



An integrated assessment of long range transport of tropospheric ozone and its precursors over the North Atlantic and impact on Europe in summer 2000.

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Abstract

Tropospheric ozone and its precursors are transported on long inter-continental scales thus impacting the continents on the windward side. This work reports on pollution Long Range Transport (LRT) over the North Atlantic ocean and incorporates global chemical/transport model (GEOS-CHEM) simulations, O_3 and CO observations with ground based instruments, ozone profiles from MOZAIC and total tropospheric CO and NO_2 column observations from MOPITT and GOME instrument. A quantitative assessment of the model simulations of LRT episodes can be achieved using those different observations.

The satellite observations allow us identification of the major North American plumes in summer 2000, depending on the weather regimes. The impact of those plumes on the ozone budget and distribution over Europe is further quantified using MOZAIC profiles and ground based observations at mountain sites e.g., Jungfrauoch.