



Saharan dust episodes in urban aerosol in Croatia

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Airborne particle sizes and their physical and chemical characteristics are determined by the formation processes and subsequent reactions in the atmosphere. Urban aerosols are a mixture of primary particulate emissions from industry, transportation, power generation and natural sources and secondary of the material formed by gas-to-particle conversion mechanism. Significant natural sources of particles include terrestrial dust, volcanic action, sea spray, biomass burning and reactions between natural gas emissions. The world's largest source of dust is the Sahara Desert.

Here, the influence of Saharan dust on the coarse fraction levels at measurement sites settled in three cities is analyzed. All three cities are industrial areas; two of them are in the continental part of Croatia and one in the coastal. Saharan dust episodes were identified using Total Ozone Mapping Spectrometer (TOMS) aerosol index data and backward trajectories. In addition, the possibility of using EUMETSAT Dust RGB product for identification and tracking of the Saharan dust episodes over Croatia is investigated.