

AIRBORNE MEASUREMENTS OF OZONE OVER THE GREATER ATHENS AREA

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ABSTRACT

In this study, the ozone distribution was investigated in the lower and middle troposphere over the Greater Athens Area under calm conditions and clear sky during two flights of a research aircraft Falcon 20-E5 that were performed within the context of the STAAARTE experimental campaign in 13 June 1997. It was found that the ozone distribution over the GAA was variable according to the relative position and the height of the aircraft. Above the atmospheric boundary layer the background ozone concentration was 50 ± 10 ppb, even over the mountain ranges, with no considerable changes during the flight (for a period of 1.5 hour). Within the atmospheric boundary layer large values were reported (about 100 ppb) over rural areas and urban areas that are characterised by reduced air emissions. Furthermore, the development of the Saronikos sea breeze cell played an important role in the aforementioned ozone distribution in space and time.