

Ozone variability over Egypt

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The variability of ozone over Egypt has been studied in this work. Higher values of coefficient of variation (COV) at eight stations occur at winter while lowest values occur at summer. The COV is function of latitude in annual, winter and spring where it decreases gradually from the north to south of Egypt. The trend analysis of ozone over the eight stations indicates negative trends over northern stations for both annual and seasonal time series with the greatest one at winter. The horizontal distribution of ozone trend values is negative over all Egypt in winter while it is positive over middle and south Egypt in the other seasons. The long-term variability of the behavior of the annual ozone shows positive trend values in ozone are the dominant features during the period 1979- 1989 at the most stations. Negative trend values in ozone are the dominant features during the period 1990- 2014 at all stations. The Mann-Kendall test confirms that there is an abrupt change towards decreasing of ozone occurs in 1981, 1984, 2012, 1999, 2000, 1998 and 2010, while a change towards increasing of ozone appears in 2006, 2014, 1993 and 1989.