CASE STUDY — LONDON BOROUGH OF HAMMERSMITH AND FULHAM

Mapping Urban Heat Risk and Cool Refuges for London Borough of Hammersmith and Fulham

Using high-resolution heat mapping to support climate adaptation and protect communities

INTRODUCTION

As London's climate continues to warm, extreme heat is becoming one of the capital's most significant climate risks. The GLA's recent *Heat Ready London* report warns that around one million London homes may already be at high risk of overheating, alongside more than 1,300 schools, 60 hospitals and 350 care homes located in high heat-risk areas. It also projects that London could experience two to three times as many heatwaves within the next 20 years.

Local authorities will play a pivotal role in responding to this challenge. Through their responsibilities for planning, housing, highways, parks and green infrastructure, public health and emergency planning, councils are uniquely placed to reduce heat exposure and protect vulnerable communities. However, targeting investment effectively requires a detailed understanding of how heat risk varies across neighbourhoods. High-resolution heat mapping can help councils identify the communities most at risk, prioritise interventions such as tree planting and cooling infrastructure, and build long-term resilience to a hotter future.

To help inform its decision making, the London Borough of Hammersmith and Fulham commissioned Urban Heat Index to produce a detailed map of urban heat patterns across county. The project formed part of our pilot programme, designed to demonstrate how local authorities can use high-resolution heat data to inform practical decision-making.

OUR APPROACH

We produced a GIS-ready Urban Heat Index data layer using high-resolution satellite-derived temperature data combined with information on vegetation, terrain and the built environment. We held an inception meeting to understand how the council wished to use the data and to ensure the outputs would integrate with existing mapping systems and support local decision-making.

THE OUTCOME

As a densely populated urban borough, Hammersmith & Fulham is particularly vulnerable to the impacts of extreme heat. H&F will use this detailed mapping to identify hotspots and vulnerable areas across the borough, supporting the development of a Climate Adaptation Strategy and embedding consideration of heat risk into business-as-usual decision-making. This data will provide valuable insight for services across H&F, particularly combined with existing datasets and council asset information, helping to inform planning policy, housing asset management, development and regeneration priorities, and other measures to strengthen climate resilience.

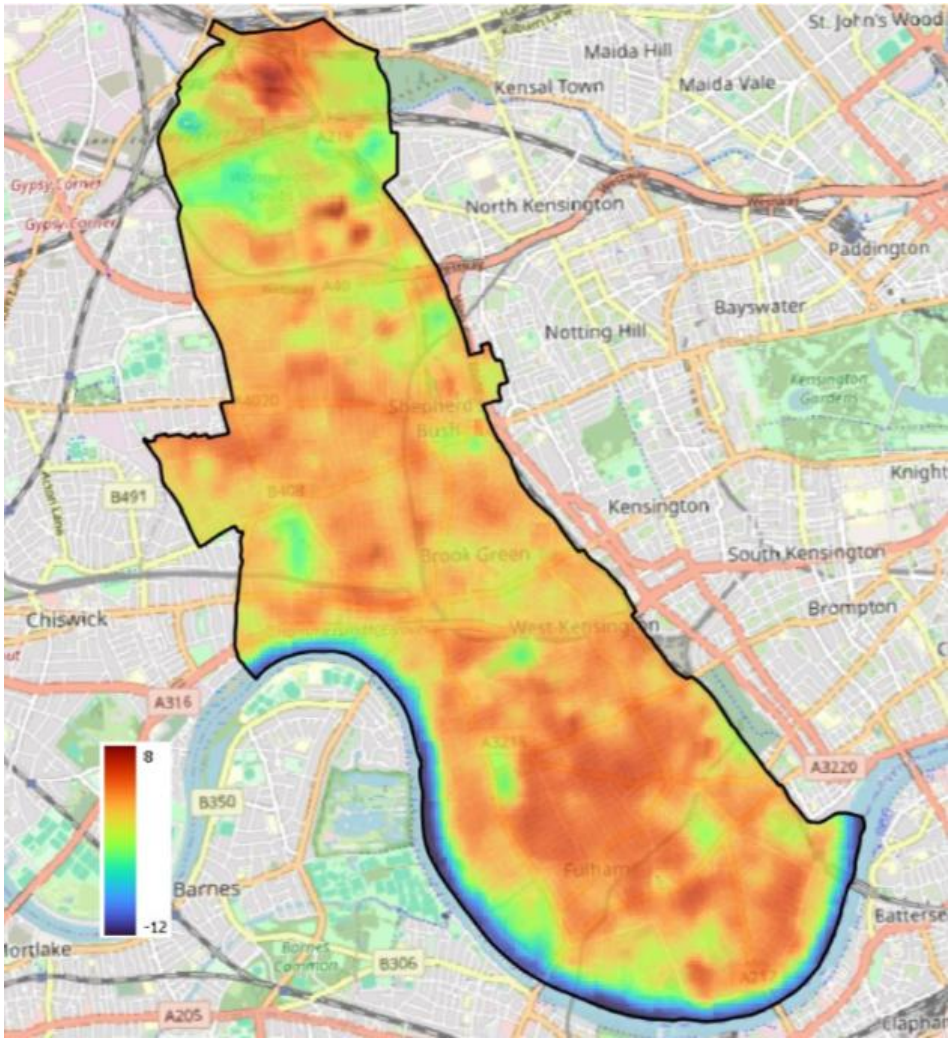

Figure 1 Areas of the London Borough of Hammersmith and Fulham with a hotter or cooler surface temperature than the average of vegetated areas

Charlie Bone, Natural Environment Lead at the Council, said, "Environmental justice is at the heart of H&F's approach. This data will be used alongside residents' lived experiences and local knowledge to ensure that interventions are both evidence-based and community-informed. By co-producing

solutions with residents and focusing support on those most vulnerable to climate impacts, the Council will help build a more resilient, equitable, and climate-ready borough for everyone."

The map above shows those areas of the borough with a surface temperature that is hotter than the average of the borough's cool vegetated areas, broken down by 30m pixels. It also shows the dramatic difference with the River Thames, the surface of which is up to12 degrees cooler than the average.

Because the data is supplied as a GIS layer, it can be incorporated into the council's existing mapping systems and used across multiple service areas.

LOOKING AHEAD

This project demonstrates how high-resolution urban heat mapping can provide local authorities with a practical evidence base for climate adaptation. By revealing heat patterns at the neighbourhood level, councils can make better-informed decisions about where to invest, helping to build healthier, more resilient communities.

URBAN HEAT INDEX

Urban Heat Index helps local authorities and other organisations map, understand and reduce urban heat risk through clear, evidence-based spatial data that supports planning, public health and climate resilience. Find out more via our website, or email us to request an introductory call.

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