Urban Climate Resilience Workshop – Summary Report

Date: 28 May 2025
Location: Room 4.50, Simon Building, The University of Manchester
Time: 10:00 – 15:00

Website: https://envdes.github.io/IAAUrban/

1. Overview

This workshop is funded by UKRI Impact Acceleration Accounts (IAA Starter Fund) and The University of Manchester and the Chinese University of Hong Kong (CUHK) Research Fund, in collaboration with Manchester Climate Change Agency and Urban360. The workshop convened researchers, community leaders, and urban climate practitioners to explore pathways for building resilient, sustainable, and equitable urban environments in response to climate change. They are from The University of Manchester, The Chinese University of Hong Kong, Station South, Urban360, Manchester Climate Change Agency, Manchester Climate Alliance, and Q Sustain Ltd. The event featured two presentation sessions, a networking lunch, and a collaborative discussion session focused on identifying research and action priorities.


Urban Climate Resilience Workshop

2. Topics

Junjie Yu, PhD Student at The University of Manchester

Topic: **Integration and Execution of Community Land Model Urban (CLMU) in a Containerized Environment**

Aaron He, Research Assistant Professor at The Chinese University of Hong Kong

Topic: **Planning for Cooler Cities: Urban Breezeways as a Tool for Climate Resilience**

Amos Tai, Associate Professor at The Chinese University of Hong Kong

Topic: **Effects of Agricultural Irrigation on Regional Climate and Air Quality in North China Plain**

Francis Tam, Associate Professor at The Chinese University of Hong Kong

Topic: **Multi-scale Control of Heatwave and Thermal Comfort Trends Observed in GBA, South China**

Abigail Pound, Chief Executive at Station South

Topic: **From Derelict to Dynamic: Building Resilience from the Ground Up**

Mike Franks, Community Activist at Manchester Climate Alliance

Topic: **The Possibility for Community-Owned Renewable Energy**

Yuan Sun, PhD Student at The University of Manchester

Topic: **Urban Heat Characteristics and Vulnerability of Greater Manchester (UK) during the Record-Breaking 2022 Heatwave**

3. Key Challenges Identified

a. Disconnection between research and community action

While advanced urban climate models and data tools are emerging, stakeholders from the community sector expressed that results are not always accessible or actionable for local decision-making. We understand that currently, participating corporate entities primarily rely on publicly available meteorological data, which mostly lacks urban process parameters. Consequently, the impact of urban temperatures on corporate decision-making is underestimated – for instance, in the construction industry. The representative from Q Sustain Ltd stated that accurate urban climate data is crucial for their company's projects.

b. Urban heat vulnerability and inequality

Case studies presented (e.g., Greater Manchester's 2022 heatwave) revealed how heat impacts are unevenly distributed, often exacerbating existing vulnerabilities in lower-income communities.

c. Integrating climate adaptation into planning

Despite a growing awareness of climate risks, local implementation of adaptation strategies remains fragmented, often limited by funding, policy coordination, and political will.

d. Limited collaboration across sectors

Several participants noted that opportunities for regular, structured engagement between academia, community groups, and urban planners remain scarce.

4. Opportunities Highlighted

a. Containerized urban models

Junjie Yu's work on deploying the Community Land Model Urban (CLMU, https://doi.org/10.1016/j.envsoft.2025.106391) in a containerized environment offers a scalable and user-friendly approach to urban climate simulation, which could be co-developed with cities.

b. Nature-based solutions & urban design

Ideas like urban breezeways, green redevelopment, and community-owned renewable energy present low-tech, community-driven resilience strategies that also improve urban liveability.

c. Strengthening science–community partnerships

The presence of grassroots leaders and researchers in the same room sparked new conversations about co-designing tools, engaging citizen scientists, and improving knowledge exchange.

d. Shared platforms for collaboration

Participants expressed interest in creating shared platforms or forums to track progress, share data, and co-develop proposals.

5. Conclusion

The workshop successfully laid the foundation for an interdisciplinary and inclusive approach to urban climate resilience. Going forward, our focus will be on translating insights into action, maintaining momentum through partnerships, and supporting community-driven adaptation with scientific tools and frameworks.