PROJECT PROFILE

CITY OF LONDON CORPORATION THERMAL COMFORT GUIDELINES

City of London, UK

The City of London requires a planning application for each tall building, which includes various environmental assessments.

Wind, sunlight, and overshadowing were historically considered separately, limiting a planner's ability to evaluate the combined impacts of different environmental factors. Undertaking a thermal comfort assessment provides exceptional insight into the combination of unique factors that impact a person's comfort, including temperature, humidity, wind, solar radiation, and how a public space will be used.

RWDI was retained by the City of London Corporation to develop guidelines for thermal comfort assessments. The first phase of the study focused on the effects of wind microclimate on pedestrian comfort. This included a comparative study to look at the different tools to assess wind comfort and the importance of various factors that affect the results of wind comfort studies. In the second phase, RWDI developed microclimate wind guidelines. The guidelines provide a consistent set of weather statistics, stipulate the level of detail required in a wind model, provide stringent comfort criteria, and set a coherent approach for presentation of results. Phases 3 consisted of a solar study which provided an understanding of the effects of tall buildings in creating overshadows. The results of the solar study were then combined with the wind microclimate conditions and other climate factors such as temperature and humidity to provide simulations of thermal comfort in Phase 4. In consultation with the City Planners, we developed an approach for the classification of thermal comfort applicable for a wide range of climate scenarios to ensure consistency in the interpretation of results.

The resultant Thermal Guidelines were released in the summer of 2020 and were the UK's first planning guidelines focused on the comfort of pedestrians. The guidelines enable the City to create more sustainable, comfortable, and enjoyable public spaces while achieving their growth objectives.

SERVICES **Microclimate studies**

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