Geophysical Research Abstracts,
Vol. 11, EGU2009-8409-1, 2009
EGU General Assembly 2009

Surface Ozone and Carbon Monoxide Variability and Trends at the Global GAW Stations Assekrem (Algeria), Bukit Koto Tabang (Indonesia) and Mt. Kenya (Kenya)

J. Klausen (1), S. Henne (1), C. Zellweger (1), M. Mimouni (2), Herizal (3), K. Thiongo (4), M. van Weele (5), B. Buchmann (1), and the GAW Station Operators Team

(1) Empa Materials Science and Technology, Air Pollution/Environmental Technology, Dübendorf, Switzerland (joerg.klausen@empa.ch), (2) Office National de la Météorologie, Tamanrasset, Algeria, (3) Meteorological and Geophysical Agency, Global GAW Station Bukit Koto Tabang, Bukittinggi, Sumatera Barat, Indonesia, (4) Kenya Meteorological Department, Dagoretti Corner, Ngong Road, Nairobi 00100, Kenya, (5) KNMI, Climate and Seismology, Wilhelminalaan 10, 3732 GK De Bilt, The Netherlands

Part of the Global Atmosphere Watch (GAW) network, Bukit Koto Tabang (864 m asl), Assekrem (2770 m asl), and Mt. Kenya (3678 m asl) are clean air stations in relatively unpopulated areas in very different climates of the tropics. These sites are of particular value to climate researchers because they provide viable infrastructures with a long-term perspective in extremely data-sparse regions of the world. In-situ surface ozone and carbon monoxide time series go back as far as 1996 and are the only continuous data available from these areas.

Climatologies of meteorological variables as well as chemical trace constituents will be presented with a focus on diurnal and seasonal variability. For the longer time series, trends will be estimated. For carbon monoxide, continuous observations will be compared to results from the NOAA flask sampling program. Back trajectory calculations based on ECMWF analysis fields and TM4 modelled time series for the years 2003-2004 will be used to assess the sites in terms of representativeness and long-range transport of pollutants. These modelling results will be used to identify potential source regions.