

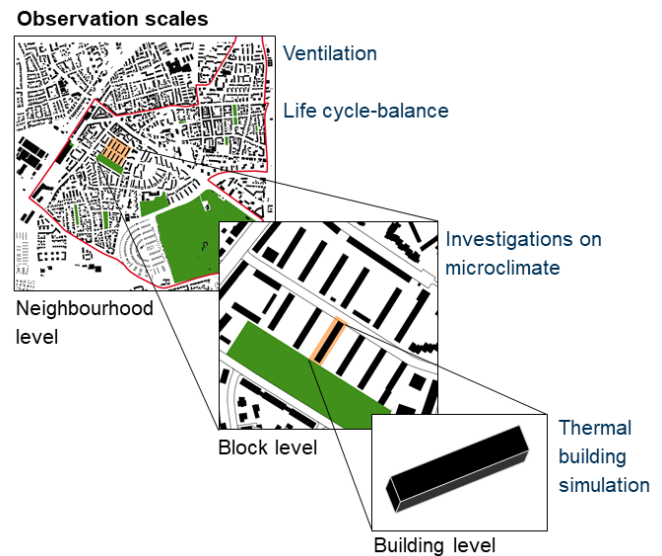
Working group 2: Climate regulation – Evaluating measures

Objectives

Working group 2 balances the climate regulation performance of green infrastructure and its energy efficiency in selected project areas. The analysis ranges from individual buildings to the entire urban quarter. As analysis methods, modelling and simulations would be used to examine various aspects such as air exchange, thermal comfort in open spaces and building energy requirements.

Methods

In working group 2.1, thermal comfort in outdoor areas at street level under current and future climatic conditions would be investigated. The modelling scenarios vary in type, location and extent of vegetation as well as in type and extent of development. In a similar way, this also applies to surface runoff after heavy rainfall events. The focus is on the question of whether and how highly dense populated urban areas can be adapted by means of green infrastructure to heat and heavy rain events that will occur more frequently in the future, and what effects do different forms of post-compaction have on the microclimate and surface runoff?



Observation scales and methods in working group 2;
Source: S. Erlwein

Working group 2.2 deals with the question which urban climate services are provided by green infrastructure in different building situations. The investigations are focused on the neighbourhood level in order to analyse both the thermal comfort and night-time ventilation. The generated data and results will support urban decision-making and weighing processes, allowing urban climate aspects to be better integrated into planning.

Working group 2.3 examines both the impact of green infrastructure and redevelopment measures on lifecycle-based energy demand and the environmental impact of structural and energy elements of buildings and neighbourhoods. Not only energy demand and environmental impacts in the utilisation phase of buildings will be considered, but also those of production and disposal phases will be investigated, analysed and optimised. The aim is to identify the most sustainable neighbourhood development strategies that can be used to support decision-making in planning and designing of new development areas or redevelopment projects.