

A Review of Outdoor Thermal Comfort in Open Spaces

Authors : Rupendra Subedi, Hom Bahadur Rijal

Abstract : Urban open spaces are crucial for enhancing the well-being of large populations by providing areas for social interaction, recreation, and mental restoration. Thermally comfortable urban spaces significantly improve the quality of urban life, leading to a substantial increase in research on this topic in recent years, particularly in response to the challenges posed by urbanization and climate change. This paper presents a comprehensive review of the studies on outdoor thermal comfort, exploring the physical, physiological, behavioral, personal, and social factors that influence thermal perception in urban open spaces across various climates and regions. A systematic literature review was conducted focusing on studies that provide insights into outdoor thermal comfort. The review reveals that physical factors are the most significant determinants of outdoor thermal comfort. The review also offers a systematic and thorough understanding of outdoor thermal comfort, identifies key trends, and suggests opportunities for future exploration. This review serves as a valuable resource for researchers, providing practical guidelines for urban designers and planners to create inclusive, sustainable, and thermally comfortable open spaces that meet the diverse needs of city dwellers.

Keywords : outdoor thermal comfort, physical factor, urban open space, urban planning

Conference Title : ICENS 2025 : International Conference on Engineering and Natural Sciences

Conference Location : Bali, Indonesia

Conference Dates : October 25-26, 2025