



Urban climatological measurements in a renovated district of Budapest

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The target area of this research is Ferencváros, the 9th district of Budapest, Hungary. It is a southern central located district, which is near the river Danube. This district is a very heterogeneous part of the city 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. The local government initiated and completed several urban renewal programs, in which the ultimate goal was to improve the urban environment for local inhabitants. For this purpose, green areas with vegetation cover were increased within the district, especially, in the so-called rehabilitation area where the inner parts of old house block buildings were completely demolished in order to create common green areas inside the renovated and newly built blocks. The presented research focuses on this renewed, renovated part of the district.

We started an in-situ climatological measuring program (consisting of air temperature and relative humidity measurements at 22 measuring sites) in spring 2015 in the downtown area of Ferencváros. The measuring sites are located along a pre-defined walking path in different characteristic points of the district, such as green parks, narrow streets, paved squares and roads. In order to calculate the urban heat island intensity, temperature measurements are compared to the hourly recorded data of the Budapest synoptic station (BSS, ID number: 12843) located in the southeastern suburb area of the city. Similarly, relative humidity measurements along the walking path in Ferencváros are also compared to the reference data available from the synoptic records of BSS. Our aim is to analyse urban heat island intensity and relative humidity difference values for the study area in different seasons and in case of different macrocirculation patterns.