Abstract

Ozonesonde measurements over Nairobi, Kenya are presented for the period 2000 – 2014. Ozone concentration is influenced by anthropogenic activities, calling for its continuous monitoring since it affects the climate system and human health. The study utilizes weekly ozonesonde flights, winds and RH from ERA-interim gridded data. The results indicate that the tropopause over Nairobi is approximately 1.3 km in depth. Ozone exhibits a negative trend upwards within the troposphere, up until the tropopause. There is a high increase in the lower stratosphere, peaking in the mid stratosphere. The maximum ozone value of 13.04 ppb is found at a pressure of 20 hpa and approximately, 80% of ozone is found in the stratosphere. The June-August season experiences the highest ozone levels in the low levels and December - February the highest concentration in upper levels as compared to the other seasons. Easterlies are predominant in the lower troposphere, up to about 500mb, westerlies in the mid troposphere and again, easterlies in upper troposphere, extending into the lower stratosphere, commonly known 'steering winds' in this region.