

This study focuses on improving the thermal comfort in Mosques in Iraq. Omar bin Abdul Aziz Mosque in Baghdad is taken as a case study. In general, the weather in Baghdad is hot- dry climate during the summer. the study was conducted at the time of noon prayer on Friday where the maximum number of people can be obtained inside the Mosque about 500 worshipers and severe environmental conditions. Numerical methods (CFD) are used for the simulation utilizing the package of ANSYS (FLUENT V. 18). As the results depending on the number of elements, 4 millions elements are used for dividing the physical domain. Thermal comfort was assessed by finding the values of the predicted mean vote (PMV), predicted percentage of dissatisfied (PPD), and ASHRAE standard-55. The adaptive redistribution of the air conditioning device strategy at five cases is used to obtain the best thermal comfort. Moreover, changing the angle of air intake of space by changing the angle inclination of the access blade at three different angles of 0o, 7.5o and 15o degree, and studying its effect on the thermal comfort in breathing level. The four case is the best in terms of thermal comfort when the angle of intake air at 0o. when the PMV was 0.35 and PPD is 7.5, which is lower than the original state. The improving percentage of PPD is 10 % and PMV 14 %.