

# Summer ground level ozone maximum in Slovakia in 2003

S. Bičárová

Geophysical Institute of the Slovak Academy of Sciences<sup>1</sup>

M. Sojáková, C. Burda

Slovak Hydrometeorological Institute<sup>2</sup>

P. Fleischer

Research Centre of the Tatra National Park<sup>3</sup>

**Abstract:** Extraordinary high level of ozone pollution occurred in Slovakia in August 2003. Monitoring stations recorded the following maximal O<sub>3</sub> concentrations: mean hourly values of 127 to 301  $\mu\text{g m}^{-3}$ , mean daily values of 72 to 153  $\mu\text{g m}^{-3}$ , mean monthly values of 47 to 124  $\mu\text{g m}^{-3}$ . The ambient air quality standards were frequently exceeded at the SW lowlanded urban area in Bratislava and the mountain rural station Lomnický štít: alert threshold  $\text{IH}_{1\text{h}} = 240 \mu\text{g m}^{-3}$  – 6 times in Bratislava, information threshold  $\text{IH}_{1\text{h}} = 180 \mu\text{g m}^{-3}$  – 44 times in Bratislava, 8 times at Lomnický štít, total 69 times at all monitoring stations. The target value 8h mean  $\text{IH}_{8\text{h}} = 120 \mu\text{g m}^{-3}$  was exceeded also in Bratislava and Lomnický štít over more than 25 days. General comparison of mean daily O<sub>3</sub> concentration of urban and rural stations shows that ozone level at the rural sites is higher than at the urban ones. The summer ozone maximum in August 2003 appears to be associated with special ozone production and distribution due to the unusual warm weather situation and the transport of abundant ozone precursors over Europe. The decreasing trend of NO<sub>x</sub> pollutant suggests the ozone and precursors transboundary transport into Slovakia.

**Key words:** ground level ozone concentration, summer maximum, urban and rural sites, exceedance of the ambient air quality standards

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<sup>1</sup> Stará Lesná, 059 60 Tatranská Lomnica, Slovak Republic; e-mail: bicarova@ta3.sk; Web: <http://www.ta3.sk/gfu>

<sup>2</sup> Jeséniova 17, 833 15 Bratislava 37, Slovak Republic  
e-mail: michaela.sojakova@shmu.sk, cyril.burda@shmu.sk; Web: <http://www.shmu.sk>

<sup>3</sup> 059 60 Tatranská Lomnica, Slovak Republic; e-mail: fleischer@vstanap.sk; Web: <http://www.vstanap.sk>