



Public Health
England

Protecting and improving the nation's health

The London Climate Change Partnership – Knowledge Exchange

Dr Helen Macintyre

Senior Environmental and Public Health Scientist
Centre for Radiation Chemicals and Environmental Hazards
Public Health England

FutureBuild2019 – ExCeL



Heat and public health

- Exposure to high temperatures is thought to contribute to ~2000 deaths each year.
- Certain groups are considered more at risk:
 - Elderly; very young; those with pre-existing health conditions; socially isolated; south-facing top-floor flats in urban areas; nursing and care homes.
- Ageing population.
- Heatwaves predicted to become more frequent, intense and last longer (IPCC AR5). Hot summers more common. Average summer temperatures in London are projected to be 4 to 5°C higher by 2080s (UKCP18, high emission scenario).
- Urbanisation – Two-thirds of global population will live in urban areas by 2050. 82% in the UK already (Census 2011).



Urban environments need to be resilient to climate change and provide a healthy environment for people to thrive.



Public Health
England

LCCP – Heat Risk Group

- Forum for knowledge exchange.
- Fact sheets, publications, datasets, events.
- Wide range of participants – public health, Defra, TfL, academic partners, borough councillors, MHCLG, consultants.
- Awareness of different priorities. Sharing solutions and ideas.
- Keep aware and up to date with projects at different stages.

Care provision fit for a future climate, JRF.
 Urban Albedo project, University of Kent. Buildings Hub.
 London Green mapping, Urban heat risk, ARUP.
 URBANFLUXES. Climate Just. Space4Climate.



LONDON
climate change
PARTNERSHIP

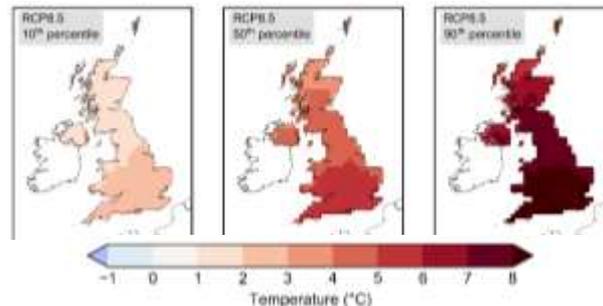


URBANFLUXES
URBAN HEAT PROJECTIONS FOR THE 2010s
www.urbanfluxes.com



Climate **Just**

- UKCP18 briefing session.



SPACE
CLIMATE

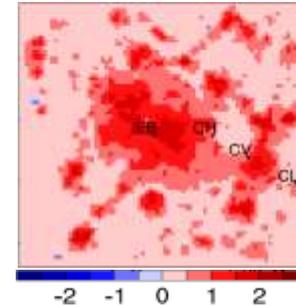


UHI mitigation: Cool roofs

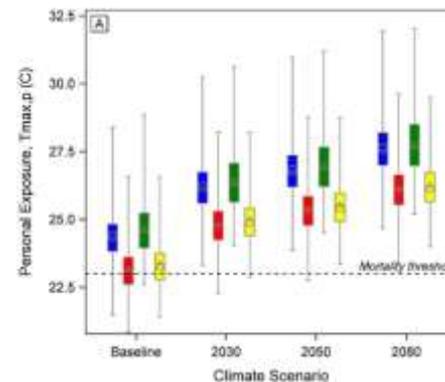
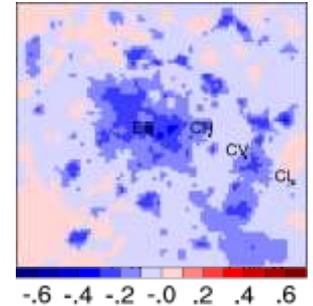
- UHI associated with ~40% of heat-related mortality over summer.
- Cool roofs modelling across the West Midlands to reduce outdoor temperatures.
- Can offset ~25% of heat-mortality associated with the UHI over heatwaves.
- Indoor temperatures – shutters appear to be effective. Can offset increases in heat exposure that may be associated with climate change. Energy efficient retrofit may reduce thermal gains but can increase overheating risk in summer.
- Co-benefits and unintended consequences should be looked in to.



Mean summer UHI



Cool roofs



- Current
- Shutters
- Retrofit
- Shutters & Retrofit



Future actions – building sector

- How to get information relating to buildings and heat (and health more broadly) to reach building and urban planners; what are the best channels.
- How to motivate action to ensure built environment that is fit for future climate.
- Improving actions on retrofit.