



## **Transport of South African ozone to East Asia and its interannual variation**

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To study the impacts of long-range transport of South African ozone on tropospheric ozone over East Asia, we use a 20-year ozone dataset (1987 -2006) from simulations of a 3-dimensional global chemical transport model, GEOS-Chem. The influence of ozone from South African on East Asia is usually small compared with other regions, but it can be large in extreme years, reaching 18% in the East Asian middle-upper troposphere. In years when the westerlies and downdraft over the south of India Peninsula were stronger and the ITCZ was weaker, transport of South African ozone was enhanced. Moreover, South African ozone impacts considerably on the lower troposphere over East Asia in summer, with a fractional contribution about 8% on average. In general, when the westerlies over the south of India Peninsula and the Asian monsoon were stronger, and the ITCZ was stronger and more poleward, transport of South African ozone to the lower troposphere over East Asia was larger. Biomass burning in South Africa can complicate these influences further, which will be discussed in detail.