Tourist Perception of Thermal Comfort: Foundations for Index Development and Application in Protected Areas

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Abstract

Weather conditions are a crucial factor in tourists' perception and experience of a destination, with thermal comfort playing a direct role in visitor satisfaction and behavior. This paper presents a structured literature review focused on the development and application of climate indices in tourism geography, with particular emphasis on their methodological foundations and the integration of tourists' subjective thermal perception. Over the past century, numerous indices have been developed to quantify climatic suitability for tourism, most notably the Tourism Climate Index (TCI) by Mieczkowski (1985). Despite its pioneering role, TCI and similar indices have faced criticism for their generic structure and limited sensitivity to real-world conditions. More recent models, like the Holiday Climate Index, aim to address these limitations by incorporating bioclimatic parameters and subjective human responses. The review highlights the need for improved methodological approaches that integrate tourists' real-time thermal perception through surveys and empirical field data. Such approaches are crucial for refining climate indices and supporting sustainable tourism planning, especially in the context of increasing climate variability. Future research will apply these methodological guidelines in three protected areas in Croatia - Plitvice Lakes National Park, Kopački Rit Nature Park, and the Vis Archipelago Geopark - within the framework of the scientific project PACT-VIRA, funded by the Croatian Science Foundation.

Keywords: climate indices, bioclimatic indices, Tourism Climate Index, thermal comfort, tourist perception