

EGU24-5058, updated on 20 May 2024

<https://doi.org/10.5194/egusphere-egu24-5058>

EGU General Assembly 2024

© Author(s) 2024. This work is distributed under the Creative Commons Attribution 4.0 License.



The development of the Koreans' climatic index for tourism (KCIT)

Sookuk Park, Sangman Jo, Yuri Choi, and Jeonghyeon Moon

Jeju National University, Horticultural Science, Korea, Republic of (sooland@jejunu.ac.kr)

To develop the Koreans' climatic index for tourism (KCIT) in the four tourism and recreation types (cultural tourism, beach walking, Oreum/light climbing, and Olle/tracking), this study conducted comprehensive microclimatic data collection and surveys throughout the four seasons of 2022-2023 in Jeju, Republic of Korea. The research involved expert opinions and insights from 26 experts and 1,860 tourists in cultural tourism, 15 and 511 in beach walking, 28 and 603 in Oreum, and 14 and 234 in Olle. The collected microclimatic data included air temperature, relative humidity, wind speed, and shortwave and longwave radiation, concurrently gathered with tourist surveys. The KCIT comprises 7 scales, ranging from very poor to ideal, and is composed of three critical aspects: thermal, aesthetic, and physical. The thermal aspect analyzed human thermal sensation across 9 ASHRAE scales, from very hot to very cold, utilizing physiological equivalent temperature. It revealed that a consistent optimal range was from neutral to slightly cool across the four tourism and recreation types. The possible range of all tourism and recreation was from hot to cold, and the difficult range was very hot and very cold. The aesthetic aspect evaluated cloud cover, establishing an optimal range of clear or less cloudy conditions (30-50%) for all tourism and recreation types, while beach walking displayed a preference for clearer skies. Wind speed, a physical aspect, indicated an optimal range of a gentle breeze, $1.4\text{--}3.4\text{ ms}^{-1}$, with variations observed across tourism and recreation types. The possible range was from 0 to 7.5 ms^{-1} in cultural tourism and from 0 to 5.5 ms^{-1} in the others. The difficult range was from 7.5 ms^{-1} in cultural tourism and 5.6 ms^{-1} in the others. Precipitation, another physical aspect, revealed optimal, possible, and difficult ranges of 0 mmhr^{-1} , $0.1\text{--}5.0\text{ mmhr}^{-1}$, and more than 5.1 mmhr^{-1} , respectively. The study highlights the versatility of the KCIT scale, offering a user-friendly tool for tourists and tour companies. Additionally, it presents valuable insights for local governments in shaping future tourism plans. This ongoing research is set to continue exploring other tourism and recreation aspects in 2024.