This study investigates the spatial, monthly and diurnal variations of physiological climate of Kenya using data collected from fifty seven (57) weather stations spread throughout the country. Isarithmic mapping techniques are used to analyse the spatial patterns of various climatic factors and climatic comfort indices namely Effective Temperature Index (ET) and Temperature Humidity Index (THI). The relationship between physiological climate [as measured by ET, THI and effective Temperature Index with wind factor (ETV) comfort indices], climatic factors and altitude is statistically tested using simple correlation and stepwise multiple regression techniques.

Using ET and THI comfort indices, the country are classified and regionalized into climatic comfort zones. One-way analysis of variance (ANOVA) is then used to find out if the comfort zones are statistically different. Monthly and diurnal variations of physiological climate are analyzed using ET, THI and ETV comfort indices computed at a three-hour interval for eight (8) stations selected to represent the climatic comfort zones identified in this study. Conditioning square and graphical methods are used in these analyses.

Results of this study show that there exists marked spatio- temporal variation in the physiological climate of Kenya. These variations are significantly influenced by variations in altitude, temperature, relative humidity, global radiation and wind speed. There are also distinct physio climatic zones in the country. It is recommended that scientific studies based on human responses to the Kenya climatic environment are needed so that the effect of this climate on human health, activity and behaviour can be well understood.