

Education
- Visible examples of climate adaptation.
- Greater awareness of urban heat and resilience.

COST OF THE SOLUTION

LOW TO MEDIUM. The model primarily relies on infrastructure and urban spaces that already exist, significantly reducing the need for purpose-built facilities.
Costs include network coordination, mapping, communication, signage, operational management and the adaptation of individual sites. Some locations require additional investment in shading, vegetation, water elements, insulation or other physical improvements.
The ability to combine already suitable spaces with progressively adapted facilities allows the network to scale without requiring entirely new infrastructure.

MITIGATION / ADAPTATION

Adaptation

MAIN CATEGORY

Primary: Living & Inclusion
Secondary: Infrastructure & Building

BASE INFORMATION SOURCES

- Barcelona Climate Shelters Network, Barcelona City Council.
- Barcelona City Council, June 2026 update on the operation of more than 500 climate shelters and prioritisation of vulnerable neighbourhoods.
- Barcelona Public Health Agency data on heat-attributable mortality.
- Climate Shelters Network mapping and accessibility data.

AN INITIATIVE OF:

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