



Low level jets and urban boundary layer structure over London, UK

Janet Barlow, Dan Drew, Natalie Theeuwes, Christos Halios, and Hannah Gough
University of Reading, Reading, United Kingdom

Low level jets over urban areas can play a role in influencing mixing and transport of pollution over cities, and thus pollution exposure at the surface. As convection persists into the evening in an urban boundary layer (UBL) due to the urban heat island, low level jet structure can be modified as both “bottom-up” and “top-down” mixing processes co-exist. This talk presents observations of urban low level jets and their interaction with UBL turbulence structure throughout the diurnal cycle. Data are drawn from a ground-based Doppler lidar and in situ micrometeorological instrumentation deployed in London, UK. Analysis includes jet height, frequency and speed distributions, and impact on turbulent moment profiles throughout the UBL diurnal cycle. Implications for dispersion modelling will be discussed.