

Distribution of surface ozone concentration and winds variation over Nigeria

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The effect of zonal and Meridional wind on surface ozone variability in Nigeria in the four quarter of the year namely DJF, MAM, JJA and SON was explored. The study revealed that both the day and night time surface ozone distribution in DJF season recorded a significant correlation of 0.7 with the zonal wind flow pattern, and a less significant correlation of 0.36 with the meridional wind flow pattern. The zonal wind pattern in DJF followed a north to south trend in all the seven years studied, while the meridional was northeast to southwest pattern for the same DJF season, In DJF and MAM, surface ozone concentration in the southern Nigeria exceeded that of the north by 21DU and 24DU respectively. Whereas in the JJA and SON, the rainfall season, reversal was the case, the surface ozone concentration in the northern Nigeria exceeded that of the south by 20DU and 15DU respectively. Maximum temporal variation gradient of 20DU was also observed in MAM season while the minimum of 11DU occurred in JJA which is the peak of the raining season. Keywords: Surface ozone concentration, zonal wind, meridional wind.