

Abstract

The Kenya's capital city-Nairobi is one of the fastest growing cities in the world. There is necessity to investigate the effects of urbanization on the climate of our city. This study looked into the long-term urban modification of annual weather conditions by studying the relation between the weather elements and urbanization indicators. The results showed that Nairobi city is growing at a high rate as evidenced by a population growth of about 6.9%. The temperature was found to have been modified by urbanization such that there is a warming trend; the stations that were more urban recorded a high rate of temperature increase as compared to the less urban stations revealing the formation of an urban heat island. Rainfall trend was similarly found to be increasing with time; however, the change in humidity was found to be insignificant. It further revealed that some of the long term changes in climate over the city were due to changes in surface and atmospheric characteristics of the city such as surface roughness, smoke and destruction of vegetation cover, as a consequence of urbanization. The environmental implications such as urban surface temperature modification on human comfort are significant. It was suggested that in order to control these trends and to obtain more favourable and healthy climatic conditions, the acreage of green areas must be increased. Incorporation of the findings in the future planning of the city is hence recommended.