



Techniques for Modeling Approaches of the Main Sources of Anthropogenic Heat in the so-called Heat Islands and Their Behavior

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The paper presents the results up to now obtained within the research project UrbanAdapt. Overall, the UrbanAdapt project deals with the anthropogenic heat influence and modeling in the so-called Heat Islands, i.e. areas with great potential of accumulating the energy produced specifically by the city environment and its transformation into ambient heat. The paper introduces already identified energy sources and its transformation and transmission within specific processes between individual moving elements or building constructions. The main known energy sources such as transportation, buildings, industry, and human metabolism are discussed. The paper analyzes current measurement techniques and calculations of energy sources, their behavior and the ability to convert specific energy into the ambient heat. Mentioned are not only the impacts of vehicles, indoor air conditioning, heating, used materials mainly for roofing, but also materials involved in wall constructions, but also their ability to accumulate heat from the outside environment as well as from the indoor spaces. The paper gives an overview of available qualitative techniques for main described energy sources modeling. Relevant energy sources models and different approaches are presented and discussed.