



Reanalysis of the tropospheric chemical composition over the past 40 years (RETRO)

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In the EU project RETRO (2003-2006), a comprehensive reanalysis of the chemical composition in the troposphere covering the last 40 years has been undertaken with a number of state-of-the-art global chemistry models. RETRO generated new emission data sets for anthropogenic and wildfire emissions with unprecendet temporal and spatial resolution. The models were constrained with meteorological reanalyses from ERA-40, and with stratospheric ozone concentrations from FinROSE and with a climatology of surface methane concentrations. The project also involved extensive activities regarding the exploitation and use of different observational data sets from ground-based, airborne, and satellite sources. The RETRO models furthermore participated in the ACCENT/IPCC Photocomp activity and software tools were developed to help analyse such multi-model comparisons. Model results are analysed with respect to their seasonal and interannual variability and the longer-term trends. Some implications for emission control regulations can be gained from scenario studies focusing on the role of surface traffic and power generation. As the RETRO project will end in June 2006, this poster provides a general summary of the project accomplishments and main findings.