



Ozone and Carbon Monoxide over West Africa as seen by the MOZAIC Program.

B. Sauvage¹, V. Thouret¹, J-P. Cammas¹, A.M. Thompson^{2,3}, J. Witte³, G. Athier¹ and P. Nédélec¹

¹Laboratoire d' Aérologie – OMP, CNRS, Toulouse – France

² Penn State University - USA

³NASA-Goddard Research Centre-USA

The MOZAIC program provides measurements of ozone and carbon monoxide over Equatorial Africa, since April 1997 and December 2001 respectively. This data set is of particular interest as it fills the gap from the previous available in-situ data over the African region. Particularly, ozone vertical profiles recorded over 6 years (1997-2003), have lead to the first tropospheric “climatology” over 3 different equatorial regions, namely Gulf of Guinea, Central and East Africa. Using 3D-streamlines, computed with a Lagrangian model LAGRANTO, we have highlighted the main characteristics of ozone concentrations on a monthly basis such as the role of Harmattan, Trades and AEJ in the transport and redistribution of pollutants during the biomass burning season (*Sauvage et al.*, 2005). A first assessment of the CO distribution over the Gulf of Guinea will be also presented, as well as the correlations with the ozone measurements in order to better investigate the transport processes along with a photo-chemical characterisation of the different ozone enhanced layers highlighted on a monthly basis. Moreover, the tropical Atlantic region is also known for its “Ozone Paradox” and “Zonal Wave-One” (*Thompson et al.*, 1999; *Thompson et al.*, 2003). We will show how the MOZAIC data, merged to the SHADOZ network are used to go a step ahead in the understanding of these scientific questions. In particular, we will present why the MOZAIC data recorded over the continent do not show any paradox; the Total Tropospheric Ozone Column is maximum in the “burning hemisphere”.