



# **Climate Change, Air Pollution and Global Challenges: Chapter 20. Ozone Concentrations and Their Potential Impacts on Vegetation in Southern Africa (Developments in Environmental Science)**

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The tropospheric ozone concentrations over southern Africa are relatively high due to large precursor emissions from biomass burning, vegetation and anthropogenic sources and the intensity of solar radiation. In this study, we summarize ozone concentration data from both literature and new measurements. Further, we present data on the accumulated vegetation exposure to ozone in terms of the AOT40 index, which is calculated for the sites with hourly ozone and radiation data, with an aim to assess the potential for adverse effects on vegetation. As the seasonal variation of ozone concentrations is large, we discuss the effect of growing season onset on the stomatal gas exchange and the related potential for vegetation impacts. Finally, future research needs are discussed.

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