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The public perception of the urban heat island phenomenon in Romania. Case study: Bucharest

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The urban heat island (UHI), affects people's health or can disturb their well-being and productivity. Is the urban population aware of this harmful phenomenon to which it is exposed? Our analysis focuses on the knowledge and understanding of the UHI in the perception of the citizens of Bucharest, the capital of Romania. Bucharest is a typical example of temperate continental city, located in an open plain area (60-90 m a.s.l.). The city has approx. 2.1 million inhabitants and extends on an area of approx. 240 km^2 (about 81% of the building surface). The UHI intensity generated by the city of Bucharest is on annual average by 1-3°C higher than the open field. The analysis relies on a questionnaire, with closed questions with and without the Likert scale and semi-open questions with multiple possible answers, applied individually and directly. The questionnaires were applied to Bucharest residents in ten representative locations of pedestrian traffic in the center of the city. The sample size amounts 267 subjects, classified according to the socio-demographic indicators, such as age, gender and level of education. It was found that 41% of the respondents do not know the 'urban heat island' meaning term while 29% know about it. 66% of the interviewed persons consider that this phenomenon is felt in the study area, while 61% associate the presence of UHI with the higher air pollution in the city than in the surroundings. 64% also consider that the UHI is caused and maintained by the phenomenon of environmental pollution. 61% of the respondents consider that UHI is related to the current climate change and that this phenomenon will increase in the future. Based on the relatively low level of knowledge and understanding of the UHI in our analysis, we recommend the necessity to enhance the meteorological education of citizens in order to further implement socially accepted measures to diminish the UHI in Bucharest.