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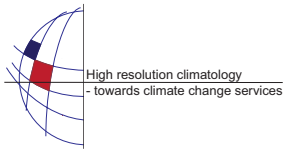

Test Reference Years for engineering purposes – incorporating the Urban Heat Island effect

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In order to calculate the performance of technical systems, e.g. with respect to heating, cooling or ventilating buildings, the engineers require suitable atmospheric data sets. As a common procedure so called Test Reference Years (TRY) are employed for that purpose. These TRY are usually based on long-term measurements and observations at distinct weather stations. According to international rules weather stations are commonly placed in open terrain. So especially for cities the question of representativity has to be raised since the built-up urban areas might show considerably higher air temperatures (urban heat island) compared to the surrounding region. Here a method is presented which allows to assess the urban effect on the thermal regime. It uses parameters that can be easily accessed, e.g., the number of inhabitants. Thus the intensity of the urban warming can be quantified. Those parameters are briefly discussed and ways to implement the urban heat island effect in TRY datasets are shown.