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Checking Thermal Confort Ranges in a Winter City, Erzurum, Turkey through Questionnaire Survey in Winter Time

Elif Akpinar Kulekci, Ataturk University, Turkey

Isik Sezen, Ataturk University, Turkey

Suleyman Toy, Ataturk University, Turkey

ABSTRACT: The comfortable outdoor use of urban facilities, like parks and ski runs in a mountainous and winter city depends largely on the severity and perception of cold stress. In January and February 2020, a questionnaire survey about thermal comfort conditions of people walking on a route to a city center shopping mall and street occupied densely by cafes was conducted over a 100 – people group in Terminal Street, Erzurum. Data of the automated weather station in the same area was used to analyze the survey data by matching the calculated thermal comfort conditions using RayMan model and Physiological Effective Temperature (PET). It was found that the all comfort ranges are different from those determined before and since the solar radiation affects directly the comfort levels the calculated PET values and sensation were found to be different. By considering results of the study, it was proposed that outdoor human thermal comfort conditions should be improved to make people stay longer.

KEYWORDS: Erzurum; Winter city; Thermal comfort; Physiological Effective Temperature