



Assessment of human thermal perception with respect to international tourists in Athens, Greece

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Tourism, a significant economic sector, is strongly associated with the climate of a region of interest to travel. Identifying a touristic destination and its preference depends on many important factors such as the prevailing outdoor environmental conditions, the history, sightseeing and cultural heritage. The ideal thermal comfort conditions for an individual are due to environmental, physical as well as psychological stimuli configuring the energy balance of the human body.

This study investigates the human thermal perception of international tourists visiting for a short time the historical center of Athens, Greece. The survey was conducted throughout the year, once per month, from sunrise to sunset, using specific questionnaires at historical Syntagma Square in Athens. Additionally, experimental measurements of air temperature, humidity, wind speed, globe temperature and solar global radiation were recorded in accordance with the performed survey every 5 minutes using the appropriate sensors mounted on a cargo bicycle at 1.5m height, in order to quantify the maximum thermal burden, by means of the human thermal index “Physiologically Equivalent Temperature”.

The results showed significant differences in the human thermal perception depending on tourists’ country of origin, as well as sex and age of the interviewers. The country of origin plays an important role in configuring the thermal sensation of the tourists. More specifically, the colder the climate of the country of origin, the warmer sensation within the summer months (June, July and August). Tourists coming from cold climates could visit Greece during March, April, October and November, when temperatures fluctuate at a pleasant level, while tourists coming from mild and warm climates, could take advantage of the mild weather during winter.

Regarding sex, on one hand, females have a cooler thermal sensation than males during winter, which often causes discomfort and poor mood, as well as their preference to higher ambient temperatures. On the other hand, during summer, males are more vulnerable to heat than females, as this is illustrated by their greater desire to lower temperatures. Most respondents, from all ages, either expressed satisfaction with respect to the sunny weather of Athens or even wanted more sun. Tourists older than 60 years seem to feel better in spring rather than summer for their vacations in Athens.

The findings of the conducted survey in the historical center of Athens reveal the differentiation of the human thermal perception with respect to international tourists choosing Athens as their travel destination. Travel agencies, local authorities and stake holders could take advantage of these results by improving the promotion of Athens as a desirable touristic destination towards different nationalities, focusing on tourists’ country of origin, age and sex, highlighting the bioclimatic conditions through the year for a sustainable tourism potential.