

# Evaluation of urban climatological effects of district-level rehabilitation program

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Ferencvaros is one of the 23 districts of the Hungarian capital Budapest. It is located near the river Danube in the southern central part of the city, which is very heterogeneous and consisting of 3- and 4-storey old buildings, block houses with either 4 or 8 levels, brown industrial areas, and large areas occupied by the railways system. Partly due to the functional and structural changes of special subsections of the district substantial local climatic changes occurred in the past few decades. From the local government concentrated efforts were made to complete several block rehabilitation programs already starting from 1980s. Since 1993 in the most densely built inner part of the district entire blocks were renovated and modified in order to create more livable environment for the citizens. Within the framework of these programs inner parts of the blocks were demolished, thus, inside the blocks more common green areas could be created. The climatic effects are evaluated on the basis of satellite measurements, namely, surface temperature fields derived from radiation data of seven different infrared channels measured by sensor MODIS (onboard satellites Terra and Aqua). From the surface temperature data rural mean values around Budapest are used to calculate pixelwise SUHI (surface urban heat island intensity). Our main goal is to analyze whether the generally positive changes of the built environment can also be recognized in the urban heat island effect of this area.