



Characterization of a microneet and urban heat island effect using atmospheric data in Birmingham UK

Tatiana Prieto-Lopez (1), Lee Chapman (1), Chris Hamilton (2), and John Thornes (1)

(1) School of Geography, Earth and Environmental Sciences, University of Birmingham, UK., (2) Energy Infrastructure & End-Use New Technologies, E.ON New Build & Technology, UK.

Urban atmospheric data in Birmingham is scarce, which has limited UHI studies in the region. To overcome this limitation a micrometeorology network has been deployed across the conurbation of Birmingham UK, between March and April 2010. This study describes the design of a micrometeorology network which captures the air temperature and other atmospheric variables across 35 sites located in the city. The network consists of six weather stations set up in a north to south transect and 70 iButtons located across the cities Super Output Areas. Based on the gathered air temperature measurements an UHI effect has been observed in Birmingham UK, between May and September 2010. Monthly temperature averages, maximums, minimums and land use data classification were used to understand the UHI effect across the city. The results have shown new insights into the atmospheric processes that induce the UHI in Birmingham.