

Thermal comfort in naturally ventilated buildings in Maceio, Brazil

ABSTRACT

This article presents the results from thermal comfort survey carried out in classrooms over two different seasons in Maceio, Brazil. The secondary data were collected from thermal comfort field study conducted in naturally ventilated classrooms. Objective and subjective parameters were explored to evaluate thermal comfort conditions. The potential effect of air movement on subjects' vote under neutrality was evaluated. Overall, the indoor climate of the surveyed location was classified warm and humid. Conflicting results were depicted when analyzing the effect of air movements on subjects' vote. The mean air temperature for subjects feeling hot was found to be lower than those feeling warm. A reasonable approach to tackle these two unpredictable results was suggested. Correlation matrix between selected thermal comfort variables was developed. Globe temperature recorded the highest correlation with subjects' response on ASHRAE seven-point scale. The correlation was significant at the 0.01 level. On the other hand, the correlation between air movement and subjects' response on ASHRAE seven-point scale was weak but significant. Further field studies on the current topic were recommended.