

Urban meteorology – lessons learnt from a decade of experiments in London

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Wind characteristics in urban areas are complex and hard to generalise. The urban canopy exerts drag through a finite depth, producing extremely location specific wind microclimates. Above the canopy, the wind profile is constantly adjusting to the patchy urban surface, and may not have time to reach equilibrium. In addition to these uncertainties in how to characterise urban winds, there is a general lack of wind data in urban areas. In this talk, a decade of experimentation in London is discussed which was designed to address these issues. Data from various projects (DAPPLE, REPARTEE, ACTUAL, Clearflo) will be presented and discussed which highlight the nature of winds in London, both within and above the urban canopy. Results relevant to air pollution, dispersion, urban meteorology and wind engineering are presented and discussed.